Key/Hybrid Telephone Systems

This Product Survey presents the major characteristics of the Key and Hybrid Telephone Systems marketed for general-purpose voice communication. Models presented in this survey use the conventional voice-grade facilities provided through the public switched telephone network (DDD) or specialized common carriers (SCCs).
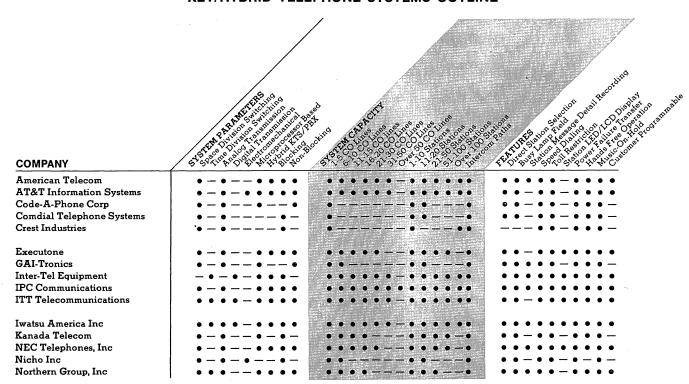
Key telephone systems terminate multiple outside lines on a single telephone instrument. Calls can be answered, placed on hold, and transferred to other users via intercom lines. Every telephone in the system has the ability to answer an outside call, differing from PBX systems which requires a centralized answering point.

Systems today are either electromechanical, electronic, or hybrid. Electromechanical systems are the familiar 1A2-type, which usually requires at least 25-pair station cabling. Newer electronic systems are microprocessor controlled, and obtain their intelligence through a network of microprocessors with dedicated functions. Station cabling is usually either 2-pair or 3-pair. Hybrid systems exhibit features of both PBX and key systems, and were developed to satisfy requirements of medium-sized users.

This edition of the Product Survey presents specifications and pricing on **101 Key/Hybrid System Models manufactured by 33 vendors.** Listings are arranged alphabetically by vendor, then by specific product name. Each model entry is further divided into **17 logical categories**, defining function, trunks/stations/consoles, voice equipment, data equipment, applications supported, standard system features, standard station features, optional system features, optional station features, (standard and optional attendant features are presented where applicable), date of first delivery, systems delivered, average system size installed, average cost per line, method of distribution, and installation/maintenance. Specific topic areas within each section are further identified with a solid dot (●). The Key/Hybrid Telephone Systems 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 key/hybrid telephone systems.

KEY/HYBRID TELEPHONE SYSTEMS OUTLINE

COMPANY	SYSTEM PARAMETERS									SYSTEM CAPACITY													FEATURES									
	Space Division Switching	Time Division Switching	Analog Transmission	Digital Transmission	Electromechanical	Microprocessor Based	Hybrid KTS/PBX	Blocking	Non-Blocking	1-5 CO Lines	6-10 CO Lines	11-15 CO Lines	16-20 CO Lines	21-30 CO Lines	31-50 CO Lines	Over 50 CO Lines	1-10 Stations	11-20 Stations	21-50 Stations	51-100 Stations	Over 100 Stations	Intercom Paths	Direct Station Selection	Busy Lamp Field	Station Message Detail Recording	Speed Dialing	Toll Restriction	Station LED/LCD Display	Power Failure Operation	Hands Free Operation	Music-On-Hold	Customer Programmable
American Telecom	●	—	●	—	—	●	●	●	●	●	●	●	●	●	—	●	●	●	●	●	●		●	●	●	●	●	—	●	●	●	●
AT&T Information Systems	●	—	●	—	●	●	●	●	●	●	●	●	●	—	●	●	●	●	●	●	●		●	●	—	●	●	—	●	●	●	●
Code-A-Phone Corp	●	—	●	—	—	●	—	—	●	●	—	—	—	—	—	●	●	—	—	—	●		○	●	—	●	●	—	●	●	●	—
Comdial Telephone Systems	●	—	●	—	—	—	—	●	—	●	—	—	—	—	—	●	●	—	—	●			●	●	—	●	●	—	●	●	●	—
Crest Industries	●	—	●	—	—	—	—	●	—	●	—	—	—	—	—	●	●	—	—	●			—	—	—	●	●	—	●	●	●	—
Executone	●	—	●	—	—	●	●	●	●	●	●	●	●	●	—	●	●	●	●	—	●		●	●	—	●	●	●	●	●	●	●
GAI-Tronics	●	—	●	—	—	●	—	—	●	●	—	—	—	●	—	●	●	—	—	●			●	●	●	●	●	—	●	●	●	—
Inter-Tel Equipment	—	●	—	●	—	●	●	●	—	●	●	●	●	●	—	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●
IPC Communications	●	—	●	—	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●
ITT Telecommunications	●	●	●	●	—	●	●	●	●	●	●	●	●	●	—	●	●	●	●	●	●		●	●	—	●	●	●	●	●	●	●
Iwatsu America Inc	●	●	●	●	—	●	●	●	●	●	●	●	●	—	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●
Kanada Telecom	●	—	●	—	—	●	—	●	—	●	—	—	—	—	●	●	●	—	●	●			●	●	—	●	●	—	●	●	●	—
NEC Telephones, Inc	●	—	●	—	—	●	●	●	●	●	●	●	—	—	●	●	●	●	—	●			●	●	●	●	●	●	●	●	●	●
Nicho Inc	●	—	●	—	●	—	—	●	—	●	●	—	—	—	●	●	—	—	●	●			●	●	—	●	●	—	●	—	●	—
Northern Group, Inc	●	●	●	—	—	●	●	●	●	●	●	●	—	—	●	●	●	—	●	●			●	●	●	●	●	—	●	●	●	●

Key/Hybrid Telephone Systems

SYSTEM PARAMETERS: Space Division Switching, Time Division Switching, Analog Transmission, Digital Transmission, Electromechanical, Microprocessor Based, Hybrid KTS/PBX, Blocking, Non-Blocking

SYSTEM CAPACITY: 1-5 CO Lines, 6-10 CO Lines, 11-15 CO Lines, 16-20 CO Lines, 21-30 CO Lines, 31-50 CO Lines, Over 50 CO Lines, 1-10 Stations, 11-20 Stations, 21-50 Stations, 51-100 Stations, Over 100 Stations, Intercom Paths

FEATURES: Direct Station Selection, Busy Lamp Field, Station Message Detail Recording, Speed Dialing, Toll Restriction, Station LED/LCD Display, Power Failure Transfer, Hands Free Operation, Music-On-Hold, Customer Programmable

COMPANY	SYSTEM PARAMETERS	SYSTEM CAPACITY	FEATURES
Panasonic Corp	● — ● — — ● — — ●	● — — — — ● — — — — ●	— — — ● ● — — ● ● —
Philips Telephone Systems	● — ● — — ● ● ● —	● ● ● ● ● — ● ● ● ● — ●	● ● ● ● ● ● ● ● ● —
R-Tec Systems	● — ● — — ● — — ●	● — — — — ● — — — — ●	— — — ● ● — — — ● —
San/Bar Corporation	● — ● — — ● ● ● —	● ● ● — — ● ● — — — ●	● ● — ● ● ● ● ● ● ●
Stromberg-Carlson BCS	— ● — ● — ● — ● —	● — — — — ● ● — — — ●	● ● ● ● ● — ● ● ● ●
Telecom	● — ● — — ● — — ●	● — — — — ● — — — — ●	— — ● ● ● ● ● ● ● ●
Teletec Systems, Inc	● — ● — — ● — — ●	● — — — — ● — ● — — ●	— — — ● — — — — ● —
Telrad	● — ● — — ● — — ●	● — — — — ● — — — — ●	● ● ● ● ● ● ● ● ● ●
Teltone Corp	— ● — ● — ● — ● —	● ● — — ● ● ● — — — ●	● ● ● ● — ● ● ● ● —
Thompson-CSF	● — ● — — ● ● ● ●	● ● ● — ● ● ● ● ● ● ●	● ● ● ● ● ● ● ● ● ●
Tone Commander Systems, Inc	● — ● — — ● — ● ●	● — — — — ● — — ● — ●	— — — ● ● — ● ● ● —
Toshiba Telecom	● — ● — ● — — ● ●	● ● ● ● — ● ● ● ● ● — ●	● ● ● ● ● ● ● ● ● ●
Trillium Telephone Systems	● — ● — — ● — ● —	● ● — — — ● ● — — — ●	— — — ● ● — ● ● ● —
Walker Telecomm Corp	● — ● — — ● — ● —	● ● — — — ● — — — — —	● ● ● ● ● ● ● ● ● ●
Wren Co	● — ● — ● — — ● —	● ● — — — — ● — — — — ●	— — — — ● — — ● ● —
Xtel	● — ● — — ● — — ●	● ● ● ● ● ● ● ● ● ● ●	— ● — ● — — — — ● —

KEY/HYBRID TELEPHONE SYSTEMS FEATURES

FUNCTION

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

Switching Technology ● defines the switching technique applied by the key system as space division switching (analog transmission) or time division switching (digital transmission).

Wiring ● defines the number of wire pairs required to connect a key telephone station with the system.

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

TRUNKS/STATIONS/CONSOLES

This Feature Section defines the maximum number of trunks to the telephone central office (CO), the maximum number of stations (telephone devices) that can be connected to the key system, maximum number of attendant consoles the key system can support, and the maximum number of intercom circuits supported.

VOICE EQUIPMENT

This Feature Section identifies the voice station equipment supported by key system.

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

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

DATA EQUIPMENT

This Feature Section identifies data equipment supported by key system.

Vendor Supplied ● data interface, couplers, modems, and other devices supplied by vendor.

Equipment Supported ● data communication equipment that can be connected to the system.

APPLICATIONS SUPPORTED

This Feature Section identifies the principal application categories supported by the key system. Unlike PBX systems which support specific software packages (Office Automation, Healthcare, Banking, etc), key system vendors/distributors emphasize a particular sized business as their market target. For example, in most cases it is a small business, cross section rather than a particular vertical sector.

STANDARD SYSTEM FEATURES

This Feature Section lists all features of the key system associated with system-related functions. The cost of these features is embedded within the cost of the basic key system.

STANDARD STATION FEATURES

This Feature Section lists all features of the key system associated with the telephones and other terminating devices.

STANDARD ATTENDANT FEATURES

This Feature Section lists all features of the key system associated with attendant consoles. In most cases, the attendant console is either the same as the station or contains the same features of the station and is therefore **not referred to separately**.

FIRST DELIVERY

This Feature section presents the date the first system was installed in the field for customer use.

SYSTEMS DELIVERED

This Feature Section discloses 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**

Key/Hybrid Telephone Systems

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 discloses 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 price or price range of a single system station, 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 percent of the cost of the system for installations that require new wiring. Users with existing wiring can realize significant savings if the installed system accommodates the existing wiring. In some cases, **cost per line** could not be determined, and **cost per system** is given instead.

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 describes who provides maintenance (upkeep) and installation of the key system. The vendor may choose to install and service the product directly, or use 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 remote diagnostics.

KEY/HYBRID TELEPHONE SYSTEMS LISTINGS

■ AMERICAN TELECOM

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

☐ Focus 20, 50 & 100

Function • space division switching • wire logic common control, wired program • analog transmission • 2-pair cable distribution to common equipment • 12 unblocked connections, Focus 20 • 32 unblocked connections, Focus 50 • 40 unblocked connections, Focus 100.

Trunks/Stations/Consoles • Focus 20, 8 trunks; 22 stations; 4 intercom circuits • Focus 50, 24 trunks; 62 stations; 8 intercom circuits • Focus 100, 32 trunks; 110 stations; 8 intercom circuits • systems can accommodate up to four 60-button or eight 30-button Direct Station Selection (DSS) consoles.

Voice Equipment • vendor supplied: (offers a proprietary series of 5-, 10-, and 15-button microprocessor-controlled telephones) and rotary-dial telephones used for off-premise extensions • Maintenance Console (magnetic bubble memory cassette, built-in console printer) used for entry and modification of customer data, and display of fault locations isolated by system self-diagnostic program.

Equipment Supported • standard 500/2500 telephones.

Data Equipment • vendor supplied: none • equipment supported: Precision components CBS-type Data Coupler; Epson printers.

Applications Supported • small-to-medium-sized businesses.

Standard System Features • Account Code; Automatic Route Selection with OCC Access; Automatic Restore From Power Failure; Automatic Station Release; Class of Service (16); Feature Actuation by Dial Code; Flexible Numbering Plan; Multiple Dialing Plans; Multiple CO Line Appearances; Multiple Trunk Groups; Off-Premises Extensions; Power Failure Transfer; Remote Maintenance; System Alarm; Tenant Service; Tone & Dial Pulse Signaling; Trunk Overflow to UNA; Trunk Rotation; 2500 Set Interface; Universal Night Answer.

Standard Attendant Features • Busy Lamp Field/Direct Station Dialing; Direct Paging Access; Incoming Call Distribution; Activate Day/Night Mode; Activate/Deactivate Self Diagnostics; Activate/Deactivate Tenant Service; Directory Name Display Programming; Do-Not-Disturb Message Programming; Change Station Data; Register Speed Call Numbers; Set Date and Time For SMDR Output.

Standard Station Features • Add-On Conference; Call Forwarding; Call Hold; Call Park; Call Waiting; Consultation Hold; Direct Connection (Hot Line); Direct Outward Dialing; Distinctive Ringing; Do-Not-Disturb; Hunting; Individual Transfer All Calls; Message Waiting; Microphone Mute; Pick Up Groups; Push Button Dialing; Re-Dial; Retry; Trunk Access; Voice Call (Auto Answer).

Optional System Features • Incoming Trunk Overflow to UNA; Internal Paging; Off-Premises Extensions; External Paging; Power Fail Transfer; Remote Maintenance; Single-Line Telephones; Station Message Detail Recording (SMDR).

Optional Attendant Features • Multiple CO Line Appearance; Direct Tie Trunk Access; Incoming Trunk Camp-On; Incoming Trunk Hold; Speed Call.

Optional Station Features • Call Forward Follow Me; 40-Character LCD Display; Integrated Speakerphone; Do-Not-Disturb Override; Call Forward Override; Camp-On Tone Indication; Message Waiting Lamp on 2500 Set.

First Delivery • July 1983 (Focus 50 & 100) • March 1984 (Focus 20).

Systems Delivered • over 1500; all models.

Average System Size Installed • 20 to 30 lines (Focus 50 & 100) • 6 trunks, 14 stations (Focus 20).

Average Cost Per Line • $360 to $650 purchase (Focus 50 & 100) • $185 to $315 purchase (Focus 20).

Distribution • nationally through approved dealers.

Installation/Maintenance • supported by vendor-trained distributors.

■ AT&T INFORMATION SYSTEMS

1 Speedwell Avenue, Morristown, NJ 07960 • 201-898-2000.

☐ Com Key 416

Function • space division switching • wired logic common control; wired program • analog transmission • 25-pair cabling • 3 to 6 unblocked connections.

Trunks/Stations/Consoles • 4 CO/PBX trunks; 16 stations; 2 intercom links • first common equipment set contains 2 CO/PBX trunks; 7 stations; and 1 intercom; addition of second common equipment set increases capacity to maximum.

Voice Equipment • equipment supplied by Western Electric: Common Equipment Set, Basic Set, Hands-Free Answer on Intercom Set (HFAI), and Built-In Speakerphone Set • all sets available in either rotary or touch-tone dialing.

Applications Supported • small businesses.

Standard System Features • Pick-Up; Hold Line Status Lamp; Intercom (up to 2); Direct Station Selection on Intercom; Voice Signaling on Intercom; Automatic Button Restoration; Built-In Loudspeaker; Tone Signaling/Attenuation; Multiline

Key/Hybrid Telephone Systems

Conferencing; Recall; Outgoing Service during Power; Flexible Ringing.

Optional System Features ● Personal Line; Privacy; Station Restriction; Music-On-Hold; Supplementary Ringing; Paging; Preset Intercom/Conference/Voice Signaling; Code Busy DSS Key (Busy Lamp Held); Power Failure Ringing; Supplementary Power.

First Delivery ● 1976.

Systems Delivered ● over 250,000; all ComKey models.

Average System Size Installed ● 2 trunks/4 stations.

Average Cost Per Line ● $300 to $350.

Distribution ● nationwide through direct sales.

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

☐ Com Key 718

Function ● space division switching ● wired logic common control, wired program ● analog transmission ● 25-pair cabling ● 9 unblocked connections.

Trunks/Stations/Consoles ● 7 CO/PBX trunks; 18 stations; 2 intercom circuits; first common equipment set supports 4 trunks; 18 stations; and 2 intercom circuits ● maximum lines supported by additional line capacity units.

Voice Equipment ● equipment supported by Western Electric: Common Equipment Set; Intercom-Only Set; 13-Button Set; and 11-Button Set; all sets available in touch-tone or rotary ● Direct Station Selection Console and Message Waiting Console for set designated as attendant station.

Applications Supported ● small businesses.

Standard System Features ● Dial Intercom; Built-In Loudspeaker; Tone Signaling; CO Line Ringing Tone; Tone and Voice Signaling on Intercom; Privacy Release; Button Restoration; Present IC Conference; Volume Control.

Optional System Features ● Flexible Ring Transfer; Attendant Console with Message Waiting; Attendant Console with Direct Station Selection; Music-On-Hold; Voice Paging Amplifier; Indoor/Outdoor Loudspeakers; Paging Access; Power Failure Transfer; Private Line Signaling.

First Delivery ● 1973.

Systems Delivered ● over 250,000; all ComKey models.

Average System Size Installed ● 4 trunks, 12 stations.

Average Cost Per Line ● $350 to $400.

Distribution ● nationwide through direct sales.

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

☐ Merlin Models 206, 410, 820, 1030, 3070

Function ● electronic key system; space division switching ● distributed microprocessor control ● analog system ●-pair station cabling ● up to 35 unblocked connections.

Trunks/Stations/Consoles ● 206: 2 trunks, 6 stations ● 410: 4 trunks, 10 stations ● 820: 8 trunks, 20 stations ● 1030: 10 trunks, 30 stations ● 3070: 30 trunks, 70 stations.

Voice Equipment ● vendor supplied: standard 500/2500 telephones; proprietary 5-, 10-, and 34-button stations; DSS/BLF console, handsfree unit.

Data Equipment ● vendor suppled: acoustic interface ● equipment supported: modems, printers.

Applications Supported ● small-to-medium-sized businesses ● residential.

Standard System Features ● Abbreviated Dialing; Automatic Line Selection; Intercom with Voice Signaling; Hold; Ringing Cutoff.

Standard Station Features ● Pushbutton Dialing; Call Hold; Call Waiting; Multiline Service; Volume Control.

Optional System Features ● Speed Dialing; Timed Reminder for

Call on Hold; Outgoing Call Restriction; Automatic Intercom Dialing; Privacy; Do-Not-Disturb; Expanded Toll Restriction Message Waiting; Group Paging.

Optional Station Features ● Conference Call; Call Transfer; On-Hool Dialing; Last Number Dialed; Personalized Ringing, Speed dialing.

First Delivery ● 1984 (206, 410, 820) ● 1895 (1030, 3070).

Systems Delivered ● over 2,000; all models.

Average System Size Installed ● undisclosed.

Average Cost Per Line ● $250 to $450.

Distribution ● nationwide through direct sales; Phone Center Stores; authorized distributors.

Installation/Maintenance ● nationwide through AT&T-IS; authorized distributors.

☐ Horizon

Function ● hybrid KTS/PBX; space division switching ● stored program microprocessor common control ● analog transmission ● 4-pair cabling ● 24 unblocked connections ● 6 to 12 CCS per line.

Trunks/Stations/Consoles ● 32 CO/PBX trunks; 120 stations; 2 Direct Station Selection/Busy Lamp Field consoles; 24 intercom circuits.

Voice Equipment ● vendor supplied: proprietary station instruments and central service units; 2500-type telephones; Teleseer call accounting system.

Applications Supported ● small-to-medium-sized businesses ● hotel/motel.

Standard System Features ● Call Waiting; Conferencing; Electronic Tone Ringing; I-Use; Per-Call Ringer Cut-Off; Power Failure Restart; Distinctive Ringing; Alarm Indication; Variable Time-Out Capability; Touch-Tone Calling; Night Service Facilities.

Standard Attendant Features ● Automatic Release; Call Transfer; Cancel; Manual Release; Return Coverage on Busy; Return Coverage on Don't Answer; Splitting.

Standard Station Features ● Answer Hold; Recall Button; Automatic Privacy; Prime Line Preference; Automatic Callback; Individual Trunk Dial Access; Call Hold; Distinctive Station Ringing; Call Progress Tones; Call Waiting; Busy Lamp Fields; Camp-On; Automatic Recall; 1-Way Automatic Splitting; Through Dialing.

Optional System Features ● Hot-Line Intercom; Call Coverage; Call Pick-Up; Toll Restriction; Personal Line Access; Message Waiting; Music-On-Hold; PBX Tie Lines; Outpulse Dialing; Voice Paging.

Optional Attendant Features ● Attendant Camp On; Attendant Station Selector Console (DSS/SB/MW); Night Service.

Optional Station Features ● Call Forwarding-Preset; Forced Call Forwarding; Dial Call Pick-Up; Inter-Group Call Pick-Up; Message Waiting Activation by Station; Direct Trunk Access by Station; Call Park; Calling Number Display; Background Music; Consultation Hold; Station Message Detail Recording; Direct Inward Dialing.

First Delivery ● 1979.

Systems Delivered ● over 40,000.

Average System Size Installed ● 30 stations.

Average Cost Per Line ● $25 to $100 per month.

Distribution ● nationwide through direct sales.

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

■ CODE-A-PHONE CORPORATION

16261 S.E. 130th, P.O. Box 5656, Clackamas, OR 97015 ● 503-655-8940.

☐ Intrepid 308 & 516

Function ● electronic key systems; space division switching ●

Key/Hybrid Telephone Systems

distributed microprocessor control • analog system • 3-pair station cabling • up to 4 unblocked connections (308); 12 unblocked connections (516).

Trunks/Stations/Consoles • Model 308: 3 trunks; 8 stations; 1 intercom circuit • Model 516: 5 trunks; 16 stations.

Voice Equipment • vendor supplied: proprietary electronic stations; Direct Station Select/Busy Lamp Field capability (516) • equipment supported: required proprietary phones.

Applications Supported • small-to-medium-sized businesses.

Standard Features • Call Forward; DTMF/Dial Pulse Trunks; Flexible Night Service; Multiple Console Operation; Music-On-Hold Access; Power Failure Transfer (System); Specialized Common Carrier Services; Station Message Detail Recorder (516); Station Speed Dialing; Stored Program Control; System Speed Dialing; Tenant Service (516); Toll Restriction; Trunk Conference; Universal Night Answer (UNA); Paging Access.

Standard Station Features • Add-On Conference; Automatic Callback; Busy Lamp Field(s) (516); Call Forwarding (516); Call Pick-Up (516); Call Waiting on Intercom (516); Dial Selective Intercom; Do-Not-Disturb (516); DSS/BLF Console(s) (516); Exclusive Hold; Zone Paging; Hands-Free Answerback on Intercom Calls; Hands-Free Dialing and Monitoring; I-Hold Indication; Individual Transfer-All Calls; Last CO/PBX Number Re-Dial; Manual Hold (Non-Exclusive Hold); Message Waiting (516); Multiline service; Nonlocking buttons; Prime Line Pickup (516); Push-Button Dialing; Restriction (Outgoing and Toll Call); Selective Intercom Call Indication; Speed Dialing; Station DDS Buttons (516); Tone and Voice Signaling on Intercom; Volume Control.

First Delivery o 1983.

Systems Delivered • over 1,000; all models.

Average System Size Installed • 4 stations (308); 10 stations (516).

Average Cost Per Line • $450 to $550.

Distribution • nationwide through authorized distributors.

Installation/Maintenance • nationwide through authorized distributors.

■ COMDIAL TELEPHONE SYSTEMS

1180 Seminole Trail, Charlottesville, VA 22906 • 804-978-2200.

☐ Maxkey

Function • space division switching • microprocessor controlled; single pair of wires to each phone; a second pair used for voice conversation • analog transmission • 6 unblocked connections.

Trunks/Stations/Consoles • 4 trunks; 12 stations; 2 intercom circuits.

Voice Equipment • vendor supplied: key telephone sets and key system unit.

Applications Supported • small businesses.

Standard System Features • Line Pick Up; Hold; Music-On-Hold; Recall from Hold; Nonlocking Buttons With LED Illumination; Lamp Signals; My Line Indication; Push-Button Dialing; Speed Calling; On-Hook Dialing; Hold Monitoring; Flash/Ground Transfer; Electronic Tone Ringer; Line Preselection; Automatic Privacy; Intercom Calling Party Identification; Paging; Audible Signals; Busy Lamp Display; Do-Not-Disturb; Timeout on Intercom Call; Nonvolatile Memory; Alarm Sensing Port (Smoking, Intrusion); Power Switch; Conferencing; Ringing and Hold Timeout Options; Auxiliary Lead Control; Direct Station Selection; 1-Button Intercom Calling; Call Announcing.

Optional System Features • External Area Paging; Background Music; Electronic Music Source; Intercom Terminal; Automatic Tie Line; External Common Loud Audible Signal; Audible Signal Control; Originating Denied; Toll Restriction; Power-Failure Transfer; Wall-Mounted Telephone.

First Delivery • January 1983.

Systems Delivered • over 500.

Average System Size Installed • 2 trunks, 6 stations.

Average Cost Per Line • $200 to $300.

Distribution • nationwide through approved distributors.

Installation/Maintenance • nationwide through approved distributors.

■ CREST INDUSTRIES INC

6922 North Meridian, Puyallup, WA 98371 • 206-927-6922.

☐ KTS-E2 Key System

Function • space division switching • wired logic common control; wired program • analog transmission • 2-pair wiring • 2 unblocked connections.

Trunks/Stations/Consoles • 2 trunks, unlimited stations; each system self-contained.

Voice Equipment • vendor supplied: Crestphone II (tone-dial desk phone and rotary-dial desk phone); Crestmate II (adjunct phone adapter); Crestline II (wall and desk phones); and Crestcom II.

Applications Supported • targeted small sales/service oriented businesses such as medical, dental, and real estate • residential.

Standard System Features • Station Signaling; Automatic Line Privacy; 3-Party Conferencing; Outgoing and Incoming Service during Power Failure; LED Illuminated Buttons; Automatic Button Restoral; Bell or Buzzer on Incoming Calls; Phone Store Compatibility.

First Delivery • December 1978.

Systems Delivered • over 70,000.

Average System Size Installed • 2 trunks, 6 stations.

Average Cost Per Line • $170 to $240.

Distribution • major distributors of telecommunications products.

Installation/Maintenance • self-installation with limited warranty supplied through vendor.

■ EXECUTONE INC

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

☐ Command 8/16 & 20/56

Function • space division switching • decentralized stored program microprocessor common control • analog transmission • 2-pair cabling • nonblocking.

Trunks/Stations/Consoles • Model 8/16: 8 trunks, 16 stations, 1 DSS/BLF • Model 20/56: 20 trunks, 56 stations, 2 DSS/BLF.

Voice Equipment • vendor supplied: proprietary 28-button telephones with programmable buttons; DSS/BLF console • equipment supported: 500/2500 telephones.

Applications Supported • small businesses.

Standard System Features • Direct Station Selection; Built-In Speakerphone; Busy Lamp Field; Visual Signals; Audible Signals; Privacy; Privacy Release Option; I-Hold Indication; Exclusive Hold; Do-Not-Disturb; Camping on a Busy Station; Trunk Camping with Queuing; Multitrunk Conference; Second Party Release; Message Waiting.

Optional System Features • (Programmable): Flash Key Time; CO Release Time; Tenant Service; Primary and Secondary Attendant's Stations; Meet-Me-Conference; External Page Relay; External Loud Ringing Relay; Background Music; Paging; Night Transfer Service; Hands-Free Operations; I-Hold Recall Timer; Message-Waiting Audible Signal; Call Forwarding; Music-On-Hold; CO Line Transfer (to idle or busy station); Off-Hook Incoming CO Ring Tone; CO Line Seizing and Dialing Abilities; CO Line Ringing; Automatic Call-Back.

First Delivery • 1981.

Systems Delivered • over 4,000.

Key/Hybrid Telephone Systems

Average System Size Installed • 8/16: 5 trunks, 9 stations • 20/56: 12 trunks, 30 stations.

Average Cost Per Line • $250 to $350.

Distribution • nationally through direct offices and local Executone contractors.

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

☐ Encore Models 616, 1232 & 2464

Function • electronic key system; space division switching • distributed microprocessor control • analog system • 3-pair station cabling • up to 34 unblocked connections.

Trunks/Stations/Consoles • Model 616: 6 trunks, 16 stations • Model 1232: 12 trunks, 32 stations • Model 2464: 24 trunks; 64 stations; 2 consoles; 10 intercom circuits.

Voice Equipment • vendor supplied: proprietary 6-, 12-, and 24-button electronic stations; Direct Station Select/Busy Lamp Field console; Handsfree Module • equipment supported: standard 500/2500 telephones.

Applications Supported • small- to medium-sized businesses.

Standard System Features • Automatic Disconnect on Hold; Memory Battery Backup; Intercom Privacy; Distinctive Ringing; DTMF/Dial Pulse Trunks; Flexible Night Service; Multiple Console Operation; Multiple Trunk Groups; Music-On-Hold Access; Power Failure Transfer; Specialized Common Carrier Services; Stored Program Control; System Speed Dialing; Tenant Service; Toll Restriction; Trunk Queuing/Auto-Callback; Trunk Conference; Universal Night Answer (UNA).

Standard Attendant Features • Direct Station Calling; Paging; Serial Call; Busy Lamp Field; Calling Station Indication; Night Transfer.

Standard Station Features • Add-On Conference; Attendant Recall; Automatic Callback; Automatic Time Out or Uncompleted ICM Calls; Call Pick-Up; Call Waiting on Intercom; Dial Selective Intercom; Distinctive Ringing; Do-Not-Disturb; Exclusive Hold; External Tone Output Signal; Flexible Timeouts; Hands-Free. Answerback on Intercom calls; Hands-Free Dialing and Monitoring; I-Hold Indication; Individual Transfer-All Calls; Last CO PBX Number Re-Dial; Manual Hold; Non-Exclusive Hold Message Waiting; Multiline Service; Nonlocking Buttons Prime Line Pickup; Push-Button Dialing; Recall or Flash Button (Programmable); Restriction (Outgoing and Toll Call); Selective Intercom Call Indication; Single Line Telephone Access; Speed Dialing; Station DSS Buttons; Tone and Voice Signaling on Intercom; Transfer/Camp-On; Volume Control on Key Set.

Optional System Features • Station Message Detail Recording; Off-Premises Stations; External Signal; DSS/BLF Console.

Optional Station Features • Speakerphones.

First Delivery • 1984.

Systems Delivered • over 500; all models.

Average System Size Installed • 616: 3 trunks, 8 stations • 1232: 8 trunks, 20 stations • 2464: 12 trunks, 26 stations.

Average Cost Per Line • $250 to $350.

Distribution • nationwide through direct sales; authorized Executone distributors.

Installation/Maintenance • nationwide through direct sales; authorized Executone distributors.

☐ Equity II

Function • space division switching • microprocessor common control and stored program • analog transmission • 3-pair cabling.

Trunks/Stations/Consoles • 5 trunks; 10 stations; 1 intercom-only circuit; 2 Doorphone units.

Voice Equipment • vendor supplied: proprietary 5-line telephone; handsfree version; Doorphone; paging adapter.

Applications Supported • small businesses.

Standard System Features • Alternate Point Answering; Distinctive Ringing; Tone and Voice Intercom Signaling; Privacy; Multiline Conference; Push-Button Dialing; Last Number Redial; Flexible Ringing Assignments.

Standard Station Features • Hold; Hold Recall; LED Illumination 2 Line Buttons; Intercom Privacy; Flash Button; Privacy Release; Volume Control.

Optional System Features • Line Restrictions; Automatic Exclusion; Doorphone; Internal/External Paging; Music-On-Hold; Speed Dialing; Toll Restriction; Night Transfer.

Optional Station Features • Hands Free Talkback on Intercom; Station BLF.

First Delivery • 1983.

Systems Delivered • over 1,000.

Average System Size Installed • 3 trunks/5 stations.

Average Cost Per Line • $200 to $250.

Distribution • nationally through direct offices and local Executone contractors.

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

☐ GATEWAY K2100

Function • space division switching • decentralized microprocessor common control with stored program • analog transmission • 2-pair cabling • 35 unblocked connections.

Trunks/Stations/Consoles • 1448 System: 14 trunks; 48 stations; 11 intercom circuits • 2496 System: 24 trunks; 96 stations; 11 intercom circuits.

Voice Equipment • vendor supplied: telephone set available in 8-, 16-, and 24-button multiline models and a single-line model • Direct Station Selection (DSS) Unit; Headset Adapter • Memory/Recall Speed Dialer • Hands-Free Module • Station Busy Lampfield.

Applications Supported • small businesses.

Standard System Features • Toll Master; Intercom Callback Request; Immediate Call Forwarding; Direct Dial Intercom; Individualized On-Hold Signaling; On-Hold Reminder; Directed Call Pick-Up; Intercom Hold; Multiline Access; Call Screening; Call Transferring; Com-Matic Calling; Privacy On All Calls; Hands-Free Intercom Response; Privacy Release Control; Multiline Conferencing (nonamplified); Intercom Conferencing (nonamplified); Combined Multiline and Intercom Conferencing (nonamplified); Off-Hook Call Signals; Simultaneous Intercom Calling; Full-Duplex Intercom.

Standard Station Features • Digital Readout Display; Call Monitoring; Push-Button Dial; LED Illumination; Non-Locking Buttons.

Optional System Features • Background Music; Music-On-Hold; Telephone Cost Accounting; Account Code Entry; Off-Premises Extension Operation; Direct Station Selection (DSS) Operation; Dual DSS Operation; Zone Paging/All Call; Restricted Access; Restricted Outside Access; "0" and "1" Toll Restriction; 3-Digit Restriction; Station Busy Lampfield; Call Coverage; Locate/Meet-Me.

Optional Station Features • Memory/Recall Speed Dialer; Speakerphone or Headset Operation.

First Delivery • 1980.

Systems Delivered • over 4,000.

Average System Size Installed • 12 trunks/18 stations.

Average Cost Per Line • $300 to $350.

Distribution • nationally through direct offices and local Executone contractors.

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

Key/Hybrid Telephone Systems

■ GAI-TRONICS CORPORATION

P.O. Box 31, Reading, PA 19603 • 215-777-1374.

□ Cohort EKS-616

Function • electronic key system; space division switching • centralized microprocessor control • analog system • 3-pair station cabling • up to 8 unblocked connections.

Trunks/Stations/Consoles • 6 trunks; 16 stations; 1 console (optional); 2 intercom circuits.

Voice Equipment • vendor supplied: proprietary electronic stations; Direct Station Select/Busy Lamp Field Console • equipment supported: none.

Applications Supported • small- to medium-sized businesses.

Standard System Features • Multiple Console Operation; Music-On-Hold Access; Power Failure Transfer; Specialized Common Carrier Services; Station Message Detail Recording; Station Speed Dialing; Stored Program Control; System Speed Dialing; Toll Restriction; Trunk Conference; Universal Night Answer (UNA); Privacy.

Standard Attendant Features • Busy Lamp Field.

Standard Station Features • Do-Not-Disturb; Hands-Free Answerback on Intercom Calls; Hands-Free Dialing and Monitoring; I-Hold Indications; Last CO/PBX Number Re-Dial; Manual Hold; Non-Exclusive Hold; Multiline Service; Nonlocking Buttons; Push-Button Dialing; Recall or Flash Button (Programmable); Restriction (Outgoing and Toll Call); Speed Dialing; Tone and Voice Signaling on Intercom; Volume Control on Key Set.

Optional System Features • Attendant Busy Lamp Field; Battery Backup; External Audible Signal.

First Delivery • 1984.

Systems Delivered • over 500.

Average System Size Installed • 10 stations.

Average Cost Per Line • $250.

Distribution • nationwide through authorized distributors.

Installation/Maintenance • nationwide through authorized distributors.

■ INTER-TEL EQUIPMENT INC

6505 West Williams Field Road, Chandler, AZ 85224 • 602-961-9000.

□ Phoenix/Hitec 412 & 824

Function • electronic key system; space division switching • distributed microprocessor control • analog system • 2-pair station cabling • up to 5 unblocked connections for 412 • 11 unblocked connections for 824 • 5.5 to 8.5 CCS per line.

Trunks/Stations/Consoles • 412: 4 trunks, 12 stations, 1 intercom circuit • 824: 8 trunks, 24 stations, 24 consoles (in lieu of standard key sets), 3 intercom circuits.

Voice Equipment • vendor supplied: proprietary electronic key stations; Direct Station Select/Busy Lamp Field available on key stations • equipment supported: most RS-232C-compatible printers (for SMDR) speakerphones.

Data Equipment • vendor supplied: none • equipment supported: acoustic coupler modems, full duplex 300 bps.

Applications Supported • small- to medium-sized businesses.

Standard System Features • Call Forward; Meet-Me Page; Doorphones; Privacy; Speakerphone (Full Duplex); Call Distinctive Ringing; DTMF/Dial Pulse Trunks; Flexible Night Service; Flexible Ring Assignments; Music-On-Hold Access; Power Failure Transfer; Specialized Common Carrier services; Station Speed dialing; stored Program Control; System Speed Dialing; Toll Restriction; Trunk Conference; Universal Night Answer (UNA).

Standard Attendant Features • DSS/BLF.

Standard Station Features • Add-On Conference; Automatic Callback; Busy Lamp Field(s); Call Forwarding; Caoo Pick-UP; Call Waiting; Distinctive Ringing; Do-Not-Disturb; DSS/BLF Key Set; Exclusive Hold; External Zone Paging; External Tone Output Signal; Flexible Timeouts; Hands-Free Answerback on Intercom Calls; Hands-Free Dialing and Monitoring; I-Hold Indication; Individual Transfer-All Calls; Internal Paging; Key Set Display; Last CO/PBX Number Re-Dial; LED Indications; Manual Hold; Non-Exclusive (Hold); Message Waiting; Multiline Service; Nonlocking Buttons; Push-Button Dialing; Recall or Flash Button (Programmable); Restriction (Outgoing and Toll Call); Speed Dialing; Station DSS Buttons; Tone and Voice Signaling on Intercom; Transfer/Camp-On; Volume Control on Key Set.

Optional System Features • Battery Backup; (SMDR).

Optional Station Features • LCD Display showing Elapsed Time; Filed Messages; Calling Station; Number Dialed; Called Station Status; Time and Date.

First Delivery • 1984.

Systems Delivered • over 200; both models.

Average System Size Installed • 412: 2 trunks, 8 stations • 824: 6 trunks, 16 stations.

Average Cost Per Line • $250 to $350.

Distribution • nationwide through direct sales; authorized distributors; supply houses.

Installation/Maintenance • nationwide through direct sales; authorized distributors.

□ Phoenix/Hitec 616, 1232 & 1648

Function • electronic key system; time division switching; delta modulation • distributed microprocessor control • digital system • 3-pair station cabling • up to 12 unblocked connections on 616; 16 on 1232; 24 on 1648 • 5.5 to 8.5 CCS per line.

Trunks/Stations/Consoles • 616: 6 trunks, 16 stations, 6 intercom circuits • 1232: 12 trunks, 32 stations, 4 intercom circuits • 1648: 16 trunks, 48 stations, 8 intercom circuits • up to 6 DSS/BLF consoles.

Voice Equipment • vendor supplied: proprietary electronic key stations; Direct Station Select/Busy Lamp Field unit, full-duplex Speakerphone • equipment supported: Speakerphones; RS-232C-compatible printers.

Data Equipment • vendor supplied: none • equipment supported: acoustic coupler modems, full duplex 300 bps.

Applications Supported • small- to medium-sized businesses.

Standard System Features • Alternate Point Answering; Call Forward; Distinctive Ringing; DTMF/Dial Pulse Trunks; Flexible Night Service; Flexible Ringing Assignments; Message Center; Multiple Trunk Groups; Music-On-Hold Access; Power Failure Transfer; Specialized Common Carrier Services; Station Speed Dialing; Stored Program Control; System Speed Dialing; Toll Restriction; Trunk Queuing/Auto-Callback; Trunk Queuing (Timed); Trunk Conference.

Standard Attendant Features • DSS/BLF.

Standard Station Features • Add-On Conference; Automatic Callback; Busy Lamp Field(s); Call Waiting on Intercom; Dial Selective Intercom; Distinctive Ringing; Do-Not-Disturb; DSS/BLF Console; Exclusive Hold; External Zone Paging; Hands-Free Answerback on Intercom Calls; Hands-Free Dialing and Hands-Free Answerback on Intercom Calls; Hands-Free Dialing and Monitoring; Speakerphone (full duplex); Individual Transfer-All Calls; Internal Zone Paging; Last CO/PBX Number Re-Dial; Manual Hold; Non-Exclusive (Hold); Message Waiting; Multiline Service; Nonlocking Buttons; Prime Line Pickup; Push-Button Dialing; Recall or Flash Button (Programmable); Restriction (Outgoing and Toll Call); Speed Dialing; Station DSS Buttons; Tone and Voice Signaling on Intercom; Transfer/Camp-On; Volume Control on Key Set.

Optional System Features • Battery Backup; (SMDR).

First Delivery • 1984.

Key/Hybrid Telephone Systems

Systems Delivered • over 100; all models.

Average System Size Installed • 616: 3 trunks, 8 stations • 1232: 8 trunks, 20 stations • 1648: 10 trunks, 28 stations.

Average Cost Per Line • $275 to $400.

Distribution • nationwide through direct sales; authorized distributors; supply houses.

Installation/Maintenance • nationwide through direct sales; authorized distributors.

☐ **Phoenix/Hitec 2456 & 32/128**

Function • delta modulation • hybrid KTS/PBX system • space division switching • time division switching • centralized microprocessor control • digital system • 3-pair station cabling • up to 33 unblocked connections on 2456; 41 on 32/128 • 5.5 to 8.5 CCS per line.

Trunks/Stations/Consoles • 2456: 24 trunks, 56 stations, 4 consoles, 8 intercom circuits • 32/128: 32 trunks, 128 stations, 4 consoles, 8 intercom circuits.

Voice Equipment • vendor supplied: proprietary electronic key stations; Direct Station Select/Busy Lamp Field unit (full duplex) Speakerphone • equipment supported: standard 500/2500 telephones; RS-232C-compatible printers.

Data Equipment • vendor supplied: none • equipment supported: acoustic coupler modems, full-duplex 300 bps.

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

Standard System Features • Alternate Answering Points; Call Forward; Direct Inward System Access; Distinctive Ringing; DTMF/Dial Pulse Trunks; Flexible Night Service; Flexible Number Assignments; Message Center; Multiple Trunk Groups; Music-On-Hold Access; Power Failure Transfer; Remote Programming and Diagnostics; System Traffic Analysis; Specialized Common Carrier Services; Station Speed Dialing; Stored Program Control; System Speed Dialing; Toll Restriction; Trunk Conference; Universal Night Answer.

Standard Attendant Features • DSS/BLF.

Standard Station Features • Add-On Conference; Automatic Callback; Busy Lamp Field(s); Call Forwarding; Call Waiting on Intercom; Dial Selective Intercom; Distinctive Ringing; Do-Not-Disturb; DSS/BLF Console; Exclusive Hold; External Zone Paging; External Tone Output Signal; Hands-Free Answerback on Intercom Calls; Hands-Free Dialing and Hands-Free Answerback on Intercom Calls; Hands-Free Dialing and Monitoring; Speakerphone (Full Duplex); Individual Transfer-All Calls; Internal Zone Paging; Last CO/PBX Number Re-Dial; Manual Hold; Non-Exclusive (Hold); Message Waiting; Multiline Service; Nonlocking Buttons; Prime Line Pickup; Push-Button Dialing; Recall or Flash Button (Programmable); Restriction (Outgoing and Toll Call); Single Line Telephone Access; Speed Dialing; Station DSS Buttons; Tone and Voice Signaling on Intercom; Transfer/Camp-On; Volume Control on Key Set.

Optional System Features • Battery Backup; (SMDR).

First Delivery • 1984.

Systems Delivered • over 100; all models.

Average System Size Installed • 2456: 15 trunks, 40 stations • 32/128: 20 trunks, 75 stations.

Average Cost Per Line • $475 to $550.

Distribution • nationwide through direct sales; authorized distributors; supply houses.

Installation/Maintenance • nationwide through direct sales; authorized distributors.

■ **IPC COMMUNICATIONS, INC**

Winthrop Road, Chester, CT 06412 • 203-526-9574.

☐ **Sureline**

Function • hybrid KTS/PBX system • space division switching • distributed microprocessor control • analog system • 2-pair

station cabling • up to 32 unblocked connections • 8 to 26 CCS per line.

Trunks/Stations/Consoles • 20 trunks/80 stations or 16 trunks/96 stations; 2 consoles; 12 intercom circuits.

Voice Equipment • vendor supplied: standard 500/2500 telephones; proprietary electronic key stations; Direct Station Select/Busy Lamp Field console • equipment supported: standard 500/2500 telephones.

Applications Supported • small- to medium-sized businesses.

Standard System Features • Area/Office Code Restriction; Automatic Station Release; Call Forward/Follow Me; Direct Inward Lines; Distinctive Ringing; DTMF/Dial Pulse Trunks; Flexible Night Service; Hunting; Multiple Trunk Groups; Music-On-Hold Access; Power Failure Transfer; Processor Change Specialized Station; Specialized Common Carrier Services; Station Speed Dialing; Stored Program Control; System Speed Dialing; Toll Restriction; Trunk Conference; Universal Night Answer; Automatic Circuit Assurance; Classes of Service; Data Restriction; Diagnostics; Dictation Access; Direct Inward System Access; Off-Premises Stations.

Standard Attendant Features • Attendant Camp-On; Attendant Digital Display; Attendant Controlled Conference; Attendant Control of Trunk Group Access; Attendant Digital Clock; Attendant Hold; Attendant Overflow Transfer; Attendant Priority; Automatic Recall; Busy Override Operation; Chain Calling; Call Destination; Call Splitting; Call Source Display; Class of Service Display; Incoming Call Display; Incoming Call Waiting Indication; Night Service Control; Paging Access; Station/Trunk Release; Serial Call; Speed Calling; Station Calling; Multiple Console Operation; Straightforward Outward Completion; Switched Loop Operation.

Standard Station Features • Add-On Conference; Automatic Callback; Broker's Call; Call Forwarding; Call Pick-Up; Call Waiting; Call Park; Consulation Hold; Dial "O" for Attendant; Distinctive Ringing; Do-Not-Disturb; Individual Transfer-All Calls; Key Set Display; Last CO/PBX Number Re-Dial; LED Indications; Manual Hold; (Non-Exclusive Hold); Message Waiting; Multiline Service; Nonlocking Buttons; Prime Line Pickup; Push-Button Dialing; Recall or Flash Button (Programmable); Restriction (Outgoing and Toll Call); Single Line Telephone Access; Speed Dialing; Tone and Voice Signaling on Intercom; Transfer/Camp-On; Volume Control on Key Set.

Optional System Features • SMDR; SMDR with Account Codes; Tie Trunk Access; Uniform Call Distribution.

First Delivery • third-quarter 1985.

Systems Delivered • none in U.S.; over 2,000 in Europe.

Average System Size Installed • 15 trunks, 70 stations.

Average Cost Per Line • $300 to $500.

Distribution • nationwide through direct sales; authorized distributors.

Installation/Maintenance • nationwide through direct sales; authorized distributors.

☐ **EPC (Electronic Phone Conversion)**

Function • electronic key system; space division switching • used with Centrex systems • distributed microprocessor control • analog system • 3-pair station cabling • unlimited unblocked connections • 36 CCS per line.

Trunks/Stations/Consoles • 462 Centrex lines; 120 stations • maximum per control module.

Voice Equipment • vendor supplied: standard 500/2500 telephones; proprietary 8-, 16-, 24-, or 32-line electronic stations • equipment supported: standard 500/2500 telephones.

Applications Supported • replaces 1A2 key equipment in Centrex installations.

Standard Station Features • Call Hold; Call Conference; Call Release; Hookflash Signal; Nonlocking Buttons; LED Display; Hands-Free Call Monitoring; Speed Dialing; Line Preference; Last Number Redial; Manual Signaling; DTMF Operations; Single Line Telephones.

Key/Hybrid Telephone Systems

First Delivery • 1984.

Systems Delivered • over 500.

Average System Size Installed • 30 to 50 stations; 40 to 70 Centrex lines.

Average Cost Per Line • $500.

Distribution • nationwide through direct sales; authorized distributors.

Installation/Maintenance • nationwide through direct sales; authorized distributors.

■ ITT BUSINESS COMMUNICATIONS CORPORATION

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

□ Aries EKS-401

Function • space division switching • distributed microprocessor control • analog system • 2-pair station cabling • up to 9 unblocked connections.

Trunks/Stations/Consoles • 6 trunks; 16 stations; 3 intercom circuits.

Voice Equipment • vendor supplied: proprietary electronic stations.

Applications Supported • small- to medium-sized businesses.

Standard System Features • Area/Office Code Restriction; Automatic Hold; Automatic Line Privacy; Automatic Station Release; Call forward/Follow Me; Call Forward (Secretary); Direct Inward Lines; Distinctive Ringing; DTMF/Dial Pulse Trunks; Electronic Mail; Flexible Night Service (ANA); Flexible Time Functions; Group Hunting; Line Preselect; Line Recall; Line Reserve; Line Status Indicators; Hold; Hold Recall; Flexible Ringing; Mixed Mode Dialing; Optimized Routing/Route Advance; Multiple console Operation; Multiple Trunk Groups (8); Music-On-Hold Access; Power Failure Transfer Lines; Power failure Transfer (System); Processor Change Specialized Station; Specialized Common Carrier Services; Station Message Detail Recorder; Station Speed Dialing; Stored Programm Control; System Speed Dialing; Tenant Service; Toll Restriction; Trunk Queuing/Auto-Callback; Trunk Queuing (Timed); Trunk Conference; Outside Line Restriction; Prime Line 3-party Conference; Universal Night Answer.

Standard System Features • Call Announce; Call Monitoring; Ringer and Speaker Volume Controls; Private Line Access; Non-Locking Buttons; Hold; Tone and Voice Signaling.

Optional System Features • All-Call Page; Music-On-Hold; External Paging Access; Last Number Redial; System Speed Dialing; Toll Restriction.

First Delivery • 1985.

Systems Delivered • undisclosed; new system.

Average System Size Installed • undisclosed.

Average Cost Per Line • $250 to $300.

Distribution • nationwide through authorized distributors.

Installation/Maintenance • nationwide through direct sales; authorized distributors.

□ EKS-701

Function • space division switching • stored program single microprocessor common control • 3-pair cabling • 6 unblocked connections.

Trunks/Stations/Consoles • 5 trunks; 16 stations; 1 intercom circuit path; 1 paging circuit.

Voice Equipment • vendor supplied: proprietary Tel-Touch or Tel-Pulse telephones.

Applications Supported • small businesses.

Standard System Features • Add-On Conference; Alarm Signal; All-Call Paging; Off-Hook Stations Receive Soft Paging; Answer Hold; Automatic Restart; Background Music; Hands-Free Call Announcing; Call Hold; Call-On-Hold Reminder; Direct Access to

all Outside Lines; Distinctive Audible Signals; Distinctive Visual Signals; Do-Not-Disturb; Expandability; Hands-Free Listening-On-Hold; Last Number Re-Dial; Line Preselection; LED Illumination; Multiparty Conference; Music-On-Hold; On-Hook Dialing; Paging; Power Failure Operation; Privacy on Inside and Outside Calls; Privacy Release; Push-Button Dial; Recall Button; Single-Button Calling on Intercom; Soft-Touch Non-Locking Buttons.

Optional System Features • Toll Restriction.

First Delivery • June 1982.

Systems Delivered • over 5,000.

Average System Size Installed • 3 trunks, 8 stations.

Average Cost Per Line • $350 to $400.

Distribution • OEMed from Kanda Tsushin Kogyo Co (a Japanese-based manufacturer); distributed through nationwide direct sales offices and independent dealers and distributors.

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

□ EKS-801

Function • space division switching • centralized microprocessor control • analog system • 3-pair station cabling • up to 14 unblocked connections.

Trunks/Stations/Consoles • 12 trunks; 32 stations; 1 DSS/BLF consoles; 2 intercom circuits.

Voice Equipment • vendor supplied: standard 500/2500 telephones; proprietary electronic stations; Direct Station Select/Busy Lamp Field console • hands-free unit • equipment supported: standard 500/2500 telephones.

Applications Supported • small- to medium-sized businesses.

Standard System Features • Intercom Signaling; Do-Not-Disturb; Flexible Ringing; Line Callback; Hold with Programmable Ringback; Conference Calls; Door Unit; Last Number Redial; Speed Dialing; Privacy; Distinctive Ringing.

Standard Station Features • Intercom; Hands-free Answering and Dialing; Hold; I-Hold Indication; Nonlocking Buttons; Single Line Telephone Access; Speed Dialing; Station DSS Buttons; Tone and Voice Signaling on Intercom; Transfer/Camp-On; Volume Control on Key Set; Wall Mount Unit.

Optional System Features • Toll Restriction; Music-On-Hold; Paging Access.

Optional Station Features • Call Announcing; Call Monitoring.

First Delivery • December 1983.

Systems Delivered • over 5,000.

Average System Size Installed • 6 trunks; 18 stations.

Average Cost Per Line • $475 to $600.

Distribution • nationwide through direct sales; authorized distributors.

Installation/Maintenance • nationwide through direct sales; authorized distributors.

□ System 3100

Function • hybrid KTS/PBX system • TDM/PCM • distributed microprocessor common control with stored program • digital transmission • 2-pair cabling • nonblocking.

Trunks/Stations/Consoles • 288-port maximum capacity; no restriction on station/trunk mix; up to 4 Direct Station Selection/Busy Lamp Field Consoles.

Voice Equipment • vendor supplied; single-line or multibutton telephone sets; 50-button Direct Station Selection/Busy Lamp Field Console; Voice/Data workstation; ITT Xtra Personal Computer.

Applications Supported • small- to medium-sized businesses.

Standard System Features • Queuing; Conference; Forwarding; Hold/Transfer; Intercom Transfer; Area Code/Office Code

Key/Hybrid Telephone Systems

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; HotLine; 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); Hands-free 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; Hands-free Speakerphone; On-Hook Dialing with Call Monitor.

First Delivery • 1981 (voice only); 1985 (dataversion).

Systems Delivered • over 2,000; all models.

Average System Size Installed • 90 stations.

Average Price 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.

☐ Multi-Function II

Function • space division switching • wired logic common control; wired program • analog transmission • 25- or 50-pair wiring • 19 unblocked connections.

Trunks/Stations/Consoles • 13 CO trunks; 40 stations; 1 to 4 intercom circuits.

Voice Equipment • vendor supplied; key telephone sets and key system units.

Applications Supported • small businesses.

Standard System Features • All Page.

Optional System Features • External Paging; Conferencing; Hands-Free Answerback on Intercom; Intercom-Only Station; Multizone Paging; Wall Phones; Automatic Button Restoration; Music-On-Hold; Toll Restriction; Direct Station Selection/Busy Lamp Field Console; Message Waiting.

First Delivery • 1968.

Systems Delivered • over 5,000.

Average System Size Installed • 5 trunks, 12 stations.

Average Cost Per Line • $150 to $250.

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

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

■ IWATSU AMERICA INC
120 Commerce Road, Carlstadt, NJ 07072 • 201-935-8580.

☐ Omega III

Function • space division switching • decentralized microprocessor common control with stored program • analog transmission • 3-pair cabling • 6 unblocked connections.

Trunks/Stations/Consoles • Omega III family consists of 4 systems • 412: 4 CO trunks; 12 stations; 2 intercom circuits • 816: 8 CO trunks; 16 stations; 2 intercom circuits • 1632: 12 CO trunks; 32 stations; 15 intercom circuits • 2460: 20 CO trunks; 60 stations; 23 intercom circuits.

Voice Equipment • vendor supplied: electronic key telephones; Station Busy Lamp Field; SMDR.

Applications Supported • small- to medium-sized businesses.

Standard System Features • CO/PBX Line Hold and Transfer; Automatic Privacy on CO/PBX Lines; Line Pre-Selection; Non-Blocking CO/ICM Lines; Push-Button Dialing (Rotary/Tone CO); Privacy Release on CO/PBX Line; Flash Key; Multiple Intercom Lines with simultaneous dialing; Private/Non-Private Intercom Lines; Discriminating Ringing; Exclusive Hold; Hands-Free Reply to ICM Calls; Automatic CO/PBX Line Hold Release; Answer Hold; Loud-Ringing Bell Interface; Music-On-Hold Interface; Add-On Conference; Dial "0" Access for Attendant; Voice/Tone Signaling on Intercom; Hot-Line Voice Page; Call Pick-Up; Secretary Transfer; All Call with "Meet-Me" Conference; Automatic CO Add-On Conference; Dial Tone Reorder on ICM; BGM/PA Interface; Executive Override; Hookswitch Busy Override.

Standard Station Features • Non-Locking Keys; LED Illumination; I-Use Indication; I-Hold Indication; Built-In Busy Lamp Field; Direct Station Selection; Station Selectable ICM Tone/Voice Signaling; Identified ICM Calling Party; Off-Hook Signaling; CO/PBX Line Pick-Up Restriction; Multiple Function Keys; Flash Key; Microphone Cutoff; On-Hook Dialing; Call Monitoring; Direct Paging Access; All Call With Meet-Me Conference; Do-Not-Disturb; Last Number Re-Dial; Night Service; Hold Recall; Soft Paging; Adjustable Station Volume Control; Adaptable to Ancillary Devices; Built-In Directory Tray; Adaptable for Wall Mounting; Modular Construction.

Optional System Features • Flexible CO/PBX Line Ring Assignments; Multitrunk Conference; Trunk-to-Trunk Conference; Toll Restriction; Dial Restriction; Programmable Feature Timing; System Speed Dialing (up to 100 numbers); Extension Group Calling; Power Failure Transfer CO/PBX Lines; PA Amplifier Interface; Full Hands-Free Operation (CO/ICM); Station Memory Dialing; Headset Adapter.

First Delivery • 1979.

Systems Delivered • over 35,000.

Average System Size Installed • 6 trunks, 14 stations.

Average Cost Per Line • $300 to $400.

Distribution • authorized distributors.

Installation/Maintenance • support for installation and maintenance through distributor; warranty available through vendor.

☐ Omega IV EX-412/616

Function • electronic key system; space division switching • distributed microprocessor control • analog system • 2-pair station cabling • up to 10 unblocked connections.

Trunks/Stations/Consoles • Model 412: 4 trunks, 12 stations • Model 616: 6 trunks, 16 stations • 4 intercom circuits.

Voice Equipment • vendor supplied: standard 500/2500 telephones; 7 different electronic key stations, equipped with DSS and/or LCD display • equipment supported: standard 500/2500 telephones.

Key/Hybrid Telephone Systems

Applications Supported • small businesses.

Standard System Features • All Call Page; Area/Office Code Restriction; Automatic Trunk Release; Call Forwarding; DTMF/Dial Pulse Operation; Direct Inward Lines; Distinctive Ringing; Doorphones; External Ringer; Group Call; Multitrunk Conference; Music-On-Hold; Power Failure Transfer; Privacy; SMDR; System Program Terminal; Trunk Queuing; Trunk-to-Trunk Conference; Universal Night Answer; Tone and Voice Signaling.

Standard Station Features • Account Code; Add-On Conference; Answer Hold; Messaging; Busy Lamp Field; Busy Override; Call Park; Call Pickup; Consultation; Paging; Do-Not-Disturb; Flash Button; Hands-free Operation; Message Waiting; Privacy with Release; Last Number Redial; Station Display; Speed Dial; Time Display.

First Delivery • second-quarter 1985.

Systems Delivered • none.

Average System Size Installed • none.

Average Cost Per Line • $250 to $350.

Distribution • nationwide through authorized distributors.

Installation/Maintenance • nationwide through authorized distributors.

☐ Omega IV EX-816/824/1648

Function • electronic key system; space division switching • distributed microprocessor control • analog system • 3-pair station cabling • up to 24 unlocked connections.

Trunks/Stations/Consoles • 816: 8 trunks, 16 stations • 824: 8 trunks, 24 stations • 1648: 16 trunks, 48 stations o up to 2 DSS/BLF consoles • up to 4 BLF consoles • 8 intercom circuits.

Voice Equipment • vendor supplied: standard 500/2500 telephones; proprietary electronic key stations; Direct Station Select/Busy Lamp Field console • equipment supported: standard 500/2500 telephones.

Applications Supported • small- to medium-sized businesses.

Standard System Features • Area/Office Code Restriction; Automatic Station Release; Call Forward/Follow Me; Distinctive Ringing; DTMF/Dial Pulse Trunks; E&M Tie Lines; Flexible Night Service; Flexible Time Functions; Group Hunting; Multiple Console Operation; Music-On-Hold Access; Power Failure Transfer; Specialized Common Carrier Services; Station Message Detail Recorder; Station Speed Dialing; Stored Program Control; System Speed Dialing; Tenant Service; Toll Restriction; Trunk Queuing/Auto-Callback; Trunk Conference; Universal Night Answer (UNA); Voice Messages/Prompts; Voice and Tone Calling.

Standard Attendant Features • Attendant Camp-On; Attendant Call Forward; Attendant Controlled Conference; Attendant Hold; Attendant Overflow Transfer; Attendant Priority; Automatic Recall; Chain Calling; Call Destination; Call Source Display; Class of Service Display; Incoming Call Display; Individual Trunk Access; Night Service Control; Paging Access; Station/Trunk Release; Serial Call; Speed Calling; Station Calling; Speed Dial Assignment; System Programming.

Standard Station Features • Add-On Conference; Automatic Callback; Call Forwarding; Call Pick-Up; Dial Selective Intercom; Distinctive Ringing; Do-Not-Disturb; Exclusive Hold; Hands-Free Answerback on Intercom Calls; Hands-Free Dialing and Hands-Free Answerback on Intercom Calls; I-Hold Indication; Individual Transfer-All Calls; Key Set Display; Last CO/PBX Number Re-Dial; Manual Hold (Non-Exclusive Hold); Message Waiting; Multiline Service; Nonlocking Buttons; Prime Line Pickup; Push-Button Dialing; Recall or Flash Button (Programmable); Restriction (Outgoing and Toll Call); Selective Intercom Call Indication; Single Line Telephone Access; Speed Dialing; Station DSS Buttons; Tone and Voice Signaling on Intercom; Transfer/Camp-On; Volume Control on Key Set.

First Delivery • 1984.

Systems Delivered • over 1,000; all models.

Average System Size Installed • 816 & 824: 5 trunks, 12 stations • 1648: 10 trunks, 30 stations.

Average Cost Per Line • $350 to $400.

Distribution • nationwide through authorized distributors.

Installation/Maintenance • nationwide through authorized distributors.

☐ Omega IV IDS -128

Function • hybrid KTS/PBX system, time division switching, pulse code modulation • decentralized microprocessor common control with stored program • digital transmission • 2-pair cabling • nonblocking • 36 CCS per line.

Trunks/Stations/Consoles • loop or ground start trunks; 128 stations of various types; 2 attendant consoles.

Voice Equipment • vendor supplied: Presidential Digital Key Telephone; VERSA PHONE Station Key Telephone; Single-Line Telephone; Attendant Console; and Station Busy Lamp Field.

Applications Supported • small- to medium-sized businesses.

Standard System Features • Area/Office Code Restriction; Automatic Station Release; Call Forward/Follow Me; Call Forward (Secretary); Direct Inward Lines; Distinctive Ringing; DTMF/Dial Pulse Trunks; Electronic Mail; Flexible Night Service (ANA); Flexible Time Functions; Group Hunting; Optimized Routing/Route Advance; Multiple Console Operation; Multiple Trunk Groups (8); Music-On-Hold Access; Power Failure Transfer Lines; Power Failure Transfer (System); Processor Change Specialized Station; Specialized Common Carrier Services; Station Message Detail Recorder; Station Speed Dialing; Stored Program Control; System Speed Dialing; Tenant Service; Toll Restriction; Trunk Queuing/Auto-Callback; Trunk Queuing (Timed); Trunk Conference; Universal Night Answer (UNA); Voice Messages.

Standard Attendant Features • Attendant Camp-On; Attendant Call Forward; Attendant Controlled Conference; Attendant Digital Clock; Attendant Hold; Attendant Overflow Transfer; Attendant Priority; Automatic Recall; Busy Override Operation; Chain Calling; Call Destination; Call Splitting; Call Source Display; Class of Service Display; Incoming Call Display; Incoming Call Waiting Indication; Individual Trunk Access; Night Service Control; Paging Access; Station/Trunk Release; Serial Call; Speed Calling; Station Calling.

Standard Station Features • Presidential Digital Key Telephone: Account Code Capability (SMDR); Announced Call Transfer; Automatic Callback (ICM); Automatic Answering; Call Hold (CO/ICM); Call Park (CO/ICM) (Individual Station); Class of Service (20); Dial Call Pick-Up; Direct Page Access; Direct Outward Dialing; Direct Terminations; Do-Not-Disturb (DND); Exclusive Hold; Executive Override; Flash Key; Hands-Free Operation (CO/ICM); Hands-Free Reply (ICM); Hold Recall; Message Waiting; Message Pick-Up; Microphone Cut-Off; On-Hook Dialing/Call Monitor; Prime Line; Protected Extension; Save and Repeat Number Dialed; Secretary ICM • "VERSA PHONE" Key Telephone: Account Code Capability (SMDR); Add-On Conference; Announced Call Transfers; Automatic Callback (ICM); Call Forwarding; Call Hold (CO/ICM); Call Park (CO/ICM); Class of Service (20); Consultation Hold; Dial Call Pick-Up; Directed Call Pick-Up; Direct Outward Dialing; Do-Not-Disturb; Exclusive Hold; Hands-Free Talkback (ICM); Hold Recall; Message Waiting; Message Pick-Up; Meet-Me Paging; On-Hook Dial/Monitor; Save and Repeat Number Dialed; Secretary Line; Station-to-Station Calling; Station Controlled Conference; Trunk Group Access Restriction; Unscreened/Screened Transfer (CO/ICM) • Single-Line Telephone: Add-On Conference (CO/ICM); Callback ICM; Consultation Hold; Class of Service (10); Distinctive Ringing; Dial Call Pick-Up; Directed Call Pick-Up; DP/DTMF Station; Master Group Hunt; Meet-Me Paging; Night Service Assignment; Off-Premise Capability; Through Dialing; Trunk Group Access Restriction; SMDR with Account Code; Station Message Waiting; System Alarm Indications; System Program Terminal; Trunk Group Access Control.

First Delivery • July 1983.

Key/Hybrid Telephone Systems

Systems Delivered • over 500.

Average System Size Installed • 6 stations.

Average Cost Per Line • $450 to $550.

Distribution • authorized distributors.

Installation/Maintenance • support for installation and maintenance through distributor; warranty available through vendor.

■ KANDA TELECOM

11130 Metric Boulevard, Austin, TX 78758 • 512-834-8711.

□ EK-516

Function • space division switching • stored program microprocessor common control • 3-pair cabling.

Trunks/Stations/Consoles • 5 trunks; 16 stations; 1 or 2 intercom circuits.

Voice Equipment • vendor supplied: single-line and multiline key telephone sets; key system unit; and direct station selection console.

Applications Supported • small businesses.

Standard System Features • On-Hold Reminder; Automatic Privacy; On-Hook Dialing; Soft Paging; Direct Station Selection; Hands-Free Answerback; Do-Not-Disturb; Recall Button.

Optional System Features • Flexible Dial Restriction; Background Music; Alarm Signaling.

First Delivery • first quarter 1982.

Systems Delivered • over 1,000.

Average System Size Installed • 5 trunks/8 to 10 stations.

Average Cost Per Line • $150 to $200.

Distribution • independent phone companies and interconnect companies.

Installation/Maintenance • independent phone companies and interconnect companies.

□ EK-1232 & EK-2064

Function • space division switching; stored program microprocessor common control; analog transmission; 3-pair cabling.

Trunks/Stations/Consoles • EK-1232: 12 CO trunks; 32 stations; 1 console; 7 intercom circuits • EK-2064: 20 CO trunks; 64 stations; 2 consoles; 11 intercom circuits.

Voice Equipment • vendor supplied: key telephone sets; key system unit; direct station selection consoles; and busy lamp field.

Applications Supported • small businesses.

Standard System Features • Privacy; Conference Calling; Transfer Without Hold; Automatic Hold Recall Timer; Music-On-Hold; Last Number Re-Dial; Auto-Dial/Speed Dial; Automatic Intercom Line Preference; Hands-Free Answer Back to Intercom Call; Group Paging; External Paging; Alarm Terminals.

Standard Station Features • Hold Button; Exclusive Hold; Add-On/Alternate Answering Positions; Camp-On; Speaker Monitoring; Do-Not-Disturb; Speed Dial; Last Number Re-Dial; Group Paging and Call Forward Pre-Set; Intercom Button; Flash Key; Automatic Dial.

Optional System Features • CO Line Assignment; Incoming Call Assignment; Extension Station Assignment; Toll Restriction.

Optional Station Features • Hands-Free Operation; Station Display.

First Delivery • September 1983.

Systems Delivered • over 1,000.

Average System Size Installed • 12 trunks/28 to 30 stations.

Average Cost Per Line • $200 to $250.

Distribution • nationwide through independent phone companies and interconnect companies.

Installation/Maintenance • nationwide through independent phone companies and interconnect companies.

■ NEC TELEPHONES, INC

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

□ Electra-616

Function • space division switching • stored program microprocessor common control • analog transmission • 2-pair cabling • 10 unblocked connections.

Trunks/Stations/Consoles • 6 trunks; 16 stations; 2 intercom circuits.

Voice Equipment • vendor supplied: proprietary key telephone sets; Busy Lamp Fields; and Door Phones.

Applications Supported • small businesses, particularly branch offices, retail stores, medical offices, restaurants, and pharmacies.

Standard System Features • Battery Backup for System Memory; Music-On-Hold; Night Transfer; Power Failure Transfer; Private Lines; Resident System Program; Toll Override; Toll Restriction.

Standard Station Features • Add-On Conference; Alphanumeric Display; Call Pick-Up; Call Waiting Indication; Calling Number Display; Data Access; Direct Station Selection (DSS); Distinctive Ringing; Do-Not-Disturb; DSS Chain Calling; Exclusive Hold with Recall; External Paging; External Tone Signal; Feature Access Buttons; Flexible Ringing Assignments; Flexible Timeouts; Hands-Free Answerback on Intercom Calls; Hands-Free Dialing and Monitoring; Hold Recall with Identification; I-Hold Indication; Intercom Tone/Voice Signaling; Internal Zone Paging; Last Number Re-Dial; LED Indications; Line Pre-Selection; Mic On/Off Control; Off-Hook Signaling; 1-Step Transfer; Outgoing Call Restriction; Prime Line Pick-Up; Privacy; Privacy Release; Programming from Key Set; Push-Button Dialing (Rotary or DTMF); Recall/Flash Button; Security Alarm; Specialized Common Carrier Access; Speed Dialing (Station, System); Volume Control; Zone Paging With Meet-Me Answer.

Optional System Features • Door Phones; External Background Music; Monitor Phones.

Optional Station Features • Automatic Hold Release; Busy Lamp Fields.

First Delivery • June 1983.

Systems Delivered • over 1,000.

Average System Size Installed • 3 trunks/9 stations.

Average Cost Per Line • undisclosed.

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

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

□ Electra 16/48

Function • hybrid KTS/PBX system; space division switching • decentralized microprocessor common control with stored program • analog transmission • 2-pair cabling • up to 21 unblocked connections.

Trunks/Stations/Consoles • 16 trunks; 48 stations; 5 intercom circuits.

Voice Equipment • vendor supplied: proprietary key telephones sets with 16 and 8 CO buttons; Direct Station Selection/Busy Lamp Field console; standalone Busy Lamp Field console; single-line telephones.

Applications Supported • targeted to small-to-medium-sized businesses.

Standard System Features • Automatic Hold Release; DTMF and Dial Pulse Signaling on CO/PBX Lines; Flexible Ringing Assignments; Power Failure Transfer; Privacy-CO/PBX and Intercom; Resident System Program.

Standard Station Features • Add-On Conference; Attendant Recall; Automatic Callback; Automatic Time Out or Uncompleted

Key/Hybrid Telephone Systems

ICM Calls; Backup Battery-System Memory; Busy Lamp Field(s); Call Forwarding; Call Pick-Up; Call Waiting on Intercom; Call Waiting—Tone Override With Identification; Callback Request Display; Data Access; Dial "0" for Attendant; Dial Selective Intercom; Distinctive Ringing; Do-Not-Disturb; DSS/BLF Console(s); DSS Chain Calling; Exclusive Hold With Flexible Timed Reminder; External 3-Zone Paging with Meet-Me Answer; External Tone Output Signal; Flexible Timeouts; Hands-Free Answerback on Intercom Calls; Hands-Free Dialing and Hands-Free Answerback on Intercom Calls; Hands-Free Dialing and Monitoring; I-Hold Indication; Individual Transfer-All Calls; Internal 3-Zone Paging with Meet-Me Answer; Key Set Display; Last CO/PBX Number Re-Dial; LED Indications; Manual Hold (Non-Exclusive Hold); Message Waiting; Multiline Service; Nonlocking Buttons; Prime Line Pickup; Programming from Attendant Key Sets; Push-Button Dialing; Recall or Flash Button (Programmable); Restriction (Outgoing and Toll Call); Selective Intercom Call Indication; Single Line Telephone Access; Speed Dialing; Station DSS Buttons; Tone and Voice Signaling on Intercom; Transfer/Camp-On; Volume Control on Key Set; Wall Mount Unit.

Optional System Features • Background Music over External Paging Speakers; Music-On-Hold Access; Night CO/PBX Pick-Up; Night Transfer.

First Delivery • March 1982.

Systems Delivered • over 10,000.

Average System Size Installed • 5 to 6 trunks/18 to 20 stations.

Average Cost Per Line • $625.

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

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

■ NICHO INCORPORATED

8660 Troy Township Road #4, R.R. 9, Mansfield, OH 44904 • 419-884-0123.

□ April Key System

Function • space divison switching • wired logic common control; wired program • analog transmission • 25-pair cabling.

Trunks/Stations/Consoles • 8 trunks; 36 stations; 2 intercom circuits.

Voice Equipment • vendor supplied: proprietary rotary or touch-tone telephone sets; intercom stations; and busy lamp field.

Applications Supported • small businesses.

Standard System Features • Toll Restriction; Power Failure Protection; Conferencing; Music-On-Hold; Automatic Dialing; Video Telephone; Dial Select Intercom; Dial Select Hands-Free Intercom; Remote Video Intercom; Busy Lamp Field; Dial Paging; Environmental Controls.

Standard Station Features • Multiple Line Access; Individual Button Illumination; Push-Button Dialing; Common Audible Line Alerting; Button Restoration; Voice Announcing.

First Delivery • October 1979.

Systems Delivered • 3,700.

Average System Size Installed • 4 trunks, 6 stations.

Average Cost Per Line • $240.

Distribution • nationwide through authorized distributors.

Installation/Maintenance • nationwide through authorized distributors.

■ NORTHCOM GROUP, INC

P.O. Box 300, 600 Industrial Parkway, Industrial Airport, KS 66031 • 913-791-7000.

□ Premier 308, 616, & 1A3

Function • electronic key system; space division switching; distributed microprocessor control • analog system • 2-pair station cabling • up to 8 unblocked connections.

Trunks/Stations/Consoles • 308: 3 trunks, 8 stations, 2 intercom circuits • 616: 6 trunks, 16 stations, 2 intercom circuits • 1A3: 6 trunks, 12 stations, 2 intercom circuits.

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

Applications Supported • small- to medium-sized businesses.

Standard System Features • Distinctive Ringing; Music-On-Hold Access; Power Failure Transfer; Station Speed Dialing; Stored Program Control; System Speed Dialing; Toll Restriction; Trunk Conference; Night Answer.

Standard Station Features • Add-On Conference; Backup Battery-System; Call Forwarding; Call Pick-Up; Call Waiting; Dial Selective Intercom; Distinctive Ringing; Do-Not-Disturb; Exclusive Hold; Zone Paging; Hands-Free Answerback on Intercom Calls; Hands-Free Dialing and Hands-Free Answerback on Intercom Calls; Hands-Free Dialing; I-Hold Indication; Individual Transfer-All Calls; Last CO/PBX Number Re-Dial; Manual Hold (Non-Exclusive Hold); Message Waiting; Multiline Service; Nonlocking Buttons; Programming from Attendant Key Sets; Push-Button Dialing; Recall or Flash Button (Programmable); Restriction (Outgoing and Toll Call); Selective Intercom Call Indication; Speed Dialing; station DSS Buttons; Tone and Voice Signaling on Intercom; Transfer/Camp-On; Volume Control on Key Set; Wall Mount Unit.

First Delivery • 308 & 616: 1984; 1A3: 1985.

Systems Delivered • over 500; all models.

Average System Size Installed • 308: 2 trunks, 5 stations; 616: 4 trunks, 10 stations; 1A3: 7 stations.

Average Cost Per Line • $200 to $300.

Distribution • nationwide through Telcos or authorized distributors.

Installation/Maintenance • nationwide through Telcos or authorized distributors.

□ Premier 1648

Function • hybrid KTS/PBX system • time division switching • distributed microprocessor control • digital system • 2-pair station cabling • 36 CCS per line.

Trunks/Stations/Consoles • 16 trunks, 48 proprietary key stations, 2 DSS/BLF consoles; 24 single-line 500/2500 telephones.

Voice Equipment • vendor supplied: standard 500/2500 telephones; proprietary electronic key stations Direct Station Select/Busy Lamp Field console; Busy Lamp Field console • equipment supported: standard 500/2500 telephones.

Data Equipment • vendor supplied: 300/1200 bps modem • equipment supported: printers.

Applications Supported • small- to medium-sized businesses.

Standard System Features • Area/Office code Restriction; Call Forward; Distinctive Ringing; DTMF/Dial Pulse Trunks; Flexible Night Service; Group Hunting; Multiple Console Operation; Multiple Trunk Groups; Music-On-Hold Access; Power Failure Transfer (System); Processor Change Specialized Station; Specialized Common Carrier Services; Station Message Detail Recorder; Station Speed Dialing; Stored Program Control; System Speed Dialing; Toll Restriction; Trunk Conference; Universal Night Answer.

Standard Attendant Features • Attendant Camp-On; Attendant Call Forward; Attendant Controlled Conference; Attendant Hold; Individual Trunk Access; Night Service Control; Paging Access; Station/Trunk Release; Serial Call; Speed Calling; Station Calling.

Standard Station Features • Add-On Conference; Call Pick-Up; Dial "O" for Attendant; Dial Selective Intercom; Distinctive Ringing; Do-Not-Disturb; Exclusive Hold; External Zone Paging; Hands-Free Answerback on Intercom Calls; Hands-Free Dialing and Hands-Free Answerback on Intercom Calls; Hands-Free Dialing; I-Hold Indication; Individual Transfer-All Calls; Last CO/PBX Number Re-Dial; Manual Hold (Non-Exclusive Hold); Message Waiting; Multiline Service; Nonlocking Buttons; Prime

Key/Hybrid Telephone Systems

Line Pickup; Programming from Attendant Key Sets; Push-Button Dialing; Recall or Flash Button (Programmable); Restriction (Outgoing and Toll Call); Selective Intercom Call Indication; Speed Dialing; Station DSS Buttons; Tone and Voice Signaling on Intercom; Transfer/Camp-On; Volume Control on Key Set; Wall Mount Unit.

Optional System Features • Battery Backup; Busy Lamp Field; DSS/BLF Console; Mini-Printer; Single-Line Telephones.

First Delivery • 1984.

Systems Delivered • over 100.

Average System Size Installed • 8 trunks, 22 stations.

Average Cost Per Line • $350 to $450.

Distribution • nationwide through authorized distributors.

Installation/Maintenance • nationwide authorized distributors; 1-year warranty.

■ NORTHERN TELECOM INC
259 Cumberland Bend, Nashville, TN 37228 • 615-251-4992.

□ Vantage 12

Function • space division switching • decentralized microprocessor common control with stored program • analog transmission • 2-pair cabling • 10 unblocked connections.

Trunks/Stations/Consoles • 6 trunks; 12 stations; 4 intercom circuits.

Voice Equipment • vendor supplied: electronic telephone sets; add-on option modules (Direct Station Selection/Busy Lamp Field and Hands-Free Module); and equipment cabinet.

Applications Supported • small businesses.

Standard System Features • Toll Denial; Toll and 411 Denial; Outgoing Call Denial; Private Line (2); Group Listening; On-Hook Dialing; Hands-Free Listening; Listen-On-Hold; Adjustable Volume Control; Tone Ringer; Distinctive Ringing Tones (4); Programmable Ringing Assignment; Automatic Ringing Line Preference; Hold Features (Automatic Hold; Tone-On-Hold; Held Line Reminder; I-Hold Indication); Wall Mount; Music-On Hold Interface.

Standard Station Features • Single Set Color; Non-Locking Buttons; Designation Cards (6 colors); Push-Button Dialing; End-to-End Signaling; Modified Square Configuration; LED Illumination; Visual Line Status Indication; Recall Button (4 rates); Automatic Privacy with Release Button; Call Progress Tones; Saved Number Re-Dial Button; Last Number Re-Dial Button; Disconnect Button; 3-Party Conferencing; Pause Button; Speaker Button; Do-Not-Disturb Button; Privacy Lid; Hold Button; Personal Directory.

Optional System Features • Direct Station Selection; Station Busy Visual Indication; Calling Party Identification; Tone and Voice Signaling; Voice Call Prohibit; Selective Intercom Conference; Call Transfer; All Call Paging.

First Delivery • 1981.

Systems Delivered • over 6,000.

Average System Size Installed • 3 trunks, 8 stations.

Average Cost Per Line • $250 to $350.

Distribution • nationwide through approved distributors/ dealers.

Installation/Maintenance • nationwide through approved distributors/dealers.

□ Vantage 48

Function • space division; solid state switching • microprocessor controlled, stored program • 4-pair cabling • nonblocking.

Trunks/Stations/Consoles • 16 trunks; 48 station sets; 5 intercom circuits; 1 dedicated intercom circuit for central answering position (CAP); 2 central answering positions.

Voice Equipment • vendor supplied: proprietary telephone sets; industry standard 2500/500 sets; DSS/BLF Station; and station

message detail recording.

Applications Supported • small business.

Standard System Features • Toll Denial; Toll and 411 Denial; Outgoing Call Restrictions; Private Lines; Group Listening; On-Hook Dialing; Hands-Free Listening; Listen-On-Hold; Adjustable Volume Controls; Tone Ringer; Distinctive Ringing Tones; Programmable Ringing Assignment; Automatic Ringing Line Preference; Holding Features (Automatic Hold, Tone-On-Hold, Held Line Reminder, I-Hold Indication); Wall Mounting; Music-On-Hold Interface; Hook Flash Timing (4 Rates); Dial Mode (Tone or Pulse); Dial Tone Time Out.

Standard Station Features • Single Set Color; Non-Locking Buttons; Designation Cards (6 Colors); Push-Button Dialing; End-to-End Signaling; LED Illumination; Visual Line Status Indication; Recall Button; Automatic Privacy Release Button; Call Progress Tones; Saved Number Re-Dial Button; Disconnect Button; 3-Party Conferencing; Pause Button; Do-Not-Disturb Button; Privacy Lid; Hold Button; Personal Directory; Tone and Voice Signaling; Call Transfer; Call Pick-Up; Automatic Idle Line Selection.

Optional System Features • Programmable Direct Station Selection; Programmable CO Line Keys; Programmable Feature Keys; Voice Call Prohibit; Paging; Visual Line Status Indication; Full Hands-Free Operation; Microphone Mute Button.

Optional Attendant Features • Programmable 16-Button CO Module; 48 Station Add-On DSS/BLF; Night Service; Test Buttons; Page; System Alarm Indication; Call Splitting; Transfer Button.

First Delivery • fourth quarter 1983.

Systems Delivered • over 500.

Average System Size Installed • 8 trunks, 18 stations.

Average Cost Per Line • $250 to $350.

Distribution • nationwide through approved distributors/ dealers.

Installation/Maintenance • nationwide through approved distributors/dealers.

■ PANASONIC
One Panasonic Way, Secaucus, NJ 07094 • 201-348-7000.

□ VA-208

Function • electronic key system; space division switching • distributed microprocessor control • analog system • 2-pair station cabling • up to 4 unblocked connections.

Trunks/Stations/Consoles • 2 trunks, 8 stations, 2 intercom circuits.

Voice Equipment • vendor supplied: proprietary electronic stations; door intercom unit • equipment supported: standard 500/2500 telephones; answering machines.

Applications Supported • small businesses • residential.

Standard System Features • Music-On-Hold; Station Speed Dialing; Stored Program Control; System Speed Dialing; Toll Restriction.

Standard Station Features • Add-On Conference; Call Waiting on Intercom; Exclusive Hold; Hands-Free Answerback on Intercom Calls; I-Hold Indication; Last CO/PBX Number Re-Dial; Nonlocking Buttons; Prime Line Pickup; Push-Button dialing; Recall or Flash Button (Programmable); Restriction (Outgoing and Toll Call); Single Line Telephone Access; Speed Dialing; Tone and Voice Signaling on Intercom; Transfer/Camp-On; Volume Control on Key Set; Wall Mount Unit.

First Delivery • 1985.

Systems Delivered • undisclosed.

Average System Size Installed • undisclosed.

Average Cost Per Line • $900 for KSU and 4-key telephones.

Distribution • nationwide through supply houses; authorized distributors; phone stores.

Key/Hybrid Telephone Systems

Installation/Maintenance • nationwide through authorized distributors; Panansonic Tech Support.

■ PHILIPS TELEPHONE SYSTEMS

85 McKee Drive, Mahwah, NJ 07430 • 201-529-3800.

□ KBX 100

Function • hybrid KTS/PBX system • space division switching • centralized microprocessor control • analog system • 2-pair station cabling • up to 20 unblocked connections • 6 to 18 CCS per line.

Trunks/Stations/Consoles • up to 40 trunks; 80 stations; 2 consoles.

Voice Equipment • vendor supplied: standard 500/2500 telephones; proprietary electronic stations; Direct Station/Busy Lamp Field console; attendant console • equipment supported: standard 500/2500 telephones.

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

Standard System Features • Area/Office Code Restriction; Automatic Station Release; Call Forward/Follow Me; Class of Service; Direct Inward Lines; Distinctive Ringing; DTMF/Dial Pulse Trunks; Flexible Night Service (ANA); Flexible Time Functions; Group Hunting; Optimized Routing/Route Advance; Multiple Console Operation; Multiple Trunk Groups; Music-On-Hold Access; Power Failure Transfer Lines; Power Failure Transfer (System); Specialized Common Carrier Services; Station Speed Dialing; Stored Program Control; System Speed Dialing; Toll Restriction; Trunk Queuing/Auto-Callback; Trunk Queuing (Timed); Trunk Conference; Universal Night Answer (UNA).

Standard Attendant Features • Attendant Camp-On; Attendant Call Forward; Attendant Controlled Conference; Attendant Hold; Attendant Overflow Transfer; Attendant Priority; Automatic Recall; Busy Override Operation; Chain Calling; Call Destination; Call Splitting; Call Source Display; Class of Service Display; Incoming Call Display; Incoming Call Waiting Indication; Individual Trunk Access; Night Service Control; Paging Access; Station/Trunk Release; Serial Call; Speed Calling; Station Calling.

Standard Station Features • Add-On Conference; Attendant Recall; Automatic Callback; Call Forwarding; Call Pick-Up; Call Waiting; Dial "O" for Attendant; Dial Selective Intercom; Distinctive Ringing; Do-Not-Disturb (DND); Exclusive Hold; External Zone Paging; External Tone Output Signal; Flexible Timeouts; Hands-Free Dialing and Hands-Free Answerback; I-Hold Indication; Individual Transfer-All Calls; Key Set Display; Last CO/PBX Number Re-Dial; LED Indications; Manual Hold (Non-Exclusive Hold); Message Waiting; Multiline Service; Nonlocking Buttons; Prime Line Pickup; Programming from Attendant Key Sets; Push-Button Dialing; Recall or Flash Button (Programmable); Restriction (Outgoing and Toll Call); Selective Intercom Call Indication; Single Line Telephone Access; Speed Dialing; Tone and Voice Signaling on Intercom; Transfer/Camp-On; Volume Control on Key Set.

Optional System Features • SMDR; Automatic Call Distribution.

First Delivery • 1980.

Systems Delivered • over 500.

Average System Size Installed • 15 trunks, 50 stations.

Average Cost Per Line • $475 to $650.

Distribution • nationwide through authorized distributors.

Installation/Maintenance • nationwide through authorized distributors.

■ R-TEC SYSTEMS

2100 Reliance Parkway, Bedford, TX 76021 • 817-540-8278.

□ Criterion

Function • electronic key system; space division switching • centralized microprocessor control • analog system • 2-pair station cabling • up to 4 unblocked connections.

Trunks/Stations/Consoles • 3 trunks, 8 stations, 1 intercom circuit.

Voice Equipment • vendor supplied: proprietary electronic key stations.

Applications Supported • small businesses.

Standard System Features • Intercom; Automatic Recall on Unanswered Call Transfer; Hold; Day/Night Ring Mode; Automatic Ring Transfer on Busy; speed Dialing; Tone/Pulse Dialing; Music-On-Hold; Distinctive Ringing; Paging; Toll Restriction.

Standard Station Features • Call Pickup; Call Transfer; Call Announcing with Answerback; Camp-On; Call Waiting; Conferencing; Flash Button; Speed Dialing; Last Number Redial; Privacy; Wall Mount Unit.

First Delivery • 1984.

Systems Delivered • over 1,000.

Average System Size Installed • 2 trunks, 5 stations.

Average Cost Per Line • $200 to $375.

Distribution • nationwide through authorized distributors.

Installation/Maintenance • nationwide through authorized distributors.

■ SAN/BAR CORPORATION/Business Telephone Systems Division

2405 South Shiloh Road, Garland, TX 75041 • 214-840-2710.

□ Vision 2000

Function ∘ hybrid KTS/PBX; space division switching • stored program decentralized microprocessor common control • analog transmission • 3-pair cabling • 19 unblocked connections.

Trunks/Stations/Consoles • 12 trunks; 32 stations; 7 intercom circuits.

Voice Equipment • vendor supplied: Key Service Units; Direct Station Selection Stations; and Proprietary Station Instrument (22-Button Electronic Multibutton Instrument).

Applications Supported • targeted to small-to-medium-sized businesses.

Standard System Features • Basic 0/1 Toll Restriction; Automatic Line Access Sequencing; Multilink Intercom (7 path); Automatic Ringback on Held Calls; Mixed Dialing (DTMF or DP); Computer Security Code Access; Incomplete Call Treatment Tones; Music-On-Hold Interface; Background Music via Station; Personal Line Access (Private Line); Common Audible Signal Interface; System Abbreviated Dialing; Power Failure Transfer; Separate CO Line Group Capability; Customer Programmable Memory With Power Backup; System Programming from Station Dial Pad; Flexible Intercom Numbering; Self-Diagnostic Testing Routine; Maintenance Display; Instantaneous System Operation on Power-Up.

Standard Attendant Features • 32-Station Direct Station Selection (DSS); Visual Alarm Indication; Call Splitting; Automatic Hold on DSS.

Standard Station Features • Intercom Voice Announcement; Distinctive Ringing (Intercom and Outside); Hands-Free Answerback; Simultaneous Conversations; Automatic Callback—Don't Answer; Automatic Callback—Camp-On; Station Message Waiting; Call Pick-Up (Directed and All); Unattended Answering Service (Universal Night Answer and Fixed Night Answer); Central Answering Station; Call Forwarding Busy—Don't Answer; Call Waiting Indication; Automatic Station Call Connection; Page Meet-Me; 2-Digit Dial Intercom; Automatic Intercom With Busy Indication; Hands-Free Calling; Call Monitor; Direct Station Selection With Busy Indication; Manual Line Selection With Individual Busy Indication; Programmable Speed Dial Keys; Trunk Group Pre-Select on Speed Dial; Speed Dial With Pause (Manual or Automatic); Station Speed Call Numbers; System Speed Call Numbers; Last Number Re-Dial (Manual); Automatic Privacy; Call Release Key; Station All Call; Progressive Call Indication With Hold Key; Call Transfer (Screened, .

Key/Hybrid Telephone Systems

Unscreened, and Camp-On Busy); 3-Way Conference; Hands-Free Mute With Indication; Do-Not-Disturb With Indication; Push-Button Dialing; Non-Locking Keys; Station Volume Control; Station Programming; Call Forwarding (Follow Me and Busy/No Answer); Station Insert Overlays.

First Delivery • May 1983.

Systems Delivered • over 1,000.

Average System Size Installed • 6 trunks, 14 stations to 8 trunks/20 stations.

Average Cost Per Line • $384 to $496 per station.

Distribution • nationwide through telephone distributors and interconnect firms.

Installation/Maintenance • interconnect firms.

☐ Easy Key

Function • 1A2-type; space division switching • wired logic common control; wired program • analog transmission • 25-pair cabling though in series instead of parallel.

Trunks/Stations/Consoles • 4 trunks; 10 stations.

Voice Equipment • vendor supplied: Key System Unit; equipment supported: Comdial Telephone Systems' Maxcom.

Applications Supported • small businesses.

Standard System Features • Multiline Access; Hold; Intercom; Transfer; Battery Backup; Audible Signals.

First Delivery • August 1983.

Systems Delivered • over 1,500.

Average System Size Installed • 4 trunks, 10 stations.

Average Cost Per Line • $225 to $250 per station.

Distribution • nationwide through telephone distributors and interconnect firms.

Installation/Maintenance • interconnect firms.

☐ 6600 Series

Function • 1A2-type; space division switching • wired logic common control; wired program • analog transmission • 6 unblocked connections (6610, 6620, and 6630); 9 unblocked connections (6640); 35 unblocked connections (6615).

Trunks/Stations/Consoles • 6620 and 6610: 5 CO trunks; 10 stations • 6630: 6 CO trunks; 10 stations • 6640: 8 CO trunks; 20 stations • 6615: 29 CO trunks; 48 stations.

Voice Equipment • vendor supplied: key service unit; key telephones; intercoms.

Applications Supported • small- to medium-sized businesses.

Standard System Features • Line Supervision and Access; Hold Button; and Button Illumination.

Optional System Features • 6640 available with Call Announcing with Hands-Free Answerback; Call Announcing; Zone and All Call Paging; Music-On-Hold Interface.

First Delivery • 6620, 6610, 6640, and 6630: May 1979; 6640: April 1981.

Systems Delivered • over 2,000; all models.

Average System Size Installed • undisclosed; varies according to installation.

Average Cost Per Line • $150 to $235.

Distribution • nationwide through telephone distributors and interconnect firms.

Installation/Maintenance • interconnect firms.

■ STROMBERG-CARLSON BUSINESS COMMUNI-CATIONS SYSTEMS

200 Lincoln Place, 2301 Maitland Center Parkway, Maitland, FL 32751 • 305-660-1660.

☐ Progress DKS

Function • electronic key system; time division switching; pulse code modulation • centralized microprocessor control • digital system • 2-pair station cabling • up to 12 unblocked connections.

Trunks/Stations/Consoles • 2 to 10 trunks; 6 to 32 stations; 1 console; 2 intercom circuits.

Voice Equipment • vendor supplied: proprietary electronic key stations; Direct Station Select/Busy Lamp Field with attendant console.

Data Equipment • vendor supplied: none • equipment supported: modems; asynchronous to 1200 bps.

Applications Supported • small- to medium-businesses.

Standard System Features • Call Forward; Distinctive Ringing; DTMF/Dial Pulse Trunks; Flexible Night Service; Music-On-Hold Access; Power Failure Transfer; Specialized Common Carrier Services; Station Speed Dialing; Stored Program Control; System Speed Dialing; Toll Restriction; Trunk Conference; Universal Night Answer.

Standard Attendant Features • Attendant Camp-On; Attendant Controlled Conference; Attendant Hold; Automatic Recall; Call Splitting; Individual Trunk Access; Night Service Control; Paging Access; Station/Trunk Release; Speed Calling; Station Calling.

Standard Station Features • Add-On Conference; Call Forwarding; Call Pick-Up; Call Waiting; Dial Selective Intercom; Distinctive Ringing; Do-Not-Disturb; Exclusive Hold; External Tone Output Signal; Hands-Free Answerback on Intercom Calls; Hands-Free Dialing and Monitoring; I-Hold; Individual Transfer-All Calls; Last CO/PBX Number Re-Dial; Manual Hold (Non-Exclusive Hold); Message Waiting; Multiline Service; Nonlocking Buttons; Prime Line Pickup; Push-Button Dialing; Recall or Flash Button (Programmable); Restriction (Outgoing and Toll Call); Speed Dialing; Tone and Voice Signaling on Intercom; Transfer/Camp-On; Volume Control on Key Set.

Optional System Features • SMDR; Battery Backup.

First Delivery • 1984.

Systems Delivered • over 1,000.

Average System Size Installed • 6 trunks, 18 stations.

Average Cost Per Line • $350 to $450.

Distribution • nationwide through authorized distributors.

Installation/Maintenance • nationwide through authorized distributors.

■ TECOM

8134 Zionsville Road, Indianapolis, IN 46268 • 317-875-0045.

☐ KT-510

Function • electronic key system; space division switching • centralized microprocessor control • analog system • 3-pair station cabling • up to 7 unblocked connections.

Trunks/Stations/Consoles • 5 trunks; 10 stations; 2 intercom circuits.

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

Applications Supported • small- to medium-sized businesses.

Standard System Features • Area/Office Code Restriction; Automatic Station Release; Call Forward; Distinctive Ringing; DTMF/Dial Pulse Trunks; Flexible Night Service; Music-On-Hold Access; Power Failure Transfer (System); Processor Change Specialized Station; Specialized Common Carrier Services; Station Speed Dialing; Stored Program Control; System Speed Dialing; Toll Restriction; Trunk Conference; Universal Night Answer (UNA).

Standard Station Features • Add-On Conference; Automatic Callback; Call Forwarding; Call Pick-Up; Call Waiting; Dial Selective Intercom; Distinctive Ringing; Do-Not-Disturb; Exclusive Hold; Hands-Free Answerback on Intercom Calls; Hands-Free Dialing and Monitoring; I-Hold; Individual Transfer-All Calls; Last

Key/Hybrid Telephone Systems

CO/PBX Number Re-Dial; Manual Hold (Non-Exclusive Hold); Multiline Service; Nonlocking Buttons; Programming from Key Sets; Push-Button Dialing; Restriction (Outgoing and Toll Call); Selective intercom Call Indication; Speed Dialing; Tone and Voice Signaling on Intercom; Transfer/Camp-On; Volume Control on Key Set.

Optional System Features • Zone Paging; SMDR; Message Display; Time-of-Day Display; Number Directory; 500/2500 Telephone Interface.

First Delivery • 1984.

Systems Delivered • over 500.

Average System Size Installed • 10 stations.

Average Cost Per Line • $250.

Distribution • nationwide through authorized distributors.

Installation/Maintenance • nationwide through authorized distributors.

■ TELETEC SYSTEMS, INC

1380 Old Freeport Road, Pittsburgh, PA 15238 • 412-963-0252.

□ Touch Two

Function • electronic key system; space division switching • centralized microprocessor control • analog system • no KSU required • stations cabled via 4-pair loop cable rather than separate home runs.

Trunks/Stations/Consoles • 2 trunks; 8 stations; 1 intercom circuit for each basic module.

Voice Equipment • vendor supplied: proprietary electronic key stations; intercom-only unit; door unit • equipment supported: standard 500/2500 telephones.

Data Equipment • vendor supplied: asynchronous modems: 0-300 bps or 1200 bps.

Applications Supported • small- to medium-sized businesses; substitute for 1A2 equipment behind PBX or Centrex.

Standard System Features • Alternate Answering Points; Busy Line Indication; Hold; PBX/Centrex compatible; Intercom; Speed Dialing; Tone/Pulse Dialing.

Standard Station Features • All Call Voice Page; Direct Line Access; Hands-free Operation; Last Number Redial; Meet-Me Page; Mute Key; On-Hook Dialing; Volume Control; Speed Dialing.

First Delivery • 1984.

Systems Delivered • over 500.

Average System Size Installed • 2 trunks, 6 stations.

Average Cost Per Line • $170 to $200.

Distribution • nationwide through authorized distributors.

Installation/Maintenance • nationwide through authorized distributors.

■ TELRAD

510 Broad Hollow Road, Melville, NY 11747 • 516-420-1350.

□ Key bx 8/16, 16/32 & 28/64

Function • electronic key system; space division switching • distributed microprocessor control • analog system • 3-pair station cabling • 36 CCS per line.

Trunks/Stations/Consoles • 8/16: 8 trunks, 16 stations, 1 console • 16/32: 16 trunks, 32 stations; 2 consoles • 28/64: 28 trunks, 64 stations, 2 consoles.

Voice Equipment • vendor supplied: proprietary electronic stations; Direct Station Select/Busy Lamp Field console • equipment supported: standard 500/2500 telephones.

Applications Supported • small- to medium-sized businesses.

Standard System Features • Automatic Station Release; Call Forward; Distinctive Ringing; DTMF/Dial Pulse Trunks; Electronic

Messaging; Flexible Night Service (ANA); Optimized Routing/Route Advance; Multiple Console Operation; Multiple Trunk Groups; Music-On-Hold Access; Power Failure Transfer (System); Processor Change Specialized Station; Specialized Common Carrier Services; Station Message Detail Recording; Station Speed Dialing; Stored Program Control; System Speed Dialing; Tenant Service; Toll Restriction; Trunk Queuing/Auto-Callback; Trunk Conference; Universal Night Answer (UNA); System Diagnostics.

Standard Attendant Features • Display for Incoming Call; Class of Service; Call Forwarding; Number Dialed; DSS/BLF; Serial Call.

Standard Station Features • Add-On Conference; Automatic Callback; Busy Lamp Field; Call Forwarding; Call Pick-Up; Call Waiting on Intercom; Callback with Request Display; Data Access; Dial "O" for Attendant; Dial Selective Intercom; Distinctive Ringing; Do-Not-Disturb; Exclusive Hold; External Zone Paging; Hands-Free Answerback on Intercom Calls; Hands-Free Dialing and Monitoring; I-Hold Indication; Individual Transfer-All Calls; Key Set Display; Last CO/PBX Number Re-Dial; Manual Hold (Non-Exclusive Hold); Message Waiting; Multiline Service; Nonlocking Buttons; Prime Line Pickup; Programming from Attendant Key Sets; Push-Button Dialing; Recall or Flash Button (Programmable); Restriction (Outgoing and Toll Call); Selective Intercom Call Indication; Single Line Telephone Access; Speed Dialing; Station DSS Buttons; Tone and Voice Signaling on Intercom; Volume Control on Key Set.

First Delivery • 1983.

Systems Delivered • over 1,000; all models.

Average System Size Installed • 8/16: 10 stations • 16/32: 20 stations • 28/64: 32 stations.

Average Cost Per Line • $300.

Distribution • nationwide through authorized distributors.

Installation/Maintenance • nationwide through authorized distributors.

■ TELTONE CORPORATION

10801 120th Avenue NE, Kirkland, WA 98033 • 206-827-9626.

□ Cascade 30

Function • electronic key system; time division switching • distributed microproessor control • digital system • 3-pair station cabling • up to 14 unblocked connections.

Trunks/Stations/Consoles • 12 trunks, 16 stations; 2 DSS/BLF conoles; 2 intercom circuits.

Voice Equipment • vendor supplied: proprietary electronic key stations; Direct Station Select/Busy Lamp Field console • equipment supported: standard 500/2500 telephones.

Data Equipment • vendor supplid: Data Carrier Sstem (DCS-2) interface • equipment supported: asynchronous terminal devices.

Applications Supported • small- to medium-sized businesses.

Standard System Features • Alternate Attendant Position; Battery Backup; Call Progress Tones; Centralized Messaging; Date Security; Day/Night Call Restriction; Door Units; House Phone; Incoming Call Restriction; Intercom Paging; System Self Test; Night Service; Password Feature Activation; Power Failure Restart; Privacy; Speed Dial; Tool Restriction; DTMF/Dial Pulse Operation.

Standard Attendant Features • Attendant DSS/BLF.

Standard Station Features • Adjustable Station Base; Callback Queuing; Call Pick-Up; Call Transfer, Conferencing; Consultation Hold; Call Waiting; Distinctive Ringing; Do-Not-Disturb; Exclusive Hold; Call Forwarding; Hands-Free Answerback Speakerphone Operation; Hold; Last Number Re-Dial; Message Waiting; On-Hook Dialing; Paging; Privacy; Programmable Feature Buttons; Timed Recall; Speed Dialing; Volume Control.

Optional System Features • Route Advance; Automatic Route Selection; Music-On-Hold; Paging Access; Voice/Data Support; SMDR; Off-Premises Stations; 2500-type Telephones.

Key/Hybrid Telephone Systems

First Delivery • May 1984.

Systems Delivered • over 300.

Average System Size Installed • 6 trunks, 10 stations.

Average Cost Per Line • $500 to $600.

Distribution • nationwide through authorized dealers.

Installation/Maintenance • nationwide through authorized dealers.

■ THOMSON-CSF COMMUNICATIONS

2 Gannet Drive, White Plains, NY 10604 • 914-694-6700.

□ Opus 20, Opus 40, Opus 80

Function • hybrid KTS/PBX system; space division switching • distributed microprocessor control • analog system • 2-pair station cabling • up to 48 unblocked connections • 8 to 36 CCS per line.

Trunks/Stations/Consoles • Opus 20: 10 trunks, 20 stations • Opus 40: 8 to 24 trunks, 16 to 48 stations • Opus 80: 8 to 28 trunks, 32 to 120 stations.

Voice Equipment • vendor supplied: standard 500/2500 telephones; proprietary electronic key stations; Direct Station Select/Busy Lamp Field console • equipment supported: standard 500/2500 telephones.

Applications Supported • small- to medium-sized businesses.

Standard System Features • Call Forward; Distinctive Ringing; DTMF/Dial Pulse Trunks; Flexible Night Service; Group Hunting; Multiple Trunk groups; Music-On-Hold Access; Power Failure Transfer; Processor Change Station; Specialized Common Carrier Services; Station Speed Dialing; Stored Program Control; System Speed Dialing; Toll Restriction; Trunk Queuing/Auto-Callback; Trunk Conference; Universal Night Answer (UNA).

Standard Station Features • Add-On Conference; Attendant Recall; Automatic Callback; Automatic Time Out or Uncompleted ICM Calls; Busy Lamp Field; Call Forwarding; Call Pick-Up; Call Waiting on Intercom; Dial Selective Intercom; Distinctive Ringing; Do-Not-Disturb; DSS/BLF Console; Exclusive Hold; External Zone Paging; External Tone Output Signal; Hands-Free Answerback on Intercom Calls; Hands-Free Dialing and Monitoring; I-Hold; Individual Transfer-All Calls; Key Set LCD Display; Last CO/PBX Number Re-Dial; Manual Hold (Non-Exclusive Hold); Message Waiting; Multiline Service; Nonlocking Buttons; Prime Line Pickup; Push-Button Dialing; Recall or Flash Button (Programmable); Restriction (Outgoing and Toll Call); Speed Dialing; Station DSS Buttons; Tone and Voice Signaling on Intercom; Transfer/Camp-On; Volume Control on Key Set.

Optional System Features • SMDR; Least Cost Routing; Battery Backup.

First Delivery • 1984.

Systems Delivered • over 1,000.

Average System Size Installed • Opus 20: 5 trunks, 14 stations • Opus 40: 12 trunks, 30 stations • Opus 80: 16 trunks, 50 stations.

Average Cost Per Line • $550 to $675.

Distribution • nationwide through authorized distributors.

Installation/Maintenance • nationwide through authorized distributors.

■ TIE/COMMUNICATIONS, INC

5 Research Drive, Shelton, CT 06484 • 203-929-7373.

□ EK-612 (Econ-O-Key, Meritor 1E, Ultrakey)

Function • electronic key system; space division switching • stored program microprocessor common control • analog system • 2-pair cabling • 8 unblocked connections.

Trunks/Stations/Consoles • 6 trunks; 12 stations; 2 intercom circuits.

Voice Equipment • vendor supplied: key telephone set and key system unit; speakerphone version of key telephone.

Applications Supported • small businesses.

Standard System Features • Answer Back Hands-Free or Announce Calls; Automatic Dial; Last Number Re-Dial; Automatic Privacy; Conferencing; Hands-Free Dialing; I-Hold Indication; Private Line; Flexible Trunk and Ringing Assignment; Monitoring; Hold Recall.

Optional System Features • Speakerphone; Toll Restriction.

First Delivery • second quarter 1983.

Systems Delivered • over 1,000.

Average System Size Installed • 3 trunks, 8 stations.

Average Cost Per Line • $325 per station.

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

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

□ EK-616

Function • electronic key system; space division switching • distributed microprocessor control • analog system • 2-pair station cabling • up to 12 unblocked connections.

Trunks/Stations/Consoles • 6 trunks, 16 stations, 6 intercom circuits.

Voice Equipment • vendor supplied: electronic key telephone; electronic key telephone with display; door unit; speakerphone; monitor unit.

Applications Supported • small businesses.

Standard System Features • Distinctive Ringing; DTMF/Dial Pulse Trunks; Flexible Night Service; Flexible Ringing Assignments; Music-On-Hold Access; Processor Change Station; Specialized Common Carrier Services; Station Speed Dialing; Stored Program Control; System Speed Dialing; Toll Restriction; Trunk Conference; Universal Night Answer.

Standard Attendant Features • Direct Station Selection.

Standard Station Features • Add-On Conference; Alternate Point Answering; Automatic Privacy/Release; Dial Selective Intercom; Distinctive Ringing; Do-Not-Disturb; Exclusive Hold; External Zone Paging with Meet-Me Answer; External Tone Output Signal; Flexible Timeouts; Hands-Free Answerback on Intercom Calls; Hands-Free Dialing and Monitoring; I-Hold; Individual Transfer-All Calls; Internal 3-Zone paging with Meet-Me Answer; Key Set Display on Executive Station; Last CO/PBX Number Re-Dial; Manual Hold (Non-Exclusive Hold); Message Waiting; Multiline Service; Nonlocking Buttons; Prime Line Pickup; Push-Button Dialing; Recall or Flash Button (Programmable); Restriction (Outgoing and Toll Call); Speed Dialing; Station DSS Buttons; Tone and Voice Signaling on Intercom; Transfer/Camp-On; Volume Control on Key Set.

Optional System Features • Speakerphone; Door Unit; Monitor Box; Power Failure Transfer; Energy Control Unit; Wall Mounting Kit.

First Delivery • 1984.

Systems Delivered • over 1,000.

Average System Size Installed • 3 trunks, 8 stations.

Average Cost Per Line • $350 to $450.

Distribution • nationwide through authorized distributors.

Installation/Maintenance • nationwide through authorized distributors.

□ EK-1648 (Meritor HK 3, Ultracom CK III)

Function • electronic key system; space division switching • distributed microprocessor control • analog system • 2-pair station cabling • up to 25 unblocked connections.

Trunks/Stations/Consoles • 16 trunks; 48 stations; 2 DSS consoles; 9 intercom circuits.

Voice Equipment • vendor supplied: 2500 telephones; proprietary 1-button, 4-button, multibutton, and display

Key/Hybrid Telephone Systems

multibutton; electronic stations; Direct Station Select/Busy Lamp Field console with 56 or 64 buttons • equipment supported: standard 500/2500 telephones.

Applications Supported • small- to medium-sized businesses.

Standard System Features • Call Forward; Direct Inward-Lines; Distinctive Ringing; DTMF/Dial Pulse Trunks; Flexible Night Service; Multiple Console Operation; Multiple Trunk Groups; Music-On-Hold Access; Power Failure Transfer; Processor Change Specialized Station; Specialized Common Carrier Services; Station Message Detail Recording with Account Codes; Station Speed Dialing; Stored Program Control; System Speed Dialing; Tenant Service; Toll Restriction; Trunk Queuing/Auto-Callback; Trunk Conference; Universal Night Answer (UNA).

Standard Attendant Features • Direct Station Selection consoles (2); Attendant Multibutton Key Telephone; Automatic Hold; Automatic Recall; Barge-In; Call Forward Cancel; Do-Not-Disturb Override; Night Transfer; Release Key.

Standard Station Features • Add-On Conference; Automatic Callback; Call Forwarding; Call Pick-Up; Dial Selective Intercom; Distinctive Ringing; Do-Not-Disturb; Exclusive Hold; External Zone Paging; Meet-Me Conference; External Tone Output Signal; Hands-Free Answerback on Intercom Calls; Hands-Free Dialing and Monitoring; I-Hold Indication; Individual Transfer-All Calls; Internal Zone Paging; Key Set Display on Executive Telephone; Last CO/PBX Number Re-Dial; Manual Hold (Non-Exclusive Hold); Message Waiting; Multiline Service; Nonlocking Buttons; Prime Line Pickup; Programming from Attendant Key Sets; Push-Button Dialing; Recall or Flash Button (Programmable); Restriction (Outgoing and Toll Call); Single Line Telephone Access; Speed Dialing; Station DSS Buttons; Tone and Voice Signaling on Intercom; Transfer/Camp-On; Volume Control on Key Set.

Optional System Features • SMDR; Paging; Off-Premises Stations.

First Delivery • 1983.

Systems Delivered • over 1,000.

Average System Size Installed • 10 trunks, 26 stations.

Average Cost Per Line • $450 to $500.

Distribution • nationwide through authorized distributors.

Installation/Maintenance • nationwide through authorized distributors.

☐ EK-820/1236/2260 (Ultracom III/IV/V) TC-8/TC-12/TC-20 (Businesscom V/VI/VII)

Function • space division switching • stored program decentralized microprocessor common control with stored program • analog transmission • 3-pair cabling • 14 (Ultracom III), 18 (Ultracom IV), and 28 (Ultracom V) unblocked connections.

Trunks/Stations/Consoles • Ultracom III Businesscom V: 8 CO trunks; 20 stations; 4 intercom circuits • Ultracom IV Businesscom VI: 12 CO trunks; 36 stations; 6 intercom circuits • Ultracom V Businesscom VII: 22 CO trunks; 60 stations; 6 intercom circuits.

Voice Equipment • vendor supplied: proprietary key telephone sets; key system units; speakerbox; speakerphone; Busy Lamp Field Display, and DSS unit.

Applications Supported • small- to medium-sized businesses.

Standard System Features • Add-On Conferencing (transferrable to all extensions); Alarm Repeating; All-Call Paging; Alternate Point of Answer; Called Party Monitor; Dial Restriction; Differential Tone Signaling; Do-Not-Disturb; DTMF or Dial Pulse Signaling; Dual Mode Intercom Signaling; Flexible Ringing Assignment; Internal Zone Paging; Last Number Dialed Recall; Line Class of Service for Selective Line Access; Message Waiting; Microphone On/Off Control; Multiline Conferencing; Multiple Simultaneous Hands-Free; Intercom Paths; Station Class of Service for Selective Toll; Timed Reminder on Exclusive Hold; Toll Restriction.

Standard Station Features • Automatic Line Hold Release;

Automatic Privacy with Privacy Release; Exclusive Hold with Distinctive LED Indication; Flashing for PABX Line Transfer; I-Hold Indication; Automatic Hold of CO Lines; Automatic Recall of Unanswered Calls; Chain Calling; Display of Lines on Hold and Holding Extensions; Distinctive Busy Lamp Field; Direct Station Selection and Override; Night Transfer; Single-Button Call Forwarding.

Optional System Features • Automatic Power Fail Transfer; Battery Backup; External Speakerphone; External Zone Paging; Hot-Line Connections; Loud Ringing Unit Compatibility; Music-On-Hold; Off-Premise Extension; Power Failure Telephone; Private Line Flexibility; Single Line Telephones; ULTRAdisplay Executive Telephones; ULTRAdirect Instant-Access Telephones; Diagnostic Aids; No-Page Extension; PABX Call Ringing with Operator Recall; Station Message Detail Recording; Queuing for Lines; Universal Night Ringing.

Optional Station Features • Background Music Control; Automatic Hold; Exclusive Hold with Operator Recall; Freeze Display of Recalling Calls; I-Hold Reminder; Intercom Timeout when Dialing.

First Delivery • first quarter 1980.

Systems Delivered • over 2,000.

Average System Size Installed • Ultracom III Businesscom V: 5 CO trunks/12 stations • Ultracom IV Businesscom VI: 7 CO trunks/16 stations • Ultracom V Businesscom VII: 10 CO trunks/25 stations.

Average Cost Per Line • $550 to $750.

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

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

☐ TCX-128 Meritor, Ultracom CX

Function • hybrid KTS/PBX; space division switching • decentralized microprocessor common control with stored program • analog transmission • 2-pair cabling • 32 unblocked connections.

Trunks/Stations/Consoles • 32 trunks; 128 stations; 32 intercom circuits.

Voice Equipment • vendor supplied: proprietary key telephone sets (including single- and 4-button); standard 2500 telephone; speakerphone; attendant key telephone; DSS/BLF console.

Applications Supported • small- to medium-sized businesses.

Standard System Features • Alternate Operator Station; Automatic Call-Back (Extension Camp-On); Background Music; Barge-In/Block Barge-In; Conferencing; Direct Inward Trunks; Distinctive Ringing; DTMF or Outpulse Dialing; Direct Station Selection Console; External Loud Ringing; 4-Wire Installation; Group Call Pickup; Individualized Parking Orbits; Message Waiting; Multibutton Phones; Multiple Trunk Groups; Music-On-Hold; Night Service; Open Loop Timed Flash; Paging (All Call or Zone); Private Lines; Privacy on All Calls; Redundant CPU Backup; Station Message Detail Recording; Spilt Ringing; System Speed Dial; Tenant Service; Toll Restriction; Tone Ringing; Trunk Conferencing.

Standard Station Features • Add-On and Line Conferencing; Audible Signals; Automatic Callback; Background Music On/Off Control; Barge-In; Call Forwarding; Call Splitting; Dedicated Feature Keys; Directed Call Pickup; Do-Not-Disturb; Exclusive Hold; Flash Function; Group Call Pickup; Hands-Free Operation; Hold Recall; Hot Lines; I-Hold Transfer; Last Number Re-Dial; Message Waiting; Microphone Mute; Night Transfer Call Pickup; Page; Personalized Parking Orbits; Private Line Selection; Save; Secretary/Principal Hot-Line; Speakerphone; Speed Dialing Single-Button Operation; Trunk Queuing; Volume Controls.

Optional System Features • Battery Backup; Display Telephone; 4-Button Telephone; Least Cost Routing; On-and-Off Premise Extension; Single-Line Telephone; Tie Line; Voice Band Modem Capability; Wall Mounting.

First Delivery • third quarter 1982.

Key/Hybrid Telephone Systems

Systems Delivered ● over 500.

Average System Size Installed ● 16 trunks/38 stations.

Average Cost Per Line ● $650 to $850.

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

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

■ TONE COMMANDER SYSTEMS, INC

4320 150th Avenue NE, Redmond, WA 98052 ● 206-883-3600.

□ Simplex-10

Function ● self-contained, microprocessor-controlled electronic system ● 25-pair cabling ● 8 unblocked connections.

Trunks/Stations/Consoles ● 4 trunks; 10 stations.

Voice Equipment ● vendor supplied: circuitry, power supply, connector block and cabinet; key telephone sets.

Applications Supported ● small- to medium-sized businesses.

Standard System Features ● Self-Contained; Tone and Rotary Compatible; Call Hold; Line Status Indication; Direct Line Access; Intercom With Dial; Busy Ringback Tones; Flashing Lamp; Paging (2 zones with background music); Conference; Transfer; Music-On-Hold; Distinctive Ringing; Message Waiting; Hold Reminder; Programmable Incoming Call Diversion.

First Delivery ● September 1983.

Systems Delivered ● over 500.

Average System Size Installed ● 4 to 10 stations.

Average Cost Per Line ● $398 for 4 trunks/10 stations.

Distribution ● authorized distributors ● license to distribute and manufacture Simplex-10 Systems in Canada is through DBA Communications Systems, North Vancouver, BC.

Installation/Maintenance ● support for installation and maintenance through distributor's warranty supplied by vendor.

■ TOSHIBA TELECOM/Division of Toshiba America, Inc

2441 Michelle Drive, Tustin, CA 92680 ● 714-730-5000.

□ Strata S

Function ● electronic key system; space division switching ● centralized microprocessor control ● analog system ● digital system ● 2-pair cabling ● up to 4 unblocked connections.

Trunks/Stations/Consoles ● 3 trunks, 8 stations, 1 intercom circuit.

Voice Equipment ● vendor supplied: proprietary electronic key stations.

Applications Supported ● small businesses ● residential.

Standard System Features ● All Call Voice Page; Alternate Point Answer; Automatic Hold Recall; Automatic Privacy; Automatic Release from Hold; Busy Override; Multiline Conference; Distinctive Ringing; DTMF/Dial Pulse Support; Flexible Line Assignments; Message Waiting; Music-On-Hold; Night Transfer; Last Number Redial; Toll Restriction; Tone and Voice Signaling; Speed Dialing.

Standard Station Features ● Do-Not-Disturb; Executive Override; I-Hold; I-Use Indication; On-Hook Dialing; Ringing Line Preference.

Optional System Features ● Battery Backup; Paging System Access.

Optional Station Features ● Keyset with Speakerphone; Keyset with Busy Lamp Field; 20-Key Executive Keyset; Hands-Free Answerback.

First Delivery ● September 1984.

Systems Delivered ● over 500.

Average System Size Installed ● 2 trunks, 5 stations.

Average Cost Per Line ● $250 to $300.

Distribution ● nationwide through authorized distributors.

Installation/Maintenance ● nationwide through authorized distributors.

□ Strata VI

Function ● space division switching ● stored program single microprocessor common control ● analog transmission ● 2-pair cabling ● 8 unblocked connections.

Trunks/Stations/Consoles ● 6 trunks; 16 stations; 2 intercom circuits.

Voice Equipment ● vendor supplied: Key Service Unit; Electronic Key Telephone; Busy Lamp Field; Executive 20-key Telephone.

Applications Supported ● small- to medium-sized businesses.

Standard System Features ● All Call Voice Page; Alternate Point Answer; Automatic Dialing System; Automatic Hold Recall; Automatic Privacy with Release; Automatic Release from Hold; Background Music with Station Control; Busy Override; Conference Multistation; Conference Multitrunk; Distinctive Ringing; DTMF and Dial Pulse Compatible; External Page Interface; Flash Key (PBX Line Transfer or CO Dial Tone Recall); Flexible Line Ringing Assignment; Live System Programming; Message Waiting; Multiple Simultaneous Hands-Free Intercom Paths; Music-On-Hold Interface; Night Ringing over External Speaker; Night Transfer of Ringing; Non-Blocking Dialing; Outgoing Call Restriction; PBX Compatible; Private CO Lines; Repeat Last Number Dialed; Toll Restriction; Voice or Tone Signaling; Wall Mountable.

Standard Station Features ● Do-Not-Disturb; Do-Not Disturb Override; Executive Override of Privacy; Hands-Free Talk-Back; I-Called Illumination; I-Hold Illumination; I-Use Illumination; Modular Handset and Line Cord; Mute Key; On-Hook Dialing; Push-Button Dialing; Ringing Line Preference; Speakerphone.

Optional System Features ● Automatic Dialing (station); Busy Lamp Field; Relay Service (External Page, Night Transfer); System Battery Back-Up; 20-Key Telephone; SMDR; Off-Premises Extension.

First Delivery ● June 1982.

Systems Delivered ● undisclosed.

Average System Size Installed ● 3 trunks, 8 stations.

Average Cost Per Line ● $350 to $400.

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

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

□ Strata XII & XX

Function ● space division switching ● stored program microprocessor common control ● analog transmission ● 2-pair cabling ● nonblocking.

Trunks/Stations/Consoles ● Strata XII: 12 trunks; 32 stations ● Strata XX: 21 trunks; 56 stations.

Voice Equipment ● vendor supplied: Electronic Key Telephone (standard and optional models); Direct Station Selection Console; Key System Units.

Applications Supported ● small- to medium-sized businesses.

Standard System Features ● All Call Voice Page; Automatic Callback (Intercom); Automatic Dialing System; Automatic Hold Recall; Automatic Privacy; Automatic Release From Hold; Background Music With Station Control; Busy Override; Conference-Multistation; Conference-Multitrunk; Directed Call Pick-Up; Distinctive Ringing; DTMF and Dial Pulse Compatible; External Page Interface; Flash Key-PBX Transfer or CO Dial Tone Recall; Flexible Line Ringing Assignment; Group Paging; Live System Programming; Message Waiting; Multiple Simultaneous Hands-Free Intercom Paths; Music-On-Hold Interface; Night Ringing Over External Page; Night Transfer; Non-Blocking Dialing; Outgoing Call Restriction; PBX Compatible; Private CO

Key/Hybrid Telephone Systems

Lines; Repeat Last Number Dialed; Tenant Service; Toll Restriction; Voice or Tone Signaling.

Standard Station Features ● Do-Not-Disturb; Do-Not-Disturb Override; Executive Override of Privacy; Hands-Free Talk-Back; I-Called Illumination; I-Hold Illumination; I-Use Illumination; Modular Handset and Line Cords; Mute Key; On-Hook Dialing; Push-Button Dialing; Ringing Line Preference; Speakerphone.

Optional System Features ● Automatic Dialing-Station; Direct Station Selection Console (All Call Voice Page, Automatic Line Hold, Expanded Line Appearance, Multiple DSS Consoles, Transfer of Ringing, and Voice or Tone Signaling); Off Premise Extension; Relay Service (External Page, Night Relay Service); Station Message Detail Recording (SMDR); System Battery Back-Up; Wall Mounting.

First Delivery ● September 1983.

Systems Delivered ● undisclosed.

Average System Size Installed ● Strata XII: 8 trunks, 16 stations ● Strata XX: 12 trunks, 28 to 30 stations.

Average Cost Per Line ● $350 to $400.

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

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

■ TRILLIUM TELEPHONE SYSTEMS

P.O. Box 13030, 603 March Road, Kanata, ON K2K 1X3; 613-592-2550 ● in U.S., 1567 Sunland Lane, Costa Mesa, CA 92626; 714-557-3300.

☐ Talk To 308 & 616

Function ● electronic key system; space division switching ● distributed microprocessor control ● analog system ● 2-pair station cabling ● up to 9 unblocked connections.

Trunks/Stations/Consoles ● 308: 3 trunks, 8 stations, 3 intercom circuits ● 616: 6 trunks, 16 stations, 3 intercom circuits.

Voice Equipment ● vendor supplied: proprietary electronic stations.

Applications Supported ● small- to medium-sized businesses

Standard System Features ● Distinctive Ringing; DTMF/Dial Pulse Trunks; Flexible Night Service; Music-On-Hold Access; Specialized Common Carrier Services; Station Speed Dialing; Stored Program Control; System Speed Dialing; Toll Restriction; Trunk Conference.

Standard Station Features ● Call Pick-Up; Dial Selective Intercom; Distinctive Ringing; Do-Not-Disturb; Exclusive Hold; External Tone Output Signal; Hands-Free Answerback on Intercom Calls; Hands-Free Dialing and Monitoring; I-Hold Indication; Last CO/PBX Number Re-Dial; Manual Hold (Non-Exclusive Hold); Multiline Service; Nonlocking Buttons; Push-Button Dialing; Recall or Flash Button (Programmable); Restriction (Outgoing and Toll Call); Selective Intercom Call Indication; Speed Dialing; Station DSS Buttons; Tone and Voice Signaling on Intercom; Transfer/Camp-On; Volume Control on Key Set.

Optional System Features ● Power Failure Transfer; Door Answering Unit.

First Delivery ● 1984.

Systems Delivered ● over 500; all models.

Average System Size Installed ● 308: 6 stations ● 616: 10 stations.

Average Cost Per Line ● $300.

Distribution ● nationwide through authorized distributors.

Installation/Maintenance ● nationwide through authorized distributors.

■ WALKER TELECOMMUNICATIONS CORPORATION

200 Oser Avenue, Hauppauge, NY 11787 ● 516-435-1100.

☐ Reliant 16, 32 & 50

Function ● space division switching ● microprocessor-controlled electronic key telephone system ● analog transmission ● 2-pair cabling ● up to 24 unblocked connections.

Trunks/Stations/Consoles ● Model 16: 6 trunks, 16 stations, 2 DSS/BLF consoles ● Model 32: 12 trunks, 32 stations, 2 DSS/BLF consoles ● Model 50: 20 trunks, 50 stations, 2 DSS/BLF consoles.

Voice Equipment ● vendor supplied: proprietary electronic key sets; Reliant 50 station has LCD display; attendant DSS/BLF console.

Applications Supported ● small businesses.

Standard System Features ● Automatic Privacy; Timed Recall of Held Calls; Timed Transfer of Unanswered Calls; Automatic Hold; Distinctive Ringing; Flexible Station Numbering; System Speed Dialing; Toll Restriction; Message Waiting; All Page/Zone Page; Night Service; Last Number Re-Dial; Trunk Queuing.

Standard Attendant Features ● DSS/BLF Console; Automatic Hold; Call Answer Backup Call Waiting; Dedicated ICM Link for DSS/BLF.

Standard Station Features ● Multiline Answering; Hands-Free Operation; Group Hunting; Station Speed Dialing; Call Hold; Call Forwarding; Conference Calls; Message Waiting; Time/Date/Number Calling/Elapsed Time Display on Model 50 Station; I-Hold; I-Use Indication; Volume Control; Tone and Voice Signaling; Hot-Line; Do-Not-Disturb; Call Pick-Up.

Optional System Features ● Background Music, External Zone, and All Paging with Meet-Me; Music-On-Hold (synthesized or external source); Night Ringing; Power Failure Battery Backup; Power Failure Telephone.

First Delivery ● 1983.

Systems Delivered ● over 1,000; all models.

Average System Size Installed ● 8 trunks, 16 stations.

Average Cost Per Line ● $300 per station.

Distribution ● national telephone product distributors and interconnect firms.

Installation/Maintenance ● interconnect firms.

■ WREN COMPANY

880 Reynard Avenue, Cincinnati, OH 45231 ● 513-931-7160.

☐ 504 & 508

Function ● electromechanical key system; space division switching ● 25-pair station cabling ● up to 5 unblocked connections for 504; 9 connections for 508.

Trunks/Stations/Consoles ● 504: 4 trunks, 18 stations, 1 BLF console, 1 intercom circuit ● 508: 8 trunks, 18 stations, 1 BLF station, 1 BLF console, 1 intercom circuit.

Voice Equipment ● vendor supplied: standard 1A2 key telephones ● equipment supported: standard 1A2 key telephones.

Data Equipment ● vendor supplied: none ● equipment supported: most types via industry-standard modems.

Applications Supported ● small businesses.

Standard System Features ● Line Pickup; Hold; Line Illumination; Intercom.

Standard Station Features ● Line Pickup; Hold; Multiline Conference.

Optional System Features ● Music-On-Hold; Paging Access.

Optional Station Features ● Call Announcing; Hands-Free Operation; Busy Lamp Field.

First Delivery ● 1968.

Systems Delivered ● over 5,000; all models.

Average System Size Installed ● 504: 3 trunks, 7 stations ● 508: 5 trunks, 10 stations.

Average Cost Per Line ● 504 system: $2,000 ● 508 system: $3,200.

Key/Hybrid Telephone Systems

Distribution ● Telco supply houses; authorized distributors.

Installation/Maintenance ● local dealers.

■ XTEL

3908 NW Third Street, Oklahoma City, OK 73107 ● 405-946-1500.

□ Status

Function ● electronic key system; space division switching ● used with Centrex systems ● centralized microprocessor control ● analog system ● 2-pair station cabling ● up to 30 unblocked connections ● 36 CCS per line.

Trunks/Stations/Consoles ● Models III & IV support direct access of 10, 20, or 30 Centrex lines ● Models V & VII support direct access of 1 to 4 centrex lines and provide line status indication of 10 to 60 Centrex lines.

Voice Equipment ● vendor supplied: proprietary electronic key stations; freestanding line status indicator with no line pickups.

Applications Supported ● replaces 1A2 key equipment in Centrex installations.

Standard Station Features ● Add-On Conference; Automatic Callback; Busy Lamp Field; Call Forwarding; Call Pick-Up; Call Waiting; Call Park; Call Hold; CCSA Access; Dictation Access; Do-Not-Disturb; Hands-Free Answerback on Intercom Calls; Hands-Free Dialing; Individual Transfer-All Calls; Last CO/PBX Number Re-Dial; Meet-Me Paging; Multiline Service; Nonlocking Buttons; Prime Line Pickup; Push-Button Dialing; Recall or Flash Button (Programmable); Restriction (Outgoing and Toll Call); Speed Dialing; Station DSS; Transfer/Camp-On; Volume Control on Key Set; Station/Trunk Conference; Secretarial Call Screening.

First Delivery ● 1984.

Systems Delivered ● over 500.

Average System Size Installed ● 20 to 50 stations.

Average Cost Per Line ● $300 to $450.

Distribution ● nationwide through authorized distributors.

Installation/Maintenance ● nationwide through authorized distributors.

● **END**