

Private Branch Exchanges—PBXs

Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

This Product Survey presents the major characteristics of private branch exchanges (PBX, PABX, CBX) marketed by manufacturers and distributors/dealers for general-purpose and specialized voice or voice and data applications. Circuit switches that switch data only have been excluded from this survey. The models presented in this survey use conventional voice-grade or wideband transmission facilities, including the public telephone network (DDD), dedicated (leased) lines, and private facilities provided by either the user or telephone company, which can include metallic circuits and coaxial cable.

Private branch exchanges consist of a relatively new series of products. Many only support voice communication and are designed specifically for voice conversation. Others combine voice telephone analog switching with digital data switching. New systems introduced in the PBX market use a digital switching technique called Pulse Code Modulation (PCM) or Delta Modulation to combine voice and data communication. The principal function of all PBX systems is intercon-

necting multiple stations and trunks to optimize the use of local and network line facilities.

This edition of the Product Survey presents specifications and pricing on 106 PBX models marketed by 36 vendors. Listings in this Survey are arranged alphabetically by vendor name, then by specific PBX model. Each model entry is further divided into 18 logical categories that define function, communications/network, trunks/stations/consoles, voice equipment, data equipment, applications supported, standard system features, standard attendant features, standard station features, optional system features, optional attendant features, optional station features, first delivery, systems delivered, average system size installed, average cost per line, distribution, and installation/maintenance. Specific topic areas within each section are further delineated with a solid dot (●). The PBX Outline table below is a quick reference guide to vendors whose product parameters match specific user requirements. Outline parameters define the principal applications and features of private branch exchange systems.

PBX OUTLINE

VENDOR	ARCHITECTURE Digital Switching Technology Nonblocking Technology Voice & Data Support Redundancy	SYSTEM CAPACITY 1-50 Trunks 51-100 Trunks 101-500 Trunks 501-1000 Trunks Over 1000 Trunks	1-100 Stations 101-200 Stations 201-500 Stations 501-1500 Stations 1501-5000 Stations Over 5000 Stations	1-5 Consoles 5-25 Consoles Over 25 Consoles	FEATURES T1 Gateway T1 Interface Integral Messaging	Route Optimization Random Switching Digital Telephones Centralized Attendants Direct Inward Dialing	Direct Outward Dialing Automatic Call Distribution Trunk Queuing Station Message Detail Recording
AT&T Information Sys	● ● ● ●	● ● ● ● ●	● ● ● ● ●	● ● ●	● ● ●	● ● ● ● ●	● ● ● ●
American Telecom	● — ● —	● ● ● ● —	● ● ● ● —	● ● —	— — —	● ● ● ● ●	● ● ● ●
Anderson Jacobson	● ● ● ●	● ● ● ● ●	● ● ● ● ●	● ● ●	— — ●	● ● ● ● ●	● ● ● ●
CXC Corp	● ● ● ●	● ● ● ● ●	● ● ● ● ●	● ● ●	● ● ●	● ● ● ● ●	● ● ● ●
Cyber Digital	● ● ● ●	● ● ● ● —	● ● ● ● —	● ● ●	● ● ●	● ● ● ● ●	● ● ● ●
David Systems	● ● ● ●	— — — —	● ● ● ● —	— — —	● ● ●	— — ● — —	— — ● ●
Digital Transmission	● ● ● ●	● ● ● ● —	● ● ● ● —	● ● —	— — —	● ● ● ● ●	● ● ● ●
Ericsson Communication	● ● ● ● ●	● ● ● ● ●	● ● ● ● ●	● ● ●	● ● ●	● ● ● ● ●	● ● ● ●
Executone	● ● ● ●	● ● ● ● —	● ● ● ● ●	● ● ●	— — —	● ● ● ● ●	● ● ● ●
GTE	● ● ● ●	● ● ● ● ●	● ● ● ● ●	● ● ●	● ● ●	● ● ● ● ●	● ● ● ●
Harris Corp	● ● ● ●	● ● ● ● —	● ● ● ● —	● ● —	— — ●	● ● ● ● ●	● ● ● ●
Hitachi America, Ltd	● ● ● ●	● ● ● ● —	● ● ● ● —	● ● —	— — —	● ● ● ● ●	● ● ● ●
Information Dynamics	— — — —	● ● ● ● —	● ● ● ● —	● ● —	— — —	— — — —	— — — —
InteCom Inc	● ● ● ●	● ● ● ● ●	● ● ● ● ●	● ● ●	● ● ●	● ● ● ● ●	● ● ● ●
IPC Technologies, Ltd	● ● ● ●	● ● ● ● —	● ● ● ● —	● ● —	— — —	● ● ● ● ●	● ● ● ●

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Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

VENDOR	ARCHITECTURE Digital Switching Technology Nonblocking Technology Voice & Data Support Redundancy	SYSTEM CAPACITY 1-50 Trunks 51-100 Trunks 101-500 Trunks 501-1000 Trunks Over 1000 Trunks	1-100 Stations 101-200 Stations 201-500 Stations 501-1500 Stations 1501-5000 Stations Over 5000 Stations	1-5 Consoles 5-25 Consoles Over 25 Consoles	FEATURES X.25 Gateway T1 Interface Integral Messaging	Route Optimization Tandem Switching Digital Telephones Centralized Attendant Service Direct Inward Dialing	Direct Outward Dialing Automatic Call Distribution Trunk Queuing Station Message Detail Recording
ITT Business Comm	••••	••••	••••	••••	••••	••••	••••
Jistel	— — — —	••••	••••	••••	— — — —	••••	••••
Melco Labs, Inc	— — — —	••••	••••	••••	— — — —	••••	••••
Mitel Corporation	••••	••••	••••	••••	••••	••••	••••
NEC Telephones	••••	••••	••••	••••	••••	••••	••••
Northern Telecom	••••	••••	••••	••••	••••	••••	••••
OKI Telecom	••••	••••	••••	••••	— — — —	••••	••••
Prolink Corporation	••••	••••	••••	••••	— — — —	••••	••••
Redcom Labs	••••	••••	••••	••••	— — — —	••••	••••
Rolm Corporation	••••	••••	••••	••••	••••	••••	••••
Siemens Corporation	••••	••••	••••	••••	— •••	••••	••••
Solid State Systems	••••	••••	••••	••••	— — — —	••••	••••
Stromberg Carlson	••••	••••	••••	••••	— •••	••••	••••
Tadiran	— — — —	••••	••••	••••	— — — —	••••	••••
Telenova	••••	••••	••••	••••	••••	••••	••••
Tele/Resources	— •••	••••	••••	••••	— — — —	••••	••••
Teltone Corporation	••••	••••	••••	••••	— •••	••••	••••
Tie/Communications	••••	••••	••••	••••	— — — —	••••	••••
Tone Commander	— — — —	••••	••••	••••	— — — —	••••	••••
United Tech Lexar	••••	••••	••••	••••	— •••	••••	••••
Ztel, Inc	••••	••••	••••	••••	••••	••••	••••

PBX FEATURES

Function

This Feature Section denotes the type and principal application of the switch. This does not preclude other user applications, but indicates the primary function for which the switch is applied in a line switching environment.

Switching Technology • defines the switching technique applied by the PBX as analog using PAM or Space Division switching techniques or digital using PCM or Delta Modulation.

Wiring • defines the number of wire pairs required to connect a PBX station with the system.

Unblocked Connections • defines the number of simultaneous conversations and activities (transmission paths) that can be performed by the PBX.

Communications/Networks

This Feature Section details the communication and networking capabilities of the PBX. Both external and internal transmission capabilities are listed.

Network • a collection of devices that intercommunicate over communication links.

Route Optimization • automatically selects the most economical lines to make an outgoing call; least cost routing.

Automatic Network Dialing • supports automatic dialing of all network calls via an abbreviated code.

Tandem Switching • supports trunk-to-trunk connections

through the PBX network without the need of attendant assistance.

LAN (Local Area Network) • limited-distance cabling of devices to support intercommunications through a central hub or connect point; star topology.

Transmission Rates • the rate of speed at which information is transferred from source to destination.

Protocol • a formalized set of rules established for transmitting and receiving a serial stream of information between communicating devices.

Asynchronous Protocol • character transmission, also known as start-stop transmission; synchronization within a character is obtained by a start bit and 1 or 2 stop bits; the interval between characters is random, but the intervals between bits of a character are precise.

Synchronous • characters transmitted in a continuous stream bracketed by a defined bit pattern called sync characters.

Wiring • defines the number of wires required to send information through the network; 2-wire generally means the PBX system can send information and receive information in a single direction at a time (half-duplex); 4-wire means the PBX system can send and receive information simultaneously (full-duplex).

Trunks/Stations/Consoles

This Feature Section defines the maximum number of trunks (outgoing ports) to the telephone central office (CO), the maximum number of stations (telephone or data devices) that can

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be connected to the internal PABX system, and the maximum number of attendant consoles (internal operator control systems) the PBX can support.

Voice Equipment

This Feature Section identifies the voice station equipment supported by the PBX.

Vendor Supplied • telephones, voice equipment, and attendant consoles supplied by the vendor which are proprietary to a specific PBX model or family.

Equipment Supported • nonproprietary telephones and voice equipment that can be attached to the PBX generally available from telephone companies and other sources.

Rotary Telephones • contain a rotary dial that must be turned to a stop position, then released in order to dial a number; e.g., Western Electric Type 500.

Touch-Tone Telephones • contain a push-button keypad for dialing; e.g., Western Electric Type 2500.

Automatic Call Distribution • automatic distribution of calls originating off premises to customer premise extensions; usually a special PBX feature or a standalone device that can be added to a telephone system.

Data Equipment

This Feature Section is associated with PBX systems that accommodate data transmission. It identifies the proprietary and general terminal devices that can be connected to the PBX.

Data Rates • defines the maximum data rate a device can transfer information within the PBX in bits per second (bps).

Aggregate Data Rate • defines the maximum combined data rate of all devices, collectively, attached to the system.

Vendor Supplied • identifies the proprietary data terminals supplied by the vendor to be used with the vendor's PBX model or family.

Equipment Supported • identifies data terminals that are not manufactured by the vendor, but can be attached to and supported by the PBX.

Printers • hardcopy devices used for system diagnostics or system usage statistics, etc.

Digital Cassette • small serial storage or transmission device using magnetic tape contained in a cartridge.

Diskette • small parallel storage device typically used for storing activity and error status; can also be used for storing operating system for PBX operation.

Magnetic Tape • large serial storage device typically used for message data and system archival information; reel-to-reel magnetic tape unit.

CRT Terminals • keyboard/display devices typically associated with data input and work stations; used for data processing, message handling, and PBX operating activities such as call detail reporting, etc.

Minicomputers • small to medium computers that can be used for intra-communication and storage and other user-defined applications.

Microcomputers • very small computers that can be used for internal document processing and other user-defined applications.

Applications Supported

This Feature Section identifies the principal application categories supported by the PBX system. These categories are supported by software packages that accompany the PBX system or are available from the vendor.

Office Automation • supports general office activities associated with a conventional office environment; i.e., dictation, word processing, facsimile, electronic mail, etc.

Healthcare • supports applications associated with hospitals, clinics, and general medical practice.

Hotel/Motel • supports applications associated with the lodging industry; e.g., reservations, credit, billing, etc.

Banking • supports applications associated with the financial industry, including savings and loans, banks, credit unions, etc.

Retailers • supports applications associated with wholesale and retail marketing and sales.

Military • supports applications associated with military operations.

Service Sector • supports applications associated with the professional services industry, e.g., doctors, lawyers, consultants, accountants, etc.

Standard System Features

This Feature Section lists all the features of the PBX associated with system-related functions. The cost of these features is imbedded within the cost of the basic PBX. Definitions of the features in this section can be found in the PBX Glossary of Terms.

Standard Attendant Features

This Feature Section lists all the features of the PBX associated with the attendant console. The cost of these features is imbedded within the cost of the basic PBX. Definitions of the features in this section can be found in the PBX Glossary of Terms.

Standard Station Features

This Feature Section lists all the features of the PBX that are associated with the telephones and other terminating devices on the station end of the line. The cost of these features is imbedded within the cost of the basic PBX. Definitions of the features in this section can be found in the PBX Glossary of Terms.

Optional System Features

This Feature Section lists all the extra-cost features associated with system-related functions that are available as options.

Optional Attendant Features

This Feature Section lists all the extra-cost features associated with the attendant console that are available as options.

Optional Station Features

This Feature Section lists all the extra-cost features associated with station equipment that are available as options.

First Delivery

This Feature Section presents the date the first system was installed in the field for customer use. If the system is new and is only located in a Beta test site, it is noted as such.

Systems Delivered

This Feature Section indicates the total number of a specified model that has been installed in the field for customer use. In many cases, however, this information was not available per model. Where the systems installed reflected the total number of models included in the vendor's product line, it is noted as such.

Average System Size Installed

This Feature Section indicates the average number of stations that have been installed for a specific model. It has nothing to do with the maximum line capacity, but with the actual size of the existing customer base utilization.

Average Cost Per Line

This Feature Section presents the average purchase or rental/lease price or price range of a single system port, and is provided only as a reference. Many systems are sold through dealers and distributors who establish pricing independently of others; therefore, the identical system configuration from 2 or more dealers/distributors may be priced differently by each one. The user should also be advised that installation may drive up the total system cost by as much as 50% of the cost of the system for installations that require new wiring. Users with existing wiring

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can realize significant savings if the installed system accommodates the existing wiring.

Distribution

This Feature Section deals with the manner in which the vendor has decided to market a product. The vendor may choose to sell the product directly, or use a dedicated staff of marketing agents from independent dealer or distributor groups to sell its products.

Installation/Maintenance

This Feature Section is associated with the responsibilities associated with the maintenance (upkeep) and installation of the PBX system. The vendor may choose to install and service the product directly, or use the dealers and distributors that sell the product to install and maintain the system. A combination of both types of support may also be adopted by the vendor using hot-lines and remote diagnostics.

PBX LISTINGS

■ AT&T INFORMATION SYSTEMS

100 Southgate Parkway, Morristown, NJ 07960 • 201-898-8000.

□ Dimension Prelude

Function • stored program computerized branch exchange (PBX) system for switching voice and data • analog switching technology • TDM/PAM • 4-pair wiring for interfacing standard keysets • distributed communication feature for data transmission to 9600 bps • 64 unblocked connections • 6 to 36 CCS per line.

Communications/Networks • ETN (Electronic Tandem Network) provides interconnection of station locations via dedicated tie trunks • AUTOVON allows interconnection of PBX users to a 4-wire automatic voice network switching center via access lines • FX (Foreign Exchange) provides access to distant central offices via Foreign Exchange trunks • voiceband data transmission to 4800 bps • DCA (Data Communications Access) provides stations with access to user's computer equipment via trunk access ports.

Trunks/Stations/Consoles • 4 to 78 trunks • 32 to 372 stations • 2 to 4 attendant's consoles.

Voice Equipment • vendor supplied: all AT&T-IS rotary and Touch-Tone telephones (Type 500 and 2500); Multibutton Electronic Telephone (MET); attendant console (20 to 40 or 40 to 80 buttons); 7000 Series Electronic Telephones.

Data Equipment • vendor supplied; Distributed Communications Service; Peripheral Interface Controller; Application Processor; 500 BCT.

Applications Supported • office automation; word processing; hotel/motel • healthcare • retail • general business • banking • service sector.

Standard System Features • Automatic Identification of Outward Dialing (AIOD); Code Calling Access; Code Restriction; Data Privacy; Data Restriction; Dial Access to Attendant; Direct Outward Dialing (DOD); Distinctive Ring; Flexible Station Numbering; Foreign Exchange (FX) CO Access; Fully Restricted Station; Inward Restriction; Miscellaneous Trunk Restriction; Multiple Listed Directory Numbers (LDN); Music-on-Hold Access; Night Console Position; Night Service Fixed; Off-Premise Stations; Outward Restriction; Radio Paging Access; Recall Dial Tone, Reserve Power; Rotary Dial Calling; Route Advance; Station Hunting; Termination Restriction; Three-Way Conference Transfer; Tie Trunk Access; Toll Restriction; Touch-Tone Calling; Touch-Tone to Dial Pulse Conversion; Trunk Answer; Wide Frequency Power Source; WATS Access.

Standard Attendant Features • Alphanumeric Display for Attendant Position; Attendant Control of Trunk Group Access; Attendant Direct Station Selection (DSS); Attendant Transfer; Busy Lamp Field; Busy Verification of Station Lines; Calling Number Display to Attendant; Class of Service Display; Incoming Call Identification (ICI); Intercept Treatment Tone; Listed Directory Number (LDN) Service; Loudspeaker Paging; Manual Terminating Line Service; Serial Calls; Splitting; Straightforward Outward Completion; Switched Loop Operation; Through Dialing; Timed Reminder; Trunk-to-Trunk Connections; Two-Party Hold.

Standard Station Features • Call Forwarding; Call Hold; Call Park; Call Waiting; Call Number Display to Station; Code Calling Access; Line Lockout with Warning; Station-to-Station Calling.

Optional System Features • Advanced Private Line Termination (APLT); Automatic Callback; Automatic Route Selection; CCSA Access; Customer Administration Panel; Direct Department Calling (DDC); Direct Inward Dialing (DID); Music-on-Hold Access; Outgoing Trunk Queuing; Recorded Telephone Dictation Access; Speed Calling; Station Message Detail Recording (SMDR); Tandem Tie Trunk Switching; Uniform Call Distribution (UCD).

Optional Attendant Features • Attendant Conference; Attendant Release Group (ARL); Centralized Attendant Service (CAS) with Separate Attendant Concentrator; Controlled Restriction; Direct Trunk Group Selection; Intercept Treatment Recorded Announcement; Multiple LDN, DID, Non-DID; Privacy and Lockout; Timed Recall on Outgoing Calls; Trunk Verification by Customer; Visually Impaired Attendant Service.

Optional Station Features • Automatic Intercom; Call Pickup; Common Audible Ringing; Custom Intercom; Dial Intercom; Exclusive Hold; Executive Override; Hold; Incoming Call Preference; Last Extension Called; Last Line Preference; Line Ringing; Line Status Indication; Manual Exclusion; Manual Intercom; Manual Terminating Line Service; No Line Preference; Personal CO Line; Priority Hold; PBX Line Access; Station Busy Indicator; Station Direct Station Select (DSS); Station Message Waiting; Station Rearrangement and Change; Station Ringer Cutoff; Trunk Verification Station.

First Delivery • 1984.

Systems Delivered • over 40,000 Dimension systems.

Average System Size Installed • 70 stations.

Average Cost Per Line • \$100 to \$250 per month.

Distribution • nationwide through AT&T-IS.

Installation/Maintenance • nationwide through AT&T-IS.

□ Dimension 400

Function • stored program computerized branch exchange (PBX) system for switching voice and data • analog switching technology • TDM/PAM • 4-pair wiring for interfacing standard keysets • distributed communication feature for data transmission to 9600 bps • 64 unblocked connections • 6 to 10 CCS per line.

Communications/Networks • ETN (Electronic Tandem Network) provides interconnection of station locations via dedicated tie trunks • AUTOVON allows interconnection of PBX users to a 4-wire automatic voice network switching center via access lines • FX (Foreign Exchange) provides access to distant central offices via Foreign Exchange trunks • voiceband data transmission to 4800 bps • DCA (Data Communications Access) provides stations with access to user's computer equipment via trunk access ports.

Trunks/Stations/Consoles • 26 to 64 trunks • 112 to 436 stations • 4 attendant's consoles.

Voice Equipment • vendor supplied: all AT&T-IS rotary and Touch-Tone telephones (Type 500 and 2500); Multibutton Electronic Telephone (MET); attendant console (20 to 40 or 40 to 80 buttons); 7000 Series Electronic Telephones.

Data Equipment • vendor supplied; Distributed Communications Service; Peripheral Interface Controller; Application Processor; 500 BCT.

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Applications Supported • office automation; word processing; hotel/motel • healthcare • retail • general business • banking • service sector.

Standard System Features • Automatic Identification of Outward Dialing (AIOD); Code Calling Access; Code Restriction; Data Privacy; Data Restriction; Dial Access to Attendant; Direct Outward Dialing (DOD); Distinctive Ring; Flexible Station Numbering; Foreign Exchange (FX) CO Access; Fully Restricted Station; Inward Restriction; Miscellaneous Trunk Restriction; Multiple Listed Directory Numbers (LDN); Music-on-Hold Access; Night Console Position; Night Service Fixed; Off Premise Stations; Outward Restriction; Radio Paging Access; Recall Dial Tone; Reserve Power; Rotary Dial Calling; Route Advance; Station Hunting; Termination Restriction; Three-Way Conference Transfer; Tie Trunk Access; Toll Restriction; Touch-Tone Calling; Touch-Tone to Dial Pulse Conversion; Trunk Answer; Wide Frequency Power Source; WATS Access.

Standard Attendant Features • Alphanumeric Display for Attendant Position; Attendant Control of Trunk Group Access; Attendant Direct Station Selection (DSS); Attendant Transfer; Busy Lamp Field; Busy Verification of Station Lines; Calling Number Display to Attendant; Class of Service Display; Incoming Call Identification (ICI); Intercept Treatment Tone; Listed Directory Number (LDN) Service; Loudspeaker Paging; Manual Terminating Line Service; Serial Calls; Splitting; Straightforward Outward Completion; Switched Loop Operation; Through Dialing; Timed Reminder; Trunk-to-Trunk Connections; Two-Party Hold.

Standard Station Features • Call Forwarding; Call Hold; Call Park; Call Waiting; Calling Number Display to Station; Code Calling Access; Line Lockout with Warning; Station-to-Station Calling.

Optional System Features • Advanced Private Line Termination (APLT); Automatic Callback; Automatic Route Selection; CCSA Access; Customer Administration Panel; Direct Department Calling (DDC); Direct Inward Dialing (DID); Music-on-Hold Access; Outgoing Trunk Queuing; Recorded Telephone Dictation Access; Speed Calling; Station Message Detail Recording (SMDR); Tandem Tie Trunk Switching; Uniform Call Distribution (UCD) • additional optional features: Flexible Numbering of Stations; Hot-Line Service; Manual Originating Line Service; Single Digit Dialing.

Optional Attendant Features • Attendant Conference; Attendant Release Group (ARL); Centralized Attendant Service (CAS) with Separate Attendant Concentrator; Controlled Restriction; Direct Trunk Group Selection; Intercept Treatment Recorded Announcement; Multiple LDN, DID, Non-DID; Privacy and Lockout; Timed Recall on Outgoing Calls; Trunk Verification by Customer; Visually Impaired Attendant Service • additional optional features: Message Waiting Service.

Optional Station Features • Automatic Intercom; Call Pickup; Common Audible Ringing; Custom Intercom; Dial Intercom; Exclusive Hold; Executive Override; Hold; Incoming Call Preference; Last Extension Called; Last Line Preference; Line Ringing; Line Status Indication; Manual Exclusion; Manual Intercom; Manual Terminating Line Service; No Line Preference; Personal CO Line; Priority Hold; PBX Line Access; Station Busy Indicator; Station Direct Station Select (DSS); Station Message Waiting; Station Rearrangement and Change; Station Ringer Cutoff; Trunk Verification Station • additional optional features: Station Message Register Service.

First Delivery • 1975.

Systems Delivered • over 40,000 Dimension systems.

Average System Size Installed • 200 stations.

Average Cost Per Line • \$75 to \$200 per month.

Distribution • nationwide through AT&T-IS.

Installation/Maintenance • nationwide through AT&T-IS.

Dimension 600 & 600SN

Function • stored program computerized branch exchange (PBX) system for switching voice and data • analog switching technology • TDN/PAM • 4-pair wiring for interfacing standard

keysets • distributed communication feature for data transmission to 9600 bps • 128 unblocked connections • 6 to 16 CCS per line.

Communications/Networks • ETN (Electronic Tandem Network) provides interconnection of station locations via dedicated tie trunks • AUTOVON allows interconnection of PBX users to a 4-wire automatic voice network switching center via access lines • FX (Foreign Exchange) provides access to distant central offices via Foreign Exchange trunks • voiceband data transmission of 4800 bps • DCA (Data Communications Access) provides stations with access to user's computer equipment via trunk access ports.

Trunks/Stations/Consoles • 600: 20 to 184 trunks; 24 to 1,084 stations; 14 attendant's consoles • 600SN: 20 to 184 trunks; 60 to 350 stations; 14 attendant's consoles.

Voice Equipment • vendor supplied: AT&T-IS rotary and Touch-Tone telephones (Type 500 and 2500); Multibutton Electronic Telephone (MET); attendant console (20 to 40 or 40 to 80 buttons); 7000 Series Electronic Telephones.

Data Equipment • vendor supplied: Distributed Communications Service; Peripheral Interface Controller; Application Processor; 500 BCT.

Applications Supported • office automation; word processing • hotel/motel • healthcare • retail • general business • banking • service sector.

Standard System Features • Automatic Identification of Outward Dialing (AIOD); Code Calling Access; Code Restriction; Data Privacy; Data Restriction; Dial Access to Attendant; Direct Outward Dialing (DOD); Distinctive Ring; Flexible Station Numbering; Foreign Exchange (FX) CO Access; Fully Restricted Station; Inward Restriction; Miscellaneous Trunk Restriction; Multiple Listed Directory Numbers (LDN); Music-on-Hold Access; Night Console Position; Night Service Fixed; Off-Premise Stations; Outward Restriction; Radio Paging Access; Recall Dial Tone; Reserve Power; Rotary Dial Calling; Route Advance; Station Hunting; Termination Restriction; Three-Way Conference Transfer; Tie Trunk Access; Toll Restriction; Touch-Tone Calling; Touch-Tone to Dial Pulse Conversion; Trunk Answer; Wide Frequency Power Source; WATS Access.

Standard Attendant Features • Alphanumeric Display for Attendant Position; Attendant Control of Trunk Group Access; Attendant Direct Station Selection (DSS); Attendant Transfer; Busy Lamp Field; Busy Verification of Station Lines; Calling Number Display to Attendant; Class of Service Display; Incoming Call Identification (ICI); Intercept Treatment Tone; Listed Directory Number (LDN) Service; Loudspeaker Paging; Manual Terminating Line Service; Serial Calls; Splitting; Straightforward Outward Completion; Switched Loop Operation; Through Dialing; Timed Reminder; Trunk-to-Trunk Connections; Two-Party Hold.

Standard Station Features • Call Forwarding; Call Hold; Call Park; Call Waiting; Calling Number Display to Station; Code Calling Access; Line Lockout with Warning; Station-to-Station Calling.

Optional System Features • Advanced Private Line Termination (APLT); Automatic Callback; Automatic Route Selection; CCSA Access; Customer Administration Panel; Direct Department Calling (DDC); Direct Inward Dialing (DID); Music-on-Hold Access; Outgoing Trunk Queuing; Recorded Telephone Dictation Access; Speed Calling; Station Message Detail Recording (SMDR); Tandem Tie Trunk Switching; Uniform Call Distribution (UCD); Flexible Numbering of Stations; Hot-Line Service; Manual Originating Line Service; Single Digit Dialing • additional optional features: Authorization Code; Automatic Alternate Routing; Automatic Overflow to DDD; Customer Administration Center System; Customer Administration Panel; Data Communications; Deluxe Queuing; Facilities Administration and Control; Force Administration Data System (FADS); Inter-PBX Call Transfer; Main/Satellite; Remote Access to OPX Services; Time-of-Day Synchronization; Traffic Data to Customer; Uniform Numbering Plan; Bad Line Status and Selection; Controlled Restriction; Split Access to Outgoing Trunks Access.

Optional Attendant Features • Attendant Conference; Attendant Release Group (ARL); Centralized Attendant Service

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(CAS) with Separate Attendant Concentrator; Controlled Restriction; Direct Trunk Group Selection; Intercept Treatment Recorded Announcement; Multiple LDN, DID, Non-DID; Privacy and Lockout; Timed Recall on Outgoing Calls; Trunk Verification by Customer; Visually Impaired Attendant Service; Message Waiting Service.

Optional Station Features • Automatic Intercom; Call Pickup; Common Audible Ringing; Custom Intercom; Dial Intercom; Exclusive Hold; Executive Override; Hold; Incoming Call Preference; Last Extension Called; Last Line Preference; Line Ringing; Line Status Indication; Manual Exclusion; Manual Intercom; Manual Terminating Line Service; No Line Preference; Personal CO Line; Priority Hold; PBX Line Access; Station Busy Indicator; Station Direct Station Select (DSS); Station Message Waiting; Station Rearrangement and Change; Station Ringer Cutoff; Trunk Verification Station; Station Message Register Service.

First Delivery • 1980 (600); 1984 (600SN).

Systems Delivered • over 40,000 Dimension systems.

Average System Size Installed • 500 stations.

Average Cost Per Line • \$95 to \$300 per month.

Distribution • nationwide through AT&T-IS.

Installation/Maintenance • nationwide through AT&T-IS.

□ Dimension 2000/Custom

Function • stored program computerized branch exchange (PBX) system for switching voice and data • analog switching technology • TDM/PAM • 4-pair wiring for interfacing standard keysets • distributed communication feature for data transmission to 9600 bps • 128 unblocked connections per module • 6 to 16 CCS per line.

Communications/Networks • ETN (Electronic Tandem Network) provides interconnection of station locations via dedicated tie trunks • AUTOVON allows interconnection of PBX users to a 4-wire automatic voice network switching center via access lines • FX (Foreign Exchange) provides access to distant central offices via Foreign Exchange trunks • voiceband data transmission to 4800 bps • DCA (Data Communications Access) provides stations with access to user's computer equipment via trunk access ports.

Trunks/Stations/Consoles • 200 to 840 trunks • 1,200 to 7,200 stations • 38 attendant's consoles.

Voice Equipment • vendor supplied: AT&T-IS rotary and Touch-Tone telephones (Type 500 and 2500); Multibutton Electronic Telephone (MET); attendant console (20 to 40 or 40 to 80 buttons); 7000 Series Electronic Telephones.

Data Equipment • vendor supplied: Distributed Communications Service; Peripheral Interface Controller; Application Processor; 500 BCT.

Applications Supported • office automation; word processing • hotel/motel • healthcare • retail • general business • banking • service sector.

Standard System Features • Automatic Identification of Outward Dialing (AIOD); Code Calling Access; Code Restriction; Data Privacy; Data Restriction; Dial Access to Attendant; Direct Outward Dialing (DOD); Distinctive Ring; Flexible Station Numbering; Foreign Exchange (FX) CO Access; Fully Restricted Station; Inward Restriction; Miscellaneous Trunk Restriction; Multiple Listed Directory Numbers (LDN); Music-on-Hold Access; Night Console Position; Night Service Fixed; Off-Premise Stations; Outward Restriction; Radio Paging Access; Recall Dial Tone, Reserve Power; Rotary Dial Calling; Route Advance; Station Hunting; Termination Restriction; Three-Way Conference Transfer; Tie Trunk Access; Toll Restriction; Touch-Tone Calling; Touch-Tone to Dial Pulse Conversion; Trunk Answer; Wide Frequency Power Source; WATS Access.

Standard Attendant Features • Alphanumeric Display for Attendant Position; Attendant Control of Trunk Group Access; Attendant Direct Station Selection (DSS); Attendant Transfer; Busy Lamp Field; Busy Verification of Station Lines; Calling Number

Display to Attendant; Class of Service Display; Incoming Call Identification (ICI); Intercept Treatment Tone; Listed Directory Number (LDN) Service; Loudspeaker Paging; Manual Terminating Line Service; Serial Calls; Splitting; Straightforward Outward Completion; Switched Loop Operation; Through Dialing; Timed Reminder; Trunk-to-Trunk Connections; Two-Party Hold.

Standard Station Features • Call Forwarding; Call Hold; Call Park; Call Waiting; Call Number Display to Station; Code Calling Access; Line Lockout with Warning; Station-to-Station Calling.

Optional System Features • Advanced Private Line Termination (APLT); Automatic Callback; Automatic Route Selection; CCSA Access; Customer Administration Panel; Direct Department Calling (DDC); Direct Inward Dialing (DID); Music-on-Hold Access; Outgoing Trunk Queuing; Recorded Telephone Dictation Access; Speed Calling; Station Message Detail Recording (SMDR); Tandem Tie Trunk Switching; Uniform Call Distribution (UCD); Flexible Numbering of Stations; Hot-Line Service; Manual Originating Line Service; Single Digit Dialing; Authorization Code; Automatic Alternate Routing; Automatic Overflow to DDD; Customer Administration Center System; Customer Administration Panel; Data Communications; Deluxe Queuing; Facilities Administration and Control; Force Administration Data System (FADS); Inter-PBX Call Transfer; Main/Satellite; Remote Access to OBX Services; Time-of-Day Synchronization; Traffic Data to Customer; Uniform Numbering Plan; Bad Line Status and Selection; Controlled Restriction; Split Access to Outgoing Trunks Access.

Optional Attendant Features • Attendant Conference; Attendant Release Group (ARL); Centralized Attendant Service (CAS) with Separate Attendant Concentrator; Controlled Restriction; Direct Trunk Group Selection; Intercept Treatment Recorded Announcement; Multiple LDN, DID, Non-DID; Privacy and Lockout; Timed Recall on Outgoing Calls; Trunk Verification by Customer; Visually Impaired Attendant Service; Message Waiting Service.

Optional Station Features • Automatic Intercom; Call Pickup; Common Audible Ringing; Custom Intercom; Dial Intercom; Exclusive Hold; Executive Override; Hold; Incoming Call Preference; Last Extension Called; Last Line Preference; Line Ringing; Line Status Indication; Manual Exclusion; Manual Intercom; Manual Terminating Line Service; No Line Preference; Personal CO Line; Priority Hold; PBX Line Access; Station Busy Indicator; Station Direct Station Select (DSS); Station Message Waiting; Station Rearrangement and Change; Station Ringer Cutoff; Trunk Verification Station; Station Message Register Service.

First Delivery • 1976.

Systems Delivered • over 40,000 Dimension systems.

Average System Size Installed • 1,000 stations.

Average Cost Per Line • \$95 to \$300 per month.

Distribution • nationwide through AT&T-IS.

Installation/Maintenance • nationwide through AT&T-IS.

□ System 75

Function • stored program computerized branch exchange (PBX) system for switching voice and data • digital switching technology • distributed architecture • TDM/PCM • 2-pair wiring for interfacing standard keysets • for data transmission to 19.2K bps; aggregate speed 64K bps • up to 236 unblocked connections • 6 to 36 CCS per line.

Communications/Networks • ETN (Electronic Tandem Network) provides interconnection of station locations via dedicated tie trunks • AUTOVON allows interconnection of PBX users to a 4-wire automatic voice network switching center via access lines • FX (Foreign Exchange) provides access to distant central offices via Foreign Exchange trunks • T-1 line compatibility • data transmission to 64K bps • transmission compatible with System 85, other Dimension family members • X.25 support.

Trunks/Stations/Consoles • up to 200 trunks • up to 400 stations • up to 6 attendant consoles.

Private Branch Exchanges—PBXs

Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

Voice Equipment • vendor supplied: all AT&T-IS rotary and Touch-Tone telephones (Type 500 and 2500); Multibutton Electronic Telephone (MET); attendant console; 7000 Series Terminals.

Data Equipment • vendor supplied: 7000 Series Terminals; 515 BCT CRT terminal; Applications Processor (AP 16); Trunk Data Module; Processor Data Module; Digital Termination Data Module; Local Area Data Sets; Serial Printers; Distributed Communications Service; Peripheral Interface Controller; AT&T 3B computers; AT&T PC 6300 and 7300 • Equipment Supported; IBM 2780/3780 remote batch terminals; Teletype Model 33/35 KSR TTYs, IBM 3270 CRT terminals.

Applications Supported • office automation via electronic directory; electronic document communication; message handling • energy and security (building) management.

Standard System Features • Abbreviated Dialing; Automatic Callback; Automatic Route Selection; Bridged Call; Call Coverage; Dial Access to Attendant; Direct Department Calling; Direct Inward Dialing (DID); Direct Outward Dialing (DOD); Facility Busy Indication; Integrated Directory; Hot-line Service; Multiple Listed Directory Numbers; Music-on-Hold Access; Hunting; Manual Originating Line Service; Night Service; Off-Premises Stations; Power Failure Transfer; Recall Signaling; Remote Access; Toll/Code/Miscellaneous Trunk Restrictions; Ringback Queuing Station Message Detail Recording; Touch-Tone Calling; Touch-Tone Dialing; Trunk Group Busy; Trunk-to-Trunk Transfer; Uniform Call Distribution; Uniform Numbering.

Standard Attendant Features • Alerting; Call Waiting; Auto-Manual Splitting; Trunk Group Access Control; Busy Lamp Field; Direct Trunk Group Selection; Attendant Display; Recall; Release Loop Operation; Conference; Hold; Intercept Treatment; Loudspeaker Paging; Priority Calling; Restriction Controlled; Manual Line Terminating Line Restriction; Origination/Inward/Outward Restrictions; Straightforward Outward Completion Terminating Extension Group Through Dialing; Timed Reminder.

Standard Station Features • Call Forwarding; Call Park; Call Pickup; Call Waiting; Code Calling Access; Intercom; Last Number Dialed; Leave Word Calling; Line Lockout; Manual Message Waiting; Manual Signaling; Personal CO Line; Privacy-Attendant Lockout; Recorded Dictation Access; Transfer; Voice Terminal Display.

Optional System Features • all features standard.

Optional Attendant Features • all features standard.

Optional Station Features • all features standard.

First Delivery • fourth quarter 1984.

Systems Delivered • over 200.

Average System Size Installed • 150 to 200 stations.

Average Cost Per Line • \$500 to \$900.

Distribution • nationwide through AT&T-IS.

Installation/Maintenance • nationwide through AT&T-IS.

□ System 85

Function • stored program computerized branch exchange (PBX) system for switching voice and data • digital switching technology • distributed architecture • TDM/PCM • 2-pair wiring for interfacing standard keysets • distributed communication feature for data transmission to 19.2K bps; aggregate speed 64K bps • 255 unblocked connections per module; 7,936 maximum • 6 to 36 CCS per line.

Communications/Networks • ETN (Electronic Tandem Network) provides interconnection of station locations via dedicated tie trunks • AUTOVON allows interconnection of PBX users to a 4-wire automatic voice network switching center via access lines • FX (Foreign Exchange) provides access to distant central offices via Foreign Exchange trunks • T-1 transmission compatibility • data transmission to 64K bps • DCA (Data Communications Access) provides stations with access to user's computer equipment via trunk access ports • transmission compatible with other Dimension family members • X.25 support.

Trunks/Stations/Consoles • up to 7,525 trunks • up to 32,000 analog or 10,000 digital stations • 28 attendant consoles.

Voice Equipment • vendor supplied: all AT&T rotary and Touch-Tone telephones (Type 500 and 2500); Multibutton Electronic Telephone (MET); attendant console; 7000 Series Terminals.

Data Equipment • vendor supplied: 7000 Series Terminals; 500, 513, and 515 BCT CRT terminal; Applications Processor (AP 16); Trunk Data Module; Processor Data Module; Digital Termination Data Module; Local Area Data Sets; Serial Printers; Distributed Communications Service; Peripheral Interface Controller; AT&T 3B computers; AT&T PC 6300 and 7300 • Equipment Supported; IBM 2780/3780 remote batch terminals; Teletype model 33/35 KSR TTYs, IBM 3270 CRT terminals.

Applications Supported • office automation via electronic directory; electronic document communication; message handling • energy and security (building) management.

Standard System Features • contains all the standard features of Dimension 400 and 600 which includes: Automatic Identification Outward Dialing (AIOD); Code Calling Access; Code Restriction; Data Privacy; Data Restriction; Dial Access to Attendant; Direct Outward Dialing (DOD); Distinctive Ring; Flexible Station Numbering; Foreign Exchange (FX) CO Access; Fully Restricted Station; Inward Restriction; Miscellaneous Trunk Restriction; Multiple Listed Directory Numbers (LDN); Music-on-Hold Access; Night Console Position; Night Service Fixed; Off-Premise Stations; Outward Restriction; Radio Paging Access; Recall Dial Tone, Reserve Power; Rotary Dial Calling; Route Advance; Station Hunting; Termination Restriction; Three-way Conference Transfer; Tie Trunk Access; Toll Restriction; Touch-Tone Calling; Touch-Tone to Dial Pulse Conversion; Trunk Answer; Wide Frequency Power Source; WATS Access.

Standard Attendant Features • contains all the standard features of 100, 400, 600 which includes: Alphanumeric Display for Attendant Position; Attendant Control of Trunk Group Access; Attendant Direct Station Selection (DSS); Attendant Transfer; Busy Lamp Field; Busy Verification of Station Lines; Calling Number Display to Attendant; Class of Service Display; Incoming Call Identification (ICI); Intercept Treatment Tone; Listed Directory Number (LDN) Service; Loudspeaker Paging; Manual Terminating Line Service; Serial Calls; Splitting; Straightforward Outward Completion; Switched Loop Operation; Through Dialing; Timed Reminder; Trunk-to-Trunk Connections; Two-Party Hold.

Standard Station Features • contains all the standard features of Dimension 400 and 600 which includes: Call Forwarding; Call Hold; Call Park; Call Waiting; Calling Number Display to Station; Code Calling Access; Line Lockout with Warning; Station-to-Station Calling.

Optional System Features • contains all the optional features of Dimension 600 which includes: Advanced Private Line Termination (APLT); Automatic Callback; Automatic Route Selection; CCSA Access; Customer Administration Panel; Direct Department Calling (DDC); Direct Inward Dialing (DID); Music-on-Hold Access; Outgoing Trunk Queuing; Recorded Telephone Dictation Access; Speed Calling; Station Message Detail Recording (SMDR); Call Detail Recording & Reporting (CDRR); Terminal Change Management; Tandem Tie Trunk Switching; Uniform Call Distribution (UCD); Flexible Numbering of Stations; Hot-Line Service; Manual Originating Line Service; Single Digit Dialing; Authorization Code; Automatic Alternate Routing; Automatic Overflow to DDD; Customer Administration Center System; Customer Administration Panel; Data Communications; Deluxe Queuing; Facilities Administration and Control; Force Administration Data System (FADS); Inter-PBX Call Transfer; Main/Satellite; Remote Access to PBX Services; Time-of-Day Synchronization; Traffic Data to Customer; Uniform Numbering Plan; Bad Line Status and Selection; Controlled Restriction; Split Access to Outgoing Trunks Access.

Optional Attendant Features • contains all the optional features of Dimension 600 which includes: Attendant Conference; Attendant Release Loop (ARL); Centralized Attendant Service (CAS) with Separate Attendant Concentrator; Controlled Restriction; Direct Trunk Group Selection; Intercept Treatment

Private Branch Exchanges—PBXs

Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

Recorded Announcement; Multiple LDN, DID, Non-DID; Privacy and Lockout; Timed Recall on Outgoing Calls; Trunk Verification by Customer; Visually Impaired Attendant Service; Message Waiting Service.

Optional Station Features • contains all the optional features of Dimension 600 which includes: Automatic Intercom; Call Pickup; Common Audible Ringing; Custom Intercom; Dial Intercom; Exclusive Hold; Executive Override; Hold; Incoming Call Preference; Last Extension Called; Last Line Preference; Line Ringing; Line Status Indication; Manual Exclusion; Manual Intercom; Manual Terminating Line Service; No Line Preference; Personal CO Line; Priority Hold; PBX Line Access; Station Busy Indicator; Station Direct Station Select (DSS); Station Message Waiting; Station Rearrangement and Change; Station Ringer Cutoff; Trunk Verification Station; Station Message Register Service.

First Delivery • 1983.

Systems Delivered • over 1,000 systems.

Average System Size Installed • 362 lines.

Average Cost Per Line • \$870 to \$1,170 (600 lines); \$720 to \$1,020 (10,000 lines).

Distribution • nationwide through AT&T-IS.

Installation/Maintenance • nationwide through AT&T-IS.

■ AMERICAN TELECOM

3190 Mira Loma Avenue, Anaheim, CA 92806 • 714-630-7721.

□ Focus

Function • stored program computerized branch exchange (PBX) system for switching voice and data • digital switching technology; digital voice conversion • TDM Delta Modulation • 2-/4-pair wiring for interfacing standard keysets • redundant processing • up to 475 unblocked connections.

Communications/Networks • route optimization • tandem switching • satellite communication • centralized attendant service • 2-/4-wire transmission • Foreign Exchange (FX) • digital transmission to 56K bps.

Trunks/Stations/Consoles • up to 160 trunks • up to 1,984 stations • 4 attendant's consoles.

Voice Equipment • vendor supplied: Electronic Terminal I and II Telephones • equipment supported: all rotary dial and Touch-Tone telephones; dictation machines; announcement machines.

Data Equipment • vendor supplied: application processor; data terminal equipment; facsimile terminal; data rates up to 56K bps • equipment supported: detail recording printer; hotel/motel printer; magnetic tape system.

Applications Supported • office automation • healthcare • retailers • hotel/motel • banking • service sector • business.

Standard System Features • Area Code and Office Code Restriction; Automatic Identified Outward Dialing (AIOD); Automatic Restore from Power Fail; Automatic Station Release; Common Control Switching Arrangement (CCSA); Class of Service (COS); Data Security; Dictation Access; Flexible Night Answer; Flexible Station Numbering; Inward Restriction; Listed Directory Number Service; Manual Originating Line Service; Multiple Console Operation; Multiple Dialing Plans; Multiple Trunk Groups; Music-on-Hold/Camp-on; Night Class of Service; Off-Premise Extensions; Outgoing Restrictions; Outgoing Trunk Camp-on; Route Advance; Service Order Administration; Speed Calling; Station Hunting; Station Message Detail Recording (SMDR); Outgoing/Incoming; Station Restriction; Tandem Tie Trunk; Tenant Service; Toll Restriction 0/1; Tone to Dial Pulse Conversion; Tone Sending; Traffic Measurement; Universal Night Answer; Vacant Number Intercept.

Standard Attendant Features • Automatic Recall; Automatic Wakeup; Busy Lamp Field; Camp-on; Class of Service Display; Control of Trunk Group Access; Direct Paging Access; Do Not Disturb; Direct Trunk Group Selection; Centralized Attendant Service; DSS with Busy Lamp Field; Incoming Call Identification;

Individual Trunk Access; Lock Out; Locked Loop Operation; Loop Transfer; Message Center Registration; Message Waiting; Numerical Call Waiting; Overflow to UNA; Paging; Privacy and Lockout; Serial Call; Service Call Routing; Straightforward Outward Completion; Station Number Display; Switched Loop Operation; System Alarm; Through Dialing; Toll Terminal Access; Transfer-All Calls; Trunk Busyout; Trunk Group Warning; Trunk Location Display; Trunk-to-Trunk Connection; Two-Way Splitting; Vacant Room Restriction; Verify.

Standard Station Features • Call Forwarding; Call Hold; Call Park; Call Pickup; Call Waiting; Code Call Access; Consultation Hold; Direct Outward Dialing (DOD); Distinctive Ringing; Executive Busy Override; Foreign Exchange Access; Immediate Ring; Individual Transfer; Outgoing Trunk Camp-on; Paging; Push-Button Dialing; Recall Dial Tone; Recall Lock-in; Rotary Dialing; Speed Calling; Station Camp-on-Automatic Call Back; Station Controlled Conference; Station Hunting; Station-to-Station Calling; Tie Trunk; Trunk-to-Trunk Connection; WATS Access.

Optional System Features • Automatic Route Selection; Controlled Outgoing Restriction; Do Not Disturb; Direct Inward Dialing; Direct Inward System Access; Forced Account Codes; Centralized Attendant Service; Automatic Call Distribution; Redundant Processing; Station Message Detail Recording; Satellite PBX Operation.

First Delivery • 1976.

Systems Delivered • over 4,000 systems; all models.

Average System Size Installed • 210 stations.

Average Cost Per Line • \$550 to \$950 purchase.

Distribution • Regional Bell Operating Companies; Centel; North Supply; Telecom Plus; interconnect companies.

Installation/Maintenance • supported by distributors and American Telecom Field Service Organization.

■ ANDERSON JACOBSON, INC

521 Charcot Avenue, San Jose, CA 95131 • 408-263-8520.

□ Integrated Office Exchange (IOX)

Function • stored program computerized branch exchange (PBX) system for switching voice and data • digital switching technology with distributed nonblocking architecture • TDM/PCM • 1-pair wiring for interfacing standard keysets • totally unblocked connections • total redundancy • proprietary AJ telephone instrument digitizes voice with data; for rotary or DTMF analog phones, digitization takes place at the PBX • up to 23,000 line systems can be configured without blocking.

Communications/Networks • route optimization • tandem network; automatic network dialing IOX-Net • centralized attendant console • LAN Support (planned) • data: 19.2K bps asynchronous and synchronous • X.25 support (planned) • 4-wire transmission, full-duplex.

Trunks/Stations/Consoles • up to 1,472 trunks; up to 23,000 trunks for IOX-Net planned • up to 1,472 stations; up to 23,000 stations for IOX-Net planned • up to 96 consoles • up to 416 inter-PBX trunks per IOX • 46 T1 trunks planned.

Voice Equipment • vendor supplied: Digi-Touch Telset; full-screen attendant console • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • vendor supplied: AJ terminals, modems, printers, computers, Digi-Touch telset • equipment supported: all RS-232C, RS-449, and RS-422 devices at data rates up to 19.2K bps asynchronous and synchronous; PBX to computer T1 trunk planned.

Voice/Data Equipment • digitization of voice at telephone instrument; single-pair wiring for alternate voice/data and 2-pair wiring for simultaneous voice/data • all RS-232C and RS-449 data devices supported at up to 19.2K bps asynchronous and synchronous.

Applications Supported • office automation • healthcare • retailers • hotel/motel • banking • service sector • business.

Standard System Features • Access to Trunk Services;

Private Branch Exchanges—PBXs

Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

Announcement Intercept Service; Automatic Trouble Reporting; Basic System Administration; Basic Traffic Measurement; Class of Service (COS); Direct Inward Service (DIS); Direct Outward Dialing (DOD); Emergency Transfer; Flexible Numbering; Hunting Services; Line Lockout; Night Service Arrangement; Pulse/Tone Conversion; Remote Diagnostics; Route Advance; Station-to-Station Calls; System Tones; Toll Denial Service 0/1.

Standard Attendant Features • Automatic Call Sequencing; Automatic Recall; Barge-In; Camp-on; Coin Call; COD Display; Conference Call; Dial Access to Trunk Groups; Directed Calls to Consoles; Hold; Individual Trunk Busy Out; Interposition Calling; Joining; Lockout with Secrecy; Major and Minor Alarms; Multiple Console Operation; Page Key Access; Page Console Operation; Position Busy; Priority Call Handling; Secrecy/Auto-Splitting; Through Dialing; Trunk Group Busy Indication; Trunk-to-Trunk Connections; Universal Telsel Restoration; Visual Display of Calls; Volume Control.

Standard Station Features • Call Forwarding; Call Park; Call Pick-Up; Call Screening; Call Waiting; Camp-On Queuing; Comline Service; Connect/Cancel; Consultation Package; Feature Key; Handsfree Dialing; Hold Recall; Inward Restriction; Loop Services; Manual Signaling; Manual Station Operation; Monitor Hold; Multiring Numbers; Privacy; Ringing Call Preference; Station Conference; Transfer Camp-on.

Optional System Features • Data; Authorization Codes; Call Detail Recording; Digit Translation; Direct Inward Dialing (DID); Direct Inward System Access; Least Cost Routing; Multidigit Restriction; Tie Line Operation; Trunk Queuing; Modem Pooling.

Optional Attendant Features • Night Service Display; Speed Dialing; Trunk Status Display.

Optional Station Features • Data Key Operation; Do Not Disturb; Headset Operation; Speed Dialing Services; LCD Display; Speakerphone.

First Delivery • 4th quarter 1984.

Systems Delivered • under 10.

Average System Size Installed • 250 to 400 stations.

Average Cost Per Line • \$875 purchase.

Distribution • nationally through selected dealers.

Installation/Maintenance • nationally through selected dealers.

■ CXC CORPORATION

2852 Alton Avenue, Irvine, CA 92714 • 714-660-1801.

□ ROSE

Function • fully integrated and distributed PBX/LAN system for switching voice and data • digital "per-line" switching technology • PCM • 2-pair wiring for interfacing standard keysets • 192 (single node) to 12,288 (64 nodes) unblocked connections • multinode configuration via twin tier LAN; 10M-bps CSMA/CD Ethernet baseband LAN for control and packet-switched data, and 33M-bps broadband circuit-switched ring, plus 16M-bps token-ring (IBM/802.5 compatible) • can be upgraded for total redundancy.

Communications/Networks • 128K-bps data or 64K-bps data with voice port; asynchronous/synchronous • coaxial cable connects nodes in LAN configuration • route optimization.

Trunks/Stations/Consoles • 192 nonblocking ports per node; up to 64 nodes; over 6,000 trunks (96 per node) • over 12,000 stations • 4 attendant consoles per node.

Voice Equipment • vendor supplied: Personal Teleterminal models T-2050/1; T-2001/2/3/4/5; Rose Console and digital telephone • equipment supported: all rotary dial or Touch-Tone 500-Type or 2500-Type telephones • automatic call distribution.

Data Equipment • vendor supplied: Rose Personal Teleterminal • equipment supported: word processing; electronic mail; printers; magnetic tape; CRT terminals; diskettes • up to 19.2K bps asynchronous; 64K bps synchronous; 128K bps aggregate.

Applications Supported • office automation • business.

Standard System Features • Abbreviated Dialing; Account

Codes; Area Code Restriction; Automatic Call Return; Automatic Callback; Automatic Camp-On; Automatic Line Preferences; Automatic Route Selection; Calendar; Call Detail Recording; Class of Service; Customer Administration Center; Diagnostics; Direct Inward Dialing; Direct Inward System Access; Distributed Architecture; Facilities Partitioning; Flexible Station Numbering; Maintenance Console; Messaging; Night Service; Paging Access; Power Failure—Transfer/Restart/Battery; Remote Maintenance; Shared Voice/Data Ports; Station Message Detail Recording; Station Message Waiting; Time of Day Routing; Trunk-to-Trunk Connections; Variable Bandwidth Allocation.

Standard Data Features • Asynchronous; Auto Answer; Data Call Connect/Disconnect; Data Call Waiting; Data Privacy; Data Circuit Terminating Equipment (DCE); Data Terminal Equipment (DTE); Modem Pooling; Simultaneous Voice/Data; Synchronous Communications.

Standard Attendant Features • Attendant CRT/Keyboard; Busy Verification; Call Identification; Paging; Interposition Calling; Call Waiting Display; Station/Trunk Number Display; Repertory Dialing; Feature Changes; Serial Call; Processor Changes; Conference Calling; Multiple Console Operation; Locked Loop Operation.

Standard Station Features • Add-On Conference; Busy Override; Call Queuing; Call Pickup; Call Forwarding; Call Park; Call Transfer; Call Waiting; Calling Number Display; Consultation Hold; Digital Telephone; Direct Trunk Access; Distinctive Ringing; Do Not Disturb; Exclusive Hold; Executive Override; Full-Duplex Speakerphone; Hunting; 1-Use Indication; Hold; Messaging; On-Hook Dialing; Option Keys; Privacy; ROSEDEX Name/Number File; Saved Number Redial; Station Alphanumeric Display; Message Waiting.

First Delivery • October 1984.

Systems Delivered • 10.

Average System Size Installed • anticipated 192 port systems at time of first delivery; 6 months: 1,200 port systems; next 6 months: 3,000 to 4,000 port systems.

Average Cost Per Line • \$975 to \$1,400.

Distribution • nonexclusive distribution with telephone operating companies and their interconnect subsidiaries; regional interconnect distributors.

Installation/Maintenance • telephone operating companies and their interconnect subsidiaries; regional interconnect distributors.

■ CYBER DIGITAL, INC

175 Commerce Drive, Hauppauge, NY 11788-3901 • 516-231-0115.

□ MSX

Function • stored program computerized branch exchange for switching voice and data • digital switching technology using TDM/PCM and multiple high-speed data buses • 2-pair wiring • distributed architecture • nonblocking for voice and data • redundancy available.

Communications/Networks • route optimization • tandem switching • data networking • supports standard 2-wire/4-wire analog lines • supports T1/D3 channels.

Trunks/Stations/Consoles • up to 30 universal board slots • up to 48 trunks per board • up to 8 digital stations per board • up to 16 analog 500/2500 stations per board • optimum design limit 430 stations, 50 trunks.

Voice Equipment • vendor supplied: 500/2500 telephones; iST electronic telephones • equipment supported: 500/2500 telephones.

Data Equipment • vendor supplied: iST electronic digital telephones; X.25, X.28, X.29 interfaces; RS-232C, RS-449 interfaces; T1/D3 interfaces • equipment supported: asynchronous/synchronous terminals; speeds to 19.2K bps asynchronous, 64K bps synchronous; personal computers; peripherals.

Private Branch Exchanges—PBXs

Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

Applications Supported • office automation • banking • service sector • military • business.

Standard System Features • Area Code and Office Code Restriction; Automatic Call Distribution; Automatic Identified Outward Dialing (AIOD); Automatic Restore from Power Fail; Automatic Route Selection; Automatic Station Release; Common Control Switching Arrangement (CCSA); Class of Service (COS); Data Security; Data/Voice Integration; Dictation Access; Direct Inward Dialing (DID); Flexible Night Answer; Flexible Station Numbering; Inward Restriction; Listed Directory Number Service; Manual Originating Line Service; Modem Pooling; Multiple Console Operation; Multiple Dialing Plans; Multiple Trunk Groups; Music-on-Hold/Camp-on; Night Class of Service; Off Premise Extensions; Outgoing Restrictions; Outgoing Trunk Camp-on; Remote System Access (DISA); Route Advance; Satellite Operation; Service Order Administration; Speed Calling; Station Hunting; Station Message Detail Recording (SMDR); Outgoing/Incoming; Station Restriction; Tandem Tie Trunk; Toll Restriction 0/1; Tone to Dial Pulse Conversion; Tone Sending; Traffic Measurement; Universal Night Answer; Vacant Number Intercept.

Standard Attendant Features • Attendant CRT Display; Automatic Recall; Automatic Wakeup; Busy Lamp Field; Camp-on; Class of Service Display; Control of Trunk Group Access; Direct Paging Access; Do Not Disturb; Direct Trunk Group Selection; Centralized Attendant Service; Incoming Call Identification; Individual Trunk Access; Lock Out; Locked Loop Operation; Loop Transfer; Message Center Registration; Message Waiting; Numerical Call Waiting; Overflow to UNA; Paging; Privacy and Lockout; Serial Call; Service Call Routing; Straightforward Outward Completion; Station Number Display; Switched Loop Operation; System Alarm; Through Dialing; Toll Terminal Access; Transfer-All Calls; Trunk Busyout; Trunk Group Warning; Trunk Location Display; Trunk-to-Trunk Connection; Two-Way Splitting; Vacant Room Restriction; Verify.

Standard Station Features • Call Forwarding; Call Hold; Call Park; Call Pickup; Call Waiting; Code Call Access; Consultation Hold; Direct Outward Dialing (DOD); Distinctive Ringing; Executive Busy Override; Foreign Exchange Access; Immediate Ring; Individual Transfer; LCD Display on iST digital telephone; Outgoing Trunk Camp-on; Paging; Push-Button Dialing; Recall Dial Tone; Recall Lock-in; Rotary Dialing; Speed Calling; Station Camp-on Automatic Call Back; Station Controlled Conference; Station Hunting; Station-to-Station Calling; Tie Trunk; Trunk-to-Trunk Connection; WATS Access.

Optional System Features • Directory; Tenant Service.

First Delivery • 1st quarter 1985.

Systems Delivered • under 10.

Average System Size Installed • 100 stations.

Average Cost Per Line • \$800 to \$1,000 purchase.

Distribution • nationwide through direct sales and authorized distributors.

Installation/Maintenance • direct by manufacturer and distributors.

■ DAVID SYSTEMS, INC

701 East Evelyn Avenue, Sunnyvale, CA 94086 • 408-720-8000.

□ David Information Manager

Function • stored program computerized adjunct branch exchange for switching voice and data • connects to existing PBX/Centrex systems • distributed local area network architecture with TDM/PCM and high-speed packet LAN buses • 2-pair wiring • nonblocking.

Communications/Networks • LAN-based • supports Ethernet T1 communications • David-Link: 2M-bps facility connects station terminals to main system.

Trunks/Stations/Consoles • up to 240 ports in system • 120 proprietary stations • no consoles.

Voice Equipment • vendor supplied: David-Set, proprietary

digital telephone; David-Gateway, which provides connection to PBX/Centrex • equipment supported: none.

Data Equipment • vendor supplied: David-Adapters, which provides interfaces for LANs, terminals, and personal computers; print servers; file servers • equipment supported: ASCII terminals; RS-232C; IBM Personal Computer; industry-standard data terminals.

Applications Supported • office automation • business.

Standard System Features • Data Servers; File Servers; High-Speed Local Area Network (LAN); Integrated Voice/Data Communication; Messaging; Automatic Restore from Power Fail; Automatic Route Selection; Class of Service (COS); Data Security; Flexible Night Answer; Flexible Station Numbering; Multiple Dialing Plans; Multiple Trunk Groups; Off-Premise Extensions; Outgoing Restrictions; Remote System Access (DISA); Route Advance; Service Order Administration; Speed Calling; Outgoing/Incoming; Station Restriction; Traffic Measurement.

Standard Station Features • Call Forwarding; Call Hold; Call Park; Call Pickup; Call Waiting; Data Interface Modules; Distinctive Ringing; Executive Busy Override; Individual Transfer; Messaging; Outgoing Trunk Camp-on; Paging; Push-Button Dialing; Recall Dial Tone; Recall Lock-in; Speed Calling; Station Camp-on-Automatic Call Back; Station Controlled Conference; Station Hunting; Station-to-Station Calling.

First Delivery • 1985.

Systems Delivered • none.

Average System Size Installed • undisclosed.

Average Cost Per Line • \$1,200 purchase (voice and data).

Distribution • nationwide through direct sales; Bell Operating Companies; interconnect companies.

Installation/Maintenance • direct from manufacturer; BOCs; interconnect companies.

■ DIGITAL TRANSMISSION INC (DTI)

315 Eisenhower Road, Lombard, IL 60148 • 312-620-1170.

□ 580S-1

Function • stored program computerized branch exchange (PBX) system for switching voice and data • digital switching technology • TDM/PCM • 2-pair wiring for interfacing standard keysets • 36 CCS per line; 192 simultaneous conversations.

Communications/Networks • centralized attendant service • tandem switching • satellite operation • T-1 interface.

Trunks/Stations/Consoles • up to 72 trunks • 100 to 288 stations • 4 attendant's consoles.

Voice Equipment • vendor supplied: attendant's console; ACD stations • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • vendor supplied: User Data Interface • equipment supported: CRTs; disk drives; magnetic tapes; tape cartridges; printers.

Applications Supported • retailers • hotel/motel • business • banking • service sector.

Standard System Features • Immediate Ringback; Intercept Facilities; Multicustomer Groups; Remote Access; Ringing Timeout; Traffic Measurement; Uniform Call Distribution (UCD); Line Lockout; CCSA; DID; Outgoing Trunk Queuing; Tie Trunks; Station Transfer Security; Station Restriction; Night Service; Group Hunt; Conference.

Standard Attendant Features • Alphanumeric Display; Attendant-Attendant Transfer; Call Through; Delayed Calls; Through Dialing; Transfer; Attendant Recall; Camp-on; Chain Calling; Do Not Disturb; Initialize/Cancel Speed Call; Switched-Loop Operation.

Standard Station Features • Add-on Conference; Attendant Recall; Call Forwarding; Call Hold; Call Pick-Up; Call Waiting; Call Park; Call Transfer; Consultation Hold; Dial Access to Attendant; Executive Priorities; Executive Override; Hot-Line;

Private Branch Exchanges—PBXs

Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

Station Camp-on; Station-to-Station Calling; Third-Party Call Forwarding.

Optional System Features • Automatic Call Distribution (ACD); Call Detail Recording (CDR); Call Management; Power Failure Transfer; CAS; ARS; DISA; Paging; Uniform Numbering Plan.

Optional Attendant Features • BLF/DSS.

First Delivery • 1981.

Systems Delivered • over 250; all models.

Average System Size Installed • 170 stations.

Average Cost Per Line • \$600 to \$800 purchase.

Distribution • nationwide and worldwide through independent dealers and distributors.

Installation/Maintenance • nationwide and worldwide through independent dealers and distributors.

□ 580S

Function • stored program computerized branch exchange (PBX) system for switching voice and data • digital switching technology • TDM/PCM • 2-pair wiring for interfacing standard keysets • 36 CCS per line; 384 simultaneous conversations.

Communications/Networks • centralized attendant service • tandem switching • satellite operation • T-1.

Trunks/Stations/Consoles • up to 96 trunks • up to 576 stations • 4 attendant's consoles.

Voice Equipment • vendor supplied: attendant's console; ACD stations • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • vendor supplied: User Data Interface • equipment supported: CRTs; disk drives; magnetic tapes; tape cartridges; printers.

Applications Supported • retailers • hotel/motel • business • banking • service sector.

Standard System Features • Immediate Ringback; Intercept Facilities; Multicustomer Groups; Remote Access; Ringing Timeout; Traffic Measurement; Uniform Call Distribution (UCF); Line Lockout; CCSA; DID; Outgoing Trunk Queuing; Tie Trunks; Station Transfer Security; Station Restriction; Night Service; Group Hunt; Conference.

Standard Attendant Features • Alphanumeric Display; Attendant-Attendant Transfer; Call Through; Delayed Calls; Through Dialing; Transfer; Attendant Recall; Camp-on; Chain Calling; Do Not Disturb; Initialize/Cancel Speed Call; Switched-Loop Operation.

Standard Station Features • Add-on Conference; Attendant Recall; Call Park; Call Transfer; Call Forwarding; Call Hold; Call Pickup; Call Waiting; Consultation Hold; Dial Access to Attendant; Executive Priorities; Executive Override; Hot-Line; Station Camp-on; Station-to-Station Calling; Third-Party Call Forwarding.

Optional System Features • Automatic Call Distribution (ACD); Call Detail Recording (CDR); Call Management; Power Failure Transfer; CAS; ARS; DISA; Paging; Uniform Numbering Plan.

Optional Attendant Features • BLF/DSS.

First Delivery • 1979.

Systems Delivered • over 250; all models.

Average System Size Installed • 450 stations.

Average Cost Per Line • \$600 to \$800 purchase.

Distribution • nationwide and worldwide through independent dealers and distributors.

Installation/Maintenance • nationwide and worldwide through independent dealers and distributors.

□ 580M

Function • stored program computerized branch exchange (PBX) system for switching voice and data • digital switching

technology • TDM/PCM • 2-pair wiring for interfacing standard keysets • 36 CCS per line; 768 simultaneous conversations.

Communications/Networks • centralized attendant service • tandem switching • satellite operation • T-1 interface.

Trunks/Stations/Consoles • up to 192 trunks • up to 1,152 stations • 8 attendant's consoles.

Voice Equipment • vendor supplied: attendant's console; ACD stations • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • vendor supplied: User Data Interface • equipment supported: CRTs; disk drives; magnetic tapes; tape cartridges; printers.

Applications Supported • retailers • hotel/motel • business • banking • service sector.

Standard System Features • Immediate Ringback; Intercept Facilities; Multicustomer Groups; Remote Access; Ringing Timeout; Traffic Measurement; Uniform Call Distribution (UCD); Line Lockout; CCSA; DID; Outgoing Trunk Queuing; Tie Trunks; Station Transfer Security; Station Restriction; Night Service; Group Hunt; Conference.

Standard Attendant Features • Alphanumeric Display; Attendant-Attendant Transfer; Call Through; Delayed Calls; Through Dialing; Transfer; Attendant Recall; Camp-on; Chain Calling; Do Not Disturb; Initialize/Cancel Speed Call; Switched-Loop Operation.

Standard Station Features • Add-On Conference; Attendant Recall; Call Forwarding; Call Hold; Call Pick-Up; Call Park; Call Transfer; Call Waiting; Consultation Hold; Dial Access to Attendant; Executive Priorities; Executive Override; Hot-Line; Station Camp-on; Station-to-Station Calling; Third-Party Call Forwarding.

Optional System Features • Automatic Call Distribution (ACD); Call Detail Recording (CDR); Call Management; Power Failure Transfer; CAS; ARS; DISA; Paging; Uniform Numbering Plan.

Optional Attendant Features • BLF/DSS.

First Delivery • 1980.

Systems Delivered • over 250; all models.

Average System Size Installed • 700 stations.

Average Cost Per Line • \$600 to \$800 purchase.

Distribution • nationwide and worldwide through independent dealers and distributors.

Installation/Maintenance • nationwide and worldwide through independent dealers and distributors.

□ 580L

Function • stored program computerized branch exchange (PBX) system for switching voice and data • digital switching technology • TDM/PCM • 2-pair wiring for interfacing standard keysets • 36 CCS per line; 1,536 simultaneous conversations.

Communications/Networks • centralized attendant service • tandem switching • satellite operation • T-1 interface.

Trunks/Stations/Consoles • up to 576 trunks • up to 2,304 stations • 16 attendant's consoles.

Voice Equipment • vendor supplied: attendant's console; ACD stations • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • vendor supplied: User Data Interface • equipment supported: CRTs; disk drives; magnetic tapes; tape cartridges; printers.

Applications Supported • retailers • hotel/motel • business • banking • service sector.

Standard System Features • Immediate Ringback; Intercept Facilities; Multicustomer Groups; Remote Access; Ringing Timeout; Traffic Measurement; Uniform Call Distribution (UCD); Line Lockout; CCSA; DID; Outgoing Trunk Queuing; Tie Trunks; Station Transfer Security; Station Restriction; Night Service; Group Hunt; Conference.

Private Branch Exchanges—PBXs

Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

Standard Attendant Features • Alphanumeric Display; Attendant-Attendant Transfer; Call Through; Delayed Calls; Through Dialing; Transfer Attendant Recall; Camp-on; Chain Calling; Do Not Disturb; Initialize/Cancel Speed Call; Switched-Loop Operation.

Standard Station Features • Add-on Conference; Attendant Recall; Call Park; Call Transfer; Call Forwarding; Call Hold; Call Pick-Up; Call Waiting; Consultation Hold; Dial Access to Attendant; Executive Priorities; Executive Override; Hot-Line; Station Camp-on; Station-to-Station Calling; Third-Party Call Forwarding.

Optional System Features • Automatic Call Distribution (ACD); Call Detail Recording (CDR); Call Management; Power Failure Transfer; CAS; ARS; DISA; Paging; Uniform Numbering Plan.

Optional Attendant Features • BLF/DSS.

First Delivery • 1978.

Systems Delivered • over 250 systems; all models.

Average System Size Installed • 900 stations.

Average Cost Per Line • \$600 to \$800 purchase.

Distribution • nationwide and worldwide through independent dealers and distributors.

Installation/Maintenance • nationwide and worldwide through independent dealers and distributors.

■ ERICSSON CORPORATION

7465 Lampson Avenue, Garden Grove, CA 92641 • 714-895-3962.

□ MD110 (Information Systems Division)

Function • stored program computerized branch exchange for switching voice and data • digital switching using TDM/PCM • distributed architecture tied to high-speed bus • 2-pair wiring for interfacing stations • simultaneous voice and data switching • 64K bps synchronous, 19.2K bps asynchronous • nonblocking up to 7,440 stations; 36 CCS between switching modules; 14 CCS per station.

Communications/Networks • abbreviated dialing • network dialing • route optimization • satellite PBX operation • tandem switching • X.25 interface under development • RS-232C, RS-449, RS-366, V.35 supported • data speeds to 64K bps synchronous, 19.2K bps asynchronous.

Trunks/Stations/Consoles • 1,000 trunks maximum • 12,000 stations maximum • 30 consoles maximum.

Voice Equipment • vendor supplied: rotary phones, DTMF phones, digital phones.

Data Equipment • total system throughput is: simultaneous voice and data over 1-pair is 9.5K bps; simultaneous voice and data over 2-pair is 64K bps; data alone over 1-pair is 64K bps; no limitations on the number of data devices, each port supports a voice and data connection • vendor supplied: 3270 terminals, distributed computer system for telecommunications management applications; TOPAS: a telephone directory and message center system; CHAMP: a SMDR processing and billing system; PAC: an inventory system for telephone wiring, parts, and equipment location; MD110 digital set provides the digital voice conversion and the RS-232C interface for data devices; data is internally formatted to provide high transmission reliability and integrity; digital set accepts both synchronous and asynchronous data without the need for separate hardware; VOIS: a voice mail system offered as a standalone or integrated unit with MD110; MINILINK, a short-haul microwave unit • vendor supported: any terminal with RS-232C interface.

Applications Supported • office automation • banking • business.

Standard System Features • Automatic Circuit Assurance; Automatic Daily Routines; Call Waiting Over Tie Trunks; CCSA Access; Class of Service (Day/Night); Code Call Access; Call Progress Signals-Standard; Common Abbreviated Dialing;

Common Bell Groups; Conference-Add-On Conference; Attendant Conference, Flexible Station Controlled, Multistation/Multitrunk; Data Restriction; Decentralization of Equipment Cabinets; Dictation Access; Dial Pulse to DTMF Conversion; Direct Outward Dialing; Distributed Microprocessor Control; Do Not Disturb Group; DTMF Calling; DTMF-to-Dial Pulse Conversion; End-to-End DTMF Signaling; Flexible Numbering Plan; Fully Restricted Stations; Hunting-Distributed, Master Number, Nonconsecutive, Unbalanced; Immediate Ringing; Intercept-Attendant, Tone, Class of Service, Vacant Code Intercept, Vacant Number Intercept, Permanent Signal and Partial Dial Intercept; Intercom Blocking; Inter-PBX Incoming and Outgoing Calls Via Operator; Indialing-Direct Inward Dialing, Direct-In Lines; Uniform Call Distribution; Inward Restriction; Maintenance Facilities; Manual Line Service; Manual Terminating Line Service; Miscellaneous Trunk Restriction; Mixed Station Dialing; Multiple Console Operation; Off-Premise Extensions; Multiple Trunk Groups; Night Service-Automatic; Common Night Service; Flexible Night Service; Night Service Facilities-Individual; Night Service-Universal; Nonblocking Switch Matrix; Nondialed Connection (Hot-Line); Outward Restriction; Pad Control on Tandem Tie Trunks; Power Failure Restart-Automatic; Power Failure Transfer; Printer Interface; Digital Telephone Instruments; Configuration Data Changes-Remote Access; Remote Maintenance Facility; Remote System Alarm Access; Rotary Dial Capabilities; Standard Telephone Instruments; Station Override Security; Tandem Trunking; Tie Trunk Access; Toll Restriction-0/1, Area/Office Code, Off-Net Tandem Tie Trunks; Inward Call Detail Recording; Station Message Detail Recording; Account Code Capability; Day/Night Trunk Control; Least Cost Routing; Route Advance; Trunk Queuing; Trunk-Loop Start; Trunk-Ground Start; DID Trunk; Trunk-2-Wire, E/M; Trunk-4-Wire, E/M; Uniform Numbering-Alternate Routing; Uniform Numbering-Overflow to DDD; Uniform Station Distribution Wiring; Voice Band Modem Capabilities; Voice Paging-Paging.

Standard Attendant Features • Attendant Flash Key; Attendant Override of Trunk Queue; Attendant Trunks; Automatic or Manual Call Answer; Automatic Recall Redial; Automatic Selection of Outgoing Routes; Busy Override; Call Back to Operator; Call Diversion by Operator; Call Hold; Call Queuing; Call Transfer-All Calls; Call Verification; Camp-on Busy; Console Unmanned Indication; Diversion Override; Digital Clock; Display-Called Numbers; Display-Called Processing Indications; Display-Call Waiting; Display-Class of Service; Display-Incoming Call Identification; Display-Station Number; Display-Trunk Number; Display-Status Displays; Display Tests; Emergency Call to Attendant; Forced Release; Handset or Headset Operation; Incoming Call Routing; Individual Abbreviated Dialing; Individual Trunk Access; Inquiry Recall; Interposition Calling; Interposition Call Transfer; Key Sender Operation; Last Number Redial; Lockout with Secrecy; Miscall Alert; Monitor Loop; One-Way Automatic Splitting; Operator's Instrument; Operator's Instrument-Traffic Distribution; Programming of Certain Exchange Data; Serial Call; Straightforward Outward Completion; Supervisory Loop; System Alarm Indications; Switched-Loop Operation; Through Dialing; Trunk-to-Trunk Connection; Two-Way Splitting; Universal Cancellations; Volume Control-Incoming Call Signal; Volume Control-Speech.

Standard Station Features • Automatic Callback; Call Diversion-All Calls; Call Diversion-Busy; Call Diversion-Common; Call Diversion-No Answer; Call Diversion-Override; Call Hold with Automatic Callback; Call Park; Call Transfer-All Calls; Call Transfer Security; Call Waiting-Internal Call; Call Waiting-External Call; Call Waiting-Terminating; Directed Call Pickup; Distinctive Ringing; Distinctive Waiting Tones; Don't Answer Recall; Emergency Speed Dialing; Executive Intrusion; Follow-Me; Group Call Pick-up; Individual Abbreviated Dialing; Inquiry; Last Number Redial; Recall Dialtone; Single Digit Dialing; Special Dialtone; Station-to-Station Dialing; Transfer of Calls Via Operator; Conference-Trunk-to-Trunk from Station.

First Delivery • 1983.

Systems Delivered • over 10 (U.S.).

Average System Size Installed • 350 stations.

Average Cost Per Line • \$875 to \$1,100.

Private Branch Exchanges—PBXs

Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

Distribution • direct sales; Ameritech; Honeywell; other distributors.

Installation/Maintenance • direct; Ameritech; Honeywell.

□ Prodigy (Communications Division)

Function • stored program computerized branch exchange (PBX) system for switching voice • distributed architecture • digital switching technology • TDM/delta modulation • 2-pair wiring for interfacing standard keysets • 36 CCS per station.

Communications/Networks • route optimization • tandem network • automatic network dialing • satellite communications • 2-wire transmission • data transmission to 4800 bps.

Trunks/Stations/Consoles • up to 64 trunks • 40 to 400 stations • 12 attendant consoles.

Voice Equipment • vendor supplied: Prodigy Plus II • equipment supported: all rotary dial and Touch-Tone telephones; dictation machines; announcement machines.

Data Equipment • vendor supplied: Message Center with data rates up to 9600 bps • equipment supported: detail recording printer; hotel/motel printer; cassette tape system.

Applications Supported • healthcare • retailers • hotel/motel • banking • service sector • business.

Standard System Features • Area Code and Office Code Restriction; Automatic Identified Outward Dialing (AIOD); Automatic Restore from Power Fail; Automatic Station Release; Common Control Switching Arrangement (CCSA); Class of Service (COS); Data Security; Dictation Access; Flexible Night Answer; Flexible Station Numbering; Inward Restriction; Listed Directory Number Service; Manual Originating Line Service; Multiple Console Operation; Multiple Dialing Plans; Multiple Trunk Groups; Music-on-Hold/Camp-on; Night Class of Service; Off Premise Extensions; Outgoing Restrictions; Outgoing Trunk Camp-on; Remote System Access (DISA); Route Advance; Satellite Operation; Service Order Administration; Speed Calling; Station Hunting; Station Restriction; Tenant Service; Toll Restriction 0/1; Tone-to-Dial Pulse Conversion; Tone Sending; Traffic Measurement; Universal Night Answer; Vacant Number Intercept.

Standard Attendant Features • Automatic Recall; Busy Lamp Field; Camp-on; Class of Service Display; Control of Trunk Group Access; Direct Paging Access; Direct Trunk Group Selection; DSS with Busy Lamp Field; Incoming Call Identification; Individual Trunk Access; Lock Out; Locked Loop Operation; Loop Transfer; Numerical Call Waiting; Overflow to UNA; Paging; Privacy and Lockout; Serial Call; Straightforward Outward Completion; Station Number Display; Switched Loop Operation; System Alarm; Through Dialing; Transfer-All Calls; Trunk Busyout; Trunk Group Warning; Trunk Location Display; Trunk-to-Trunk Connection; Two-Way Splitting; Verify.

Standard Station Features • Call Forwarding; Call Hold; Call Park; Call Pickup; Call Waiting; Code Call Access; Consultation Hold; Direct Outward Dialing (DOD); Distinctive Ringing; Executive Busy Override; Foreign Exchange Access; Immediate Ring; Individual Transfer; Outgoing Trunk Camp-on; Paging; Push-Button Dialing; Recall Dial Tone; Recall Lock-in; Rotary Dialing; Speed Calling; Station Camp-on-Automatic Call Back; Station Controlled Conference; Station Hunting; Station-to-Station Calling; Tie Trunk; Trunk-to-Trunk Connection; WATS Access.

Optional System Features • Automatic Route Selection; Station Message Recording (SMDR)-Outgoing-Incoming-Expanded; Automatic Call Distribution; Speed Dial.

Optional Attendant Features • Automatic Wakeup; Do Not Disturb; Message Center Registration; Message Waiting; Toll Terminal Access; Vacant Room Restriction; Service Call Routing.

First Delivery • 1980.

Systems Delivered • over 900.

Average System Size Installed • 180 stations.

Average Cost Per Line • \$485 to \$675.

Distribution • supply houses; telcos; interconnect distributors.

Installation/Maintenance • supply houses; interconnect distributors.

□ ASB 100 (Information Systems Division)

Function • stored program computerized branch exchange (PBX) system for switching voice • analog switching technology • space division • 2-pair wiring for interfacing standard keysets • 36 unblocked connections.

Communications/Networks • route optimization • tandem switching • automatic network dialing • 2-wire transmission • data transmission to 4800 bps.

Trunks/Stations/Consoles • 12 to 24 trunks • 40 to 100 stations • 1 attendant's console.

Voice Equipment • vendor supplied: electronic telephones • equipment supported: all rotary dial and Touch-Tone telephones; dictation machines; announcement machines.

Data Equipment • vendor supplied: message center with data rates up to 9600 bps • equipment supported: detail recording printer; hotel/motel printer; cassette tape system.

Applications Supported • hotel/motel • healthcare • retailers • banking • service sector • business.

Standard System Features • Area Code and Office Code Restriction; Automatic Restore from Power Fail; Automatic Station Release; Data Security; Dictation Access; Direct Inward Dialing (DID); Flexible Night Answer; Flexible Station Numbering; Inward Restriction; Listed Directory Number Service; Manual Originating Line Service; Multiple Console Operation; Multiple Dialing Plans; Multiple Trunk Groups; Music-on-Hold/Camp-on; Night Class of Service; Off Premise Extensions; Outgoing Restrictions; Outgoing Trunk Camp-on; Remote System Access (DISA); Route Advance; Satellite Operation; Service Order Administration; Speed Calling; Station Hunting; Station Restriction; Tandem Tie Trunk; Tenant Service; Toll Restriction 0/1; Tone-to-Dial Pulse Conversion; Tone Sending; Traffic Measurement; Universal Night Answer; Vacant Number Intercept.

Standard Attendant Features • Automatic Recall; Busy Lamp Field; Camp-on; Class of Service Display; Control of Trunk Group Access; Direct Paging Access; Direct Trunk Group Selection; DDS with Busy Lamp Field; Incoming Call Identification; Individual Trunk Access; Lock Out; Locked Loop Operation; Loop Transfer; Numerical Call Waiting; Overflow to UNA; Paging; Privacy and Lockout; Serial Call; Straightforward Outward Completion; Station Number Display; Switched Loop Operation; System Alarm; Through Dialing; Transfer-All Calls; Trunk Busyout; Trunk Group Warning; Trunk Location Display; Trunk-to-Trunk Connection; Two-Way Splitting; Verify.

Standard Station Features • Call Forwarding; Call Hold; Call Park; Call Pickup; Call Waiting; Code Call Access; Consultation Hold; Direct Outward Dialing (DOD); Distinctive Ringing; Executive Busy Override; Foreign Exchange Access; Immediate Ring; Individual Transfer; Outgoing Trunk Camp-on; Paging; Push-Button Dialing; Recall Dial Tone; Recall Lock-in; Rotary Dialing; Speed Calling; Station Camp-on-Automatic Call Back; Station Controlled Conference; Station Hunting; Station-to-Station Calling; Tie Trunk; Trunk-to-Trunk Connection.

Optional System Features • Automatic Route Selection; Automatic Call Distribution.

Optional Attendant Features • Automatic Wakeup; Centralized Attendant Service; Do Not Disturb; Message Center Registration; Message Waiting; Toll Terminal Access; Vacant Room Restriction; Service Call Routing.

First Delivery • 1978.

Systems Delivered • over 1,000.

Average System Size Installed • 60 stations.

Average Cost Per Line • \$500 to \$900 purchase.

Distribution • direct sales; interconnect distributors.

Private Branch Exchanges—PBXs

Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

Installation/Maintenance • direct service; interconnect distributors.

ASB 900 (Information Systems Division)

Function • stored program computerized branch exchange (PBX) system for switching voice • analog switching technology • space division • 2-pair wiring for interfacing standard keysets • 262 unblocked connections.

Communications/Networks • route optimization • tandem switching • automatic network dialing • 2-wire transmission • data transmission to 4800 bps.

Trunks/Stations/Consoles • up to 136 trunks • up to 960 stations • 10 attendant's consoles.

Voice Equipment • vendor supplied: electronic telephones • equipment supported: all rotary dial and Touch-Tone telephones; dictation machines; announcement machines.

Data Equipment • vendor supplied: Message Center with data rates up to 9600 bps • equipment supported: detail recording printers; hotel/motel printer; cassette tape system.

Applications Supported • healthcare • retailers • hotel/motel • banking • service sector • business.

Standard System Features • Area Code and Office Code Restriction; Automatic Restore from Power Fail; Automatic Station Release; Data Security; Dictation Access; Direct Inward Dialing (DID); Flexible Night Answer; Flexible Station Numbering; Inward Restriction; Listed Directory Number Service; Manual Originating Line Service; Multiple Console Operation; Multiple Dialing Plans; Multiple Trunk Groups; Music-on-Hold/Camp-on; Night Class of Service; Off-Premise Extensions; Outgoing Restrictions; Outgoing Trunk Camp-on; Remote System Access (DISA); Route Advance; Satellite Operation; Service Order Administration; Speed Calling; Station Hunting; Station Restriction; Tandem Tie Trunk; Tenant Service; Toll Restriction 0/1; Tone-to-Dial Pulse Conversion; Tone Sending; Traffic Measurement; Universal Night Answer; Vacant Number Intercept.

Standard Attendant Features • Automatic Recall; Busy Lamp Field; Camp-on; Class of Service Display; Control of Trunk Group Access; Direct Paging Access; Direct Trunk Group Selection; DSS with Busy Lamp Field; Incoming Call Identification; Individual Trunk Access; Lock Out; Locked Loop Operation; Loop Transfer; Numerical Call Waiting; Overflow to UNA; Paging; Privacy and Lockout; Serial Call; Straightforward Outward Completion; Station Number Display; Switched Loop Operation; System Alarm; Through Dialing; Transfer-All Calls; Trunk Busyout; Trunk Group Warning; Trunk Location Display; Trunk-to-Trunk Connection; Two-Way Splitting; Verify.

Standard Station Features • Call Forwarding; Call Hold; Call Park; Call Pickup; Call Waiting; Code Call Access; Consultation Hold; Direct Outward Dialing (DOD); Distinctive Ringing; Executive Busy Override; Foreign Exchange Access; Immediate Ring; Individual Transfer; Outgoing Trunk Camp-on; Paging; Push-Button Dialing; Recall Dial Tone; Recall Lock-in; Rotary Dialing; Speed Calling; Station Camp-on-Automatic Call Back; Station Controlled Conference; Station Hunting; Station-to-Station Calling; Tie Trunk; Trunk-to-Trunk Connection.

Optional System Features • Automatic Route Selection; Station Message Detail Recording (SMDR)-Outgoing-Incoming-Expanded; Automatic Call Distribution.

Optional Attendant Features • Automatic Wakeup; Centralized Attendant Service; Do Not Disturb; Message Center Registration; Message Waiting; Toll Terminal Access; Vacant Room Restriction; Service Call Routing.

First Delivery • 1979.

Systems Delivered • over 1,000.

Average System Size Installed • 350 stations.

Average Cost Per Line • \$500 to \$900 purchase.

Distribution • direct sales; interconnect distributors.

Installation/Maintenance • direct service; interconnect distributors.

EXECUTONE

Two Jericho Plaza, Jericho, NY 11753 • 516-681-4000.

Echelon (Harris Digital 110)

Function • stored program computerized branch exchange for switching voice • analog switching using TDM/PAM • 2-pair wiring for stations • 8 to 16 CCS per line; 30 simultaneous conversations.

Communications/Networks • route advance.

Trunks/Stations/Consoles • up to 20 trunks • up to 111 stations • 1 console.

Voice Equipment • vendor supplied: rotary dial and Touch-Tone telephones • equipment supported: rotary dial and Touch-Tone telephones.

Data Equipment • vendor supplied: none.

Applications Supported • healthcare • retailers • hotel/motel • business.

Standard System Features • Classes of Service; Diagnostics; Direct Outward Dialing; Flexible Station Numbering; Hunting; Multiple Trunk Groups; Power Failure Restart; Direct Department Calling; Intercept Treatment; Night Service; Route Advance; Toll Restriction; Speed Calling; Toll Terminals; Vacant Number Intercept.

Standard Attendant Features • Alphanumeric Display; Calling Number Display; COS Display; Direct Trunk/Switched Loop Operation; Camp-on; Transfer; Hold; Recall; Splitting; Through Dialing.

Standard Station Features • Automatic Callback; Call Forwarding; Call Hold; Call Park; Call Pickup; Call Transfer; Call Waiting; Conference/Consultation; Last Number Redial; Speed Dialing.

Optional System Features • Battery Backup; DTMF-to-Dial Pulse Conversion; Direct Forward Dialing; Music-on-Hold; Paging; Tie Trunks; Station Message Detail Recording; Off-Premise Stations.

Optional Attendant Features • Digital Clock; Trunk-to-Trunk Connections.

First Delivery • 1981 (as Harris 110).

Systems Delivered • over 500 (Echelon).

Average System Size Installed • 40 stations.

Average Cost Per Line • \$350 to \$450.

Distribution • nationally through direct offices and local contractors.

Installation/Maintenance • nationally through direct offices and local contractors.

Eclipse (Siemens Saturn III)

Function • stored program computerized branch exchange (PBX) system for switching voice and data • digital switching technology • TDM/PCM • fully nonblocking; 36 CCS per line.

Communications/Networks • FX (Foreign Exchange) trunk access • tandem switching • WATS trunk access • Enhanced Private Switched Communication Service (EPSCS) access • least cost routing with provisions for specialized common carrier • tie trunk access • trunk-to-trunk connections • dedicated incoming trunks access • Common Control Switching Arrangement (CCSA) Access • alternate routing.

Trunks/Stations/Consoles • 992 ports maximum • up to 224 trunks • up to 864 stations • up to 8 consoles.

Voice Equipment • vendor supplied: proprietary phones with data options • vendor supported: all rotary dial and Touch-Tone telephones.

Data Equipment • vendor supplied: proprietary phones with data options • vendor supported: RS-232C interface • options for asynchronous communication up to 19.2K bps; access through RS-232C interface.

Applications Supported • general business.

Private Branch Exchanges—PBXs

Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

Standard System Features • Brownout Protection; Convection Cooling; Digital Pad Switching; Dual Tone Multifrequency (DTMF) System Outpulsing; DTMF-to-Dial Pulse Conversion; End-to-End DTMF Signaling; High Traffic Capacity; Low Power Consumption; Memory Support; Redundant Common Control; Trunk Group Class of Service; Call Accounting System; Call Accounting System Codes; Customer Memory Updating (CMU); Remote Customer Memory Updating; Remote Traffic and Feature Usage Measurement; Traffic and Feature Usage Measurement; Variable Timing Parameters; Assigned Night Answer; Night Service Automatic Switching; Special Night Answer Position; Universal Night Answering-Zoned; Direct Inward Dialing (DID); Direct Inward System Access (DISA); Direct Inward System Access-Shared (DISAS); Direct Outward Dialing (DOD); Alarm Indication-Major; Alarm Indication-Minor; Power Failure Restart-Floppy Disk; Remote Alarm Identification; Automatic, Manual, Remote Online Diagnostic Testing.

Standard Attendant Features • Alphanumeric Display; Automatic Recall; Busy Lamp Field; Camp-on; Class of Service Display; Control of Trunk Group Access; Direct Paging Access; Do Not Disturb; Direct Trunk Group Selection; Centralized Attendant Service; Incoming Call Identification; Individual Trunk Access; Lock Out; Locked Loop Operation; Loop Transfer; Message Center Registration; Message Waiting; Overflow to UNA; Paging; Privacy and Lockout; Serial Call; Straightforward Outward Completion; Station Number Display; Switched Loop Operation; System Alarm; Through Dialing; Transfer-All Calls; Trunk Busyout; Trunk Group Warning; Trunk Location Display; Trunk-to-Trunk Connection; Two-Way Splitting.

Standard Station Features • Call Forwarding; Call Hold; Call Park; Call Pickup; Call Waiting; Code Call Access; Consultation Hold; Direct Outward Dialing (DOD); Distinctive Ringing; Executive Busy Override; Foreign Exchange Access; Immediate Ring; Individual Transfer; Outgoing Trunk Camp-on; Paging; Push-Button Dialing; Recall Dial Tone; Recall Lock-in; Rotary Dialing; Speed Calling; Station Camp-on Automatic Call Back; Station Controlled Conference; Station Hunting; Station-to-Station Calling; Tie Trunk; Trunk-to-Trunk Connection; WATS Access.

First Delivery • 1982.

Systems Delivered • over 100.

Average System Size Installed • 350 stations.

Average Cost Per Line • \$675 to \$875.

Distribution • nationwide through direct offices and local contractors.

Installation/Maintenance • nationwide through direct offices and local contractors.

Eclipse II (Siemens Saturn II)

Function • stored program computerized branch exchange (PBX) system for switching voice and data • digital switching technology TDM/PCM • fully nonblocking; 36 CCS per line.

Communications/Networks • alternate routing • Common Control Switching Arrangement (CCSA) access • Enhanced Private Switched Communication Service (EPSCS) Access • Foreign Exchange (FX) trunk access • least cost routing with provisions for specialized common carriers (SCCs) • tandem trunking • tie trunk access • trunk-to-trunk connections • WATS trunk access.

Trunks/Stations/Consoles • 224 ports maximum • up to 72 trunks • up to 150 stations • up to 4 consoles.

Voice Equipment • vendor supplied: proprietary phones with data options • vendor supported: all rotary dial and Touch-Tone telephones.

Data Equipment • vendor supplied: proprietary phones with data options • vendor supported: RS-232C interface.

Applications Supported • medium-sized general business.

Standard System Features • same as for Eclipse.

Standard Attendant Features • same as for Eclipse.

Standard Station Features • same as for Eclipse.

First Delivery • 1983.

Systems Delivered • over 50.

Average System Size Installed • 120 stations.

Average Cost Per Line • \$675 to \$875.

Distribution • nationwide through direct sales offices and local contractors.

Installation/Maintenance • nationwide through direct sales offices and local contractors.

ENTERPRISE (Matsushita)

Function • stored program electronic private automated branch exchange (EPABX) system for switching voice and data • digital switching technology • PCM/TDM • 2-pair wiring for interfacing standard TT/RD sets • 6 to 16 CCS per line.

Communications/Networks • route optimization • 2-wire transmission • tandem switching • satellite operation.

Trunks/Stations/Consoles • up to 152 trunks • up to 960 stations • up to 8 attendant consoles.

Voice Equipment • vendor supplied: proprietary electronic telephones; proprietary console • equipment supported: all rotary and Touch-Tone telephones; dictation machines; announcement machines.

Data Equipment • vendor supplied: terminal adapter • equipment supported: serial printer.

Applications Supported • healthcare • retailers • hotel/motel • banking • service sector • business.

Standard System Features • Area Code and Office Code Restriction; Automatic Restore from Power Fail; Automatic Route Selection; Automatic Station Release; Common Control Switching Arrangement (CCSA); Class of Service (COS); Data Security; Dictation Access; Direct Inward Dialing (DID); Flexible Night Answer; Flexible Station Numbering; Inward Restriction; Listed Directory Number Service; Manual Originating Line Service; Multiple Console Operation; Multiple Dialing Plans; Multiple Trunk Groups; Music-on Hold/Camp-on; Night Class of Service; Off-Premise Extensions; Outgoing Restrictions; Outgoing Trunk Camp-on; Remote System Access (DISA); Route Advance; Satellite Operation; Service Order Administration; Speed Calling; Station Hunting; Station Message Detail Recording (SMDR); Outgoing/Incoming; Station Restriction; Tandem Tie Trunk; Toll Restriction 0/1; Tone-to-Dial Pulse Conversion; Tone Sending; Traffic Measurement; Universal Night Answer; Vacant Number Intercept.

Standard Attendant Features • Automatic Recall; Automatic Wakeup; Busy Lamp Field; Camp-on; Class of Service Display; Control of Trunk Group Access; Direct Paging Access; Do Not Disturb; Direct Trunk Group Selection; Centralized Attendant Service; Incoming Call Identification; Individual Trunk Access; Lock Out; Locked Loop Operation; Loop Transfer; Message Center Registration; Message Waiting; Numerical Call Waiting; Overflow to UNA; Paging; Privacy and Lockout; Serial Call; Service Call Routing; Straightforward Outward Completion; Station Number Display; Switched Loop Operation; System Alarm; Through Dialing; Toll Terminal Access; Transfer-All Calls; Trunk Busyout; Trunk Group Warning; Trunk Location Display; Trunk-to-Trunk Connection; Two-Way Splitting; Vacant Room Restriction; Verify.

Standard Station Features • Call Forwarding; Call Hold; Call Park; Call Pickup; Call Waiting; Code Call Access; Consultation Hold; Direct Outward Dialing (DOD); Distinctive Ringing; Executive Busy Override; Foreign Exchange Access; Immediate Ring; Individual Transfer; Outgoing Trunk Camp-on; Paging; Push-Button Dialing; Recall Dial Tone; Recall Lock-in; Rotary Dialing; Speed Calling; Station Camp-on Automatic Call Back; Station Controlled Conference; Station Hunting; Station-to-Station Calling; Tie Trunk; Trunk-to-Trunk Connection; WATS Access.

First Delivery • 1981.

Systems Delivered • over 500.

Average System Size Installed • 500 stations.

Private Branch Exchanges—PBXs

Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

Average Cost Per Line • \$675 to \$800.

Distribution • nationally through direct offices and local contractors.

Installation/Maintenance • nationally through direct offices and local contractors.

Summit Series (United Technologies Lexar UTX 1200 & UTX 5000)

Function • stored program computerized branch exchange (PBX) system for switching voice • digital switching technology • TDM/PCM • 2-pair wiring for interfacing standard keysets • total redundancy; 36 CCS per line.

Communications/Networks • route optimization • automatic network dialing • 2-wire transmission.

Trunks/Stations/Consoles • any mix of stations/trunks total: 1344—DBX 1200; 5376—DBX 5000 • consoles: 12—DBX 1200; 42—DBX 5000.

Voice Equipment • vendor supplied: proprietary Centuryphone; proprietary console • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • asynchronous and synchronous terminals.

Applications Supported • office automation • healthcare • retailers • hotel/motel • banking • service sector • business.

Standard System Features • Area Code and Office Code Restriction; Automatic Call Distribution; Automatic Identified Outward Dialing (AIOD); Automatic Restore from Power Fail; Automatic Route Selection; Automatic Station Release; Common Control Switching Arrangement (CCSA); Class of Service (COS); Data Security; Dictation Access; Direct Inward Dialing (DID); Flexible Night Answer; Flexible Station Numbering; Inward Restriction; Listed Directory Number Service; Manual Originating Line Service; Multiple Console Operation; Multiple Dialing Plans; Multiple Trunk Groups; Music-on Hold/Camp-on; Night Class of Service; Off-Premise Extensions; Outgoing Restrictions; Outgoing Trunk Camp-on; Remote System Access (DISA); Route Advance; Satellite Operation; Service Order Administration; Speed Calling; Station Hunting; Station Message Detail Recording (SMDR); Outgoing/Incoming; Station Restriction; Tandem Tie Trunk; Tenant Service; Toll Restriction 0/1; Tone-to-Dial Pulse Conversion; Tone Sending; Traffic Measurement; Universal Night Answer; Vacant Number Intercept.

Standard Attendant Features • Automatic Recall; Automatic Wakeup; Busy Lamp Field; Camp-on; Class of Service Display; Control of Trunk Group Access; Direct Paging Access; Do Not Disturb; Direct Trunk Group Selection; Centralized Attendant Service; DSS with Busy Lamp Field; Incoming Call Identification; Individual Trunk Access; Lock Out; Locked Loop Operation; Loop Transfer; Message Center Registration; Message Waiting; Numerical Call Waiting; Overflow to UNA; Paging; Privacy and Lockout; Serial Call; Service Call Routing; Straightforward Outward Completion; Station Number Display; Switched Loop Operation; System Alarm; Through Dialing; Toll Terminal Access; Transfer-All Calls; Trunk Busyout; Trunk Group Warning; Trunk Location Display; Trunk-to-Trunk Connection; Two-Way Splitting; Vacant Room Restriction; Verify.

Standard Station Features • Call Forwarding; Call Hold; Call Park; Call Pickup; Call Waiting; Code Call Access; Consultation Hold; Direct Outward Dialing (DOD); Distinctive Ringing; Executive Busy Override; Foreign Exchange Access; Immediate Ring; Individual Transfer; Outgoing Trunk Camp-on; Paging; Push-Button Dialing; Recall Dial Tone; Recall Lock-in; Rotary Dialing; Speed Calling; Station Camp-on Automatic Call Back; Station Controlled; Conference; Station Hunting; Station-to-Station Calling; Tie Trunk; Trunk-to-Trunk Connection; WATS Access.

First Delivery • 1979.

Systems Delivered • over 500.

Average System Size Installed • 450 to 500 stations.

Average Cost Per Line • \$675 to \$850.

Distribution • nationally through direct offices and local

contractors.

Installation/Maintenance • nationally through direct offices and local contractors.

Vista Series (Siemens SD-192—Vista I & II; SD-232—Vista L)

Function • stored program computerized branch exchange (PBX) system for switching voice • analog switching technology • space division • 2-pair wiring for interfacing standard keysets • 3 to 8 CCS per line; 48 simultaneous conversations.

Communications/Networks • route optimization • abbreviated dialing • 2-wire transmission • tandem switching • satellite operation • on-/off-net calling.

Trunks/Stations/Consoles • up to 48 trunks for Vista I and II; up to 35 trunks for Vista L • up to 192 stations for Vista I and II; up to 239 stations for Vista L • 2 attendant's consoles.

Voice Equipment • vendor supplied: rotary dial and Touch-Tone telephones; proprietary console • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • none.

Applications Supported • healthcare • retailers • hotel/motel • banking • service sector • business.

Standard Systems Features • Class of Service; DOD; Direct-in-Line; Console Operation; Flexible Station Numbering; Multiple Trunk Groups; Music-on-Hold; Optimal Routing; Access Codes; Automatic Station Release; Code Call Access; Toll Restriction; Remote Traffic Metering; Universal Night Answer; Voice Paging • Hotel/Motel Features: Wake-Up Service; Call Number Display to Station; Do Not Disturb; Message Waiting Center; Manual Originating Line; Signal Digit Dialing.

Standard Attendant Features • Alphanumeric Display; Attendant Busy; Direct Paging; Attendant Station Number Display; Attendant Transfer to Incoming Call; Attendant Trunk Number Display; Automatic Camp-on; Automatic Camp-on; Automatic Recall; Conferencing; Call Hold; Call Transfer; Call Waiting; Indicator; Handset; Incoming Call Identification; Switched Loop Operation; Two-Way Splitting; Through Dialing; Room Empty Readout; Message Waiting; Room Stations.

Standard Station Features • Call Forwarding; Call Hold; Call Park; Call Pickup; Call Waiting; Code Call Access; Consultation Hold; Direct Outward Dialing (DOD); Distinctive Ringing; Executive Busy Override; Foreign Exchange Access; Immediate Ring; Individual Transfer; Outgoing Trunk Camp-on; Paging; Push-Button Dialing; Recall Dial Tone; Recall Lock-in; Rotary Dialing; Speed Calling; Station Camp-on Automatic Call Back; Station Controlled Conference; Station hunting; Station-to-Station Calling; Tie Trunk; Trunk-to-Trunk Connection; WATS Access.

First Delivery • 1978.

Systems Delivered • over 2,000.

Average System Size Installed • 88 lines.

Average Cost Per Line • \$450 to \$550.

Distribution • nationally through direct offices and local contractors.

Installation/Maintenance • nationally through direct offices and local contractors.

■ GTE COMMUNICATION SYSTEMS

2500 West Utopia Road, Phoenix, AZ 85027 • 602-582-7000.

GTE OMNI S1, SII & SIII

Function • stored program computerized branch exchange (PBX) system for switching voice • digital switching technology • dual-bus architecture • TDM/PCM • 2-pair wiring for interfacing standard keysets • integrated voice/data transmission over single twisted pair • 5,184 CCS (S1), 13,824 CCS (SII), 27,648 CCS (SIII) maximum per system.

Communications/Networks • route optimization • tandem switching • satellite operation.

Private Branch Exchanges—PBXs

Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

Trunks/Stations/Consoles • SI: up to 64 trunks; 256 stations, 2 consoles • SII: up to 400 trunks, 1,024 stations, 8 consoles • SIII: up to 800 trunks, 2,048 stations, 8 consoles.

Voice Equipment • vendor supplied: proprietary Feature Comm III/IV telephones; proprietary console • equipment supported: all rotary dial and Touch-Tone telephones; dictation machines; announcement machines.

Data Equipment • vendor supplied: XT300 Action Station • equipment supported: ASCII-terminals; PCs.

Applications Supported • healthcare • retailers • hotel/motel • banking • service sector • business.

Standard System Features • Access to Trunk Services; Announcement Intercept Service; ACD, Automatic Trouble Reporting; Basic System Administration; Basic Traffic Measurement; Class of Service (COS); Direct Outward Dialing (DOD); Emergency Transfer; Flexible Numbering; Hunting Services; Line Lockout; Night Service Arrangement; Pulse/Tone Conversion; Remote Diagnostics; Route Advance; Station-to-Station Calls; System Tones; Direct Inward Dialing; SCC Access.

Standard Attendant Features • Automatic Call Sequencing; Automatic Recall; Barge-In; Camp-on; Coin Call; COS Display; Conference Call; Dial Access to Trunk Groups; Directed Calls to Consoles; Hold; Individual Console Operation; Individual Trunk Access; Individual Trunk Busy Out; Interposition Calling; Joining; Lockout with Secrecy; Major and Minor Alarms; Multiple Console Operation; Page Key Access; Page Console Operation; Position Busy; Priority Call Handling; Secrecy/Auto Splitting; Through Dialing; Trunk Group Busy Indication; Trunk-to-Trunk Connections; Universal Telsset Restoration; Visual Display of Calls; Volume Control.

Standard Station Features • Call Forwarding; Call Park; Call Pick-Up; Call Screening; Call Waiting; Camp-on Queuing; Comline Service; Connect/Cancel; Consultation Package; Feature Key; Handsfree Dialing; Hold Recall; Inward Restriction; Loop Services; Manual Signaling; Manual Station Operation; Monitor Hold; Multiring Numbers; Privacy; Ringing Call Preference; Station Conference; Transfer Camp-on.

Optional System Features • Authorization Codes; Call Detail Recording; Digit Translation; Least Cost Routing; SMDR Multidigit Restriction; Tie Line Operation; Trunk Queuing; Data Capabilities.

Optional Attendant Features • Night Service Display; Speed Dialing; Trunk Status Display.

Optional Station Features • Data Key Operation; Do Not Disturb; Headset Operation; Speed Dialing Services; Visual Display Service.

First Delivery • SI: 1984; SII: 1982; SIII: 1984.

Systems Delivered • over 300 systems; all models.

Average System Size Installed • SI: 140 stations; SII: 500 stations; SIII: 1,200 stations.

Average Cost Per Line • \$850 to \$1,100.

Distribution • nationally through direct offices and select distributors.

Installation/Maintenance • nationally through direct offices and select distributors.

GTE OMNI-SV

Function • stored program computerized branch exchange (PBX) system for switching voice and data • dual-bus architecture • digital switching technology • TDM/PCM • 2-pair wiring for interfacing standard keysets • integrated voice/data transmission on a single twisted pair • business version of GTD-5 EAX digital central office • up to 36 CCS per line.

Communications/Networks • route optimization • automatic network dialing • 2-wire transmission • tandem switching • remote switching modules.

Trunks/Stations/Consoles • up to 400 trunks • up to 1,024 stations • 8 attendant consoles • 4,000 to 100,000 ports per system • configuration engineered for each application • maximum stations 50,000 • remote switching modules up to

3,072 stations supported.

Voice Equipment • vendor supplied: proprietary Feature Comm III/IV proprietary console • equipment supported: all rotary dial and Touch-Tone telephones; dictation machines; announcement machines.

Data Equipment • vendor supplied: XT300 Action Station • equipment supported: ASCII/synchronous terminals.

Applications Supported • business • government • military.

Standard System Features • Access to Trunk Services; Announcement Intercept Service; Basic System Administration; Basic Traffic Measurement; Class of Service (COS); Direct Outward Dialing (DOD); Emergency Transfer; Flexible Numbering; Hunting Services; Line Lockout; Night Service Arrangement; Pulse/Tone Conversion; Remote Diagnostics; Route Advance; Station-to-Station Calls; System Tones; DID, SCC Access.

Standard Attendant Features • Automatic Call Sequencing; Automatic Recall; Barge-In; Camp-on; Coin Call; COS Display; Conference Call; Dial Access to Trunk Groups; Directed Calls to Consoles; Hold; Individual Console Operation; Individual Trunk Busy Out; Interposition Calling; Joining; Lockout with Secrecy; Major and Minor Alarms; Multiple Console Operation; Page Key Access; Page Console Operation; Position Busy; Priority Call Handling; Secrecy/Auto Splitting; Through Dialing; Trunk Group Busy Indication; Trunk-to-Trunk Connections; Universal Telsset Restoration; Visual Display of Calls; Volume Control.

Standard Station Features • Call Forwarding; Call Park; Call Pick-Up; Call Screening; Call Waiting; Camp-on Queuing; Comline Service; Connect/Cancel; Consultation Package; Feature Key; Handsfree Dialing; Hold Recall; Inward Restriction; Loop Services; Manual Signaling; Manual Station Operation; Monitor Hold; Multiring Numbers; Privacy; Ringing Call Preference; Station Conference; Transfer Camp-on.

Optional System Features • Authorization Codes; Call Detail Recording; Digit Translation; Direct Inward Dialing (DID); Least Cost Routing; SMDR Multidigit Restriction; Tie Line Operation; Trunk Queuing; Data Capabilities; X.25.

Optional Attendant Features • Night Service Display; Speed Dialing; Trunk Status Display.

Optional Station Features • Data Key Operation; Do Not Disturb; Headset Operation; Speed Dialing Services; Visual Display Service.

First Delivery • third-quarter 1985.

Systems Delivered • none.

Average System Size Installed • 4,000 to 5,000 stations.

Average Cost Per Line • \$850 to \$1,100.

Distribution • nationally through direct offices and select distributors.

Installation/Maintenance • nationally through direct offices and select distributors.

HARRIS CORPORATION/Digital Telephone Systems Division

1 Digital Drive, Novato, CA 94947 • 415-472-2500.

1201/1202

Function • stored program computerized branch exchange (PBX) system for switching voice and data • digital switching technology • TDM/Delta Modulation • 2-pair wiring for standard keysets; 4-pair for electronic tetsets • 140 unblocked connections • 5.6 to 13 CCS per line.

Communications/Networks • route optimization • automatic network dialing • tandem switching • 4-wire transmission • reverse signaling • satellite operation.

Trunks/Stations/Consoles • 1201: 48 to 80 trunks; 216 to 400 stations; 2 consoles • 1202: up to 128 trunks; 800 stations; 4 consoles.

Voice Equipment • vendor supplied: rotary and Touch-Tone

Private Branch Exchanges—PBXs

Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

telephones; Precedent, Harris 410 • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • vendor supplied: none • equipment supported: serial printer; ASCII terminals.

Applications Supported • healthcare • retailers • hotel/motel • banking • service sector • business • resale carriers • rural central offices.

Standard System Features • Access to Trunk Services; Announcement Intercept Service; ARS; Automatic Trouble Reporting; Basic System Administration; Basic Traffic Measurement; Class of Service (COS); Direct Outward Dialing (DOD); Emergency Transfer; Flexible Numbering; Hunting Services; Line Lockout; Night Service Arrangement; Pulse/Tone Conversion; Remote Diagnostics; Route Advance; Station-to-Station Calls; System Tones; Universal TAFAS.

Standard Attendant Features • Automatic Call Sequencing; Automatic Recall; Barge-In; Camp-on; Chain Call; COS Display; Conference Call; Dial Access to Trunk Groups; Directed Calls to Consoles; Hold; Individual Console Operation; Individual Trunk Access; Individual Trunk Busy Out; Interposition Calling; Joining; Lockout with Secrecy; Major and Minor Alarms; Multiple Console Operation; Page Key Access; Page Console Operation; Position Busy; Priority Call Handling; Secrecy/Auto Splitting; Through Dialing; Trunk Group Busy Indication; Trunk-to-Trunk Connections; Universal Telset Restoration; Visual Display of Calls; Volume Control.

Standard Station Features • Call Forwarding; Call Park; Call Pick-Up; Call Screening; Call Waiting; Camp-on Queuing; Comline Service; Connect/Cancel; Consultation Package; Feature Key; Handsfree Dialing; Hold Recall; Inward Restriction; Loop Services; Manual Signaling; Manual Station Operation; Monitor Hold; Multiring Numbers; Privacy; Ringing Call Preference; Station Conference; Transfer Camp-on.

Optional System Features • Alternate Voice/Data; Authorization Codes; Call Detail Recording; Digit Translation; Direct Inward Dialing (DID); Least Cost Routing; SMDR; Conference Service; Multidigit Restriction; Tie Line Operation; Trunk Queuing; Private Network Automatic Number Identification.

Optional Attendant Features • Night Service Display; Speed Dialing; Trunk Status Display.

Optional Station Features • Data Key Operation; Do Not Disturb; Headset Operation; Speed Dialing Services; Visual Display Service.

First Delivery • 1975.

Systems Delivered • over 8,000; all models.

Average System Size Installed • 300 to 500 lines.

Average Cost Per Line • \$750 to \$850 purchase.

Distribution • nationally through direct offices; independent contractors; independent telcos.

Installation/Maintenance • nationally through direct offices; independent contractors; independent telcos.

□ 1203

Function • stored program computerized branch exchange (PBX) system for switching voice and data • digital switching technology • TDM/Delta Modulation • 2-pair wiring for interfacing standard keysets; 4-pair for electronic telsets • 140 unblocked connections • 36 CCS per line.

Communications/Networks • route optimization • automatic network dialing • tandem switching • 4-wire transmission • reverse signaling • satellite operation.

Trunks/Stations/Consoles • up to 24 trunks • up to 96 stations • 1 attendant's console.

Voice Equipment • vendor supplied: rotary and Touch-Tone telephones; Precedent, Harris 410 • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • vendor supplied: none • equipment supported: serial printer; ASCII terminals.

Applications Supported • healthcare • retailers • hotel/motel • banking • service sector • business.

Standard System Features • Access to Trunk Services; Announcement Intercept Service; ARS; Automatic Trouble Reporting; Basic System Administration; Basic Traffic Measurement; Class of Service (COS); Direct Outward Dialing (DOD); Emergency Transfer; Flexible Numbering; Hunting Services; Line Lockout; Night Service Arrangement; Pulse/Tone Conversion; Remote Diagnostics; Route Advance; Station-to-Station Calls; System Tones; Universal TAFAS.

Standard Attendant Features • Automatic Call Sequencing; Automatic Recall; Barge-In; Camp-on; Chain Call; COS Display; Conference Call; Dial Access to Trunk Groups; Directed Calls to Consoles; Hold; Individual Console Operation; Individual Trunk Access; Individual Trunk Busy Out; Interposition Calling; Joining; Lockout with Secrecy; Major and Minor Alarms; Multiple Console Operation; Page Key Access; Page Console Operation; Position Busy; Priority Call Handling; Secrecy/Auto Splitting; Through Dialing; Trunk Group Busy Indication; Trunk-to-Trunk Connections; Universal Telset Restoration; Visual Display of Calls; Volume Control.

Standard Station Features • Call Forwarding; Call Park; Call Pick-Up; Call Screening; Call Waiting; Camp-on Queuing; Comline Service; Connect/Cancel; Consultation Package; Feature Key; Handsfree Dialing; Hold Recall; Inward Restriction; Loop Services; Manual Signaling; Manual Station Operation; Monitor Hold; Multiring Numbers; Privacy; Ringing Call Preference; Station Conference; Transfer Camp-on.

Optional System Features • Alternate Voice/Data; Authorization Codes; Call Detail Recording; Digit Translation; Direct Inward Dialing (DID); Least Cost Routing; SMDR; Conference Service; Multidigit Restriction; Tie Line Operation; Trunk Queuing; Private Network Automatic Number Identification.

Optional Attendant Features • Night Service Display; Speed Dialing; Trunk Status Display.

Optional Station Features • Data Key Operation; Do Not Disturb; Headset Operation; Speed Dialing Services; Visual Display Service.

First Delivery • 1975.

Systems Delivered • over 8,000; all models.

Average System Size Installed • 50 lines.

Average Cost Per Line • \$600 to \$750 purchase.

Distribution • nationally through direct offices; independent contractors.

Installation/Maintenance • nationally through direct offices; independent contractors.

□ 1204/1205

Function • stored program computerized branch exchange (PBX) system for switching voice and data • digital switching technology • TDM/Delta Modulation • 2-pair wiring for interfacing standard keysets • 140 unblocked connections • 5.6 to 13 CCS per line • total redundancy.

Communications/Networks • route optimization • automatic network dialing • tandem switching • 4-wire transmission • reverse signaling • satellite operation.

Trunks/Stations/Consoles • 1204: up to 120 trunks, 720 stations, 4 consoles • 1205: up to 56 trunks, 264 stations, 2 consoles.

Voice Equipment • vendor supplied: rotary and Touch-Tone telephones; Precedent Harris 410 • equipment supported: all rotary dial and Touch-Tone telephone.

Data Equipment • vendor supplied: none • equipment supported: serial printer; ASCII terminals.

Applications Supported • healthcare • retailers • hotel/motel • banking • service sector • business • resale carriers • rural central offices.

Standard System Features • Access to Trunk Services; Announcement Intercept Service; ARS; Automatic Trouble

Private Branch Exchanges—PBXs

Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

Reporting; Basic System Administration; Basic Traffic Measurement; Class of Service (COS); Direct Outward Dialing (DOD); Emergency Transfer; Flexible Numbering; Hunting Services; Line Lockout; Night Service Arrangement; Pulse/Tone Conversion; Remote Diagnostics; Route Advance; Station-to-Station Calls; System Tones; Universal TAFAS.

Standard Attendant Features • Automatic Call Sequencing; Automatic Recall; Barge-In; Camp-on; Chain Call; COS Display; Conference Call; Dial Access to Trunk Groups; Directed Calls to Consoles; Hold; Individual Console Operation; Individual Trunk Access; Individual Trunk Busy Out; Interposition Calling; Joining; Lockout with Secrecy; Major and Minor Alarms; Multiple Console Operation; Page Key Access; Page Console Operation; Position Busy; Priority Call Handling; Secrecy/Auto Splitting; Through Dialing; Trunk Group Busy Indication; Trunk-to-Trunk Connections; Universal Telset Restoration; Visual Display of Calls; Volume Control.

Standard Station Features • Call Forwarding; Call Park; Call Pick-Up; Call Screening; Call Waiting; Camp-on Queuing; Comline Service; Connect/Cancel; Consultation Package; Feature Key; Handsfree Dialing; Hold Recall; Inward Restriction; Loop Services; Manual Signaling; Manual Station Operation; Monitor Hold; Multiring Numbers; Privacy; Ringing Call Preference; Station Conference; Transfer Camp-on.

Optional System Features • Alternate Voice/Data; Authorization Codes; Call Detail Recording; Digit Translation; Direct Inward Dialing (DID); Least Cost Routing; SMDR; Conference Service; Multidigit Restriction; Tie Line Operation; Trunk Queuing; Private Network Automatic Number Identification.

Optional Attendant Features • Night Service Display; Speed Dialing; Trunk Status Display.

Optional Station Features • Data Key Operation; Do Not Disturb; Headset Operation; Speed Dialing Services; Visual Display Service.

First Delivery • 1975.

Systems Delivered • over 8,000; all models.

Average System Size Installed • 300 to 500 lines.

Average Cost Per Line • \$875 to \$1,150 purchase.

Distribution • nationally through direct offices; independent contractors; independent telcos.

Installation/Maintenance • nationally through direct offices; independent contractors; independent telcos.

□ 400

Function • stored program computerized branch exchange (PBX) system for switching voice and data • digital switching technology • TDM/Delta Modulation • 2-pair wiring for interfacing standard keysets; 4-pair for electronic telephones • 140 unblocked connections • 6 to 36 CCS per line.

Communications/Networks • route optimization • automatic network dialing • tandem switching • 4-wire transmission • reverse signaling • satellite operation.

Trunks/Stations/Consoles • Model 2: 32 trunks, 184 stations, 1 console • Model 4: 55 trunks, 384 stations, 2 consoles.

Voice Equipment • vendor supplied: rotary and Touch-Tone telephones; Precedent, Harris 410 • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • vendor supplied: none • equipment supported: serial printer; ASCII terminals.

Applications Supported • healthcare • retailers • hotel/motel • banking • service sector • business.

Standard System Features • Access to Trunk Services; Announcement Intercept Service; ARS; Automatic Trouble Reporting; Basic System Administration; Basic Traffic Measurement; Class of Service (COS); Direct Outward Dialing (DOD); Emergency Transfer; Flexible Numbering; Hunting Services; Line Lockout; Night Service Arrangement; Pulse/Tone Conversion; Remote Diagnostics; Route Advance; Station-to-Station Calls; System Tones; Universal TAFAS.

Standard Attendant Features • Automatic Call Sequencing; Automatic Recall; Barge-In; Camp-on; Chain Call; COS Display; Conference Call; Dial Access to Trunk Groups; Directed Calls to Consoles; Hold; Individual Console Operation; Individual Trunk Access; Individual Trunk Busy Out; Interposition Calling; Joining; Lockout with Secrecy; Major and Minor Alarms; Multiple Console Operation; Page Key Access; Page Console Operation; Position Busy; Priority Call Handling; Secrecy/Auto Splitting; Through Dialing; Trunk Group Busy Indication; Trunk-to-Trunk Connections; Universal Telset Restoration; Visual Display of Calls; Volume Control.

Standard Station Features • Call Forwarding; Call Park; Call Pick-Up; Call Screening; Call Waiting; Camp-on Queuing; Comline Service; Connect/Cancel; Consultation Package; Feature Key; Handsfree Dialing; Hold Recall; Inward Restriction; Loop Services; Manual Signaling; Manual Station Operation; Monitor Hold; Multiring Numbers; Privacy; Ringing Call Preference; Station Conference; Transfer Camp-on.

Optional System Features • Alternate Voice/Data; Authorization Codes; Call Detail Recording; Digit Translation; Direct Inward Dialing (DID); Least Cost Routing; SMDR; Conference Service; Multidigit Restriction; Tie Line Operation; Trunk Queuing; Private Network Automatic Number Identification.

Optional Attendant Features • Night Service Display; Speed Dialing; Trunk Status Display.

Optional Station Features • Data Key Operation; Do Not Disturb; Headset Operation; Speed Dialing Services; Visual Display Service.

First Delivery • 1983.

Systems Delivered • over 500.

Average System Size Installed • Model 2: 120 stations • Model 4: 250 stations.

Average Cost Per Line • \$650 to \$900 purchase.

Distribution • nationally through direct offices; independent contractors.

Installation/Maintenance • nationally through direct offices; independent contractors.

□ 110

Function • stored program computerized branch exchange (PBX) system for switching voice • analog switching technology • TDM/PAM • 2-pair wiring for interfacing standard keysets • 30 unblocked connections • 8 to 16 CCS per line.

Communications/Networks • route advance • tandem switching • 2-wire transmission.

Trunks/Stations/Consoles • up to 20 trunks • up to 111 stations • 1 attendant's console.

Voice Equipment • vendor supplied: rotary and Touch-Tone telephones; proprietary console • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • none.

Applications Supported • healthcare • retailers • hotel/motel • banking • service sector • business.

Standard System Features • Direct Outward Dialing (DOD); Through Attendant Position; Hunt Groups; Universal Night Answer Service; Class of Service; Station-to-Station Call Restriction; Conferencing; Group Pickup; Directed Call Pickup; Call Forwarding.

Standard Attendant Features • Barge In; Call Splitting; Redial; Serial Trunk Call; Trunk Camp-on.

Standard Station Features • Automatic Callback; Automatic Redial; Call Transfer.

Optional System Features • Speed Calling; Message Registration; Toll Restriction; SMDR.

Optional Station Features • Data Key Operation; Do Not Disturb.

First Delivery • 1981.

Systems Delivered • over 1,500.

Private Branch Exchanges—PBXs

Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

Average System Size • 30 to 50 lines.

Average Cost Per Line • \$450 to \$550 purchase.

Distribution • nationwide through direct sales; independent contractors.

Installation/Maintenance • through direct sales; independent contractors.

□ 20-20

Function • stored program computerized branch exchange for switching voice and data • digital switching using TDM/PCM with distributed architecture • 2-pair station wiring • nonblocking.

Communications/Networks • route optimization • tandem switching • look-ahead signaling • equal access dialing compatibility • satellite locations • all types of trunk facilities.

Trunks/Stations/Consoles • up to 1,920 ports, configurable as trunks, stations, or consoles.

Voice Equipment • vendor supplied: proprietary electronic telephones • equipment supported: 500/2500 telephones.

Data Equipment • vendor supplied: data modules • equipment supported: personal computers; modems; multiplexers; ASCII terminals.

Applications Supported • office automation • banking • service sector • military • business • tandem switching.

Standard System Features • Area Code and Office Code Restriction; Automatic Call Distribution; Automatic Identified Outward Dialing (AIOD); Automatic Restore from Power Fail; Automatic Route Selection; Automatic Station Release; Common Control Switching Arrangement (CCSA); Class of Service (COS); Data Security; Dictation Access; Direct Inward Dialing (DID); Flexible Night Answer; Flexible Station Numbering; Inward Restriction; Listed Directory Number Service; Manual Originating Line Service; Multiple Console Operation; Multiple Dialing Plans; Multiple Trunk Groups; Music-on-Hold/Camp-on; Night Class of Service; Off-Premise Extensions; Outgoing Restrictions; Outgoing Trunk Camp-on; Remote System Access (DISA); Route Advance; Satellite Operation; Service Order Administration; Speed Calling; Station Hunting; Station Message Detail Recording (SMDR); Outgoing/Incoming; Station Restriction; Tandem Tie Trunk; Toll Restriction 0/1; Tone to Dial Pulse Conversion; Tone Sending; Traffic Measurement; Universal Night Answer; Vacant Number Intercept.

Standard Attendant Features • Automatic Recall; Automatic Wakeup; Busy Lamp Field; Camp-on; Class of Service Display; Control of Trunk Group Access; Direct Paging Access; Do Not Disturb; Direct Trunk Group Selection; Centralized Attendant Service; Incoming Call Identification; Individual Trunk Access; Lock Out; Locked Loop Operation; Loop Transfer; Message Center Registration; Message Waiting; Numerical Call Waiting; Overflow to UNA; Paging; Privacy and Lockout; Serial Call; Service Call Routing; Straightforward Outward Completion; Station Number Display; Switched Loop Operation; System Alarm; Through Dialing; Toll Terminal Access; Transfer-All Calls; Trunk Busyout; Trunk Group Warning; Trunk Location Display; Trunk-to-Trunk Connection; Two-Way Splitting.

Standard Station Features • Call Forwarding; Call Hold; Call Park; Call Pickup; Call Waiting; Code Call Access; Consultation Hold; Direct Outward Dialing (DOD); Distinctive Ringing; Executive Busy Override; Foreign Exchange Access; Immediate Ring; Individual Transfer; Outgoing Trunk Camp-on; Paging; Push-Button Dialing; Recall Dial Tone; Recall Lock-in; Rotary Dialing; Speed Calling; Station Camp-on-Automatic Call Back; Station Controlled Conference; Station Hunting; Station-to-Station Calling; Tie Trunk; Trunk-to-Trunk Connection; WATS Access.

First Delivery • 1985.

Systems Delivered • under 10.

Average System Size Installed • 200 to 300 stations.

Average Cost Per Line • \$800 to \$1,000 purchase.

Distribution • nationally through direct sales; authorized distributors.

Installation/Maintenance • direct offices; authorized distributors.

■ HITACHI AMERICA, LTD

2990 Gateway Drive, Suite 1000, Norcross, GA 30071 • 404-446-8820.

□ DX & EDX

Function • stored program digital exchange for switching voice and data • digital switching technology • TDM/PCM • voice and data switching up to 9600 bps • EDX: 12 CCS per line at 240 lines; DX: 10 CCS per line at 1,024 lines • simultaneous conversations EDX: 128; DX: 256.

Communications/Networking • route optimization • Foreign Exchange (FX) • tandem switching • 9600 bps.

Trunks/Stations/Consoles • EDX hotel version: 64 trunks, 240 stations, 2 consoles • EDX business version: 76 trunks, 400 stations, 2 consoles • DX: 256 trunks, 1,274 stations, 8 consoles.

Voice Equipment • vendor supplied: Intelliset 18-button phone; attendant console • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • vendor supplied: Welcomm Front Desk Console; RS-232C interface for communication up to 9600 bps, Data Service Unit; personal communication terminal.

Applications Supported • hotel/motel; business.

Standard System Features • Automatic Station Release with Howler; Classes of Service; Diagnostic Circuitry; Direct Outward Dialing; Flexible Station Numbering Plans; Maintenance Facility; Multiple Trunk Groups; Power Failure Restart-Magnetic Tape; Proc Changes-Adm Panel; Single Processor; Station DTMF to Dial Pulse Conversion; Variable Time-out Capability; Wide Frequency Tolerant Power Supply; Direct Department Calling; Direct-In-Lines; Station Message Detail Recording; Traffic Measurement; Attendant Incoming Call Control; Incoming Trunk Control; Least Cost Routing; Route Advance; Fixed Night Service; Special Night Answering Position; Intercept Treatment-Attendant; Intercept Treatment-Tone; Vacant Code Intercept; Vacant Number Intercept; Speed Calling; Individual and System; Time-of-Day Routing; High Cost Route Signal; Circular Hunting; Master Number Hunting; Nonconsecutive Hunting; Secretarial Hunting; Station Hunting-Consecutive; Terminal Hunting; Area Code Restriction; Area/Office Code Restriction; Controlled Outgoing Restriction; Controlled Station Restriction; Controlled Station-to-Station Restriction; Data Restriction; Fully Restricted Stations; Manual Line Service; Manual Originating Line Service; Miscellaneous Trunk Restriction; Origination Restriction; Outward Restriction; Restrictive Station Control; Station Forced Busy; Toll Restriction— + 1 in PBX.

Standard Attendant Features • Camp-on; Overflow Facility; Attendant Transfer-Attendant Calls; Attendant Transfer-Outgoing; Attendant Transfer of Incoming Call; Automatic Hold; Automatic Recall; Busy Override; Busy Verification of Stations; Dial "O" Trunks to Attendant; One-Way Auto/Manual Splitting; One-Way Splitting; Straightforward Outward Completion; Through Dialing; Two-Way Splitting; Class of Service; Attendant Forced Release; Attendant Impulse Sender; Attendant Station Number Display; Attendant Station Status Field; Multiple Console Operation; Pushbutton Dialing to Stations; System Alarm Indications; Trunks-Direct Termination; Trunks-Switched Loop Operation; Volume Control; Alphanumeric Display for Attendant Position; Attendant Call Number Display; Attendant Locked Loop Operation; Attendant Call Waiting Display; Attendant Trunk Number Display; Call Processing Indicators; Individual Trunk Access; Attendant-on Conference; Attendant Conference.

Standard Station Features • Automatic Callback; Call Forwarding; Call Forwarding-Busy Line; Call Forwarding-Don't Answer; Call Hold; Call Waiting-Terminating; Consultation Hold-All Calls; Consultation Hold-Incoming; Consultation Hold-Internal; Dual Call Pickup; Directed Call Pickup; Discriminating Ringing; Distinctive Waiting Tones; Indication of Camp-on to Station; Individual X-fer All-Calls; Outgoing Trunk Camp-on; Preset Call Forwarding; Recall Dial Tone; Secretarial Intercept; Single Digit Station Dialing; Speed Calling; Station Call Transfer; Trunk-to-Trunk Connections-Station; Direct Attendant

Private Branch Exchanges—PBXs

Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

Signaling; Hot-Line Stations; Two-Wire Stations; Feature Buttons; 1-Use Indication; Idle Line Preference; Multiple Appearance-Multiple Call Arrangement; On-Hook Dialing; Ringing Line Preference; Station Message Waiting; Station Ringer Cutoff.

Optional System Features • 4-Wire Circuits; Hot Standby; Power Failure Restart-Battery Hold; Power Failure Transfer; Processor Changes-Remote Access; Recorded Announcement Service; Redundant Computer Common Control; Remote Maintenance Facility; Reserve Power; Touch-Tone Calling; Direct Inward Dialing (DID); Direct Inward System Access; Uniform Call Distribution; Dictation Access and Control; Tie Trunk Access; Voice Paging Access; Voice Paging Access—"Meet-Me"; Night Station Service-Full; Trunk Answer From Any Station; Off-Premises Stations; Auto-Wake-Up Service; Room Status Display.

Optional Attendant Features • Message Waiting-Attendant; Attendant Digital Clock.

Optional Station Features • Intercom; Calling Number Display to Station; Message Waiting Lamps on Stations; Proprietary Station Instruments.

First Delivery • September 1982.

Systems Delivered • over 200; all models.

Average System Size Installed • 400 to 500 lines.

Average Cost Per Line • \$600 to \$800 end user.

Distribution • worldwide and nationwide through interconnect distributors.

Installation/Maintenance • worldwide and nationwide through interconnect distributors; remote diagnostics.

■ INFORMATION DYNAMICS CORPORATION

1251 Exchange Drive, Richardson, TX 75081 • 214-783-8090.

□ IDX-230

Function • stored program computerized branch exchange (PBX) system for switching voice • analog switching technology • Space Division • 2-pair wiring for interfacing standard keysets • 24 unblocked connections.

Communications/Networks • tandem network • Foreign Exchange (FX) 2-wire transmission.

Trunks/Stations/Consoles • up to 10 trunks • up to 30 stations • 2 attendant's consoles.

Voice Equipment • vendor supplied; undisclosed • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • none.

Applications Supported • retailers • hotel/motel • banking • service sector • business.

Standard System Features • Area Code Restriction; Conference Add-on; Direct Outward Dialing (DOD); Music-on-Hold; Line Lockout; Office Code Restrictions; Outward Call Restriction; Toll Restriction 0/1.

Standard Attendant Features • Attendant Recall; Busy Lamp Field; Station Recall; Call Transfer.

Standard Station Features • Station-to-Station Calling; Call Hold; Add-on Conference; Call Pick-Up; Call Transfer.

Optional System Features • Trunk Group Rotary; Tenant Arrangement; Dial Thru Link; Paging Access; Two-Way Tie Trunk; Power Fail Transfer; Meet-Me Conference; Trunk Splitter.

Optional Attendant Features • Camp-on Busy; Station Camp-on.

Optional Station Features • Rotary Dial with Display; Push-Button Dial with Display; Camp-on Busy; Station Page Access.

First Delivery • 1972.

Systems Delivered • undisclosed.

Average System Size Installed • 25 lines.

Average Cost Per Line • \$250 purchase.

Distribution • nationally through local contractors.

Installation/Maintenance • nationally through local contractors.

□ IDX-2120

Function • stored program computerized branch exchange (PBX) system for switching voice • analog switching technology • Space Division • 2-pair wiring for interfacing standard keysets • 40 unblocked connections.

Communications/Networks • tandem network • Foreign Exchange (FX) • 2-wire transmission.

Trunks/Stations/Consoles • up to 30 trunks • up to 120 stations • 2 attendant's consoles.

Voice Equipment • vendor supplied; undisclosed • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • unsupported.

Applications Supported • office automation; dictation • retailers • hotel/motel • banking • service sector • business.

Standard System Features • Area Code Restriction; Conference Add-on; Direct Outward Dialing (DOD); Music-on-Hold; Line Lockout; Office Code Restrictions; Outward Call Restriction; Toll Restriction 0/1; Direct Outward Dialing (DOD); Station Hunting; Class of Service (COS); Switched Loop Operation.

Standard Attendant Features • Attendant Recall; Busy Lamp Field; Station Recall; Call Transfer; Calling Number Display; Line Lockout; Two-Way Splitting; Busy Override; Paging Button; Loop Hold.

Standard Station Features • Station-to-Station Calling; Call Hold; Add-on Conference; Call Pick-Up; Call Transfer.

Optional System Features • Trunk Group Rotary; Tenant Arrangement; Dial Thru Link; Paging Access; Two-Way Tie Trunk; Power Fail Transfer; Meet-Me-Conference; Trunk Splitter; Automatic Call Transfer; Tie Lines; Code Call Access; Dictation Access.

Optional Attendant Features • Camp-on Busy; Station Camp-on.

Optional Station Features • Rotary Dial with Display; Push-Button Dial with Display; Camp-on Busy; Station Page Access.

First Delivery • 1976.

Systems Delivered • undisclosed.

Average System Size Installed • 70 lines.

Average Cost Per Line • \$200 purchase.

Distribution • nationally through local contractors.

Installation/Maintenance • nationally through local contractors.

■ INTECOM INC

601 InteCom Drive, Allen, TX 75002 • 214-727-9141.

□ IBX S/10, S/40, S/80, S/80-T & TSX M/80

Function • stored program computerized branch exchange (PBX) system for switching voice and data • digital switching technology • TDM/PCM • 2-pair wiring for interfacing standard keysets • 64K-bps aggregate device speed • 16,384 unblocked connections • 36 CCS per line • TSX M/80 version for resale carriers • S/80-T version for shared tenant applications.

Communications/Networks • route optimization • tandem switching • automatic network dialing • satellite operation • centralized trunking • centralized attendant's console • 4-wire transmission • voice and data transmission to 57.6K bps • asynchronous and synchronous protocol • X.25 support • Burst Mode Packet-Switched Data to 10M bps (LAN mark) • InteNet Packet Controller for interface to IBM 3270 systems.

Trunks/Stations/Consoles • S/10: 250 to 2,048 trunks; 250 to 3,000 stations; 16 consoles • S/40: 100 to 4,000 trunks; up to 6,000 lines; 16 consoles • S/80: up to 8,192 trunks; 256 to 12,000

Private Branch Exchanges—PBXs

Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

stations; 250 consoles • S/80-T: same as S/80 plus up to 1,000 user partitions • TSX M/80: up to 8,000 ports.

Voice Equipment • vendor supplied: Integrated Terminal Equipment (ITE); ITE 12, ITE 15D, ITE 21, ITE 24D, ITE 30 telephone instruments (24D and 15D contain 40-character display); ATDC Attendants Console; Standard Terminal Equipment (STE) • equipment supported: Touch-Tone telephones.

Data Equipment • vendor supplied: communication network with data rates up to 57.6K bps; voice/data terminal • equipment supported: service printer; digital cassette unit; diskette subsystem; magnetic tape system; CRT terminals; minicomputers; microcomputers; 3270 workstations.

Applications Supported • office automation • healthcare • retailers • banking • service sector • tenant services • resale common carriers.

Standard System Features • Call History Interrogation; Direct Outward Dialing (DOD); Exceptional Call Duration Alarm; Flexible Numbering Plan; Hot Repair; Immediate Ring; Multiple Control Access Ports; Music-on-Hold; Paging Access; Remote Administration and Maintenance; Speed Numbers; Station Hunting; Toll Restriction; Uniform Call Distribution (UCD); Voice Response Unit; Tenant Partitioning.

Standard Attendant Features • Call Arrival Indications; Incoming Call Handling; Internal Calls; External Calls; Call Answering; Station Call; Uniform Assignment; Outside Call; Call Joining; Call Parking; Call Waiting; Attendant Paging; Transfer Control; Speed Dialing; Busy Verification; Shared Attendant Service; Hold; Normal Hold; Delayed Hold; Interposition Calling; Call Splitting; Class of Service Override; Attendant CRT; Controlled Conference.

Standard Station Features • Abbreviated Dialing; Account Codes; Authorization Codes; Automatic Dialing; Automatic Line Preselect; Busy Override; Busy Recall; Buzz; Call Control; Call Forwarding; Call Park; Call Pickup; Call Status Lamp; Call Waiting; Conferencing; Consultation Hold; Direct Trunk Termination; Dial Intercomm; Do Not Disturb; Group Listening; Hold; Last Number Redial; Message Waiting; Privacy Release; Station Call Waiting; Transfer.

Optional System Features • Call Detail Recording (CDR); Call History Interrogation; Direct System Inward Access (DISA); Network Numbering Plan; On-Line Trunk Utilization; Queuing; Satellite Directory Number (SDN); Uniform Alternate Routing.

Optional Attendant Features • Automatic Dialing; Speed Calling; Do Not Disturb; Display Change Date/Time.

Optional Station Features • Speed Calling; Data Option Board.

First Delivery • S/10: 1984; S/40: 1981; S/80: 1983.

Systems Delivered • over 100.

Average System Size Installed • 2,000 stations.

Average Cost Per Line • \$1,000 purchase.

Distribution • nationwide and worldwide through direct sales; Regional Bell Operating Companies; interconnect distributors.

Installation/Maintenance • nationwide and worldwide through direct sales offices; Regional Bell Operating Companies; interconnect distributors.

■ IPC TECHNOLOGIES, LTD

7336 Winthrop Road, Chester, CT 06412 • 203-526-9581.

□ 100 DPX III, 160 DPX III & 1000 DPX III

Function • stored program computerized branch exchange (PBX) system for switching voice and data • digital switching technology • TDM/PWM • 3-pair wiring for interfacing standard keysets • totally unblocked connections • 36 CCS per line.

Communications/Networks • route optimization • automatic network dialing • tandem switching.

Trunks/Stations/Consoles • 100 DPX III: 88 ports, 2 consoles • 160 DPX III: 152 ports, 2 consoles • 1000 DPX III: 1,016 ports, 4 consoles.

Voice Equipment • vendor supplied: IPC 64 IKS Programmable

Telephone; attendant console • equipment supported: all rotary dial and Touch-Tone telephones (including message waiting).

Data Equipment • vendor supplied: none • equipment supported: asynchronous terminals up to 9600 bps; printers; personal computers.

Applications Supported • banking • travel • insurance • healthcare • retailers • brokerage • hotel/motel • banking • service sector.

Standard System Features • Adjustable Hold-Recall Enable; Automatic Emergency Call; Burst Ringing; Camp-on Time Adjust; Console-Less Operation; Multiple Console Operation; Dialing-Rotary or Tone; Discrete Ringing; DID Intercepts; Direct-In-Trunks; Direct Inward Dialing (DID); Direct Inward System Access (DISA); Executive Override; Hot Lines; Incoming Trunk Restrictions; Master Number Hunting; Music-on-Hold; Night Answer; Power Failure Transfer; Remote Maintenance; Ring Count; Station Hunting; Station Restrictions; Tenant Service; Toll Restrictions; Trunk Restrictions; Variable Parking Orbit.

Standard Attendant Features • Automatic Camp-on; Automatic Hold; Busy Lamp Field; Call Hold; Cancellation of Station Call Forward; Destination Release; Direct Access; Page Access; Parking Orbit; Selective Hold Retrieve; Serial Call; Speed Dial; Split Key; Transfer to Trunk; Trunk Control; Trunk Access.

Standard Station Features • Call Back; Call Forwarding; Call Hold; Call Pick-Up; Camp-on; Conference; Consultation Hold; Dial Access to Any Trunk; Direct Outward Dialing (DOD); Last Number Redial; Page Access; Parking Orbit; Speed Dial; Split; Station-to-Station Calling; Transfer; Trunk Answer Any Station; Trunk Group Access; Trunk Queue; Zone Page Access; Zone Ringing.

Optional System Features • 3-Digit Toll Restriction; Least Cost Routing; Call Detail Recording (CDR).

First Delivery • 1983.

Systems Delivered • 500; all models.

Average System Size Installed • 100 DPX III: 50 stations • 160 DPX III: 90 stations • 1000 DPX III: 250 stations.

Average Cost Per Line • \$750 to \$850.

Distribution • nationwide and worldwide through direct sales; interconnect distributors.

Installation/Maintenance • nationwide and worldwide through direct sales offices; interconnect distributors.

■ ITT BUSINESS COMMUNICATIONS CORPORATION

300 East Park Drive, Harrisburg, PA 17111 • 717-564-4343.

□ System 3100 & Compact

Function • stored program computerized branch exchange (PBX) system for switching voice and data • digital switching technology • TDM/PCM • distributed architecture • 36 CCS per line.

Communications/Networks • route optimization • tandem switching • tie trunks • Off-Premise Stations (OPS) • Direct Inward Dialing (DID) • Common Control Switching Arrangement Access • data networking.

Trunks/Stations/Consoles • Compact: up to 44 ports • 3100S: up to 48 ports • 3100M: up to 144 ports • 3100L: up to 288 ports • 3100D: up to 288 ports • up to 4 consoles per system • port configured as trunk, station (voice or data), or console.

Voice Equipment • vendor supplied: ITT 10- and 20-button electronic telephones; 50-station DSS/BLF unit • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • vendor supplied: voice/data workstation; Xtra Personal Computer; ITT Courier 9000 Series; ITT Qume Terminals, Printers • nonvendor equipment: ASCII, BSC, 3270 terminals • data rates to 19.2K bps asynchronous.

Applications Supported • office automation • healthcare • retailers • military • hotel/motel • banking • service sector • transportation.

Standard System Features • Queuing; Conference; Forwarding;

Private Branch Exchanges—PBXs

Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

Hold/Transfer; Intercom Transfer; Area Code/Office Code Restriction; Direct Outward Dialing; Station Message Detail Recording (SMDR—depending on size); Trunk Answer From Any Station (TAFAS); Assigned Night Answer (ANA); Executive Override; Distinctive Ringing; Group Hunting; Hot Line; Intercom; Alarm Clock; Automatic Recall; Class of Service; Diagnostic Package; Flexible Numbering; Multiple Routes; Private Line Capability; Protected Station; Pushbutton Feature Activation; Receiver Off Hook (ROH).

Standard Attendant Features • Alarm Indication; Switch Loop Operation; Attendant Recall; Call Hold; Call Park; Call Splitting; Call Transfer; Call Waiting; Camp-on; Class of Service Display; Conference; Console Functional Testing; Hold/Manual; Time/Date Display; Trunk Route Control; Trunk Busy Out; Serial Calling; Adjustable Tone Ringer; Station Restriction; Alternate Answering Positions; Automatic/Manual Operation; Handset or Headset Operation; Intercept; Multiple Console Operation.

Standard Station Features • Queuing with Call Back/Camp-on; Conference Calling; Do Not Disturb; Privacy; Forwarding; Hold; Transfer; Call Park; Alarm Clock; Call Pick-up; Protected Lines; Direct Station Selection/Busy Lamp Field (DSS/BLF) Position; Break In/Barge In; Call Forward; Direct In Lines; Distinctive Ringing; Inherent Exclusion/Automatic Privacy; Line Pick-up; Secretarial Intercom; Time Out—Lock Out.

Optional System Features • Dictation Access; Station Message Detail Recording (SMDR) with Costing; Automatic Route Selection; Direct Inward Dialing (DID); Direct Inward System Access (DISA); Least Cost Routing (LCR); Handsfree Operation; Paging (8 zones); Music-on-Hold; Call Waiting Indication By Line; Message Waiting; Speed Dialing; Power Fail; Tel-Touch Dialing Repertory Number Store System.

Optional Attendant Features • Direct Station Selection/Busy Lamp Field (DSS/BLF); Hold/Automatic; Message Waiting.

Optional Station Features • Call Monitor; Speed Dial; Call Waiting Indication; Message Waiting; Auto-dial; Background Music; Call Announce with Handsfree Answerback; Handsfree Speakerphone; On Hook Dialing with Call Monitor.

First Delivery • 1981 (voice only); 1985 (data version).

Systems Delivered • over 2,000; all models.

Average System Size Installed • 90 stations.

Average Cost Per Line • \$850 to \$1,000.

Distribution • nationwide and worldwide through direct sales offices and independent dealers and distributors.

Installation/Maintenance • nationwide and worldwide through direct sales offices and independent dealers and distributors.

■ JISTEL/Division of J. S. of America, Inc

76 Ferry Boulevard, Stratford, CT 06497 • 203-375-7154.

□ Jistel 95 & Jistel 200

Function • stored program computerized branch exchange (PBX) system for switching voice • analog switching technology • TDM/PAM • 2-pair wiring for interfacing standard keysets • 46 unblocked connections.

Communications/Networks • tie lines.

Trunks/Stations/Consoles • Model 95: up to 16 trunks, 80 stations, 1 console • Model 200: up to 32 trunks, 208 stations, 3 consoles.

Voice Equipment • vendor supplied: SMARTSET telephone; attendant console • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • none.

Applications Supported • hotel/motel • business.

Standard System Features • Automatic Night Service; Automatic Traffic Between Consoles; Changing Station Extensions; Common Abbreviated Number Tables; Connection to CO; Direct Inward Access; Distinctive Ring; Least Cost Routing; Music-on-Hold; Remote Diagnostics; Toll Restriction; Trunk-to-Trunk Conferencing; Uniform Distribution; Universal

Night Service.

Standard Attendant Features • Automatic Traffic Sharing; Abbreviated Dialing; Call Splitting; Console Switchover; Extension ID; Incoming Call Hold; Paging; Parking; Serial Call; Simultaneous Console Operation; Timed Operator Reminder.

Standard Station Features • Abbreviated Dialing; Announced Call Transfer; Automatic Call Back; Call Hold; Call Screening; Class of Service; Direct Call Transfer; Directed Call Pick-Up; Group Hunting; Group Call Pick-Up; Call Forwarding; Parking; DOD; Trunk Queuing.

Optional System Features • Battery Backup; Station Message Detail Recording (SMDR); Last Number Redial; Toll Timer.

Optional Attendant Features • Paging.

Optional Station Features • Paging.

First Delivery • 1982.

Systems Delivered • over 100.

Average System Size Installed • 100 stations.

Average Cost Per Line • \$550 to \$650 purchase.

Distribution • nationwide through direct sales and selected distributors and dealers.

Installation/Maintenance • nationwide through direct sales and selected distributors and dealers.

■ MELCO LABS, INC

14408 NE 20th Street, Bellevue, WA 98007 • 206-643-3400.

□ Max 212

Function • stored program computerized branch exchange (PBX) system for switching voice • analog switching technology • space division switching • 3-pair wiring for interfacing standard keysets • 3 unblocked connections.

Communications/Networks • DDD only.

Trunks/Stations/Consoles • up to 2 trunks • up to 12 stations • no attendant's consoles.

Voice Equipment • vendor supplied: none • equipment supported: all rotary dial and Touch-Tone telephones • paging apparatus.

Data Equipment • none.

Applications Supported • home • small business.

Standard Systems Features • 2-Wire Connection to Stations; Standard Single Line Telephones; Tone or Rotary Dialing; Loop Start Operation; Specific or Automatic Line Access; Independent Call Processing; Call Progress Tones; Predetermined Line Answering; Assignable Incoming Ringing; Universal Answer; Night Bell; Music-on-Hold; Network/Local Conference; Network Line Do Not Disturb; Reverting Call; Power Failure Transfer.

Standard Attendant Features • Busy Lamp Field; Line Status Indication; Camp-on with Recall; Paging Access; Night Answering; Digital Clock; Distinctive Ringing.

Standard Station Features • Call Transfer; Call Hold; Consultation Hold; Call Park; Call Waiting; Do Not Disturb; Automatic Station Release.

First Delivery • 1982.

Systems Delivered • over 1,000; all models.

Average System Size Installed • 12 stations.

Average Cost Per Line • \$125 purchase.

Distribution • nationwide and worldwide through telephone companies, distributors, and dealers.

Installation/Maintenance • nationwide and worldwide through telephone companies and dealers.

□ Max 424

Function • stored program computerized branch exchange (PBX) system for switching voice • analog switching technology • space division switching • 2-pair wiring for interfacing standard

Private Branch Exchanges—PBXs

Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

keysets • 6 unblocked connections.

Communications/Networks • DDD only • centralized attendant console.

Trunks/Stations/Consoles • up to 4 trunks • up to 24 stations • 1 attendant's console.

Voice Equipment • vendor supplied: attendant's console • equipment supported: all rotary dial and Touch-Tone telephones; paging apparatus.

Data Equipment • none.

Applications Supported • home • small business • hotel/motel.

Standard System Features • 2-Wire Connection to Stations; Standard Single Line Telephones; Tone or Rotary Dialing; Specific or Automatic Line Access; Independent Call Processing; Distinctive Ringing; Call Progress Tones; Predetermined Line Answering; Assignable Incoming Ringing; Universal Answer; Night Bell; Network/Local Conference; Reverting Call; Power Failure Transfer; Loop Ground Start Trunk; Line Grouping; Toll Restriction; Line Queuing; Call Transfer with Callback; Local Conference; Camp-on Busy; Message Waiting.

Standard Attendant Features • Busy Station Lamp Field; Line Status Indication; Direct Hold and Transfer; Attendant Camp-on with Automatic Recall; Direct Paging Access; Direct Outside Line Access; Night Answer Control; Connections for Single Line Telephone; Distinctive Ringing.

Standard Station Features • Call Transfer; Call Hold; Consultation Hold; Call Park; Call Waiting; Do Not Disturb; Automatic Station Release.

First Delivery • 1980.

Systems Delivered • over 1,000; all models.

Average System Size Installed • 16 stations.

Average Cost Per Line • \$230 purchase.

Distribution • nationwide and worldwide through telephone companies, distributors, and dealers.

Installation/Maintenance • nationwide and worldwide through telephone companies and dealers.

Max 824

Function • stored program computerized branch exchange (PBX) system for switching voice • analog switching technology • space division switching • 2-pair wiring for interfacing standard keysets • 12 or 16 unblocked connections.

Communications/Networks • DDD only • centralized attendant's console.

Trunks/Stations/Consoles • up to 8 or 12 trunks • up to 24 stations • 1 attendant's console.

Voice Equipment • vendor supplied: attendant's console • equipment supported: all rotary dial and Touch-Tone telephones; paging apparatus.

Data Equipment • none.

Applications Supported • home • small business • hotel/motel.

Standard Systems Features • 2-Wire Connection to Stations; Standard Single Line Telephones; Tone or Rotary Dialing; Specific or Automatic Line Access; Independent Call Processing; Distinctive Ringing; Call Progress Tones; Predetermined Line Answering; Assignable Incoming Ringing; Universal Answer; Night Bell; Network/Local Conference; Reverting Call; Power Failure Transfer; Loop Ground Start Trunk; Line Grouping; Toll Restriction; Line Queuing; Call Transfer with Callback; Local Conference; Camp-on Busy; Message Waiting; Music-on-Hold.

Standard Attendant Features • Busy Station Lamp Field; Line Status Indication; Direct Hold and Transfer; Attendant Camp-on with Automatic Recall; Direct Paging Access; Direct Outside Line Access; Night Answer Control; Connections for Single Line Telephone; Distinctive Ringing; Direct Disconnect; Digital Clock.

Standard Station Features • Call Transfer; Call Hold; Consultation Hold; Call Park; Call Waiting; Do Not Disturb; Automatic Station Release.

Optional System Features • direct inward system access (DISA); message registration.

First Delivery • 1981.

Systems Delivered • over 1,000; all models.

Average System Size Installed • 18 stations.

Average Cost Per Line • \$230 purchase.

Distribution • nationwide and worldwide through telephone companies, distributors, and dealers.

Installation/Maintenance • nationwide and worldwide through telephone companies and dealers.

MITEL CORPORATION

P.O. Box 13089, 350 Legget Drive, Kanata, ON, K2K 1X3 • 613-592-2550 • In U.S., 5400 Broken Sound Boulevard, Boca Raton, FL 33431 • 800-327-2401.

SX-10

Function • stored program computerized branch exchange (PBX) system for switching voice • analog switching technology • space division switching • 3-pair wiring for interfacing standard keysets using modular jacks • 8 unblocked connections.

Communications/Networks • DDD; E&M Tie; WATS; OCC.

Trunks/Stations/Consoles • 2 to 8 trunks • 8 to 16 stations.

Voice Equipment • vendor supplied: none • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • unsupported.

Applications Supported • home • restaurants • garages • small professional offices.

Standard System Features • Alarm Indicators; Block System Programming; Call Block/Controlled Station to Station Restriction; Call Forwarding-Busy; Call Forwarding-Follow Me; Class of Service (COS); Configuration Switches; Direct Outward Dialing (DOD); Flash Disable; Lockout; Mixed Station Dialing; Paging Access; Prime Extension; Restrictive Station Control; Speed Dialing; Through Dialing; Toll Restriction; Hold • additional standard features: Dictation Trunk; Trunk Groups; Trunk Selection; Voice Synthesis.

Standard Attendant Features • Prime Extension; Night Service; Music-on-Hold; Call Block; Trunk Emergency Release.

Standard Station Features • Automatic Callback; Call Hold; Call Forwarding; Station-to-Station Dialing; Automatic Station Release; Data Security; Dial Call Pick-Up.

Optional System Features • Automatic Callback; Background Music; Direct Inward Dialing (DID); Discriminating Ringing; Music-on-Hold • additional optional features: Automatic Switching to TAFAS (Trunk Answer From Any Station) After Timeout; Consoleless Operation; Discriminating Ringing; Distinctive Callback Ringing; Flexible Night Service; Message Registration; Rotary Dial Pulse to Digit Translation; Station Transfer Security.

Optional Attendant Features • Message Registration.

Optional Station Features • Station Transfer Security; Station Camp-on.

First Delivery • 1981.

Systems Delivered • over 60,000 systems worldwide; all models.

Average System Size Installed • 16 stations.

Average Cost Per Line • \$200 to \$300 purchase.

Distribution • nationwide and worldwide through direct sales offices and independent dealers and distributors.

Installation/Maintenance • nationwide and worldwide through direct sales offices and independent dealers and distributors.

SUPER-10

Function • stored program computerized branch exchange (PBX) system for switching voice • analog switching technology • Space Division Switching • 3-pair wiring for interfacing standard

Private Branch Exchanges—PBXs

Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

keysets • 2-wire cabling • 8 unblocked connections.

Communications/Networks • DDD; E&M; WATS; OCC.

Trunks/Stations/Consoles • 2 to 8 trunks • 8 to 16 stations.

Voice Equipment • vendor supplied: none • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • unsupported.

Applications Supported • home • restaurants • garages • small professional offices.

Standard System Features • contains all the standard features of SX-10 which includes: Alarm Indicators; Block System Programming; Call Block/Controlled Station-to-Station Restriction; Call Forwarding-Busy; Call Forwarding-Follow Me; Class of Service (COS); Configuration Switches; Direct Outward Dialing (DOD); Flash Disable; Lockout; Mixed Station Dialing; Paging Access; Prime Extension; Restrictive Station Control; Speed Dialing; Through Dialing; Toll Restriction; Hold; Dictation Trunk; Trunk Groups; Trunk Selection; Voice Synthesis.

Standard Attendant Features • contains all the standard features of SX-10 which includes: Prime Extension; Night Service; Music-on-Hold; Call Block; Trunk Emergency Release • additional standard features • Direct Station Selection; Timed Recall.

Standard Station Features • contains all the standard features of SX-10 which includes: Automatic Callback; Call Hold; Call Forwarding; Station-to-Station Dialing; Automatic Station Release; Data Security; Dial Call Pick-Up • additional standard features: Direct Trunk Select; Discriminating Tone; Flash for Attendant.

Optional System Features • contains all the optional features of SX-10 which includes: Automatic Callback; Background Music; Direct Inward Dialing (DID); Discriminating Ringing; Music-on-Hold; Automatic Switching to TAFAS (Trunk Answer From Any Station) After Timeout; Consoleless Operation; Discriminating Ringing; Distinctive Callback Ringing; Flexible Night Service; Message Registration; Rotary Dial Pulse to Digit Translation; Station Transfer Security; TAFAS (Trunk Answer From Any Station).

Optional Attendant Features • Message Registration.

Optional Station Features • contains all the optional features of SX-10 which includes Station Transfer Security; Station Camp-on • additional optional features • Executive Busy Override.

First Delivery • 1981.

Systems Delivered • over 60,000 systems worldwide; all models.

Average System Size Installed • 16 stations.

Average Cost Per Line • \$200 to \$300 purchase.

Distribution • nationwide and worldwide through direct sales offices and independent dealers and distributors.

Installation/Maintenance • nationwide and worldwide through direct sales offices and independent dealers and distributors.

□ SX-20

Function • stored program computerized branch exchange (PBX) system for switching voice • analog switching technology • Space Division Switching • 3-pair wiring for interfacing standard keysets • 2-wire cabling • 12 unblocked connections.

Communications/Networks • DDD; E&M; WATS; OCC.

Trunks/Stations/Consoles • 8 or 12 trunks • 48 or 72 stations • 1 attendant console.

Voice Equipment • vendor supplied: none • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • unsupported.

Applications Supported • small-to-medium businesses.

Standard System Features • contains all the standard features of SX-10, SUPER-10 which includes: Alarm Indicators; Block System Programming; Call Block/Controlled Station-to-Station Restriction; Call Forwarding-Busy; Call Forwarding-Follow Me; Class of Service (COS); Configuration Switches; Direct Outward

Dialing (DOD); Flash Disable; Lockout; Mixed Station Dialing; Paging Access; Prime Extension; Restrictive Station Control; Speed Dialing; Through Dialing; Toll Restriction; Hold; Dictation Trunk; Trunk Groups; Trunk Selection; Voice Synthesis • additional standard features: Prime Line; Station Hunting; Trunk Hunting.

Standard Attendant Features • contains all the standard features of SX-10; SUPER 10 which includes: Prime Extension; Night Service; Music-on-Hold; Call Block; Trunk Emergency Release; Direct Station Selection; Timed Recall • additional standard features: Attendant Access; Attendant Camp-on; Attendant Overflow; Call Hold; Controlled Station-to-Station Restriction; Incoming Call Identification; Paging.

Standard Station Features • contains all the standard features of SX-10, SUPER-10 which includes: Automatic Callback; Call Hold; Call Forwarding; Station-to-Station Dialing; Automatic Station Release; Data Security; Dial Call Pick-Up; Direct Trunk Select; Discriminating Tone; Flash for Attendant.

Optional System Features • contains all the optional features of SX-10, SUPER-10 which includes: Automatic Callback; Background Music; Direct Inward Dialing (DID); Discriminating Ringing; Music-on-Hold; Automatic Switching to TAFAS (Trunk Answer From Any Station) After Timeout; Consoleless Operation; Discriminating Ringing; Distinctive Callback Ringing; Flexible Night Service; Message Registration; Rotary Dial Pulse to Digit Translation; Station Transfer Security; TAFAS (Trunk Answer From Any Station).

Optional Attendant Features • Message Registration.

Optional Station Features • contains all the optional features of SX-10, SUPER-10 which includes Station Transfer Security; Station Camp-on; Executive Busy Override.

First Delivery • 1980.

Systems Delivered • over 60,000 systems worldwide; all models.

Average System Size Installed • 32 stations.

Average Cost Per Line • \$200 to \$300 purchase.

Distribution • nationwide and worldwide through direct sales offices and independent dealers and distributors.

Installation/Maintenance • nationwide and worldwide through direct sales offices and independent dealers and distributors.

□ SX-100

Function • stored program computerized branch exchange (PBX) system for switching voice • analog switching technology • Space Division Switching • 2-wire cabling • 31 unblocked connections.

Communications/Networks • route optimization; alternate routing for network calls; automatic dialing • DDD • WATS access.

Trunks/Stations/Consoles • up to 56 trunks • up to 112 stations • 2 attendant's consoles.

Voice Equipment • vendor supplied: SS3, SS4 electronic telephones • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • supported in Generic 1000; data modules.

Applications Supported • small-to-medium businesses • hotel/motel.

Standard System Features • contains all the standard features of SX-10, SUPER-10, SX-20 which includes: Alarm Indicators; Block System Programming; Call Block/Controlled Station-to-Station Restriction; Call Forwarding-Busy; Call Forwarding-Follow Me; Class Of Service (COS); Configuration Switches; Direct Outward Dialing (DOD); Flash Disable; Lockout; Mixed Station Dialing; Paging Access; Prime Extension; Restrictive Station Control; Speed Dialing; Through Dialing; Toll Restriction; Hold; Dictation Trunk; Trunk Groups; Trunk Selection; Voice Synthesis; Prime Line; Station Hunting; Trunk Hunting • additional standard features: Immediate Ring; Illegal Access Intercept to Attendant; Maid-In-Room; Meet-Me-Conference; Multiconsoles; Multiple Trunk Groups; Room Status; Single Digit Dialing; Station Message

Private Branch Exchanges—PBXs

Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

Detail Recording (SMDR) Traffic Measurement.

Standard Attendant Features • contains all the standard features of SX-10, SUPER-10, SX-20 which includes: Prime Extension; Night Service; Music-on-Hold; Call Block; Trunk Emergency Release; Direct Station Selection; Timed Recall; Attendant Access; Attendant Camp-on; Attendant Overflow; Call Hold; Controlled Station-to-Station Restriction; Incoming Call Identification; Paging • additional standard features: Attendant Call Forward Setup and Cancel; Attendant CCSA (Common Controlled Switching Arrangement) Access; Attendant Console Flash; Attendant Controlled Conference; Attendant Lock Out; Attendant Secrecy; Attendant Serial Call; Attendant Trunk Busy Out.

Standard Station Features • contains all the standard features of SX-10, SUPER-10, SX-20 which includes: Automatic Callback; Call Hold; Call Forwarding; Station-to-Station Dialing; Automatic Station Release; Data Security; Dial Call Pick-Up; Direct Trunk Select; Discriminating Tone; Flash for Attendant • additional standard features • Account Codes; Do Not Disturb; Hunting; Pick-up Groups.

Optional System Features • contains all the optional features of SX-10, SUPER-10, SX-20 which includes: Automatic Callback; Background Music; Direct Inward Dialing (DID); Discriminating Ringing; Music-on-Hold; Automatic Switching to TAFAS (Trunk Answer From Any Station) After Timeout; Consoleless Operation; Discriminating Ringing; Distinctive Callback Ringing; Flexible Night Service; Message Registration; Rotary Dial Pulse to Digit Translation; Station Transfer Security; TAFAS (Trunk Answer From Any Station) • additional optional features: End of Dial Signal on Outgoing Trunks; First Digit Toll Deny; Inhibit Automatic Supervision; Limited Wait for Dial Tone; Trunk Recall Partial Inhibit; Vacant Number Intercept to the Attendant.

Optional Attendant Features • Message Registration
Optional Station Features • contains all the optional features of SX-10, SUPER-10, SX-20 which includes: Station Transfer Security; Station Camp-on; Executive Busy Override • additional optional: System Access.

Optional Station Features • Handsfree Operation; Originate Only; Receive Only; Transfer Dial Tone.

First Delivery • 1979.

Systems Delivered • over 60,000 systems worldwide; all models.

Average System Size Installed • 72 stations.

Average Cost Per Line • \$200 to \$300 purchase.

Distribution • nationwide and worldwide through direct sales offices and independent dealers and distributors.

Installation/Maintenance • nationwide and worldwide through direct sales offices and independent dealers and distributors.

□ SX-200

Function • stored program computerized branch exchange (PBX) system for switching voice • analog switching technology • Space Division Switching • 3-pair wiring for interfacing standard keysets • 2-wire cabling • 72 unblocked connections.

Communications/Networks • route optimization • alternate routing for network calls • automatic dialing • DDD • WATS access.

Trunks/Stations/Consoles • up to 104 trunks • up to 208 stations • 2 attendant's consoles.

Voice Equipment • vendor supplied: SS3, SS4 electronic telephones • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • Generic 1000; data modules.

Applications Supported • small-to-medium restaurants • small-to-medium businesses • hotel/motel.

Standard System Features • contains all the standard features of SX-10, SUPER-10, SX-20, SX-100 which includes: Alarm Indicators; Block System Programming; Call Block/Controlled Station-to-Station Restriction; Call Forwarding-Busy; Call Forwarding-Follow Me; Class of Service (COS); Configuration

Switches; Direct Outward Dialing (DOD); Flash Disable; Lockout; Mixed Station Dialing; Paging Access; Prime Extension; Restrictive Station Control; Speed Dialing; Through Dialing; Toll Restriction; Hold; Dictation Trunk; Trunk Groups; Trunk Selection; Voice Synthesis; Prime Line; Station Hunting; Trunk Hunting; Immediate Ring; Illegal Access Intercept to Attendant; Maid-In-Room; Meet-Me-Conference; Multiconsoles; Multiple Trunk Groups; Room Status; Single Digit Dialing; Station Message Detail Recording (SMDR) Traffic Measurement.

Standard Attendant Features • contains all the standard features of SX-10; SUPER 110, SX-20, SX-100 which includes: Prime Extension; Night Service; Music-on-Hold; Call Block; Trunk Emergency Release; Direct Station Selection; Timed Recall; Attendant Access; Attendant Camp-on; Attendant Overflow; Call Hold; Controlled Station-to-Station Restriction; Incoming Call Identification; Paging; Attendant Call Forward Setup and Cancel; Attendant CCSA (Common Controlled Switching Arrangement) Access; Attendant Console Flash; Attendant Controlled Conference; Attendant Lock Out; Attendant Secrecy; Attendant Serial Call; Attendant Trunk Busy Out.

Standard Station Features • contains all the standard features of SX-10, SUPER-10, SX-20, SX-100 which includes: Automatic Callback; Call Hold; Call Forwarding; Station-to-Station Dialing; Automatic Station Release; Data Security; Dial Call Pick-Up; Direct Trunk Select; Discriminating Tone; Flash for Attendant; Account Codes; Do Not Disturb; Hunting; Pick-Up Groups.

Optional System Features • contains all the optional features of SX-10, SUPER-10, SX-20, SX-100 which includes: Automatic Callback; Background Music; Direct Inward Dialing (DID); Discriminating Ringing; Music-on-Hold; Automatic Switching to TAFAS (Trunk Answer From Any Station) After Timeout; Consoleless Operation; Discriminating Ringing; Distinctive Callback Ringing; Flexible Night Service; Message Registration; Rotary Dial Pulse to Digit Translation; Station Transfer Security; TAFAS (Trunk Answer From Any Station); End of Dial Signal on Outgoing Trunks; First Digit Toll Deny; Inhibit Automatic Supervision; Limited Wait for Dial Tone; Trunk Recall Partial Inhibit; Vacant Number Intercept to the Attendant.

Optional Attendant Features • Message Registration.

Optional Station Features • contains all the optional features of SX-10, SUPER-10, SX-20, SX-100 which includes Station Transfer Security; Station Camp-on; Executive Busy Override; Attendant DISA (Direct Inward System Access).

First Delivery • 1978.

Systems Delivered • over 60,000 systems worldwide; all models.

Average System Size Installed • 140 stations.

Average Cost Per Line • \$200 to \$300 purchase.

Distribution • nationwide and worldwide through direct sales offices and independent dealers and distributors.

Installation/Maintenance • nationwide and worldwide through direct sales offices and independent dealers and distributors.

□ SX-2000

Function • stored program computerized branch exchange (PBX) system for switching voice and data • digital switching technology • Space and Time Division/PCM Switching; 1-pair wiring for interfacing standard keysets • 2-wire cabling • internal data rates to 19.2K bps • total redundancy • partially unblocked.

Communications/Networks • route optimization • alternate routing for on and off network calls • automatic network dialing • voiceband data transmission to 4800 bps.

Trunks/Stations/Consoles • 50 to 2,500 trunks • up to 10,000 stations • 30 attendant consoles.

Voice Equipment • vendor supplied: Superset 4 DTMF telephone; Superset 7 voice and data CRT-based telephone system • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • vendor supplied: Superset 7 Work Station; Dataset 1 and Dataset 2 RS-232C-compatible modem • equipment supported: system printer; CRT terminals;

Private Branch Exchanges—PBXs

Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

minicomputers; microcomputers.

Applications Supported • office automation; word processing; dictation; facsimile • hotel/motel • medical • educational.

Standard System Features • contains all the standard features of SX-10, SUPER-10, SX-20, SX-100, SX-200 which includes: Alarm Indicators; Block System Programming; Call Forwarding-I'm Here; Call Forwarding-Busy; Call Forwarding-Follow Me; Class Of Service (COS); Configuration Switches; Direct Outward (DOD); Flash Disable; Lockout; Mixed Station Dialing; Paging Access; Prime Extension; Speed Dialing; Through Dialing; Toll Restriction; Hold; Trunk Groups; Trunk Selection; Prime Line; Station Hunting; Trunk Hunting; Immediate Ring; Illegal Access Intercept to Attendant; Meet-Me-Conference; Multiconsoles; Multiple Trunk Groups; Single Digit Dialing; Station Message Detail Recording (SMDR) Traffic Measurement; System Rerouting.

Standard Attendant Features • contains all the standard features of SX-10, SUPER-10, SX-20, SX-100, SX-200 which includes: Prime Extension; Night Service; Music-on-Hold; Call Block; Trunk Emergency Release; Timed Recall; Attendant Access; Attendant Camp-on; Attendant Overflow; Call Hold; Incoming Call Identification; Paging; Attendant Call Forward Setup and Cancel; Attendant Console Flash; Attendant Controlled Conference; Attendant Lock Out; Attendant Secrecy; Attendant Serial Call; Attendant Trunk Busy Out.

Standard Station Features • contains all the standard features of SX-10, SUPER-10, SX-20, SX-100, SX-200 which includes: Automatic Callback, Call Hold, Call Forwarding, Station-to-Station Dialing; Automatic Station Release; Data Security; Dial Call Pick-Up; Direct Trunk Select; Discriminating Tone; Flash for Attendant; Account Codes; Do Not Disturb; Hunting; Pick-Up Groups.

Optional System Features • contains all the optional features of SX-10, SUPER-10, SX-20, SX-100, SX-200 which includes: Automatic Callback; Background Music; Direct Inward Dialing (DID); Discriminating Ringing; Music-on-Hold; Automatic Switching to TAFAS (Trunk Answer From Any Station) After Timeout; Consoleless Operation; Discriminating Ringing; Distinctive Callback Ringing; Flexible Night Service; Message Registration; Rotary Dial Pulse-to-Digit Translation; Station Transfer Security; TAFAS (Trunk Answer From Any Station); End-of-Dial Signal on Outgoing Trunks; up to 26-Digit Toll Deny; Inhibit Automatic Supervision; Limited Wait for Dial Tone; Trunk Recall Partial Inhibit; Vacant Number Intercept to the Attendant.

Optional Attendant Features • Message Registration.

Optional Station Features • contains all the optional features of SX-10, SUPER-10, SX-20, SX-100 which includes Station Transfer Security; Station Camp-on; Executive Busy Override; Attendant DISA (Direct Inward System Access).

First Delivery • 1984.

Systems Delivered • over 20.

Average System Size Installed • 600 to 800 stations.

Average Cost Per Line • \$400 to \$500 purchase.

Distribution • nationwide and worldwide through direct sales offices and independent dealers and distributors.

Installation/Maintenance • nationwide and worldwide through direct sales offices and independent dealers and distributors.

■ NEC TELEPHONES, INC

8 Old Sod Farm Road, Melville, NY 11747 • 516-753-7000.

□ NEAX 12A

Function • stored program computerized branch exchange (PBX) system for switching voice • analog switching technology • Space Division • 2-pair wiring for interfacing standard keysets • 96 unblocked connections.

Communications/Networks • route optimization • centralized attendant service • Foreign Exchange (FX) • tandem network • WATS access.

Trunks/Stations/Consoles • up to 48 trunks • up to 360 stations

• 4 attendant's consoles.

Voice Equipment • vendor supplied: Electraphone telephone; hotel/motel attendant console; attendant console • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • not supported.

Applications Supported • retailers • hotel/motel • small-to-medium business.

Standard System Features • Automatic Recall; CCSA Access; Class of Service; Call Intercept; Centralized Attendant Service (CAS); Code Calling Access; Direct-in-Termination; Direct Inward Dialing (DID); Do Not Disturb; Data Line Security; Day/Night Class of Service; Executive Right-of-Way; Flexible Numbering System; FX Access; Least Cost Routing; Line Lockout; Miscellaneous Trunk Restriction; Multiple Console Operation; Music-on-Hold; Night Connection; On-Line Maintenance; Outgoing Trunk Queuing; Paging Access; Passing Dial Tone; Power Failure Transfer; Push-Button to Rotary Conversion; Priority Call; Restriction From Outgoing Calls; Remote Advance; Room Cut-Off; Station Hunting; Station-to-Station Calling; Single Digit Feature Code; Tandem Switching; Three-Way Calling; TIE Lines; Toll Denial; Roll Restriction; Trunk Answer; Trunk-to-Trunk Connection; Toll Termination; Traffic Measurement; Tenant Service; Traffic Usage Management; Uniform Call Distribution; Universal Hotel Numbering; WATS Access.

Standard Attendant Features • Camp-on with Tone Indication; Lockout; Loop Release; Override; Busy Lamp Field; Busy Verification; Call Processing Indication; Call Queuing; Call Transfer; Call Waiting Lamp; Digital Display; Incoming Call Identification; Individual Trunk Access; Interposition Transfer; Meet-Me-Paging Splitting; Step Call; Serial Call; Trunk Group Busy Lamp.

Standard Station Features • Call Back; Call Forwarding; Call Hold; Call Pick-Up; Call Transfer; Call Waiting; Consultation Hold; Call Pick-Up Directed; Dial Access to Attendant; Dictation Access; Digital Display; Distinctive Ringing; Immediate Ringing; Meet-Me-Paging; Single-Digit Station Calling; Speed Calling; Split Access.

Optional System Features • Automatic Wake-Up; Check-in/Check-out; Diagnostic Maintenance Console; Remote Access; Remote Maintenance; Room Status Audit; Station Message Detail Recording (SMDR).

Optional Attendant Features • Controlled Conference; Calendar/Clock; Cleaning Start; Push-Button Calling.

Optional Station Features • Calling Station Number Display; Meet-Me-Paging; Push-Button Calling; Station Controlled Conference.

First Delivery • 1979.

Systems Delivered • over 1,200.

Average System Size Installed • 200 stations.

Average Cost Per Line • contact vendor.

Distribution • nationwide and worldwide through direct sales offices and independent dealers and distributors.

Installation/Maintenance • nationwide and worldwide through direct sales offices and independent dealers and distributors.

□ NEAX 2400 IMS

Function • stored program computerized branch exchange (PBX) for switching voice and data • digital switching technology • TDM/PCM • 2-pair wiring connects keysets and accommodates simultaneous voice and data up to 56K bps • total system redundancy • 736 unblocked connections • distributed architecture.

Communications/Networks • route optimization • tandem network • centralized attendant console • FX (Foreign Exchange) provides access to distant central offices via Foreign Exchange Trunks • direct T1 interface • X.25/X.75 support • asynchronous half-/full-duplex rates to 19.2K bps; synchronous full-duplex rates to 56K bps.

Trunks/Stations/Consoles • up to 23,184 ports; variable

Private Branch Exchanges—PBXs

Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

combination of stations and trunks, up to 63 consoles • universal port architecture.

Voice Equipment • vendor supplied: Dterm (digital terminal), a multifunction digital voice telephone with 16-character digital display which can be equipped with a digital data interface (DDI) • vendor supported: AT&T rotary and Touch-Tone telephones.

Data Equipment • vendor supplied: Digital Data Interface adapts to Dterm digital terminal and provides RS-232C interface for user-supplied terminal attachment; data rates to 19.2K bps (async adapter) or 56K bps (sync adapter); V.35 interface available for sync adapter • vendor supported: any user-supplied async/sync device with RS-232C/V.35 interface • RS-449 supported.

Applications Supported • office automation (general business) including voice, text, and facsimile mail • healthcare • retailers • hotel/motel • banking • military • service sector.

Standard System Features • Automatic Recall; CCSA Access; Class of Service; Centralized Attendant Service (CAS); Code Calling Access; Direct-in-Termination; Direct Inward Dialing (DID); Do Not Disturb; Data Line Security; Day/Night Class of Service; Executive Right-of-Way; Flexible Numbering System; FX Access; Least Cost Routing; Line Lockout; Miscellaneous Trunk Restriction; Multiple Console Operation; Music-on-Hold; Night Connection; On-Line Maintenance; Outgoing Trunk Queuing; Paging Access; Passing Dial Tone; Power Failure Transfer; Push-Button to Rotary Conversion; Priority Call; Restriction From Outgoing Calls; Remote Advance; Room Cut-Off; Station Hunting; Station-to-Station Calling; Single Digit Feature Code; Tandem Switching; Three-Way Calling; TIE Lines; Toll Denial; Toll Restriction; Trunk Answer; Trunk-to-Trunk Connection; Toll Termination; Traffic Measurement; Tenant Service; Traffic Usage Management; Uniform Call Distribution; Universal Hotel Numbering; WATS Access.

Standard Attendant Features • Camp-On with Tone Indication; Lockout; Loop Release; Override; Busy Lamp Field; Busy Verification; Call Processing Indication; Call Queuing; Call Transfer; Call Waiting Lamp; Digital Display; Incoming Call Identification; Individual Trunk Access; Interposition Transfer; Meet-Me-Paging Splitting; Step Call; Serial Call; Trunk Group Busy Lamp.

Standard Station Features • Call Back; Call Forwarding; Call Hold; Call Pick-Up; Call Transfer; Call Waiting; Consultation Hold; Call Pick-Up Directed; Dial Access to Attendant; Dictation Access; Digital Display; Distinctive Ringing; Immediate Ringing; Meet-Me-Paging; Single-Digit Station Calling; Speed Calling; Split Access.

Optional System Features • Automatic Wake-Up; Check-in/Check-out; Diagnostic Maintenance Console; Remote Access; Remote Maintenance; Room Status Audit; Station Message Detail Recording (SMDR) Direct Outward Dialing (DOD).

Optional Attendant Features • Controlled Conference; Calendar/Clock; Cleaning Start; Push-Button Calling.

Optional Station Features • Calling Station Number Display; Meet-Me-Paging; Push-Button Calling; Station Controlled Conference.

First Delivery • 1984 (U.S.).

Systems Delivered • over 50 (U.S.).

Average System Size Installed • 200 stations.

Average Cost Per Line • \$850 to \$1,100 purchase.

Distribution • nationwide and worldwide through direct sales offices and independent dealers and distributors.

Installation/Maintenance • nationwide and worldwide through direct sales offices and independent dealers and distributors.

■ NORTHERN TELECOM, INC

1001 East Arapaho Road, Richardson, TX 75081 • 214-234-5300.

□ Meridian SL-1S & SL-1MS

Function • stored program computerized branch exchange

(PBX) systems for switching voice and data • digital switching technology • TDM/PCM • 2-pair wiring for interfacing standard keysets • 210 unblocked connections (SL-1MS) • voice digitized at peripheral card.

Communications/Networks • route optimization • centralized attendant service • Foreign Exchange (FX) • tandem network • WATS access DDD • transmission rates to 9600 bps • 19.2K bps asynchronous and 56K synchronous internal maximum rates per port • 2-/4-wire transmission • AUTOVON • X.25 and T1 support.

Trunks/Stations/Consoles • SL-1S: up to 6 trunks and 32 stations • SL-1MS: up to 80 trunks • 60 to 400 stations • 15 attendant's consoles.

Voice Equipment • vendor supplied: SL-1 Electronic Telephone; LOGIC 1 handsfree telephone; LOGIC 25S single line telephone; attendant console • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • vendor supplied: AIM; ADM; SL-1 Displayphone; Meridian 2000/3000 digital telephones; SL-10 Packet Data Switching System • equipment supported: TTY; line printers; magnetic tape; data terminals; CRTs; minicomputers; microcomputers.

Applications Supported • retailers • hotel/motel • medium business • banking • service sector.

Standard System Features • Access to Automatic/Recorded Answering; Access to Paging; Access to Features; Automatic Daily Maintenance Routines; Auxiliary Signaling; Call Forward-Busy; Class of Service (COS); Code Restriction; CCSA; Data Transmission; Direct Inward Dialing (DID); Direct Outward Dialing (DOD); Emergency Transfer; Flexible Numbering Stations; Hunting; Indication of Camp-on; Input Access Security; Intercept; Line Lockout; Manual Line Service; Multilisted Directory Number; Multiple-Appearance Directory Number; Near Immediate Ringing; Night Service; Off-Premise Stations; Power Failure Transfer; Private Line Service; Remote Administration; Special Dial Tone; Station-to-Station Calling; Tandem Switching; Tie Trunks; Toll Restriction; Traffic Measurement; Trunk Answer from Any Station; Uninterruptable Line Connection.

Standard Attendant Features • Alarm Lamps; Call Selection; Call Waiting Lamp; Conference; Automatic Timed Recall; Barge-In; Busy Lamp Field; Busy Verification; Call Selection; Call Waiting Lamp; Camp-on; Conference; Digit Display; Direct Access to Paging; Emergency Transfer Control; Incoming Call Identification; Interposition Calling; Listed Directory Number; Lockout; Control of Trunk Group Access; Do Not Disturb; Automatic Dial; Multiple Attendant Console; Night Service; Nondelayed Operation; Position Busy; Push-Button Dialing; Secrecy; Speed Dialing; Splitting; Switched Loop Termination; Through Dialing; Time/Date; Trunk Group Busy.

Standard Station Features • Attendant Recall; Automatic Dial; Automatic Preselection; Bridging; Busy Lamp; Call Forward; Call Pick-Up; Call Status Indication; Call Transfer; Call Waiting; Conference; End-to-End Signaling; Emergency Transfer; Headset Interface; Hold; Loudspeaker; Manual Signaling; On-Hook Dialing; Privacy; Release; Ring Again; Speed Calling; Tone Buzzing.

Optional System Features • AIOD; CDR; Recorded Announcement; ARS; Do Not Disturb; DISA; Authorization Code; CAS; ARS Priority; ACD; Group Call.

Optional Station Features • Calling Station Number Display; Meet-Me-Paging; Push-Button Calling; Station Controlled Conference.

First Delivery • 1982; Meridian version 3rd quarter 1985.

Systems Delivered • over 3,300 SL-1 systems.

Average System Size Installed • 120 stations.

Average Cost Per Line • \$800 to \$1,000 purchase.

Distribution • nationwide and worldwide through direct sales offices and independent dealers and distributors.

Installation/Maintenance • nationwide and worldwide through direct sales offices and independent dealers and distributors.

Private Branch Exchanges—PBXs

Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

□ Meridian SL-1N

Function • stored program computerized branch exchange (PBX) system for switching voice and data • digital switching technology • TDM/PCM • 2-pair wiring for interfacing standard keysets • 720 unblocked connections • total redundancy • voice digitized at peripheral card.

Communications/Networks • route optimization • centralized attendant service • Foreign Exchange (FX) • tandem network • WATS access DDD • transmission rates to 9600 bps • 19.2K bps asynchronous and 56K bps synchronous internal maximum rates per port • 2-/4-wire transmission • AUTOVON • X.25 support • IBM 3270 support.

Trunks/Stations/Consoles • up to 700 trunks • 100 to 1,500 stations • 15 attendant consoles.

Voice Equipment • vendor supplied: SL-1 Electronic Telephone; LOGIC 1 handsfree telephone; LOGIC 255 single line telephone; attendant console • equipment supported: all rotary dial and Touch-Tone telephones • SL-1 ACD Agent telephones.

Data Equipment • vendor supplied: AIM; ADM; SL-1 Displayphone; Meridian 2000/3000 digital telephones; SL-10 Packet Data Switching System • equipment supported: TTY; line printers; magnetic tape; data terminals; CRTs; minicomputers; microcomputers.

Applications Supported • retailers • military • medium business • banking • service sector • hospital • office automation.

Standard System Features • Access to Automatic/Recorded Answering; Access to Paging; Access to Features; Automatic Daily Maintenance Routines; Auxiliary Signaling; Call Forward-Busy; Class of Service (COS); Code Restriction; CCSA; Data Transmission; Direct Inward Dialing (DID); Direct Outward Dialing (DOD); Emergency Transfer; Flexible Numbering Stations; Hunting; Indication of Camp-on; Input Access Security; Intercept; Line Lockout; Manual Line Service; Multilisted Directory Number; Multiple-Appearance Directory Number; Near Immediate Ringing; Night Service; Off-Premise Stations; Power Failure Transfer; Private Line Service; Remote Administration; Special Dial Tone; Station-to-Station Calling; Tandem Switching; Tie Trunks; Toll Restriction; Traffic Measurement; Trunk Answer From Any Station; Uninterruptable Line Connection.

Standard Attendant Features • Alarm Lamps; Call Selection; Call Waiting Lamp; Conference; Automatic Timed Recall; Barge-In; Busy Lamp Field; Busy Verification; Call Selection; Call Waiting Lamp; Camp-on; Conference; Digit Display; Direct Access to Paging; Emergency Transfer Control; Incoming Call Identification; Interposition Calling; Listed Directory Number; Lockout; Control of Trunk Group Access; Do Not Disturb; Automatic Dial; Multiple Attendant Console; Night Service; Nondelayed Operation; Position Busy; Pushbutton Dialing; Secrecy; Speed Dialing; Splitting; Switched Loop Termination; Through Dialing; Time/Date; Trunk Group Busy.

Standard Station Features • Attendant Recall; Automatic Dial; Automatic Preselection; Bridging; Busy Lamp; Call Forward; Call Pick-up; Call Status Indication; Call Transfer; Call Waiting; Conference; End-to-End Signaling; Emergency Transfer; Headset Interface; Hold; Loudspeaker; Manual Signaling; On-Hook Dialing; Privacy; Release; Ring Again; Speed Calling; Tone Buzzing.

Optional System Features • AIOD; CDR; Recorded Announcement; ARS; Do Not Disturb; DISA; Authorization Code; CAS; ARS Priority; ACD; Group Call.

Optional Station Features • Calling Station Number Display; Meet-Me-Paging; Pushbutton Calling; Station Controlled Conference.

First Delivery • 1984; Meridian version 3rd quarter 1985.

Systems Delivered • over 7,000 SL-1 systems worldwide.

Average System Size Installed • 650 stations.

Average Cost Per Line • \$800 to \$1,000 purchase.

Distribution • nationwide and worldwide through direct sales offices and independent dealers and distributors.

Installation/Maintenance • nationwide and worldwide through direct sales offices and independent dealers and distributors.

□ Meridian SL-1XN

Function • stored program computerized branch exchange (PBX) system for switching voice and data • digital switching technology • TDM/PCM • 2-pair wiring for interfacing standard keysets • 1,500 unblocked connections • total redundancy • voice digitized at peripheral card.

Communications/Networks • route optimization • centralized attendant service • Foreign Exchange (FX) • tandem network • WATS access DDD • transmission rates to 9600 bps • 19.2K bps asynchronous and 56K bps synchronous • 2-/4-wire transmission • AUTOVON • X.25 and T1 support • IBM 3270 support.

Trunks/Stations/Consoles • up to 2,000 trunks • 800 to 4,500 stations • 15 attendant consoles.

Voice Equipment • vendor supplied: SL-1 Electronic Telephone; LOGIC 1 handsfree telephone; LOGIC 255 single-line telephone; attendant console • equipment supported: all rotary dial and Touch-Tone telephones • SL-1 ACD Agent Telephone.

Data Equipment • vendor supplied: AIM; ADM; SL-1 Displayphone; Meridian 2000/3000 digital telephones; SL-10 Packed Data Switching System • equipment supported: TTY; line printers; magnetic tape; data terminals; CRTs; minicomputers; microcomputers.

Applications Supported • retailers • military • medium-to-large business • banking • service sector • office automation • healthcare.

Standard System Features • Access to Automatic/Recorded Answering; Access to Paging; Access to Features; Automatic Daily Maintenance Routines • Auxiliary Signaling; Call Forward-Busy; Class of Service (COS); Code Restriction; CCSA; Data Transmission; Direct Inward Dialing (DID); Direct Outward Dialing (DOD); Emergency Transfer; Flexible Numbering Stations; Hunting; Indication of Camp-on; Input Access Security; Intercept; Line Lockout; Manual Line Service; Multilisted Directory Number; Multiple Appearance Directory Number; Near Immediate Ringing; Night Service; Off-Premise Stations; Power Failure Transfer; Private Line Service; Remote Administration; Special Dial Tone; Station-to-Station Calling; Tandem Switching; Tie Trunks; Toll Restriction; Traffic Measurement; Trunk Answer From Any Station; Uninterruptable Line Connection.

Standard Attendant Features • Alarm Lamps; Call Selection; Call Waiting Lamp; Conference; Automatic Timed Recall; Barge-In; Busy Lamp Field; Busy Verification; Call Selection; Call Waiting Lamp; Camp-on Conference; Digit Display; Direct Access to Paging; Emergency Transfer Control; Incoming Call Identification; Interposition Calling; Listed Directory Number; Lockout; Control of Trunk Group Access; Do Not Disturb; Automatic Dial; Multiple Attendant Console; Night Service; Nondelayed Operation; Position Busy; Push-Button Dialing; Secrecy; Speed Dialing; Splitting; Switched Loop Termination; Through Dialing; Time/Date; Trunk Group Busy.

Standard Station Features • Attendant Recall; Automatic Dial; Automatic Preselection; Bridging; Busy Lamp; Call Forward; Call Pick-Up; Call Status Indication; Call Transfer; Call Waiting; Conference; End-to-End Signaling; Emergency Transfer; Headset Interface; Hold; Loudspeaker; Manual Signaling; On-Hook Dialing; Privacy; Release; Ring Again; Speed Calling; Tone Buzzing.

Optional System Features • AIOD; CDR; recorded announcement; ARS; Do Not Disturb; DISA; Authorization Code; CAS; ARS Priority; ACD; Group Call.

Optional Station Features • Calling Station Number Display; Meet-Me-Paging; Pushbutton Calling; Station Controlled Conference.

First Delivery • 1984; Meridian version 3rd quarter 1985.

Systems Delivered • over 7,000 SL-1 systems worldwide.

Average System Size Installed • 1,500 stations.

Private Branch Exchanges—PBXs

Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

Average Cost Per Line • \$800 to \$1,000 purchase.

Distribution • nationwide and worldwide through direct sales offices and independent dealers and distributors.

Installation/Maintenance • nationwide and worldwide through direct sales offices and independent dealers and distributors.

Meridian SL-100

Function • stored program computerized branch exchange (PBX) system for switching voice and data • digital switching technology • TDM/PCM • 2-pair wiring for interfacing standard keysets • 1,050 unblocked connections • redundancy.

Communications/Networks • route optimization • centralized attendant service • Foreign Exchange (FX) • tandem network • WATS access DDD • transmission rates to 9600 bps; 2-/4-wire transmission • AUTOVON • X.25 support • Electronic Switched Network (ESN).

Trunks/Stations/Consoles • up to 1,500 trunks • up to 30,000 stations • 255 attendant's consoles.

Voice Equipment • vendor supplied: SL-100 Electronic Telephone; SL-100 attendant console • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • vendor supplied: SL-10 Packet Data Switching System • equipment supported: TTY; line printers; magnetic tape; data terminals; CRTs; minicomputers; microcomputers.

Applications Supported • retailers • hotel/motel • very large business • banking • service sector.

Standard System Features • Access to Automatic/Recorded Answering; Access to Paging; Access to Features; Automatic Daily Maintenance Routines; Auxiliary Signaling; Call Forward-Busy; Class of Service (COS); Code Restriction; CCSA; Data Transmission; Direct Inward Dialing (DID); Direct Outward Dialing (DOD); Emergency Transfer; Flexible Numbering Stations; Hunting; Indication of Camp-on; Input Access Security; Intercept; Line Lockout; Manual Line Service; Multilisted Directory Number; Multiple-Appearance Directory Number; Near Immediate Ringing; Night Service; Off-Premise Stations; Power Failure Transfer; Private Line Service; Remote Administration; Special Dial Tone; Station-to-Station Calling; Tandem Switching; Tie Trunks; Toll Restriction; Traffic Measurement; Trunk Answer from Any Station; Uninterruptable Line Connection.

Standard Attendant Features • Alarm Lamps; Call Selection; Call Waiting Lamp; Conference; Automatic Timed Recall; Barge-In; Busy Lamp Field; Busy Verification; Call Selection; Call Waiting Lamp; Camp-on; Conference; Digit Display; Direct Access to Paging; Emergency Transfer Control; Incoming Call Identification; Interposition Calling; Listed Directory Number; Lockout; Control of Trunk Group Access; Do Not Disturb; Automatic Dial; Multiple Attendant Console; Night Service; Nondelayed Operation; Position Busy; Push-Button Dialing; Secrecy; Speed Dialing; Splitting; Switched Loop Termination; Through Dialing; Time/Date; Trunk Group Busy.

Standard Station Features • Attendant Recall; Automatic Dial; Automatic Preselection; Bridging; Busy Lamp; Call Forward; Call Pick-Up; Call Status Indication; Call Transfer; Call Waiting; Conference; End-to-End Signaling; Emergency Transfer; Headset Interface; Hold; Loudspeaker; Manual Signaling; On-Hook Dialing; Privacy; Release; Ring Again; Speed Calling; Tone Buzzing.

Optional System Features • AIOD; CDR; Recorded Announcement; ARS; Do Not Disturb; DISA; Authorization Code; CAS; ARS Priority; ACD; Group Call.

Optional Station Features • Calling Station Number Display; Meet-Me-Paging; Push-Button Calling; Station Controlled Conference.

First Delivery • 1983; Meridian version 1986.

Systems Delivered • over 20.

Average System Size Installed • 3,000 stations.

Average Cost Per Line • \$800 to \$1,000 purchase.

Distribution • nationwide and worldwide through direct sales

offices and independent dealers and distributors.

Installation/Maintenance • nationwide and worldwide through direct sales offices and independent dealers and distributors.

OKI TELECOM/Division of OKI America Inc

4405 International Boulevard, Building B, Suite 112, Norcross, GA 30093 • 404-925-9200.

Discovery III-64A

Function • stored program computerized branch exchange (PBX) system for switching voice • analog switching technology • TDM/PAM • 2-pair wiring for interfacing standard keysets.

Communications/Networks • route optimization • centralized attendant service • WATS access • satellite communication • Foreign Exchange (FX).

Trunks/Stations/Consoles • up to 24 trunks • up to 64 stations • 5 attendant's consoles.

Voice Equipment • vendor supplied: OKI 3532 Electronic Phone; OKI attendant console • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • none.

Applications Supported • retailers • hotel/motel • medium business • banking • service sector.

Standard System Features • Automatic Station Release; Direct Outward Dialing (DOD); DTMF Dialing; Flexible Station Numbering; Mixed Station Dialing; Multiple Trunk Groups; Power Failure Restart; Rotary Dial Calling; Station-to-Station Calling; Tone-to-Pulse Conversion; Variable Time Out Capability; Intercept Busy; Account Codes; Least Cost Counting; Code Restrictions; Class of Service; Fully Restricted Stations; Hot-Line to Console; Consecutive Hunting; Hunting; Night Service; CCSA; Hotel/Hospital Functions; DOD.

Standard Attendant Features • Automatic Recall; Busy Override; Call Queuing; Call Transfer; Camp-on; Conference; Discriminative Recall; Forced Release; Impulse Sender; Individual Trunk Access; Repertory Dialing; Serial Call; Through Dialing; Trunk Control; Two-Way Splitting.

Standard Station Features • Abbreviated Dialing; Answer Hold; Automatic Callback; Call Forwarding; Call Transfer; Conference Consultation Hold; Dial Call Pick-Up; Emergency Off Hook; Executive Busy Override; Executive Camp-on; Override Security; Recall Dial Tone; Transfer Security; Two-Way Splitting.

Optional System Features • Direct Inward System Access (DISA); Least Cost Routing-Tone Sending; Station Message Detail Recording (SMDR); Code Call Access; Dictation Access; Mobile Radio Access; Music Input; Radio Paging; Tie Trunk Operation; Voice Paging Trunks; Centralized Attendant Service; Satellite Operation.

Optional Attendant Features • Interposition Calling; Multiple Console.

Optional Station Features • Speed Dialing; Voice Paging.

First Delivery • 1976.

Systems Delivered • over 4,000 systems; all models.

Average System Size Installed • 30 stations.

Average Cost Per Line • \$350 to \$500 purchase.

Distribution • not actively in production • nationwide and worldwide through direct sales offices and independent dealers and distributors.

Installation/Maintenance • nationwide and worldwide through direct sales offices and independent dealers and distributors.

Discovery III-128

Function • stored program computerized branch exchange (PBX) system for switching voice • analog switching technology • TDM/PAM • 2-pair wiring for interfacing standard keysets.

Communications/Networks • route optimization • centralized attendant service • WATS access • satellite communication • Foreign Exchange (FX).

Private Branch Exchanges—PBXs

Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

Trunks/Stations/Consoles • up to 40 trunks • up to 128 stations
• 5 attendant's consoles.

Voice Equipment • vendor supplied: OKI 3532 Electronic Phone; OKI attendant console • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • none.

Applications Supported • retailers • hotel/motel • medium business • banking • service sector.

Standard System Features • Automatic Station Release; Direct Outward Dialing (DOD); DTMF Dialing; Flexible Station Numbering; Mixed Station Dialing; Multiple Trunk Groups; Power Failure Restart; Rotary Dial Calling; Station-to-Station Calling; Tone-to-Pulse Conversion; Variable Time Out Capability; Intercept Busy; Account Codes; Least Cost Counting; Code Restrictions; Class of Service; Fully Restricted Stations; Hot-Line to Console; Consecutive Hunting; Hunting; Night Service; CCSA; Hotel/Hospital Functions; DOD.

Standard Attendant Features • Automatic Recall; Busy Override; Call Queuing; Call Transfer; Camp-on; Conference; Discriminative Recall; Forced Release; Impulse Sender; Individual Trunk Access; Repertory Dialing; Serial Call; Through Dialing; Trunk Control; Two-Way Splitting.

Standard Station Features • Abbreviated Dialing; Answer Hold; Automatic Call Back; Call Forwarding; Call Transfer; Conference Consultation Hold; Dial Call Pick-Up; Emergency Off Hook; Executive Busy Override; Executive Camp-on; Override Security; Recall Dial Tone; Transfer Security; Two-Way Splitting.

Optional System Features • Direct Inward System Access (DISA); Least Cost Routing-Tone Sending; Station Message Detail Recording (SMDR); Code Call Access; Dictation Access; Mobile Radio Access; Music Input; Radio Paging; Tie Trunk Operation; Voice Paging Trunks; Centralized Attendant Service; Satellite Operation.

Optional Attendant Features • Interposition Calling; Multiple Console.

Optional Station Features • Speed Dialing; Voice Paging.

First Delivery • 1976.

Systems Delivered • over 4,000 systems; all models.

Average System Size Installed • 60 stations.

Average Cost Per Line • \$350 to \$500 purchase.

Distribution • not actively in production • nationwide and worldwide through direct sales offices and independent dealers and distributors.

Installation/Maintenance • nationwide and worldwide through direct sales offices and independent dealers and distributors.

□ Discovery III-256

Function • stored program computerized branch exchange (PBX) system for switching voice • analog switching technology • TDM/PAM • 2-pair wiring for interfacing standard keysets.

Communications/Networks • route optimization • centralized attendant service • WATS access • satellite communication • Foreign Exchange (FX).

Trunks/Stations/Consoles • up to 64 trunks • up to 256 stations
• 5 attendant's consoles.

Voice Equipment • vendor supplied: OKI 3532 Electronic Phone; OKI attendant console • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • none.

Applications Supported • retailers • hotel/motel • medium business • banking • service sector.

Standard System Features • Automatic Station Release; Direct Outward Dialing (DOD); DTMF Dialing; Flexible Station Numbering; Mixed Station Dialing; Multiple Trunk Groups; Power Failure Restart; Rotary Dial Calling; Station-to-Station Calling; Tone-to-Pulse Conversion; Variable Time Out Capability; Intercept Busy; Account Codes; Least Cost Counting; Code

Restrictions; Class of Service; Fully Restricted Stations; Hot-Line to Console; Consecutive Hunting; Hunting; Night Service; CCSA; Hotel/Hospital Functions • DOD.

Standard Attendant Features • Automatic Recall; Busy Override; Call Queuing; Call Transfer; Camp-on; Conference; Discriminative Recall; Forced Release; Impulse Sender; Individual Trunk Access; Repertory Dialing; Serial Call; Through Dialing; Trunk Control; Two-Way Splitting.

Standard Station Features • Abbreviated Dialing; Answer Hold; Automatic Call Back; Call Forwarding; Call Transfer; Conference Consultation Hold; Dial Call Pick-Up; Emergency Off Hook; Executive Busy Override; Executive Camp-on; Override Security; Recall Dial Tone; Transfer Security; Two-Way Splitting.

Optional System Features • Direct Inward System Access (DISA); Least Cost Routing-Tone Sending; Station Message Detail Recording (SMDR); Code Call Access; Dictation Access; Mobile Radio Access; Music Input; Radio Paging; Tie Trunk Operation; Voice Paging Trunks; Centralized Attendant Service; Satellite Operation.

Optional Attendant Features • Interposition Calling; Multiple Console.

Optional Station Features • Speed Dialing; Voice Paging.

First Delivery • 1976.

Systems Delivered • over 4,000 systems; all models.

Average System Size Installed • 120 stations.

Average Cost Per Line • \$350 to \$500 purchase.

Distribution • nationwide and worldwide through direct sales offices and independent dealers and distributors.

Installation/Maintenance • nationwide and worldwide through direct sales offices and independent dealers and distributors.

□ Discovery III-512

Function • stored program computerized branch exchange (PBX) system for switching voice • analog switching technology • TDM/PAM • 2-pair wiring for interfacing standard keysets.

Communications/Networks • route optimization • centralized attendant service • WATS access • satellite operation • Foreign Exchange (FX).

Trunks/Stations/Consoles • up to 128 trunks • up to 512 stations
• 5 attendant's consoles.

Voice Equipment • vendor supplied: OKI 3532 Electronic Phone; OKI attendant console • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • none.

Applications Supported • retailers • hotel/motel • medium business • banking • service sector.

Standard System Features • Automatic Station Release; Direct Outward Dialing (DOD); DTMF Dialing; Flexible Station Numbering; Mixed Station Dialing; Multiple Trunk Groups; Power Failure Restart; Rotary Dial Calling; Station-to-Station Calling; Tone-to-Pulse Conversion; Variable Time-Out Capability; Intercept Busy; Account Codes; Least Cost Counting; Code Restrictions; Class of Service; Fully Restricted Stations; Hot-Line to Console; Consecutive Hunting; Hunting; Night Service; CCSA; Hotel/Hospital Functions; DOD.

Standard Attendant Features • Automatic Recall; Busy Override; Call Queuing; Call Transfer; Camp-on; Conference; Discriminative Recall; Forced Release; Impulse Sender; Individual Trunk Access; Repertory Dialing; Serial Call; Through Dialing; Trunk Control; Two-Way Splitting.

Standard Station Features • Abbreviated Dialing; Answer Hold; Automatic Call Back; Call Forwarding; Call Transfer; Conference Consultation Hold; Dial Call Pick-Up; Emergency Off Hook; Executive Busy Override; Executive Camp-on; Override Security; Recall Dial Tone; Transfer Security; Two-Way Splitting.

Optional System Features • Direct Inward System Access (DISA); Least Cost Routing-Tone Sending; Station Message Detail

Private Branch Exchanges—PBXs

Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

Recording (SMDR); Code Call Access; Dictation Access; Mobile Radio Access; Music Input; Radio Paging; Tie Trunk Operation; Voice Paging Trunks; Centralized Attendant Service; Satellite Operation.

Optional Attendant Features • Interposition Calling; Multiple Console.

Optional Station Features • Speed Dialing; Voice Paging.

First Delivery • 1976.

Systems Delivered • over 4,000 systems; all models.

Average System Size Installed • 250 stations.

Average Cost Per Line • \$350 to \$500 purchase.

Distribution • nationwide and worldwide through direct sales offices and independent dealers and distributors.

Installation/Maintenance • nationwide and worldwide through direct sales offices and independent dealers and distributors.

Spectrum 100

Function • stored program computerized branch exchange (PBX) system for switching voice and data • digital switching technology • TDM/PCM • 2-/4-pair wiring for interfacing standard keysets • 256 unblocked connections.

Communications/Networks • route optimization • WATS access • Foreign Exchange (FX) • DDD • OCC lines • tie lines.

Trunks/Stations/Consoles • up to 48 trunks • up to 128 stations • up to 2 attendant consoles.

Voice Equipment • vendor supplied: Spectrum 100 Electronic Multibutton telephones • equipment supported: all rotary dial or Touch-Tone telephones.

Data Equipment • vendor supplied: Electronic Message System • equipment supported: data terminals; printers; workstations; storage devices; data rates up to 4800 bps.

Applications Supported • retailers • medium business • banking • service sector.

Standard System Features • Automatic Station Release with Howler; CCSA Access; Class of Service; Code Calling Access; Console-less Operation; Custom Key Service; Dictation Access and Control; Direct Outward Dialing (DOD); Direct Inward Dialing (DID); Direct Department Calling; Direct-in Lines; Dual Tone Multifrequency (DTMF) Calling; DTMF to Dial Pulse Conversion; DTMF Sending; Exclusive Hold Reminder; External Zone Paging; Flexible Numbering of Stations; Hot-Line Stations; I-Hold Indication; Key Line Service; Mixed Station Dialing; Multiple Trunk Lines; Music-on-Hold Access; Power Failure Transfer; Radio Paging Access; Speed Calling-System; Tie Trunk Access; Trunk-to-Trunk Connection; Unscreened and Screened Transfer; Voice Paging Access; Voice Paging Access-Meet-Me.

Standard Attendant Features • Attendant Call Waiting; Attendant Calling Number Display; Attendant Conference; Attendant Control of Trunk Group Access; Attendant Direct Station Selection (DSS) with Busy Lamp Field (BLF); Attendant Flash Over Trunks; Attendant Originating Call Waiting; Attendant Transfer-All Calls; Automatic Recall; Busy Override; Busy Verification of Stations/Trunks; Call Forwarding-All Calls; Call Queuing-Incoming Trunk; Class of Service Display to Attendant; Digital Clock on Attendant Position; Direct Trunk Group Selection; Displays; Incoming Call Identification; Indication of Camp-on to Station; Lockout; Message Waiting-Attendant; Straightforward Outward Completion; Switched Loop Operation; Through Dialing; Trunk-to-Trunk Connection; Two-Way Splitting.

Standard Station Features • Add-On Conference; Automatic Call Back; Automatic Dialing; Call Forwarding-All Calls; Call Hold; Calling Number Display to Station; Call Park-Group; Conference Calling; Dial Call Pickup; Directed Call Pickup; Distinctive Ringing; Do Not Disturb; Exclusive Hold; Executive Busy Override; Group Dialing; Handsfree Stations; Individual Transfer-All Calls; Industry Standard Off-Premises Station; Last Number Redial; Meet-Me Conference; Message Waiting Source Display; Originating Call Waiting; Recall Dial Tone; Secretarial Intercept; Speed Calling-Advanced LCR; Speed Calling-Individual; Station Direct Station Selection (SDSS); Station

Hunting; Circular Hunting; Master Number Hunting; Nonconsecutive Hunting; Terminal Hunting; Terminal Call Waiting; Station Message Waiting; Station Override Security; Time of Day Display; 2-Way Splitting-Station; Voice Calling-Dial; Voice Calling-Handsfree Answer.

Optional System Features • all features standard.

Optional Attendant Features • all features standard.

Optional Station Features • all features standard.

First Delivery • October 1983.

Systems Delivered • over 100.

Average System Size Installed • 60 stations.

Average Cost Per Line • \$750 to \$900 purchase.

Distribution • nationwide and worldwide through direct sales offices and independent dealers and distributors.

Installation/Maintenance • nationwide and worldwide through direct sales offices and independent dealers and distributors.

Spectrum 400

Function • stored program computerized branch exchange (PBX) system for switching voice and data • digital switching technology • TDM/PCM • 2-pair wiring for interfacing standard keysets • 256 unblocked connections.

Communications/Networks • route optimization • centralized attendant service • WATS access • Foreign Exchange (FX) • DDD • OCC lines • tie lines • satellite communication.

Trunks/Stations/Consoles • up to 88 trunks • up to 384 stations • up to 4 attendant consoles.

Voice Equipment • vendor supplied: OKI 3532 Electronic Phone; OKI attendant console • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • vendor supplied: Electronic Message System • equipment supported: data terminals; printers; workstations; storage devices; data rates up to 4800 bps.

Applications Supported • retailers • hotel/motel • medium business • banking • service sector.

Standard System Features • Automatic Station Release with Howler; Class of Service (COS); Console-less Operation; Dictation Access and Control; Direct Outward Dialing (DOD); DTMF-to-Dial Pulse Conversion; Dual Tone Multifrequency (DTMF) Calling; Extension Busy Indication On Card; Extension Busy Lamp Display (EBL); Flexible Station Numbering Plan; Immediate Ringing; Mixed Station Dialing; Mobile Radio Control; Modular System Expansion; Multiple Trunk Groups; Music-On Camp-On Access; Music-On-Hold Access; Pad Switching; Power Failure Restart Battery-Hold/Floppy Disk; Power Failure Transfer; Radio Paging Access; Recorded Announcement Service; Reserve Power; Speed Calling System; Tandem Trunking; Tenant Service; Trunk Busy Indication On Card; Trunk Make Busy; Variable Time-Out Capacity; Voice Paging Access; Voice Paging Access-Meet-Me; Night Service; Direct Inward Dialing (DID); Direct-In Lines (DIL); Uniform Call Distribution.

Standard Attendant Features • Attendant Camp-On; Attendant Conference; Attendant Monitor; Attendant Overflow Facility; Attendant Self-Function Test; Attendant Transfer-All Calls; Attendant Trunk Reentry Restriction; Automatic Recall; Busy Override; Busy Verification of Stations; Call Forwarding-Follow Me; Call Hold-Attendant; Call Parking; Call Queuing; Call Queuing-Incoming Trunk; Automatic Camp-On; Direct Trunk Selection-Console; Discriminative Recall; Displays; Impulse Sender; Individual Trunk Access; Multiple Consoles; One-Way Automatic Splitting; Serial Call; Through Dialing; Trunk Control-Locked Loop; Trunk Control-Loop Transfer; Trunk Control-Switched Loop Release; Trunk Group Access Control; Trunk-to-Trunk Connections-Attendant; Two-Way Splitting; Universal Answer Key; Universal Cancellation; Volume Control-Signal; Call Queuing-DIL Trunk; Direct-in-Lines.

Standard Station Features • Add-On Conference; Automatic Call Back; Call Forward-Don't Answer; Call Forward-Variable; Call Forward-Attendant; Call Hold; Call Parking; Call Queuing

Private Branch Exchanges—PBXs

Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

Trunk; Call Waiting Tone; Circular Hunting; Consultation Hold-All Calls; Dial Call Pickup-Group; Discriminative Ringing; Distributed Hunting; Emergency Tone; Executive Busy Override; Executive Camp-On; Executive Secretarial Intercept; Hot-Line Service; Indication of Camp-On to Station; Individual Transfer-All Calls; Master Number Hunting; Meet-Me Conference (8 Parties); Nonconsecutive Hunting; Preset Conference; Recall Dial Tone; Recorder Tone; Secretarial Hunting; Secretarial Intercept; Speed Calling-Individual; Station-to-Station Dialing; Transfer All Calls; Transfer Security; Trunk-to-Trunk Connection.

Optional System Features • all features standard.

Optional Attendant Features • all features standard.

Optional Station Features • Audit; Automatic Wake-Up Service; Block Room; Busy Station Display; Calling Number Display; Check-in; Check-out; Display Hours; Display Room; Do Not Disturb; Electronic Message Service; Emergency Call/Preset Conference; Flexible Station Numbering Plan; Guest Name Directory; Hot Line; House Phone; Maid Request; Message Registration; Message Waiting; Room Scan; Room Status Change; Room Status Display; Service Call Routing; Single-Digit Dial for Service; Temporary Station Disconnection; Terminals to Long Distance Operator; Uninstalled Station Display; Uninstalled Trunk Display; Video Display Terminal.

First Delivery • 1983.

Systems Delivered • over 100.

Average System Size Installed • 200 stations.

Average Cost Per Line • \$750 to \$900 purchase.

Distribution • nationwide and worldwide through direct sales offices and independent dealers and distributors.

Installation/Maintenance • nationwide and worldwide through direct sales offices and independent dealers and distributors.

Spectrum 700

Function • stored program computerized branch exchange (PBX) system for switching voice and data • digital switching technology • TDM/PCM • 2-pair wiring for interfacing standard keysets • 256 unblocked connections • total redundancy.

Communications/Networks • route optimization • centralized attendant service • WATS access • Foreign Exchange (FX) • DDD • OCC lines • tie lines • satellite communication.

Trunks/Stations/Consoles • up to 176 trunks • up to 768 stations • up to 8 attendant consoles.

Voice Equipment • vendor supplied: OKI Electronic Phone; OKI Attendant Console • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • vendor supplied: Electronic Message System • equipment supported: data terminals; printer; workstations; storage devices; data rates up to 4800 bps.

Applications Supported • retailers • hotel/motel • medium business • banking • service sector.

Standard System Features • Automatic Station Release with Howler; Class of Service (COS); Console-less Operation; Dictation Access and Control; Direct Outward Dialing (DOD); DTMF-to-Dial Pulse Conversion; Dual Tone Multifrequency (DTMF) Calling; Extension Busy Indication on Card; Extension Busy Lamp Display (EBL); Flexible Station Numbering Plan; Immediate Ringing; Mixed Station Dialing; Mobile Radio Control; Modular System Expansion; Multiple Trunk Groups; Music-on Camp-on Access; Music-on-Hold Access; Pad Switching; Power Failure Restart Battery-Hold/Floppy Disk; Power Failure Transfer; Radio Paging Access; Recorded Announcement Service; Reserve Power; Speed Calling System; Tandem Trunking; Tenant Service; Trunk Busy Indication on Card; Trunk Make Busy; Variable Time-Out Capacity; Voice Paging Access; Voice Paging Access-Meet-Me; Night Service; Direct Inward Dialing (DID); Direct-In Lines (DIL); Uniform Call Distribution; Hot Standby; Redundant Common Control.

Standard Attendant Features • Attendant Camp-on; Attendant Conference; Attendant Monitor; Attendant Overflow Facility;

Attendant Self-Function Test; Attendant Transfer-All Calls; Attendant Trunk Reentry Restriction; Automatic Recall; Busy Override; Busy Verification of Stations; Call Forwarding-Follow Me; Call Hold-Attendant; Call Parking; Call Queuing; Call Queuing-Incoming Trunk; Automatic Camp-On; Direct Trunk Selection-Console; Discriminative Recall; Displays; Impulse Sender; Individual Trunk Access; Multiple Consoles; One-Way Automatic Splitting; Serial Call; Through Dialing; Trunk Control-Locked Loop; Trunk Control-Loop Transfer; Trunk Control-Switched Loop Released; Trunk Group Access Control; Trunk-to-Trunk Connections-Attendant; Two-Way Splitting; Universal Answer Key; Universal Cancellation; Volume Control-Signal; Call Queuing-DIL trunk; Direct-in-Lines.

Standard Station Features • Add-On Conference; Automatic Call Back; Call Forward-Don't Answer; Call Forward-Variable; Call Forward-Attendant; Call Hold; Call Parking; Call Queuing Trunk; Call Waiting Tone; Circular Hunting; Consultation Hold-All Calls; Dial Call Pickup-Group; Discriminative Ringing; Distributed Hunting; Emergency Tone; Executive Busy Override; Executive Camp-on; Executive Secretarial Intercept; Hot-Line Service; Indication of Camp-on to Station; Individual Transfer-All Calls; Master Number Hunting; Meet-Me Conference (8 Parties); Nonconsecutive Hunting; Preset Conference; Recall Dial Tone; Recorder Tone; Secretarial Hunting; Secretarial Intercept; Speed Calling-Individual; Station-to-Station Dialing; Transfer All Calls; Transfer Security; Trunk-to-Trunk Connection.

Optional System Features • all features standard.

Optional Attendant Features • all features standard.

Optional Station Features • Audit; Automatic Wake-up Service; Block Room; Busy Station Display; Calling Number Display; Check-in; Check-out; Display Hours; Display Room; Do Not Disturb; Electronic Message Service; Emergency Call/Preset Conference; Flexible Station Numbering Plan; Guest Name Directory; Hot-Line; House Phone; Maid Request; Message Registration; Message Waiting; Room Scan; Room Status Change; Room Status Display; Service Call Routing; Single-Digit Dial for Service; Temporary Station Disconnection; Terminals to Long Distance Operator; Uninstalled Station Display; Uninstalled Trunk Display; Video Display Terminal.

First Delivery • 1982.

Systems Delivered • over 100.

Average System Size Installed • 350 stations.

Average Cost Per Line • \$750 to \$900 purchase.

Distribution • nationwide and worldwide through direct sales offices and independent dealers and distributors.

Installation/Maintenance • nationwide and worldwide through direct sales offices and independent dealers and distributors.

Spectrum 4000

Function • stored program computerized branch exchange (PBX) system for switching voice and data • digital switching technology • TDM/PCM • 2-pair wiring for interfacing standard keysets • unblocked connections • total redundancy.

Communications/Networks • route optimization • centralized attendant service • WATS access • satellite communication • Foreign Exchange (FX) • DDD.

Trunks/Stations/Consoles • up to 704 trunks • up to 4,096 stations • 24 attendant's consoles.

Voice Equipment • vendor supplied: OKI 3532 Electronic Phone; OKI attendant console • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • vendor supplied: Electronic Message System • equipment supported: data terminals; printers; workstations; storage devices; data rates to 4800 bps.

Applications Supported • retailers • hotel/motel • medium-to-large business • banking • service sector.

Standard System Features • Automatic Station Release; Direct Outward Dialing (DOD); DTMF Dialing; Flexible Station Numbering; Mixed Station Dialing; Multiple Trunk Groups; Power

Private Branch Exchanges—PBXs

Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

Failure Restart; Rotary Dial Calling; Station-to-Station Calling; Tone-to-Pulse Conversion; Variable Time-Out Capability; Intercept Busy; Account Codes; Least Cost Counting; Code Restrictions; Class of Service; Fully Restricted Stations; Hot-Line to Console; Consecutive Hunting; Hunting; Night Service; CCSA; Hotel/Hospital Functions; DOD.

Standard Attendant Features • Automatic Recall; Busy Override; Call Queuing; Call Transfer; Camp-on; Conference; Discriminative Recall; Forced Release; Impulse Sender; Individual Trunk Access; Repertory Dialing; Serial Call; Through Dialing; Trunk Control; Two-Way Splitting.

Standard Station Features • Abbreviated Dialing; Answer Hold; Automatic Call Back; Call Forwarding; Call Transfer; Conference Consultation Hold; Dial Call Pick-Up; Emergency Off Hook; Executive Busy Override; Executive Camp-on; Override Security; Recall Dial Tone; Transfer Security; Two-Way Splitting.

Optional System Features • Direct Inward System Access (DISA); Least Cost Routing-Tone Sending; Station Message Detail Recording (SMDR); Code Call Access; Dictation Access; Mobile Radio Access; Music Input; Radio Paging; Tie Trunk Operation; Voice Paging Trunks; Centralized Attendant Service; Satellite Operation.

Optional Attendant Features • Interposition Calling; Multiple Console.

Optional Station Features • Speed Dialing; Voice Paging.

First Delivery • 1982.

Systems Delivered • over 10.

Average System Size Installed • 1,500 stations.

Average Cost Per Line • \$750 to \$900 purchase.

Distribution • nationwide and worldwide through direct sales offices and independent dealers and distributors.

Installation/Maintenance • nationwide and worldwide through direct sales offices and independent dealers and distributors.

■ **PLESSEY CANADA LIMITED—See TIE/COMMUNICATIONS**

■ **PROLINK CORPORATION**

5757 Central Avenue, Boulder, CO 80301 • 303-447-2800.

□ **PCBX**

Function • stored program computerized branch exchange (PBX) system • analog switching intra-module • TDM/PCM digital inter-modules • Space Division • 2-pair wiring for interfacing standard key sets • will also support 1A2 or customer provided electronic keysets • telephone communications functions, including voice and data transmission over common coaxial cable • provides digitization in PBX module prior to passing the Local Area Network (LAN) • 6 unblocked connections per module for a configuration of 5 trunks and 16 stations • 8 unblocked connections per module on larger configurations up to maximum of 40 trunks and 128 stations.

Communications/Networks • PROLINK Local Area Network • ARS package screens up to 16 digits • supports desk-to-desk four-digit dialing to other PBXs • 70 system-wide speed codes consisting of up to 48 digits • Common Control rate 4M bps within a node and 5M bps between nodes • Data Transmission rate is 19.2K bps • supported protocols 3270 Bisync, 3270 SNA/SDLC, TTY • LAN requires 62 AG wire • PROLINK telephones require 2-wire cable.

Trunks/Stations/Consoles • up to 40 trunks • up to 128 stations • up to 8 attendant consoles.

Voice Equipment • vendor supplied: single-line and multiline Electronic Key Set • equipment supported: 1A2-compatible and all Touch-Tone telephones.

Data Equipment • vendor supplied: CRT terminals; RS-232C ports • equipment supported: printers, floppy disk drives, magnetic tape drives, and modems; 2 data devices per Application Processing Unit; bit rate over LAN 5M bps; supports data communication rates of 19.2K bps.

Applications Supported • office automation; word processing • small to medium business • banking • retail • service/professional sector.

Standard System Features • Automatic Route Selection; Station Message Detail Recording; Call Detail Reporting; MS-DOS Compatible; Automatic Station Release; Direct Outward Dialing; DTMF Dialing; Flexible Station Numbering; Multiple Trunk Groups; Power Failure Stations and Automatic Restart; Account Codes; Database Management; Multiple Configurations; Station Restrictions; Hot-Lines; Flexible Hunting; Unlimited Call Pick-up Groups; Direct Inward System Access (DISA); Least Cost Routing-Tone Sending; Station Message Detail Recording (SMDR); Code Call Access; Dictation Access; Mobile Radio Access; Direct Inward Dialing (DID).

Standard Attendant Features • Automatic Recall; Busy Override; Call Source Identification; Call Queuing; Call Transfer; Camp-on; Conference; Discriminative Recall; Forced Release; Impulse Sender; Individual Trunk Access; Repertory Dialing; Serial Call; Switched-Loops; Headset/Handset Operation; Direct Station Selection/Busy Lamp Field; Through Dialing; Trunk Control; Two-Way Splitting.

Standard Station Features • Abbreviated Dialing; Answer Hold; Automatic Call Back; Call Forwarding; Call Transfer; Conference Consultation Hold; Dial Call Pick-up; Emergency Off Hook; Executive Busy Override; Executive Camp-on; Override Security; Recall Dial Tone; Transfer Security; Two-Way Splitting; Speed Dialing; Voice Paging.

Optional System Features • none; all features standard.

Optional Attendant Features • none; all features standard.

Optional Station Features • none; all features standard.

First Delivery • 1982.

Systems Delivered • 25.

Average System Size Installed • 7 to 10 trunks; 25 to 30 stations.

Average Cost Per Line • \$400 to \$600 per line.

Distribution • worldwide through distributors and OEMs.

Installation/Maintenance • nationwide through direct sales offices and independent dealers and distributors; system has internal diagnostic capabilities; toll-free customer service support number (800) 525-7522.

■ **REDCOM LABORATORIES, INC**

750 Fairport Park, Fairport, NY 14450 • 716-377-0390.

□ **SBX-384**

Function • stored program computerized branch exchange for switching voice and data • digital switching using distributed architecture • TDM/PCM • 2-pair station wiring • modular expansion in 48-port increments • nonblocking.

Communications/Networks • tandem switching • standard 2-/4-wire trunks • T1 digital trunks • private network configurations.

Trunks/Stations/Consoles • up to 384 station/trunk/console ports in modules of 48 ports • Modular Business Exchange (MBX) expands up to 1,200 ports.

Voice Equipment • vendor supplied: attendant console • equipment supported: 500/2500 telephones.

Data Equipment • vendor supplied: serial 20-mA adapter or RS-232C • equipment supported: ASCII terminals.

Applications Supported • business • small Class 5 digital central office • satellite office • military.

Standard System Features • Area Code and Office Code Restriction; Automatic Call Distribution; Automatic Restore from Power Fail; Class of Service (COS); Data Security; Direct Inward Dialing (DID); Flexible Night Answer; Flexible Station Numbering; Inward Restriction; Listed Directory Number Service; Manual Originating Line Service; Multiple Console Operation; Multiple Dialing Plans; Multiple Trunk Groups; Music-on-Hold/Camp-on;

Private Branch Exchanges—PBXs

Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

Night Class of Service; Off-Premise Extensions; Outgoing Restrictions; Outgoing Trunk Camp-on; Remote System Access (DISA); Route Advance; Satellite Operation; Service Order Administration; Speed Calling; Station Hunting; Outgoing/Incoming; Station Restriction; Tandem Tie Trunk; Toll Restriction 0/1; Tone to Dial Pulse Conversion; Tone Sending; Traffic Measurement; Universal Night Answer; Vacant Number Intercept.

Standard Attendant Features • Alphanumeric Display; Camp-on; Class of Service Display; Do Not Disturb; Direct Trunk Group Selection; Incoming Call Identification; Individual Trunk Access; Lock Out; Locked Loop Operation; Loop Transfer; Message Center; Interposition Calling; Numerical Call Waiting; Overflow to UNA; Paging; Privacy and Lockout; Serial Call; Service Call Routing; Straightforward Outward Completion; Station Number Display; Switched Loop Operation; System Alarm; Through Dialing; Time of Day Display; Transfer-All Calls; Trunk Busyout; Trunk Group Warning; Trunk Location Display; Trunk-to-Trunk Connection; Two-Way Splitting; Uniform Call Distribution.

Standard Station Features • Call Forwarding; Call Hold; Call Park; Call Pickup; Call Waiting; Consultation Hold; Direct Outward Dialing (DOD); Distinctive Ringing; Executive Busy Override; Foreign Exchange Access; Immediate Ring; Individual Transfer; Outgoing Trunk Camp-on; Paging; Push-Button Dialing; Recall Dial Tone; Recall Lock-in; Rotary Dialing; Speed Calling; Station Camp-on-Automatic Call Back; Station Controlled Conference; Station Hunting; Station-to-Station Calling; Tie Trunk; Trunk-to-Trunk Connection; Uniform Call Distribution; WATS Access.

Optional System Features • Custom Databases; Diagnostic Terminal; Intercept to Recording Device; International Call Progress Tones; Remote Diagnostics; SMDR; T1/D3 Interface; Tone to Pulse Conversion.

First Delivery • 1982.

Systems Delivered • over 500.

Average System Size Installed • 120 stations.

Average Cost Per Line • \$450 to \$600 purchase.

Distribution • nationwide through authorized distributors.

Installation/Maintenance • nationwide through authorized distributors.

■ **ROCKWELL INTERNATIONAL/WESCOM INC—See DIGITAL TRANSMISSION, INC**

■ **ROLM CORPORATION/Telecommunications Division**

4900 Old Ironsides Drive, Santa Clara, CA 95050 • 408-988-2900.

□ **VSCBX**

Function • stored program computerized branch exchange (CBX) system for switching voice and data • digital switching technology • TDM/PCM • 3-pair wiring for interfacing standard keysets.

Communications/Networks • ROLMNET • route optimization • tandem network • automatic network dialing • satellite communication • centralized trunking • centralized attendant's console • 4-wire transmission • LAN (Local Area Network) • voice and data transmission to 4800 bps; asynchronous protocol.

Trunks/Stations/Consoles • 8 to 44 trunks; 24 to 144 stations • 1 attendant's console.

Voice Equipment • vendor supplied: ROLM Flashphones; Electronic Telephone Systems (ETS) 100A; ETS 200 Centralized Attendant Service; ETS 300 for Automatic Call Distribution (ACD) • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • vendor supplied: communication network with data rates up to 19.2K bps (aggregate speed up to 96K bps); Cypress/Cedar personal terminals • equipment supported: service printer; digital cassette unit; diskette subsystem; magnetic

tape system; CRT terminals; minicomputers; microcomputers.

Applications Supported • office automation; word processing; dictation; facsimile • healthcare • retailers • military • hotel/motel • banking • service sector • education.

Standard System Features • Automatic Error Correcting Memory; Com Groups; Common Control Switching Arrangement (CCSA); Direct Outward Dialing (DOD); Distribution Groups; Distinctive Ringing; Feature Usage Statistics; Four-Digit Station Numbering; Hunt Groups; Multiple Trunk Groups; Music Camp-on; Music-on-Hold; Night Service—Fixed; Off-Premise Extensions; Paging Access; Pick-Up Groups; Power Fail Transfer; Recorded Announcements/Intercept; Remote Administration; Maintenance, Diagnostics; Self-Test and Fault Isolation; Station Hunting; Station Release with Howler; TTY/CRT Interface Driver; Universal Night Answer (UNA).

Standard Attendant Features • Alphanumeric Display Drivers; Automatic Recall; Busy Verification; Camp-on Busy; Conference Call; Digital Clock Driver; Emergency Trunk Override; Hold-Automatic; Control of Station Restrictions; Control of Trunk Group Access; Intercept; Direct Paging Access; Serial Calls; Speed Dialing; System Alarm Indication; Switched Loop Operation; Through Dialing; Tone Silence; Trunk-to-Trunk Connection; Two-Way Splitting; Universal Cancellation of Call Forwarding and Do Not Disturb.

Standard Station Features • Add-On Conference; Automatic Call Back; Call Hold; Call Pick-Up; Call Transfer; Call Waiting Tone; Camp-on; Class of Service (16); Consultation Hold; Do Not Disturb; Group Pick-Up.

Optional System Features • Automatic Call Distribution (ACD); Automatic Software Loading from Floppy Disk; Automatic Network Dialing (AND); Call Detail Recording; Call Queuing; Centralized Attendant Service; CBX Management Reporter; Data Communications; Direct Inward Dialing (DID); Display Cost Per Call; DTMF to Dial Pulse Conversion; Forced Authorization Codes; Intercom Blocking; Message Registration; Prefix Outpulsing; Power Fail Transfer; Recorded Announcements/Intercept; Route Optimization; Satellite Operations; System Speed Calling; Tie Lines; Toll Restriction; Traffic Measurement (Expansion) Capability.

Optional Station Features • Call Forwarding; Camp-on Call Back; Camp-on (Automatic); Save and Repeat Number Dialed; Executive Override; Speed Call; Trunk-to-Trunk Select.

First Delivery • 1980.

Systems Delivered • over 13,000 systems; all models.

Average System Size Installed • 50 stations.

Average Cost Per Line • \$500 to \$600 purchase.

Distribution • nationwide and worldwide through direct sales offices and independent dealers and distributors.

Installation/Maintenance • nationwide and worldwide through direct sales offices and independent dealers and distributors.

□ **CBX II**

Function • stored program computerized branch exchange (CBX) system for switching voice and data • digital switching technology • TDM/PCM • 3-pair wiring for interfacing standard keysets • redundant system • up to 10,000 users consuming voice/data ports with 15% voice trunks and 20% host computer ports.

Communications/Networks • ROLMNET • route optimization • tandem network • automatic network dialing • satellite communication; centralized trunking • centralized attendant's console • 1-pair wiring supports simultaneous voice and data; 3-pair cable uniform wiring plan • voice and data transmission to 256K (up to 192K bps data); asynchronous protocol.

Trunks/Stations/Consoles • 40 to 2,000 nonblocking trunks • 100 to 10,000 stations • 48 attendant consoles • 15 nodes maximum network.

Voice Equipment • vendor supplied: Rolmphone 120, 240, 400, and Juniper digital telephones with/without Datacom Module; ROLM Flashphones; Electronic Telephone Systems (ETS) 100A;

Private Branch Exchanges—PBXs

Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

ETS 200 Centralized Attendant Service; ETS 300 for Automatic Call Distribution (ACD) • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • vendor supplied; communication module with asynchronous data rates up to 19.2K bps and synchronous data rates from 1200 bps to 192K bps; ROLM IBM Gateway provides access to IBM BSC and SNA environments; Cypress/Cedar personal terminals for voice and data provide ANSI X3.64 support • equipment supported: service printer; digital cassette unit; diskette subsystem; magnetic tape system; CRT terminals; minicomputers; microcomputers; mainframe computers.

Applications Supported • office automation; word processing; dictation; facsimile • healthcare • retailers • military • hotel/motel • banking • service sector.

Standard System Features • Automatic Error Correcting Memory; Com Groups; Common Control Switching Arrangement (CCSA); Direct Outward Dialing (DOD); Distribution Groups; Distinctive Ringing; Feature Usage Statistics; 4-Digit Station Numbering; Hunt Groups; Multiple Trunk Groups; Music Camp-on; Music-on-Hold; Night Service—Fixed; Off Premise Extensions; Paging Access; Pick-Up Groups; Power Fail Transfer; Recorded Announcements/Intercept; Remote Administration, Maintenance, Diagnostics; Self-Test and Fault Isolation; Station Hunting; Station Release with Howler; TTY/CRT Interface Driver; Universal Night Answer (UNA) 0/1 Toll; Restriction; Bad Line Reporting; Expanded Route Optimization; Redundancy; Data Communications Software II.

Standard Attendant Features • Alphanumeric Display Drivers; Automatic Recall; Busy Verification; Camp-on Busy; Conference Call; Digital Clock Driver; Emergency Trunk Override; Hold Automatic; Control of Station Restrictions; Control of Trunk Group Access; Intercept; Direct Paging Access; Serial Calls; Speed Dialing; System Alarm Indication; Switched Loop Operation; Through Dialing; Tone Silence; Trunk-to-Trunk Connection; Two-Way Splitting; Universal Cancellation of Call Forwarding and Do Not Disturb.

Standard Station Features • Add-On Conference; Automatic Call Back; Call Hold; Call Pick-Up; Call Transfer; Call Waiting Tone; Camp-on; Class of Service (16); Consultation Hold; Do Not Disturb; Group Pick-Up.

Optional System Features • Automatic Call Distribution (ACD); Automatic Software Loading from Floppy Disk; Automatic Network Dialing (AND); Call Detail Recording; Call Queuing; Centralized Attendant Service; CBX Management Reporter; Data Communications; Direct Inward Dialing (DID); Display Cost Per Call; DTMF to Dial Pulse Conversion; Forced Authorization Codes; Intercom Blocking; Message Registration; Prefix Outpulsing; Power Fail Transfer; Recorded Announcements/Intercept; Route Optimization; Satellite Operations; System Speed Calling; Tie Lines; Toll Restriction; Traffic Measurement (Expansion) Capability; ACD (Automatic Call Distribution) I; ACD II; Faulty Trunk Reporting; Execunet/Sprint Support; Secretarial Screening of Calls.

Optional Station Features • contains all the optional features which include: Call Forwarding; Camp-on Call Back; Camp-on (Automatic); Save and Repeat Number Dialed; Executive Override; Speed Call; Trunk-to-Trunk Select.

First Delivery • 1984.

Systems Delivered • over 13,000 systems; all models.

Average System Size Installed • 1,800 stations.

Average Cost Per Line • \$800 to \$1,000 purchase.

Distribution • nationwide and worldwide through direct sales offices and independent dealers and distributors.

Installation/Maintenance • nationwide and worldwide through direct sales offices and independent dealers and distributors.

■ SIEMENS CORPORATION/Telecommunications Division

5500 Broken Sound Boulevard, Boca Raton, FL 33431 • 305-994-8100.

□ Saturn II

Function • stored program computerized branch exchange (PBX) system for switching voice and data • digital switching technology • TDM/PCM • 1-pair wiring for interfacing standard telephones and digital instruments • 2-pair wiring to feature phone and digital instrument • 3-pair to handsfree feature phone • voice digitized in Digital Premium Telephone • totally unblocked connections.

Communications/Networks • route optimization • tandem network • automatic network dialing • centralized trunking • centralized attendant console • 4-wire transmission • voice and data transmission • Foreign Exchange (FX) • WATS • 19.2K-bps asynchronous data • asynchronous protocol.

Trunks/Stations/Consoles • up to 72 trunks • up to 184 stations • up to 4 consoles.

Voice Equipment • vendor supplied; electronic feature phones, digital telephones, and attendant consoles • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • vendor supplied; communication network with data rates up to 19.2K bps; data communication interface; 184 data channels • equipment supported: service printer; workstations; CRT terminals; minicomputers; microcomputers; etc.

Applications Supported • office automation; word processing; dictation; facsimile • healthcare • retailers • military • banking • service sector.

Standard System Features • Automatic Error Correcting Memory; Direct Outward Dialing (DOD); Uniform Call Distribution Groups; Distinctive Ringing; Feature Usage Statistics; Hunt Groups; Multiple Trunk Groups; Music Camp-on; Music-on-Hold; Night Service-Fixed; Paging Access; Pick-up Groups; Recorded Announcements/Intercept; Remote Administration, Maintenance, Diagnostics; Self-Test and Fault Isolation; Station Hunting; Station Release; Universal Night Answer (UNA); Automatic Software Loading from Floppy Disk; Automatic Network Dialing (AND); Call Detail Recording; Call Queuing; Least Cost Routing; Direct Inward Dialing (DID); DTMF to Dual Pulse Conversion; Forced Authorization Codes; Message Registration; Route Optimization; System Speed Calling; Tie Lines; Toll Restriction; Traffic Measurement Capability.

Standard Attendant Features • Alphanumeric Display; Automatic Recall; Busy Verification; Camp-on Busy; Conference Call; Digital Clock; Emergency Trunk Override; Hold Automatic; Control of Station Restrictions; Control of Trunk Group Access; Intercept; Direct Paging Access; Serial Calls; Speed Dialing; System Alarm Indication; Switched Loop Operation; Through Dialing; Tone Silence; Trunk-to-Trunk Connection; Two-Way Splitting; Universal Cancellation of Call Forwarding; Do Not Disturb.

Standard Station Features • Add-On Conference; Automatic Call Back; Call Hold; Call Pick-up; Call Transfer; Call Waiting Tone; Camp-on Class of Service; Consultation Hold; Do Not Disturb; Group Pick-Up.

Optional System Features • Centralized Attendant Service; Main-Satellite Operation; Data Communications; SMDR.

First Delivery • 1983.

Systems Delivered • over 500.

Average System Size Installed • 120 stations.

Average Cost Per Line • \$850 to \$1,000 purchase.

Distribution • nationwide through independent dealers.

Installation/Maintenance • nationwide through independent dealers.

□ Saturn III

Function • stored program computerized branch exchange (PBX) system for switching voice and data • digital switching technology • TDM/PCM • single-pair wiring for interfacing standard telephones and digital instrument • 2-pair wiring to feature phone and digital instrument • voice digitized in Digital

Private Branch Exchanges—PBXs

Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

Premium Telephone • totally unblocked connections • critical electronics redundancy.

Communications/Networks • route optimization • tandem network • automatic network dialing • centralized trunking • centralized attendant console • 4-wire transmission • voice and data transmission • Foreign Exchange (FX) • WATS • 19.2K-bps asynchronous data • asynchronous protocol.

Trunks/Stations/Consoles • up to 512 trunks • up to 992 stations • up to 12 consoles.

Voice Equipment • vendor supplied: electronic feature phones, digital premium telephones and attendant consoles • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • vendor supplied: communication network with data rates up to 192K bps (aggregate speed up to 192K bps per channel); Data Communications Interface; 864 data channels • equipment supported: service printer; workstations; CRT terminals; minicomputers; microcomputers; etc.

Applications Supported • office automation; word processing; dictation; facsimile • healthcare • retailers • military • banking • service sector.

Standard System Features • Automatic Error Correcting Memory; Direct Outward Dialing (DOD); Uniform Call Distribution Groups; Distinctive Ringing; Feature Usage Statistics; Hunt Groups; Multiple Trunk Groups; Music Camp-on; Music-on-Hold; Night Service-Fixed; Paging Access; Pick-up Groups; Recorded Announcements/Intercept; Remote Administration, Maintenance, Diagnostics, Self-Test, and Fault Isolation; Station Hunting; Station Release; Universal Night Answer (UNA); Automatic Software Loading from Floppy Disk; Automatic Network Dialing (AND); Call Detail Recording; Call Queuing; Least Cost Routing; Direct Inward Dialing (DID); DTMF to Dial Pulse Conversion; Forced Authorization Codes; System Speed Calling; Tie Lines; Toll Restriction; Traffic Measurement Capability; Message Waiting.

Standard Attendant Features • Alphanumeric Display Drivers; Automatic Recall; Busy Verification; Camp-on Busy; Conference Call; Digital Clock Station Restrictions; Control of Trunk Group Access; Intercept; Direct Paging Access; Serial Calls; Speed Dialing; System Alarm Indication; Switched Loop Operation; Through Dialing; Tone Silence; Trunk-to-Trunk Connection; Two-Way Splitting; Universal Cancellation of Call Forwarding and Do-Not-Disturb.

Standard Station Features • Add-on Conference; Automatic Call Back; Call Hold; Call Pick-up; Call Transfer; Call Waiting Tone; Camp-on; Class of Service; Consultation Hold; Do-Not-Disturb; Group Pick-up; Call Forwarding.

Optional System Features • Centralized Attendant Service; Main Satellite Operation; Data Communications; SMDR.

First Delivery • 1982.

Systems Delivered • over 500.

Average System Size Installed • 400 stations.

Average Cost Per Line • \$900 to \$1,200 purchase.

Distribution • nationwide through independent dealers.

Installation/Maintenance • nationwide through independent dealers.

□ SD-80

Function • stored program computerized branch exchange (PBX) system for switching voice • analog switching technology • Space Division • 2-pair wiring for interfacing standard keysets • totally unblocked up to 48 connections.

Communications/Networks • tandem network • WATS • 2-wire transmission.

Trunks/Stations/Consoles • up to 16 trunks • up to 80 stations • 1 attendant's consoles.

Voice Equipment • vendor supplied: electronic telephones; attendant's consoles • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • equipment supported: modems up to 2400 bps.

Applications Supported • small-to-medium business; healthcare • retailers • military • office automation; dictation • banking • service sector.

Standard System Features • Class of Service; DID; DOD; Direct in Line; Dual Console Operation; Flexible Station Numbering; Immediate Ring; Multiple Trunk Groups; Music-on-Hold; Optimal Routing; Access Codes Automatic Station Release; Code Call Access; Toll Restriction; Remote Traffic Metering; Universal Night Answer; Voice Paging.

Standard Attendant Features • Alphanumeric Display; Attendant Busy; Direct Paging; Attendant Station Number Display; Attendant Transfer to Incoming Call; Attendant Trunk Number Display; Automatic Camp-on; Automatic Recall; Busy Lamp Field; Conferencing; Call Hold; Call Transfer; Call Waiting Indicator; Handset; Incoming Call Identification; Switched Loop Operation; 2-Way Splitting; Through Dialing.

Standard Station Features • Call Forwarding; Call Parking; Call Privacy; Call Transfer All Calls; Consultation Hold; Data Line Security; Dial Call Pick-Up; DOD.

First Delivery • 1984.

Systems Delivered • over 9,000 SD models.

Average System Size Installed • 40 stations.

Average Cost Per Line • \$350 to \$400 purchase.

Distribution • nationwide through independent dealers and distributors.

Installation/Maintenance • nationwide through independent dealers and distributors.

□ SD-192

Function • stored program computerized branch exchange (PBX) system for switching voice • analog switching technology • Space Division • 2-pair wiring for interfacing standard keysets • totally unblocked up to 48 connections.

Communications/Networks • tandem network • WATS • 2-wire transmission.

Trunks/Stations/Consoles • up to 48 trunks • up to 192 stations • 2 attendant's consoles.

Voice Equipment • vendor supplied: electronic telephones; attendant's consoles • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • equipment supported: modems up to 2400 bps.

Applications Supported • small-to-medium business; healthcare • retailers • military • office automation; dictation • banking • service sector.

Standard System Features • Class of Service; DID; DOD; Direct in Line; Dual Console Operation; Flexible Station Numbering; Immediate Ring; Multiple Trunk Groups; Music-on-Hold; Optimal Routing; Access Codes Automatic Station Release; Code Call Access; Toll Restriction; Remote Traffic Metering; Universal Night Answer; Voice Paging.

Standard Attendant Features • Alphanumeric Display; Attendant Busy; Direct Paging; Attendant Station Number Display; Attendant Transfer to Incoming Call; Attendant Trunk Number Display; Automatic Camp-on; Automatic Recall; Busy Lamp Field; Conferencing; Call Hold; Call Transfer; Call Waiting Indicator; Handset; Incoming Call Identification; Switched Loop Operation; 2-Way Splitting; Through Dialing.

Standard Station Features • Call Forwarding; Call Parking; Call Privacy; Call Transfer All Calls; Consultation Hold; Data Line Security; Dial Call Pick-Up; DOD.

First Delivery • 1980.

Systems Delivered • over 9,000 SD models.

Average System Size Installed • 95 stations.

Average Cost Per Line • \$450 to \$600 purchase.

Private Branch Exchanges—PBXs

Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

Distribution • nationwide through independent dealers and distributors.

Installation/Maintenance • nationwide through independent dealers and distributors.

□ SD-192MX

Function • stored program computerized branch exchange (PBX) system for switching voice • analog switching technology • Space Division • 2-pair wiring for interfacing standard keysets • totally unblocked up to 48 connections.

Communications/Networks • route optimization • tandem network • automatic network dialing • WATS • 2-wire transmission.

Trunks/Stations/Consoles • up to 48 trunks • up to 192 stations • 2 attendant's consoles.

Voice Equipment • vendor supplied: electronic telephones; attendant's consoles • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • equipment supported: modems up to 2400 bps.

Applications Supported • small-to-medium business • healthcare • retailers • military • office automation • dictation • banking • service sector.

Standard System Features • Class of Service; DID; DOD; Direct in Line; Dual Console Operation; Flexible Station Numbering; Immediate Ring; Multiple Trunk Groups; Music-on-Hold; Optimal Routing; Access Codes Automatic Station Release; Code Call Access; Toll Restriction; Remote Traffic Metering; Universal Night Answer; Voice Paging; Least Cost Routing.

Standard Attendant Features • Alphanumeric Display; Attendant Busy; Direct Paging; Attendant Station Number Display; Attendant Transfer to Incoming Call; Attendant Trunk Number Display; Automatic Camp-on; Automatic Recall; Busy Lamp Field; Conferencing; Call Hold; Call Transfer; Call Waiting Indicator; Handset; Incoming Call Identification; Switched Loop Operation; Two-Way Splitting; Through Dialing.

Standard Station Features • Call Forwarding; Call Parking; Call Privacy; Call Transfer All Calls; Consultation Hold; Data Line Security; Dial Call Pick-Up; DOD; Speed Calling.

Optional System Features • Least Cost Routing; DTMF Tone Senders.

First Delivery • 1980.

Systems Delivered • over 9,000 SD models.

Average System Size Installed • 95 stations.

Average Cost Per Line • \$450 to \$600 purchase.

Distribution • nationwide and worldwide through independent dealers and distributors.

Installation/Maintenance • nationwide and worldwide through independent dealers and distributors.

□ SD-232

Function • stored program computerized branch exchange (PBX) system for switching voice • analog switching technology • Space Division • 2-pair wiring for interfacing standard keysets • totally unblocked connections • critical electronic redundancy.

Communications/Networks • tandem network • automatic network dialing • WATS • 2-wire transmission.

Trunks/Stations/Consoles • 12 or 35 trunks • 239 or 216 stations • 1 attendant's console.

Voice Equipment • vendor supplied: telephones; attendant consoles • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • none.

Applications Supported • small-to-medium • healthcare • hotel/motel.

Standard System Features • Class of Service; DOD; Direct in Line; Console Operation; Flexible Station Numbering; Multiple

Trunk Groups; Music-on-Hold; Optimal Routing; Access Codes Automatic Station Release; Code Call Access; Toll Restriction; Remote Traffic Metering; Universal Night Answer; Voice Paging; Hotel/Motel Features; Wake-Up Service; Call Number Display to Station; Do Not Disturb; Message Waiting Center; Manual Originating Line; Single-Digit Dialing.

Standard Attendant Features • Alphanumeric Display; Attendant Busy; Direct Paging; Attendant Station Number Display; Attendant Transfer to Incoming Call; Attendant Trunk Number Display; Automatic Camp-on; Automatic Recall; Conferencing; Call Hold; Call Transfer; Call Waiting; Indicator; Handset; Incoming Call Identification; Switched Loop Operation; Two-Way Splitting; Through Dialing; Room Empty Readout; Message Waiting; Room Stations.

Standard Station Features • Call Privacy; Call Transfer All Calls; Consultation Hold; Data Line Security; Dial Call Pickup; DOD.

First Delivery • 1978.

Systems Delivered • over 9,000 SD models.

Average System Size Installed • 120 stations.

Average Cost Per Line • \$350 to \$400 purchase.

Distribution • nationwide through independent dealers and distributors.

Installation/Maintenance • nationwide through independent dealers and distributors.

■ SOLID STATE SYSTEMS INC

1990 Delk Industrial Boulevard, Marietta, GA 30067 • 404-952-2414.

□ CEO

Function • stored program computerized branch exchange (PBX) system for switching voice and data • analog switching technology • Space Division • 2-pair wiring for interfacing standard keysets • 300 unblocked connections.

Communications/Networks • route optimization • tandem network • automatic network dialing • WATS • Foreign Exchange (FX) • centralized trunking • centralized attendant's console.

Trunks/Stations/Consoles • up to 384 trunks • up to 1,792 stations • 8 attendant's consoles.

Voice Equipment • vendor supplied: Solid State telephones; Solid State attendant consoles; Solid State ACD • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • vendor supplied: communication network with data rates up to 9600 bps • equipment supported: service printer; digital cassette unit; diskette subsystem; magnetic tape system; CRT terminals.

Applications Supported • office automation; word processing; dictation • healthcare • retailers • military • hotel/motel • banking • service sector • transportation • energy management.

Standard System Features • Area Code Restrictions; ACD; ARS; Automatic Digit Addition/Deletion; Automatic Station Release; Call Waiting; Camp-on; CAS; Conference; Data Privacy; Class of Service; Dial Call Pick-Up; Direct Inward Hunting; Direct-In Lines; DID; DISA; DOD; Distinctive Ring; Fixed Night Service; Flexible Station Numbering; Hot-Line; Intercept; Inter-PBX Call Transfer; Line Lockout; Music-on-Hold; Night Answer; Off Premise Stations; Paged Call Pick-Up; Paging Zones; Privacy and Lockout; Route Advance; Toll Restriction; Speed Calling; Station Hunting; Tandem Switching; Traffic Reports; Trunk-to-Trunk Connections.

Standard Attendant Features • Alphanumeric Display Drivers; Automatic Recall; Busy Verification; Camp-on Busy; Conference Call; Hold Automatic; Control of Station Restrictions; Control of Trunk Group Access; Intercept; Direct Paging Access; Serial Calls; Speed Dialing; System Alarm Indication; Switched Loop Operation; Through Dialing; Tone Silence; Trunk-to-Trunk Connection; Two-Way Splitting; Universal Cancellation of Call Forwarding and Do Not Disturb.

Standard Station Features • Add-On Conference; Automatic Call Back; Call Hold; Call Pick-Up; Call Transfer; Call Waiting Tone; Camp-on; Class of Service; Consultation Hold; Do Not

Private Branch Exchanges—PBXs

Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

Disturb; Group Pick-Up; Call Forwarding.

Optional System Features • Automatic Call Distribution (ACD); PBX Management Reporter; Data Communications; DTMF to Dial Pulse Conversion; Energy Management Systems; Forced Authorization Codes; Intercom Blocking; Message Registration; Prefix Outpulsing; Power Fail Transfer; Recorded Announcements/Intercept; Route Optimization; Toll Restriction; Traffic Measurement (Expansion) Capability; Voice Message System; Resale Carrier Capability.

First Delivery • 1982.

Systems Delivered • over 600 (CEO/STS-16).

Average System Size Installed • 380 stations.

Average Cost Per Line • \$650 purchase.

Distribution • nationwide through telephone companies and interconnects.

Installation/Maintenance • nationwide through telephone companies and interconnects.

STS-16

Function • stored program computerized branch exchange (PBX) system for switching voice and data • analog switching technology • Space Division • 2-pair wiring for interfacing standard keysets • 256 unblocked connections.

Communications/Networks • route optimization • tandem network; automatic network dialing • WATS • Foreign Exchange (FX) • centralized trunking • centralized attendant's console.

Trunks/Stations/Consoles • up to 256 trunks • up to 1,024 stations • 8 attendant's consoles.

Voice Equipment • vendor supplied: Solid State telephones; Solid State attendant consoles; Solid State ACD • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • vendor supplied: communication network with data rates up to 4800 bps • equipment supported: service printer; digital cassette unit; diskette; subsystem; magnetic tape system; CRT terminals.

Applications Supported • office automation; word processing; dictation • healthcare • retailers • military • hotel/motel • banking • service sector • transportation.

Standard System Features • Area Code Restrictions; ACD; ARS; Automatic Digit Addition/Deletion; Automatic Station Release; Call Waiting; Camp-on; CAS; Conference; Data Privacy; Class of Service; Dial Call Pick-Up; Direct Inward Hunting; Direct-In Lines; DID; DISA; DOD; Distinctive Ring; Fixed Night Service; Flexible Station Numbering; Hot-Line; Intercept; Inter-PBX Call Transfer; Line Lockout; Music-on-Hold; Night Answer; Off-Premise Stations; Paged Call Pick-Up; Paging Zones; Privacy and Lockout; Route Advance; Toll Restriction; Speed Calling; Station Hunting; Tandem Switching; Traffic Reports; Trunk-to-Trunk Connections.

Standard Attendant Features • Alphanumeric Display Drivers; Automatic Recall; Busy Verification; Camp-on Busy; Conference Call; Hold Automatic; Control of Station Restrictions; Control of Trunk Group Access; Intercept; Direct Paging Access; Serial Calls; Speed Dialing; System Alarm Indication; Switched Loop Operation; Through Dialing; Tone Silence; Trunk-to-Trunk Connection; Two-Way Splitting; Universal Cancellation of Call Forwarding and Do Not Disturb.

Standard Station Features • Add-On Conference; Automatic Call Back; Call Hold; Call Pick-Up; Call Transfer; Call Waiting Tone; Camp-on; Class of Service; Consultation Hold; Do Not Disturb; Group Pick-Up; Call Forwarding.

Optional System Features • Automatic Call Distribution (ACD); PBX Management Reporter; Data Communications; DTMF to Dial Pulse Conversion; Forced Authorization Codes; Intercom Blocking; Message Registration; Prefix Outpulsing; Power Fail Transfer; Recorded Announcements/Intercept; Route Optimization; Toll Restriction; Traffic Measurement (Expansion) Capability.

First Delivery • 1977.

Systems Delivered • over 600 (CEO/STS-16).

Average System Size Installed • 450 stations.

Average Cost Per Line • \$450 purchase.

Distribution • nationwide through telephone companies and interconnects.

Installation/Maintenance • nationwide through telephone companies and interconnects.

Ir. Exec

Function • stored program computerized branch exchange for switching voice and data • digital switching technology • TDM/PCM • 2-pair station wiring • nonblocking.

Communications/Networks • route optimization • tandem network • WATS • FX.

Trunks/Stations/Consoles • up to 256 ports, any combination stations/trunks • up to 4 consoles.

Voice Equipment • vendor supplied: Solid State telephones, attendant console • equipment supported: 500/2500 telephones.

Data Equipment • vendor supplied: data module • equipment supported: standard data terminals, modems.

Applications Supported • office automation • healthcare • banking • service sector • business.

Standard System Features • Area Code Restrictions; ACD; ARS; Automatic Digit Addition/Deletion; Automatic Station Release; Call Waiting; Camp-on; CAS; Conference; Data Privacy; Class of Service; Dial Call Pick-Up; Direct Inward Hunting; Direct-In Lines; DID; DISA; DOD; Distinctive Ring; Fixed Night Service; Flexible Station Numbering; Hot-Line; Intercept; Inter-PBX Call Transfer; Line Lockout; Music-on-Hold; Night Answer; Off-Premise Stations; Paged Call Pick-Up; Paging Zones; Privacy and Lockout; Route Advance; Toll Restriction; Speed Calling; Station Hunting; Tandem Switching; Traffic Reports; Trunk-to-Trunk Connections.

Standard Attendant Features • Alphanumeric Display; Automatic Recall; Busy Verification; Camp-on Busy; Conference Call; Hold Automatic; Control of Station Restrictions; Control of Trunk Group Access; Intercept; Direct Paging Access; Serial Calls; Speed Dialing; System Alarm Indication; Switched Loop Operation; Through Dialing; Tone Silence; Trunk-to-Trunk Connection; Two-Way Splitting; Universal Cancellation of Call Forwarding and Do Not Disturb.

Standard Station Features • Add-On Conference; Automatic Call Back; Call Hold; Call Pick-Up; Call Transfer; Call Waiting Tone; Camp-on; Class of Service; Consultation Hold; Do Not Disturb; Group Pick-Up; Call Forwarding.

Optional System Features • Automatic Call Distribution (ACD); PBX Management Reporter; Data Communications; DTMF to Dial Pulse Conversion; Forced Authorization Codes; Intercom Blocking; Message Registration; Prefix Outpulsing; Power Fail Transfer; Recorded Announcements/Intercept; Route Optimization; Toll Restriction; Traffic Measurement (Expansion) Capability.

First Delivery • 1984.

Systems Delivered • over 20.

Average System Size Installed • 120 stations.

Average Cost Per Line • \$700 to \$800 purchase.

Distribution • nationwide through telephone companies and interconnects.

Installation/Maintenance • nationwide through telephone companies and interconnects.

■ STROMBERG-CARLSON BUSINESS COMMUNICATION SYSTEMS, INC

200 Lincoln Place, 2301 Maitland Center Parkway, Suite 226, Maitland, FL 32751 • 305-660-1660.

Progress CDSS

Function • stored program computerized branch exchange for switching voice and data • digital switching • TDM/PCM • 2-pair station wiring • nonblocking.

Private Branch Exchanges—PBXs

Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

Communications/Networks • standard C.O./WATS/FX/DID.

Trunks/Stations/Consoles • up to 60 trunks • up to 252 stations • up to 4 consoles.

Voice Equipment • vendor supplied: attendant console; proprietary electronic telephone • equipment supported: 500/2500 telephones.

Data Equipment • vendor supplied: data module with RS-232C • equipment supported: industry-standard data terminals, peripherals.

Applications Supported • healthcare • retailers • banking • service sector • business.

Standard System Features • Area Code and Office Code Restriction; Automatic Restore from Power Fail; Automatic Route Selection; Automatic Station Release; Class of Service (COS); Data Security; Dictation Access; Direct Inward Dialing (DID); Flexible Night Answer; Flexible Station Numbering; Inward Restriction; Listed Directory Number Service; Manual Originating Line Service; Multiple Console Operation; Multiple Dialing Plans; Multiple Trunk Groups; Music-on-Hold/Camp-on; Night Class of Service; Off-Premise Extensions; Outgoing Restrictions; Outgoing Trunk Camp-on; Remote System Access (DISA); Route Advance; Speed Calling; Station Hunting; Station Message Detail Recording (SMDR); Outgoing/Incoming; Station Restriction; Tandem Tie Trunk; Toll Restriction 0/1; Tone to Dial Pulse Conversion; Tone Sending; Traffic Measurement; Universal Night Answer; Vacant Number Intercept.

Standard Attendant Features • Automatic Recall; Busy Lamp Field; Camp-on; Class of Service Display; Control of Trunk Group Access; Direct Paging Access; Do Not Disturb; Direct Trunk Group Selection; Incoming Call Identification; Individual Trunk Access; Lock Out; Locked Loop Operation; Loop Transfer; Overflow to UNA; Paging; Privacy and Lockout; Serial Call; Straightforward Outward Completion; Station Number Display; Switched Loop Operation; System Alarm; Through Dialing; Toll Terminal Access; Transfer-All Calls; Trunk Busyout; Trunk Group Warning; Trunk Location Display; Trunk-to-Trunk Connection; Two-Way Splitting.

Standard Station Features • Call Forwarding; Call Hold; Call Park; Call Pickup; Call Waiting; Code Call Access; Consultation Hold; Direct Outward Dialing (DOD); Distinctive Ringing; Executive Busy Override; Foreign Exchange Access; Immediate Ring; Individual Transfer; Outgoing Trunk Camp-on; Paging; Push-Button Dialing; Recall Dial Tone; Recall Lock-in; Rotary Dialing; Speed Calling; Station Controlled Conference; Station Hunting; Station-to-Station Calling; Tie Trunk; Trunk-to-Trunk Connection; WATS Access.

First Delivery • 1982.

Systems Delivered • over 7,000 worldwide.

Average System Size Installed • 140 stations.

Average Cost Per Line • \$450 to \$650 purchase.

Distribution • nationwide through direct sales, authorized distributors.

Installation/Maintenance • nationwide through direct sales, authorized distributors.

■ TADIRAN ELECTRONIC INDUSTRIES, INC

10801 Endeavour Way, Suite A, Largo, FL 33543 • 813-541-5724.

□ Tdex 60/124

Function • stored program computerized branch exchange for switching voice • analog switching • TDM/PAM • 2-pair station wiring • 24 unblocked conversations (60); 32 unblocked conversations (124).

Communications/Networks • standard C.O./WATS/FX trunks.

Trunks/Stations/Consoles • up to 16 trunks (60); up to 60 stations (60); up to 24 trunks (124); up to 124 stations (124) • up to 2 consoles.

Voice Equipment • vendor supplied: attendant console; room status display • equipment supported: 500/2500 telephones.

Data Equipment • vendor supplied: none • equipment supported: industry-standard modems up to 4800 bps.

Applications Supported • hotel/motel.

Standard System Features • Area Code and Office Code Restriction; Automatic Call Distribution; Automatic Restore from Power Fail; Automatic Wakeup; Class of Service (COS); Data Security; Dictation Access; Flexible Night Answer; Flexible Station Numbering; Inward Restriction; Listed Directory Number Service; Manual Originating Line Service; Multiple Console Operation; Multiple Dialing Plans; Multiple Trunk Groups; Music-on-Hold/Camp-on; Night Class of Service; Off-Premise Extensions; Outgoing Restrictions; Speed Calling; Station Hunting; Station Message Detail Recording (SMDR); Outgoing/Incoming; Station Restriction; Toll Restriction 0/1; Tone to Dial Pulse Conversion; Universal Night Answer; Vacant Number Intercept.

Standard Attendant Features • Automatic Wakeup; Busy Lamp Field; Camp-on; Class of Service Display; Direct Paging Access; Do Not Disturb; Direct Trunk Group Selection; Incoming Call Identification; Individual Trunk Access; Lock Out; Locked Loop Operation; Loop Transfer; Message Center Registration; Message Waiting; Call Waiting; Privacy and Lockout; Serial Call; Straightforward Outward Completion; Station Number Display; Switched Loop Operation; System Alarm; Through Dialing; Toll Terminal Access; Transfer-All Calls; Trunk Busyout; Trunk Group Warning; Trunk Location Display; Trunk-to-Trunk Connection; Two-Way Splitting; Vacant Room Restriction.

Standard Station Features • Call Forwarding; Call Hold; Call Park; Direct Outward Dialing (DOD); Distinctive Ringing; Executive Busy Override; Foreign Exchange Access; Immediate Ring; Individual Transfer; Paging; Push-Button Dialing; Recall Dial Tone; Rotary Dialing; Speed Calling; Station Hunting; Station-to-Station Calling; WATS Access.

First Delivery • 1984.

Systems Delivered • over 100.

Average System Size Installed • 50 stations.

Average Cost Per Line • \$450 to \$600 purchase.

Distribution • nationwide through authorized distributors.

Installation/Maintenance • nationwide through authorized distributors.

■ TELENOVA, INC

102-B Cooper Court, Los Gatos, CA 95030 • 408-395-2260.

□ Telenova 1

Function • stored program computerized branch exchange for switching voice and data • digital switching using TDM/PCM • distributed architecture • 2-pair wiring • fully nonblocking.

Communications/Networks • route optimization • connects to standard 2-/4-wire trunk circuits • digital transmission up to 19.2K bps asynchronous.

Trunks/Stations/Consoles • up to 20 trunks • up to 100 stations.

Voice Equipment • vendor supplied: proprietary digital telset with LCD display • equipment supported: standard 2500 telephones.

Data Equipment • vendor supplied: Data Adapter Device with RS-232C connector • equipment supported: personal computers; printers; storage devices; multiplexers.

Applications Supported • office automation • banking • service sector • business.

Standard System Features • Area Code and Office Code Restriction; Automatic Restore from Power Fail; Automatic Route Selection; Automatic Station Release; Class of Service (COS); Data Security; Data/Voice Communications; Direct Inward Dialing (DID); Flexible Night Answer; Flexible Station Numbering; Inward Restriction; Listed Directory Number Service; Manual Originating Line Service; Messaging; Multiple Dialing Plans; Multiple Trunk Groups; Night Class of Multiple Trunk Groups; Night Class of Service; Outgoing Restrictions; Outgoing Trunk

Private Branch Exchanges—PBXs

Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

Camp-on; Remote System Access (DISA); Route Advance; Speed Calling; Station Hunting; Station Message Detail Recording (SMDR); Outgoing/Incoming; Station Restriction; Toll Restriction 0/1; Tone to Dial Pulse Conversion; Tone Sending; Traffic Measurement; Universal Night Answer; Vacant Number Intercept.

Standard Station Features • Call Forwarding; Call Hold; Call Park; Call Pickup; Call Waiting; Code Call Access; Consultation Hold; Direct Outward Dialing (DOD); Distinctive Ringing; Executive Busy Override; Foreign Exchange Access; Immediate Ring; Individual Transfer; LCD Message Display; Outgoing Trunk Camp-on; Paging; Push-Button Dialing; Recall Dial Tone; Recall Lock-in; Rotary Dialing; Speed Calling; Station Camp-on-Automatic Call Back; Station Controlled Conference; Station Hunting; Station-to-Station Calling; Tie Trunk; Trunk-to-Trunk Connection; WATS Access.

First Delivery • October 1984.

Systems Delivered • under 20.

Average System Size Installed • 30 stations.

Average Cost Per Line • \$800 to \$1,000 purchase.

Distribution • nationwide through direct sales; authorized distribution.

Installation/Maintenance • nationwide through direct sales; authorized distributors.

■ TELE/RESOURCES

Northway 10, Executive Park, Ballston Lake, NY 12019 • 518-877-8571.

□ T/R System 32 Third Generation

Function • stored program computerized branch exchange (PBX) system for switching voice • analog switching technology • TDM/PAM • 2-pair wiring for interfacing standard keysets • 32 unblocked connections.

Communications/Networks • network dialing • central trunking.

Trunks/Stations/Consoles • up to 28 trunks • up to 164 stations • 1 attendant's console.

Voice Equipment • vendor supplied: Twin-Line telephones; Multiline telephones; attendant console • equipment supported: Touch-Tone telephones.

Data Equipment • none.

Applications Supported • small-to-medium business • retailers • hotel/motel • banking • service sector • transportation.

Standard System Features • Trunk Queuing; Multiple Trunk Groups; Direct-In Trunk Groups; Direct-In Group Hunts; Automatic Call Distribution (ACD); Centralized Answering; Class of Service; Tie Line Patching; Trunk Patching; Power Fail Transfer; Multiparty Conference; Tenant Service; Audio-on-Hold; Universal Answering; Paging Access; Remote System Access; Call Privacy; Diagnostic Testing; Distinctive Tones.

Standard Attendant Features • Direct Trunk Appearance; Automatic Hold; Indication of Ringing Stations; Busy Station Indication; Trunk Queue Status; Call Splitting; Operator Camp-on; Operator Recall; Through Dial; Line Control; Call Pick-Up; Dialing; Page Patching; Tie Line Recall; Call Privacy.

Standard Station Features • Call Pick-Up; Group Pick-Up; Call Waiting; Extension Hold; Consultation Hold; Add-on Conference; Trunk-to-Trunk Patching; Call Transfer; Camp-on; Call Forwarding; Privacy Override; DOD.

Optional System Features • Toll Restriction; Call Detail Recording.

First Delivery • 1972.

Systems Delivered • over 2,000.

Average System Size Installed • 90 stations.

Average Cost Per Line • \$250 purchase.

Distribution • nationwide and worldwide through direct sales and selected distributors and dealers.

Installation/Maintenance • nationwide and worldwide through direct sales and selected distributors and dealers.

□ T/R 150C

Function • stored program computerized branch exchange (PBX) system for switching voice • analog switching technology • TDM/PAM • 2-pair wiring for interfacing standard keysets • 64 unblocked connections.

Communications/Networks • network dialing • central trunking • T/R Net • tandem switching.

Trunks/Stations/Consoles • up to 16 trunks • up to 48 stations • 1 attendant's console.

Voice Equipment • vendor supplied: Twin-Line telephones; Multiline telephones; attendant console • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • none.

Applications Supported • small-to-medium business • retailers • hotel/motel • banking • service sector • transportation.

Standard System Features • Assigned Night Answer; Attendant Recall Bridging; Camp-on; Direct-In Trunks; DOD; Distinctive Tones; Multiple Trunk Groups; Music-on-Hold; Power Failure Restart; Remote System Access; Sequential Trunk Hunting; System Alarm; Tandem Connections; Tenant Service; Through Dialing; Tie Line Recall; Trunk Patching; Universal Night Answer.

Standard Attendant Features • Abbreviated Dial; Alternate Answering; Audio Cutoff; Automatic Hold; Call Privacy; Clock; Direct Termination; Electronic Ringer; Forced Disconnect; Loop Termination; Status Indicators; Operator Controlled Trunks; Page; Park; Recall; Retrieve; Tone Call Dialing; Trunk Patching.

Standard Station Features • Add-on Conference; Call Forwarding; Call Waiting; Consultation Hold; Call Pick-Up; Group Call Pick-Up; Station Camp-on; Hold; Transfer; Station Hunting; Conventional Multiline.

Optional System Features • Automatic Call Distribution; Code Calling Access; Direct Inward Dialing; Direct Inward System Access; Facilities Administration; Paging Access; Dial Dictation Access; Reserve Power; Speed Calling; Account Codes; Toll Restriction; Authorization Codes; Automatic Route Selection; Trunk Queuing; Station Message Detail Recording; Data Communications Access; T/R Net; Off-Premises Extensions; Tie Line Access.

Optional Attendant Features • Attendant Controlled Conference; Message Waiting.

Optional Station Features • none.

First Delivery • 1984.

Systems Delivered • 200 systems; all models.

Average System Size Installed • 30 stations.

Average Cost Per Line • \$250 purchase.

Distribution • nationwide through direct sales and selected distributors and dealers.

Installation/Maintenance • nationwide through direct sales and selected distributors and dealers.

□ T/R 150S

Function • stored program computerized branch exchange (PBX) system for switching voice • Analog Switching Technology • TDM/PAM • 2-pair wiring for interfacing standard keysets • 64 unblocked connections.

Communications/Networks • network dialing • central trunking • T/R Net • tandem switching.

Trunks/Stations/Consoles • up to 36 trunks • up to 96 stations • 2 attendant's consoles.

Voice Equipment • vendor supplied: Twin-Line telephones; Multiline telephones; attendant console • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • none.

Applications Supported • small-to-medium business • retailers

Private Branch Exchanges—PBXs

Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

• hotel/motel • banking • service sector • transportation.

Standard System Features • Assigned Night Answer; Attendant Recall Bridging; Camp-on; Direct-In Trunks; DOD; Distinctive Tones; Multiple Trunk Groups; Music-on-Hold; Power Failure Restart; Remote System Access; Sequential Trunk Hunting; System Alarm; Tandem Connections; Tenant Service; Through Dialing; Tie Line Recall; Trunk Patching; Universal Night Answer.

Standard Attendant Features • Abbreviated Dial; Alternate Answering; Audio Cutoff; Automatic Hold; Call Privacy; Clock; Direct Termination; Electronic Ringer; Forced Disconnect; Loop Termination; Status Indicators; Operator Controlled Trunks; Page; Park; Recall; Retrieve; Tone Call Dialing; Trunk Patching.

Standard Station Features • Add-on Conference; Call Forwarding; Call Waiting; Consultation Hold; Call Pick-Up; Group Call Pick-Up; Station Camp-on; Hold; Transfer; Station Hunting; Conventional Multiline; Last Number Redial.

Optional System Features • Automatic Call Distribution; Code Calling Access; Direct Inward Dialing; Direct Inward System Access; Facilities Administration; Paging Access; Dial Dictation Access; Reserve Power; Speed Calling; Account Codes; Toll Restriction; Authorization Codes; Automatic Route Selection; Trunk Queuing; Station Message Detail Recording; Data Communications Access; T/R Net; Off-Premises Extensions; Tie Line Access.

Optional Attendant Features • Attendant Controlled Conference; Message Waiting.

Optional Station Features • none.

First Delivery • 1980.

Systems Delivered • 200 systems; all models.

Average System Size Installed • 60 stations.

Average Cost Per Line • \$250 purchase.

Distribution • nationwide through direct sales and selected distributors and dealers.

Installation/Maintenance • nationwide through direct sales and selected distributors and dealers.

□ T/R 150M

Function • stored program computerized branch exchange (PBX) system for switching voice • analog switching technology • TDM/PAM • 2-pair wiring for interfacing standard keysets • 64 unblocked connections.

Communications/Networks • network dialing • central trunking • T/R Net • tandem switching.

Trunks/Stations/Consoles • up to 64 trunks • up to 128 stations • 2 attendant's consoles.

Voice Equipment • vendor supplied; Twin-Line telephones; Multiline telephones; attendant console • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • none.

Applications Supported • small-to-medium business • retailers • hotel/motel • banking • service sector • transportation.

Standard System Features • Assigned Night Answer; Attendant Recall Bridging; Camp-on; Direct-In Trunks; DOD; Distinctive Tones; Multiple Trunk Groups; Music-on-Hold; Power Failure Restart; Remote System Access; Sequential Trunk Hunting; System Alarm; Tandem Connections; Tenant Service; Through Dialing; Tie Line Recall; Trunk Patching; Universal Night Answer.

Standard Attendant Features • Abbreviated Dial; Alternate Answering; Audio Cutoff; Automatic Hold; Call Privacy; Clock; Direct Termination; Electronic Ringer; Forced Disconnect; Loop Termination; Status Indicators; Operator Controlled Trunks; Page; Park; Recall; Retrieve; Tone Call Dialing; Trunk Patching.

Standard Station Features • Add-on Conference; Call Forwarding; Call Waiting; Consultation Hold; Call Pick-Up; Group Call Pick-Up; Station Camp-on; Transfer; Station Hunting; Conventional Multiline; Last Number Redial.

Optional System Features • Automatic Call Distribution; Code

Calling Access; Direct Inward Dialing; Direct Inward System Access; Facilities Administration; Paging Access; Dial Dictation Access; Reserve Power; Speed Calling; Account Codes; Toll Restriction; Authorization Codes; Automatic Route Selection; Trunk Queuing; Station Message Detail Recording; Data Communications Access; T/R Net; Off-Premises Extensions; Tie Line Access.

Optional Attendant Features • Attendant Controlled Conference; Message Waiting.

Optional Station Features • none.

First Delivery • 1980.

Systems Delivered • 200 systems; all models.

Average System Size Installed • 90 stations.

Average Cost Per Line • \$250 purchase.

Distribution • nationwide through direct sales and selected distributors and dealers.

Installation/Maintenance • nationwide through direct sales and selected distributors and dealers.

□ T/R 150E

Function • stored program computerized branch exchange (PBX) system for switching voice • analog switching technology • TDM/PAM • 2-pair wiring for interfacing standard keysets • 64 unblocked connections.

Communications/Networks • network dialing • central trunking • T/R Net • tandem switching.

Trunks/Stations/Consoles • up to 64 trunks • up to 256 stations • 2 attendant's consoles.

Voice Equipment • vendor supplied; Twin-Line telephones; multiline telephones; attendant console • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • none.

Applications Supported • small-to-medium business • retailers • hotel/motel • banking • service sector • transportation.

Standard System Features • Assigned Night Answer; Attendant Recall Bridging; Camp-on; Direct-In Trunks; DOD; Distinctive Tones; Multiple Trunk Groups; Music-on-Hold; Power Failure Restart; Remote System Access; Sequential Trunk Hunting; System Alarm; Tandem Connections; Tenant Service; Through Dialing; Tie Line Recall; Trunk Patching; Universal Night Answer.

Standard Attendant Features • Abbreviated Dial; Alternate Answering; Audio Cutoff; Automatic Hold; Call Privacy; Clock; Direct Termination; Electronic Ringer; Forced Disconnect; Loop Termination; Status Indicators; Operator Controlled Trunks; Page; Park; Recall; Retrieve; Tone Call Dialing; Trunk Patching.

Standard Station Features • Add-on Conference; Call Forwarding; Call Waiting; Consultation Hold; Call Pick-up; Group Call Pick-up; Station Camp-on; Hold; Transfer; Station Hunting; Conventional Multiline; Last Number Redial.

Optional System Features • Automatic Call Distribution; Code Calling Access; Direct Inward Dialing; Direct Inward System Access; Facilities Administration; Paging Access; Dial Dictation Access; Reserve Power; Speed Calling; Account Codes; Toll Restriction; Authorization Codes; Automatic Route Selection; Trunk Queuing; Station Message Detail Recording; Data Communications Access; T/R Net; Off-Premises Extensions; Tie Line Access.

Optional Attendant Features • Attendant Controlled Conference; Message Waiting.

Optional Station Features • none.

First Delivery • 1980.

Systems Delivered • 200 systems; all models.

Average System Size Installed • 150 stations.

Average Cost Per Line • \$250 per line.

Distribution • nationwide through direct sales and selected

PrivateBranch Exchanges—PBXs

Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

distributors and dealers.

Installation/Maintenance • nationwide through direct sales and selected distributors and dealers.

■ TELTONE CORPORATION

P.O. Box 657, Kirkland, WA 92033-0657 • 206-827-9626.

□ Cascade 400

Function • stored program computerized branch exchange (PBX) system for switching voice and data • digital switching technology • TDM/PCM • 2-pair wiring for interfacing standard keysets • nonblocking.

Communications/Networks • standard CO/WATS/FX/DID.

Trunks/Stations/Consoles • up to 80 trunks • up to 400 stations • 4 attendant's consoles.

Voice Equipment • vendor supplied: attendant console; electronic telephone • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • vendor supplied: data module.

Applications Supported • business • banking.

Standard System Features • Area Code and Office Code Restriction; Automatic Call Distribution; Automatic Restore from Power Fail; Automatic Route Selection; Automatic Station Release; Common Control Switching Arrangement (CCSA); Class of Service (COS); Data Security; Dictation Access; Direct Inward Dialing (DID); Flexible Night Answer; Flexible Station Numbering; Inward Restriction; Listed Directory Number Service; Manual Originating Line Service; Multiple Console Operation; Multiple Dialing Plans; Multiple Trunk Groups; Music-on-Hold/Camp-on; Night Class of Service; Off-Premise Extensions; Outgoing Restrictions; Outgoing Trunk Camp-on; Remote System Access (DISA); Route Advance; Satellite Operation; Service Order Administration; Speed Calling; Station Hunting; Station Message Detail Recording (SMDR); Outgoing/Incoming; Station Restriction; Tandem Tie Trunk; Tenant Service; Toll Restriction 0/1; Tone to Dial Pulse Conversion; Tone Sending; Traffic Measurement; Universal Night Answer; Vacant Number Intercept.

Standard Attendant Features • Automatic Recall; Automatic Wakeup; Busy Lamp Field; Camp-on; Class of Service Display; Control of Trunk Group Access; Direct Paging Access; Do Not Disturb; Direct Trunk Group Selection; Centralized Attendant Service; DSS with Busy Lamp Field; Incoming Call Identification; Individual Trunk Access; Lock Out; Locked Loop Operation; Loop Transfer; Message Center Registration; Message Waiting; Numerical Call Waiting; Overflow to UNA; Paging; Privacy and Lockout; Serial Call; Service Call Routing; Straightforward Outward Completion; Station Number Display; Switched Loop Operation; System Alarm; Through Dialing; Toll Terminal Access; Transfer-All Calls; Trunk Busyout; Trunk Group Warning; Trunk Location Display; Trunk-to-Trunk Connection; Two-Way Splitting; Vacant Room Restriction; Verify.

Standard Station Features • Call Forwarding; Call Hold; Call Park; Call Pickup; Call Waiting; Code Call Access; Consultation Hold; Direct Outward Dialing (DOD); Distinctive Ringing; Executive Busy Override; Foreign Exchange Access; Immediate Ring; Individual Transfer; Outgoing Trunk Camp-on; Paging; Push-Button Dialing; Recall Dial Tone; Recall Lock-in; Rotary Dialing; Speed Calling; Station Camp-on-Automatic Call Back; Station Controlled Conference; Station Hunting; Station-to-Station Calling; Tie Trunk; Trunk-to-Trunk Connection; WATS Access.

First Delivery • 1983.

Systems Delivered • over 100.

Average System Size Installed • 150 stations.

Average Cost Per Line • \$450 to \$650 purchase.

Distribution • nationwide through direct sales and selected distributors and dealers.

Installation/Maintenance • nationwide through direct sales and selected distributors and dealers.

■ TIE/COMMUNICATIONS INC

5 Research Drive, Shelton, CT 06484 • 203-929-7373.

□ Mercury

Function • stored program computerized branch exchange (PBX) for switching voice and data • digital switching technology utilizing distributed architecture • TDM/PCM • 2- or 3-pair wiring for interfacing standard keysets.

Communications/Networks • DDD • tie lines • FX • WATS • Least Cost Routing • Data Asynchronous Rates to 19.2K bps.

Trunks/Stations/Consoles • 41 to 480 trunks • up to 1,920 stations • up to 8 attendant consoles.

Voice Equipment • vendor supplied: proprietary M-set, executive set with built-in speakerphone, secretarial groupset • attendant console with LCD • equipment supported: all two-wire rotary dial and Touch-Tone telephones.

Data Equipment • vendor supplied: Messenger I workstation, printers, terminals, computers.

Applications Supported • medium-size business voice/data applications.

Standard System Features • Add-on Conference; Answer Hold; Area/Office Code Restriction; Battery Backup (1 hour); Full System; Busy Override; Call Forwarding; Circular Hunting Class of Service; Code Call Access; Combination Trunks; Consoleless Operation; DID; Consultation Hold-All Calls; Data Privacy; Discriminating Ringing; Diagnostic Circuitry; Flexible Intercept; Flexible Station Numbering Plans; Least Cost Routing; Mixed Station Dialing; Multiple Trunk Groups; Music-on-Hold Access; Night Services; Off-Premise Stations; Password Control; Phased Power Down; Power Failure Transfer; Power Failure Restart; Speed Calling System; SMDR; Trunk Answer from Any Station; Voice Paging; Remote Maintenance.

Standard Attendant Features • Alphanumeric Display; Camp-on; Trunk Group Access Control; Overflow Control; Busy Override; Busy Verification; Call Park; Digital Clock; Automatic Recall; Call Extending; Camp-on Busy; Call Forwarding; Call Hold; Call Park; Called and Calling Party ID; Direct Trunk Access; Indication of Alarm Type; Adjustable LCD Display; Serial Call; Trunk Verification; Switched Loop Operation; Two-Way Splitting; Volume Control; Headset/Handset Operation.

Standard Station Features • Account Codes; Call Back; Call Forward; Call Park; Discriminating Ring; Headset Operation; Hold; Speed Dial; Transfer; Station Que; Trunk Que; Conference; Trunk-to-Trunk Connection; Call Pick-ups; TAFAS.

Optional System Features • Hot Standby Redundancy; Remote Maintenance.

First Delivery • international 1982 • U.S. 1984.

Systems Delivered • over 400.

Average System Size Installed • 300 lines.

Average Cost Per Line • \$300 purchase.

Distribution • nationwide through selected dealers.

Installation/Maintenance • nationwide through selected dealers.

□ Ultracom DCX

Function • stored program computerized branch exchange (PBX) system for switching voice • digital switching technology • TDM/PCM • 2-pair wiring for interfacing standard keysets • 208 unblocked connections.

Communications/Networks • DDD • tie lines • Sprint • MCI • WATS.

Trunks/Stations/Consoles • up to 48 trunks • up to 160 stations • 3 attendant's consoles.

Voice Equipment • vendor supplied: Executive display phone; attendant console • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • vendor supplied: data telephones.

Private Branch Exchanges—PBXs

Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

Applications Supported • medium business.

Standard System Features • Area Code and Office Code Restriction; Automatic Call Distribution; Automatic Identified Outward Dialing (AIOD); Automatic Restore from Power Fail; Automatic Route Selection; Automatic Station Release; Common Control Switching Arrangement (CCSA); Class of Service (COS); Data Security; Dictation Access; Direct Inward Dialing (DID); Flexible Night Answer; Flexible Station Numbering; Inward Restriction; Listed Directory Number Service; Manual Originating Line Service; Multiple Console Operation; Multiple Dialing Plans; Multiple Trunk Groups; Music-on-Hold/Camp-on; Night Class of Service; Off-Premise Extensions; Outgoing Restrictions; Outgoing Trunk Camp-on; Remote System Access (DISA); Route Advance; Satellite Operation; Service Order Administration; Speed Calling; Station Hunting; Station Message Detail Recording (SMDR); Outgoing/Incoming; Station Restriction; Tandem Tie Trunk; Tenant Service; Toll Restriction 0/1; Tone to Dial Pulse Conversion; Tone Sending; Traffic Measurement; Universal Night Answer; Vacant Number Intercept.

Standard Attendant Features • Automatic Recall; Automatic Wakeup; Busy Lamp Field; Camp-on; Class of Service Display; Control of Trunk Group Access; Direct Paging Access; Do Not Disturb; Direct Trunk Group Selection; Centralized Attendant Service; DSS with Busy Lamp Field; Incoming Call Identification; Individual Trunk Access; Lock Out; Locked Loop Operation; Loop Transfer; Message Center Registration; Message Waiting; Numerical Call Waiting; Overflow to UNA; Paging; Privacy and Lockout; Serial Call; Service Call Routing; Straightforward Outward Completion; Station Number Display; Switched Loop Operation; System Alarm; Through Dialing; Toll Terminal Access; Transfer-All Calls; Trunk Busyout; Trunk Group Warning; Trunk Location Display; Trunk-to-Trunk Connection; Two-Way Splitting; Vacant Room Restriction; Verify.

Standard Station Features • Call Forwarding; Call Hold; Call Park; Call Pickup; Call Waiting; Code Call Access; Consultation Hold; Direct Outward Dialing (DOD); Distinctive Ringing; Executive Busy Override; Foreign Exchange Access; Immediate Ring; Individual Transfer; Outgoing Trunk Camp-on; Paging; Push-Button Dialing; Recall Dial Tone; Recall Lock-in; Rotary Dialing; Speed Calling; Station Camp-on-Automatic Call Back; Station Controlled Conference; Station Hunting; Station-to-Station Calling; Tie Trunk; Trunk-to-Trunk Connection; WATS Access.

Optional System Features • ACD; Least Cost Routing; Off Premise Extension; Remote Programming; Repertory Dialing; Toll Restriction; Voice Messaging; Simultaneous Voice/Data.

First Delivery • 1985.

Systems Delivered • under 20.

Average System Size Installed • 120 stations.

Average Cost Per Line • \$500 to \$800 purchase.

Distribution • nationwide through direct sales and selected distributors and dealers.

Installation/Maintenance • nationwide through direct sales and selected distributors and dealers.

■ TONE COMMANDER SYSTEMS

4320 150th Avenue Northeast, Redmond, WA 98052 • 206-883-3600.

□ Innovator

Function • stored program computerized branch exchange for switching voice • analog switching • 2-pair station wiring • 8 unblocked conversations.

Communications/Networks • standard 2-wire CO/WATS/FX trunks.

Trunks/Stations/Consoles • up to 6 trunks • up to 65 stations • up to 2 consoles.

Voice Equipment • vendor supplied: attendant console; 500/2500 telephones • equipment supported: 500/2500 telephones.

Data Equipment • vendor supplied: none • equipment supported: standard modems up to 4800 bps.

Applications Supported • healthcare • retailers • hotel/motel • banking • service sector • business.

Standard System Features • Automatic Restore from Power Fail; Automatic Station Release; Class of Service (COS); Dictation Access; Flexible Night Answer; Flexible Station Numbering; Listed Directory Number Service; Manual Originating Line Service; Multiple Console Operation; Multiple Dialing Plans; Multiple Trunk Groups; Music-on-Hold/Camp-on; Night Class of Service; Off-Premise Extensions; Outgoing Restrictions; Outgoing Trunk Camp-on; Speed Calling; Station Hunting; Station Message Detail Recording (SMDR); Outgoing/Incoming; Station Restriction; Toll Restriction 0/1; Tone to Dial Pulse Conversion; Tone Sending; Traffic Measurement; Universal Night Answer; Vacant Number Intercept.

Standard Attendant Features • Automatic Recall; Automatic Wakeup; Busy Lamp Field; Camp-on; Class of Service Display; Direct Paging Access; Do Not Disturb; Direct Trunk Group Selection; Incoming Call Identification; Individual Trunk Access; Lock Out; Locked Loop Operation; Loop Transfer; Message Registration; Message Waiting; Numerical Call Waiting; Overflow to UNA; Paging; Privacy and Lockout; Serial Call; Service Call Routing; Straightforward Outward Completion; Station Number Display; Switched Loop Operation; System Alarm; Through Dialing; Toll Terminal Access; Transfer-All Calls; Trunk Busyout; Trunk Group Warning; Trunk Location Display; Two-Way Splitting; Vacant Room Restriction.

Standard Station Features • Call Forwarding; Call Hold; Call Park; Call Pickup; Call Waiting; Code Call Access; Consultation Hold; Direct Outward Dialing (DOD); Distinctive Ringing; Executive Busy Override; Foreign Exchange Access; Immediate Ring; Individual Transfer; Paging; Push-Button Dialing; Recall Dial Tone; Recall Lock-in; Rotary Dialing; Speed Calling; Station Controlled Conference; Station Hunting; Station-to-Station Calling; WATS Access.

First Delivery • 1981.

Systems Delivered • over 500.

Average System Size Installed • 40 stations.

Average Cost Per Line • \$350 to \$500.

Distribution • nationwide through authorized distributors.

Installation/Maintenance • nationwide through authorized distributors.

□ Simplex 120

Function • stored program computerized branch exchange for switching voice and data • analog switching • 2-pair station wiring • 12 unblocked conversations.

Communications/Networks • standard 2-wire CO/WATS/FX trunks.

Trunks/Stations/Consoles • up to 20 trunks • up to 120 stations • up to 2 consoles.

Voice Equipment • vendor supplied: attendant console; 500/2500 telephones • equipment supported: 500/2500 telephones.

Data Equipment • vendor supplied: none • equipment supported: standard modems up to 4800 bps.

Applications Supported • healthcare • retailers • hotel/motel • banking • service sector • business.

Standard System Features • Automatic Restore from Power Fail; Automatic Station Release; Class of Service (COS); Dictation Access; Flexible Night Answer; Flexible Station Numbering; Listed Directory Number Service; Manual Originating Line Service; Multiple Console Operation; Multiple Dialing Plans; Multiple Trunk Groups; Music-on-Hold/Camp-on; Night Class of Service; Off-Premise Extensions; Outgoing Restrictions; Outgoing Trunk Camp-on; Speed Calling; Station Hunting; Station Message Detail Recording (SMDR); Outgoing/Incoming; Station Restriction; Toll Restriction 0/1; Tone to Dial Pulse Conversion; Tone Sending; Traffic Measurement; Universal Night Answer; Vacant Number Intercept.

Standard Attendant Features • Automatic Recall; Automatic

Private Branch Exchanges—PBXs

Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

Wakeup; Busy Lamp Field; Camp-on; Class of Service Display; Direct Paging Access; Do Not Disturb; Direct Trunk Group Selection; Incoming Call Identification; Individual Trunk Access; Lock Out; Locked Loop Operation; Loop Transfer; Message Registration; Message Waiting; Numerical Call Waiting; Overflow to UNA; Paging; Privacy and Lockout; Serial Call; Service Call Routing; Straightforward Outward Completion; Station Number Display; Switched Loop Operation; System Alarm; Through Dialing; Toll Terminal Access; Transfer-All Calls; Trunk Busyout; Trunk Group Warning; Trunk Location Display; Two-Way Splitting; Vacant Room Restriction.

Standard Station Features • Call Forwarding; Call Hold; Call Park; Call Pickup; Call Waiting; Code Call Access; Consultation Hold; Direct Outward Dialing (DOD); Distinctive Ringing; Executive Busy Override; Foreign Exchange Access; Immediate Ring; Individual Transfer; Paging; Push-Button Dialing; Recall Dial Tone; Recall Lock-in; Rotary Dialing; Speed Calling; Station Controlled Conference; Station Hunting; Station-to-Station Calling; WATS Access.

First Delivery • 1981.

Systems Delivered • over 500.

Average System Size Installed • 70 stations.

Average Cost Per Line • \$350 to \$500.

Distribution • nationwide through authorized distributors.

Installation/Maintenance • nationwide through authorized distributors.

■ UNITED TECHNOLOGIES LEXAR

31829 West La Tienda Drive, Westlake Village, CA 91362 • 818-706-1000.

□ UTX

Function • stored program computerized branch exchange (PBX) system for switching voice and data • digital switching technology • TDM/Delta Modulation • 2-pair wiring for interfacing standard keysets • totally unblocked connections • redundancy.

Communications/Networks • DDD • tie lines • asynchronous data rates to 9600 bps.

Trunks/Stations/Consoles • up to 1,024 trunks • up to 1,024 stations • 8 attendant's consoles.

Voice Equipment • vendor supplied: LX-2 telephone; LX-5 telephone; LX-15 telephone; LX-AC attendant console • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • vendor supplied: LX-5D, LX-15D Data telephones; 9600-bps asynchronous transmission (data to 19.2K bps) • equipment supported: workstations; printers; terminals; magnetic tape units; computers.

Applications Supported • energy management; building automation; medium business.

Standard System Features • Area Code Restriction; Automatic Route Selection; Class of Service; Conference; Data Capability; Data Privacy; DID; DISA; Direct Trunk Group Access; Flexible Numbering; Fully Restricted Stations; Hot-Line; Hunt Groups; Intercept; Inward Restrictions; Message Waiting; Music-on-Hold; Night Service; Off-Premises Extension; Private Lines; Redial; Reroute; Station-to-Station Restriction; Speed Dial; Tenant Service; Toll Restriction 0/1; Uniform Call Distribution.

Standard Attendant Features • Alphanumeric Display; Automatic Hold; Call Forwarding Control; Call Park; Call Waiting; Call Back; Conference; Headset/Handset Operation; Interposition Calling; Lockout; Paging Access; Speed Dial; Straightforward Outward Completion.

Standard Station Features • Automatic Line Selection; Call Back; Call Forward; Call Park; Call Waiting; Cancel; Discriminating Ring; Flexible Feature Assignment; Headset Operation; Hold; Intercom; Manual Line Selection; No Ring; Onhook Dialing; Speed Dial; Transfer; Trunk Call Back; Trunk-to-Trunk Connections; Volume Control.

Optional Systems Features • SMDR Account Codes; System

Traffic Reports.

First Delivery • 1982.

Systems Delivered • over 500.

Average System Size Installed • 300 stations.

Average Cost Per Line • \$850 purchase.

Distribution • nationwide through direct sales and selected distributors and dealers.

Installation/Maintenance • nationwide through direct sales and selected distributors and dealers.

□ UTX 1200

Function • stored program computerized branch exchange (PBX) system for switching voice • digital switching technology • TDM/PCM • 2-pair wiring for interfacing standard keysets • totally unblocked connections.

Communications/Networks • route optimization • tandem network • automatic network dialing • WATS • Foreign Exchange (FX) • centralized trunking • centralized attendant's console.

Trunks/Stations/Consoles • up to 1,344 trunks • up to 1,344 stations • 48 attendant's consoles.

Voice Equipment • vendor supplied: telephones; attendant's consoles • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • industry-standard terminal equipment.

Applications Supported • office automation; word processing; dictation • healthcare • retailers • military • hotel/motel • banking • service sector • transportation.

Standard System Features • Area Code Restrictions; ARS; Automatic Digit Addition/Deletion; Automatic Station Release; Call Waiting; Camp-on; CAS; Conference; Data Privacy; Class of Service; Dial Call Pick-Up; Direct Inward Hunting; Direct-In Lines; DID; DISA; DOD; Distinctive Ring; Fixed Night Service; Flexible Station Numbering; Hot-Line; Intercept; Inter-PBX Call Transfer; Line Lockout; Music-on-Hold; Night Answer; Off-Premise Stations; Paged Call Pick-Up; Paging Zones; Privacy and Lockout; Route Advance; Toll Restriction; Speed Calling; Station Hunting; Tandem Switching; Traffic Reports; Trunk-to-Trunk Connections.

Standard Attendant Features • Alphanumeric Display Drivers; Automatic Recall; Busy Verification; Camp-on Busy; Conference Call; Hold Automatic; Control of Station Restrictions; Control of Trunk Group Access; Intercept; Direct Paging Access; Serial Calls; Speed Dialing; System Alarm Indication; Switched Loop Operation; Through Dialing; Tone Silence; Trunk-to-Trunk Connection; Two-Way Splitting; Universal Cancellation of Call Forwarding and Do Not Disturb.

Standard Station Features • Add-On Conference; Automatic Call Back; Call Hold; Call Pick-Up; Call Transfer; Call Waiting Tone; Camp-on; Class of Service; Consultation Hold; Do Not Disturb; Group Pick-Up; Call Forwarding.

Optional System Features • Station Message Detail Recording (SMDR); PBX Management Reporter; Data Communications; DTMF to Dial Pulse Conversion; Forced Authorization Codes; Intercom Blocking; Message Registration; Prefix Outpulsing; Power Fail Transfer; Recorded Announcements/Intercept; Route Optimization; Toll Restriction; Traffic Measurement (Expansion) Capability.

First Delivery • 1982 (under UTX name).

Systems Delivered • over 400.

Average System Size Installed • 450 stations.

Average Cost Per Line • \$850 to \$1,000.

Distribution • nationwide through direct sales and selected distributors and dealers.

Installation/Maintenance • nationwide through direct sales and selected distributors and dealers.

□ UTX 5000

Function • stored program computerized branch exchange

Private Branch Exchanges—PBXs

Analog & Digital Systems Supporting Voice-Only & Voice/Data Applications

(PBX) system for switching voice • digital switching technology • TDM/PCM • 2-pair wiring for interfacing standard keysets • totally unblocked connections.

Communications/Networks • route optimization • tandem network • automatic network dialing • WATS • Foreign Exchange (FX) • centralized trunking • centralized attendant's console.

Trunks/Stations/Consoles • up to 5,376 trunks • up to 5,376 stations • 48 attendant's consoles.

Voice Equipment • vendor supplied: telephones; attendant's consoles • equipment supported: all rotary dial and Touch-Tone telephones.

Data Equipment • industry-standard terminal equipment.

Applications Supported • office automation; word processing; dictation • healthcare • retailers • military • hotel/motel • banking • service sector • transportation.

Standard System Features • Area Code Restrictions; ARS; Automatic Digit Addition/Deletion; Automatic Station Release; Call Waiting; Camp-on; CAS; Conference; Data Privacy; Class of Service; Dial Call Pick-Up; Direct Inward Hunting; Direct-In Lines; DID; DISA; DOD; Distinctive Ring; Fixed Night Service; Flexible Station Numbering; Hot-Line; Intercept; Inter-PBX Call Transfer; Line Lockout; Music-on-Hold; Night Answer; Off-Premise Stations; Paged Call Pick-Up; Paging Zones; Privacy and Lockout; Route Advance; Toll Restriction; Speed Calling; Station Hunting; Tandem Switching; Traffic Reports; Trunk-to-Trunk Connections.

Standard Attendant Features • Alphanumeric Display Drivers; Automatic Recall; Busy Verification; Camp-on Busy; Conference Call; Hold Automatic; Control of Station Restrictions; Control of Trunk Group Access; Intercept; Direct Paging Access; Serial Calls; Speed Dialing; System Alarm Indication; Switched Loop Operation; Through Dialing; Tone Silence; Trunk-to-Trunk Connection; Two-Way Splitting; Universal Cancellation of Call Forwarding and Do Not Disturb.

Standard Station Features • Add-On Conference; Automatic Call Back; Call Hold; Call Pick-Up; Call Transfer; Call Waiting Tone; Camp-on; Class of Service; Consultation Hold; Do Not Disturb; Group Pick-Up; Call Forwarding.

Optional System Features • Station Message Detail Recording (SMDR); PBX Management Reporter; Data Communications; DTMF to Dial Pulse Conversion; Forced Authorization Codes; Intercom Blocking; Message Registration; Prefix Outpulsing; Power Fail Transfer; Recorded Announcements/Intercept; Route Optimization; Toll Restriction; Traffic Measurement (Expansion) Capability.

First Delivery • 1982 (under UTX name).

Systems Delivered • over 400.

Average System Size Installed • 1,500 stations.

Average Cost Per Line • \$850 to \$1,000.

Distribution • nationwide through direct sales and selected distributors and dealers.

Installation/Maintenance • nationwide through direct sales and selected distributors and dealers.

■ ZTEL, INC

181 Ballardvale Street, Wilmington, MA 01887 • 617-657-8730.

□ PNX

Function • fully integrated and distributed PBX/LAN system for switching voice and data • digital switching technology • TDM/PCM • 2-pair wiring for interfacing standard keysets • up to 20,000 unblocked connections • can be upgraded to total redundancy.

Communications/Networks • route optimization • automatic network dialing • centralized attendant console • tandem network • 10M-bps IEEE 802.5 token ring LANs interconnect multiple

systems • data rates up to 19.2K bps asynchronous; 56K bps synchronous • coax, fiber optic, cable, microwave, T1 carrier, or satellite transmission.

Trunks/Stations/Consoles • up to 20,000 users; any combination; up to 64 consoles.

Voice Equipment • vendor supplied: basic (Z-4), full-featured (Z-12), or enhanced (Z-28) telset, attendant console • equipment supported: standard 2500-Type telephones, rotary, and Touch-Tone.

Data Equipment • vendor supplied: Datadapter, Dataserver • equipment supported: video display terminal, printers, digital cassettes, diskettes, magnetic tape, mini- or microcomputers.

Applications Supported • office automation, general business, banking, healthcare, hotel/motel, retailers, military, service selector.

Standard System Features • Area Code and Office Code Restriction; Automatic Call Distribution; Automatic Identified Outward Dialing (AIOD); Automatic Restore from Power Fail; Automatic Route Selection; Automatic Station Release; Common Control Switching Arrangement (CCSA); Class of Service (COS); Data Security; Dictation Access; Direct Inward Dialing (DID); Flexible Night Answer; Flexible Station Numbering; Inward Restriction; Listed Directory Number Service; Manual Originating Line Service; Multiple Console Operation; Multiple Dialing Plans; Multiple Trunk Groups; Music-on-Hold/Camp-on; Night Class of Service; Off-Premise Extensions; Outgoing Restrictions; Outgoing Trunk Camp-on; Remote System Access (DISA); Route Advance; Satellite Operation; Service Order Administration; Speed Calling; Station Hunting; Station Message Detail Recording (SMDR); Outgoing/Incoming; Station Restriction; Tandem Tie Trunk; Tenant Service; Toll Restriction 0/1; Tone to Dial Pulse Conversion; Tone Sending; Traffic Measurement; Universal Night Answer; Vacant Number Intercept.

Standard Attendant Features • Automatic Recall; Automatic Wakeup; Busy Lamp Field; Camp-on; Class of Service Display; Control of Trunk Group Access; Direct Paging Access; Do Not Disturb; Direct Trunk Group Selection; Centralized Attendant Service; DSS with Busy Lamp Field; Incoming Call Identification; Individual Trunk Access; Lock Out; Locked Loop Operation; Loop Transfer; Message Center Registration; Message Waiting; Numerical Call Waiting; Overflow to UNA; Paging; Privacy and Lockout; Serial Call; Service Call Routing; Straightforward Outward Completion; Station Number Display; Switched Loop Operation; System Alarm; Through Dialing; Toll Terminal Access; Transfer-All Calls; Trunk Busyout; Trunk Group Warning; Trunk Location Display; Trunk-to-Trunk Connection; Two-Way Splitting.

Standard Station Features • Call Forwarding; Call Hold; Call Park; Call Pickup; Call Waiting; Code Call Access; Consultation Hold; Data Access; Direct Outward Dialing (DOD); Distinctive Ringing; Executive Busy Override; Foreign Exchange Access; Immediate Ring; Individual Transfer; Outgoing Trunk Camp-on; Paging; Push-Button Dialing; Recall Dial Tone; Recall Lock-in; Rotary Dialing; Speed Calling; Station Camp-on-Automatic Call Back; Station Controlled Conference; Station Hunting; Station-to-Station Calling; Tie Trunk; Trunk-to-Trunk Connection; WATS Access.

First Delivery • August 1984.

Systems Delivered • under 10.

Average System Size Installed • 300 stations.

Average Cost Per Line • \$900 to \$1,100 per line.

Distribution • nationwide through AT&T holding companies, distributors, independent telcos, interconnect companies.

Installation/Maintenance • nationwide through own staff, AT&T holding companies, distributors, independent telcos, interconnect companies.

• END