

### Small Business Computer Specifications

MANUFACTURER & MODEL	Advanced Information Design System 3000 Model 40	Advanced Information Design System 3000 Model 60	Advanced Information Design System 3000 Model 80	Advanced Information Design System 4000	A.K. Industries Inc. AKI-90
<b>DATA FORMATS</b> Word length, bits Decimal digits per word Bytes (characters) per word Operand length, words Instruction length, words	16 4 2 ½ to 2 1, 2	16 4 2 ½ to 2 1, 2	16 4 2 ½ to 2 1, 2	32 7 4 ½ to 2 1	8-bit byte 2 per byte 1 per byte 1, 2 bytes 1-3 bytes
<b>CPU</b> Model Add time, microseconds  No. of programmable registers No. of I/O ports on basic system and maximum	Interdata 7/16 1.5  16 64; 256	Interdata 7/16 1.5  16 64; 256	Interdata 7/16 1.5  16 64; 256	Interdata 7/32, 8/32 0.6  32 128; 1024	Datapoint —  14 16
<b>INTERNAL STORAGE</b> Type Capacity of basic system, bytes Maximum capacity, bytes Increment size, bytes Cycle time, microseconds Access time, microseconds	Core 32K 64K 16, 32, 64K 1.000 0.300	Core 32K 64K 16, 32, 64K 1.000 0.300	Core 32K 64K 16, 32, 64K 1.000 0.300	Core 128K 64K 32K 0.750; 0.300 0.300	MOS 16K 16K — 1.6 0.5
<b>MASS STORAGE CAPABILITIES*</b> Floppy disk drive Cartridge disk drive Pack disk drive Fixed-head disk/drum	Std.; 2.4M bytes Opt.; 40M bytes Opt.; 1200M bytes No	Opt.; 2.4M bytes Std.; 40M bytes Opt.; 1200M bytes No	Opt.; 2.4M bytes Opt.; 40M bytes Std.; 1200M bytes No	Opt.; 2.4M bytes Opt.; 40M bytes Std.; 300M bytes No	Standard (4) No No No
<b>KEYBOARD INPUT*</b> Alphanumeric (typewriter) keyboard 10-key numeric keyboard Full accounting keyboard	Standard Standard Optional	Standard Standard Optional	Standard Standard Optional	Standard Standard Optional	Standard Standard No
<b>INPUT/OUTPUT DEVICES*</b> Paper tape reader Paper tape punch Punched card reader Punched card punch Punched card reader/punch Serial printer Line printer Reel-to-reel tape drive Cassette tape drive Cartridge tape drive Magnetic ledger card device CRT	Opt.; 300 cps Opt.; 75 cps Opt.; 400-1000 cpm Opt.; 100 cpm Optional Std.; 165 cps Opt.; 120-600 lpm Std.; 9-75 KBS Optional Optional Optional Optional; 24 x 80 char.	Opt.; 300 cps Opt.; 75 cps Opt.; 400-1000 cpm Opt.; 100 cpm Optional Std.; 165 cps Opt.; 120-600 lpm Std.; 9-75 KBS Optional Optional Optional Optional; 24 x 80 char.	Opt.; 300 cps Opt.; 75 cps Opt.; 400-1000 cpm Opt.; 100 cpm Optional Std.; 165 cps Opt.; 120-600 lpm Std.; 9-75 KBS Optional Optional Optional Optional; 24 x 80 char.	Opt.; 300 cps Opt.; 75 cps Opt.; 400-1000 cpm Opt.; 100 cpm Optional Std.; 165 cps Opt.; 120-600 lpm Std.; 9-72 KBS Optional Optional Optional Optional; 24 x 80 char.	No No No No No Std.; 165 cps Opt.; 125-600 lpm No No No No Standard; 12 x 80 char.
<b>COMMUNICATIONS CAPABILITIES*</b> Maximum no. of lines Synchronous Asynchronous Protocols supported	15 Opt.; to 9600 bps Std.; to 9600 bps IBM 2780/3780, SDLC	15 Opt.; to 9600 bps Std.; to 9600 bps IBM 2780/3780, SDLC	15 Opt.; to 9600 bps Std.; to 9600 bps IBM 2780/3780, SDLC	Limit unknown Std.; to 9600 bps Std.; to 9600 bps IBM 2780/3780, SDLC	1 Opt.; to 9600 bps Opt.; to 9600 bps IBM 2780
<b>SOFTWARE SUPPORT</b> COBOL RPG FORTRAN BASIC Assembler Other programming languages Multiprogramming Language implemented in firmware Operating system implemented in firmware General accounting packages Industry application areas  Data base management system File access methods supported  Software separately priced Technical help separately priced	Yes Yes Yes Yes Macro assembler No Yes; 5 partitions No No Yes Insur., inven., dist., ord. entry, wd. proc. Yes Random, sequential, index sequential Yes No	Yes Yes Yes Yes Macro assembler No Yes; 5 partitions No No Yes Insur., inven., dist., ord. entry, wd. proc. No Random, sequential, index sequential Yes No	Yes Yes Yes Yes Macro assembler No Yes; 5 partitions No No Yes Insur., inven., dist., ord. entry, wd. proc. No Random, sequential, index sequential Yes No	Yes Yes Yes Yes Macro assembler No Yes; 12 partitions No No Yes Insur., inven., dist., ord. entry, wd. proc. Random, sequential, index sequential Yes No	No No No Yes Yes Databus, Dataform No No No Yes Inventory  No Random, sequential, index sequential No No
<b>PRICING &amp; AVAILABILITY</b> Purchase price of basic system, \$ Monthly rental of basic system, \$  Date of first U.S. delivery Number installed in U.S. to date	\$18,528 \$426.14  March 1975 20	\$26,430 \$607.89  March 1975 20	\$43,700 \$1,005.10  March 1975 20	\$66,750 \$1,535.25  October 1976 NA	\$25,000 \$550  November 1974 10
<b>COMMENTS</b>	System price includes terminal, 32KB, 1.2MB of floppy disk storage; swapping available	System price includes terminal, 32KB, 10MB of removable disk storage; swapping available	System price includes terminal, 32KB, 100MB of removable disk storage; swapping available	System price includes terminal, 96KB, 100MB of removable disk storage; swapping available	Turnkey system; does not require data processing professional for operation

\*"Std." means the device is included in the price of the "basic system" as listed here.

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MANUFACTURER & MODEL	A.K. Industries Inc. AKI-91	Anderson Jacobson 1500	Applied Data Communications Series 70	Applied Data Processing Inc. Resource/100	Applied Digital Communications 101
<b>DATA FORMATS</b> Word length, bits Decimal digits per word Bytes (characters) per word Operand length, words Instruction length, words	8-bit byte 2 per byte 1 per byte 1, 2 bytes 1-3 bytes	8-bit byte 1 per byte 1 per byte 1, 2 bytes 1-3 bytes	8-bit byte 1 per byte 1 per byte 1 byte 1-3 bytes	16 2 2 Variable 1	8-bit byte 1 per byte 1 per byte 1 byte 1 byte
<b>CPU</b> Model Add time, microseconds  No. of programmable registers No. of I/O ports on basic system and maximum	8080A —  7 256	AJ 1500 4.0 (1 word)  128 3; 11	Intel 8080 2 (1 byte)  7 1; 256	DG Nova 1.35 (1 word)  4 8; 16	Wang 2200 800 (13 digits)  None 4
<b>INTERNAL STORAGE</b> Type Capacity of basic system, bytes Maximum capacity, bytes Increment size, bytes Cycle time, microseconds Access time, microseconds	MOS 32K 64K 4K 0.5 0.45	Core/MOS 32K 65K 32K 1.2 0.6	MOS 16K 65K 16K 2 —	Core 64K 212K 32K 1.0 0.5	MOS 8K 32K 8K 1.6 —
<b>MASS STORAGE CAPABILITIES*</b> Floppy disk drive Cartridge disk drive Pack disk drive Fixed-head disk/drum	No No Std.: 80M bytes No	Std.: 65K bytes Opt.: 40M bytes No No	Std.: 256K bytes Opt.: 10M bytes No Opt.: 2.5M bytes	No No Std.: 320M bytes No	Standard Std.: 10M bytes — —
<b>KEYBOARD INPUT*</b> Alphanumeric (typewriter) keyboard 10-key numeric keyboard Full accounting keyboard	Standard Standard No	Standard Standard No	Std.: any RS-232 Optional Optional	Standard Optional Yes	Standard Standard No
<b>INPUT/OUTPUT DEVICES*</b> Paper tape reader Paper tape punch Punched card reader Punched card punch Punched card reader/punch Serial printer Line printer Reel-to-reel tape drive Cassette tape drive Cartridge tape drive Magnetic ledger card device CRT	No No No No No Std.: 165 cps Opt.: 125-600 lpm No No No No No Standard; 24 x 80 char.	No No No No No Std.: 45, 120 cps Opt.: 300 lpm No No No No Optional; 24 x 80 char.	Opt.: 300 cps Opt.: 75 cps No No No Opt.: to 165 cps Opt.: to 1400 lpm Opt.: to 120 KBS No Optional No Std.: 24 x 80 char.	Optional Optional Optional Optional Optional Std.: 165, 330 cps Opt.: 300, 600 lpm Optional No No No Standard; 27 x 74 char.	Optional Optional Optional Optional Optional No Std.: 125 lpm Optional No No No Std.: 1024/1920 char.
<b>COMMUNICATIONS CAPABILITIES*</b> Maximum no. of lines Synchronous Asynchronous Protocols supported	8 Opt.: to 9600 bps Opt.: to 9600 bps IBM 2780	9 No Opt.: to 9600 bps None	2 Opt.: to 9600 bps Opt.: to 9600 bps Bisync	7 No Std.: 1200 bps IBM 2780	No No No No
<b>SOFTWARE SUPPORT</b> COBOL RPG FORTRAN BASIC Assembler Other programming languages Multiprogramming Language implemented in firmware Operating system implemented in firmware General accounting packages Industry application areas  Data base management system File access methods supported  Software separately priced Technical help separately priced	No No No Yes Yes None Yes; 2 partitions Partially Partially  Yes Inventory  No Random, sequential, index sequential No No	No No No Yes Yes ESP Yes; 8 partitions Partially Partially  Yes CPA's, public accountants No Sequential, direct access Yes Yes	No No No Yes Yes None Yes No Partially  Yes —  No Random, sequential, index sequential Yes Yes	No No No Yes Yes Extended BASIC Yes No No  Yes Yes  Yes Random, sequential, index sequential Yes Yes	No No No Yes No Yes No No  Yes Medicine Mfg.  No Random, index seq., sequential Yes Yes
<b>PRICING &amp; AVAILABILITY</b> Purchase price of basic system, \$ Monthly rental of basic system, \$  Date of first U.S. delivery Number installed in U.S. to date	\$30,000 \$600  August 1976 1	\$19,990 Contact vendor  April 1977 NA	\$8,285 —  May 1975 100 +	\$39,300 \$865  June 1976 NA	\$30,000 —  1977 —
<b>COMMENTS</b>	Turnkey system; does not require data processing professional for operation	Two-diskette system; also available with four diskettes; up to 10M bytes	Expandable to 8 double-density floppies or 4 10 MB disk drives; time-shared multi-user operating system for up to 4 CRT's	Resource/100 Extended Operating Systems are said to meet 95% of most users' needs for business applications	Drug inventory control, patient profile, payroll, text editing

\*"Std." means the device is included in the price of the "basic system" as listed here.

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MANUFACTURER & MODEL	Applied Digital Communications 201	Applied Digital Communications 301	Applied Digital Technology	Applied Systems Corp. ASC 80	Applied Systems Corp. ASC 1800
<b>DATA FORMATS</b> Word length, bits Decimal digits per word Bytes (characters) per word Operand length, words Instruction length, words	16 2 2 1 1	16 2 2 1 1, 2	16 2 2 1/2, 1 1, 2	8, 16 1, 2 1 1, 2 1, 2, 3	8-bit byte 2 per byte 1 per byte 1 byte 1-3 bytes
<b>CPU</b> Model Add time, microseconds  No. of programmable registers No. of I/O ports on basic system and maximum	Varian V77 2.32 (1 word)  8 8	HP 2100 1.96  5 4	GA SPC-16/45, /65 0.96; 1.4 (word)  8 2	Intel 8080/85; Opt. 780 2 per digit  7 4 to 64	Intel 8080 2 (1 byte)  16 2; 256
<b>INTERNAL STORAGE</b> Type Capacity of basic system, bytes Maximum capacity, bytes Increment size, bytes Cycle time, microseconds Access time, microseconds	MOS 8K 32K 8K 0.66 0.37	MOS 8K 32K 4K 0.65 0.40	Core 4K 64K 4K, 8K 0.96; 1.4 —	MOS 4 to 64K 64K plus 4K 0.5 0.5	MOS 4K 64K 4K 0.5 —
<b>MASS STORAGE CAPABILITIES*</b> Floppy disk drive Cartridge disk drive Pack disk drive Fixed-head disk/drum	Optional — — —	Optional — — —	Opt.; 147K bytes Std.; 10M bytes Opt.; 100M bytes Opt.; 256K bytes	Opt.; 90K/250K Opt.; RPQ Opt.; RPQ Opt.; 7M bytes	Opt.; 500K bytes Opt.; 250K bytes RPQ RPQ
<b>KEYBOARD INPUT*</b> Alphanumeric (typewriter) keyboard 10-key numeric keyboard Full accounting keyboard	Standard Standard No	Standard Standard No	Standard Standard No	Optional Optional Optional	Standard Optional Optional
<b>INPUT/OUTPUT DEVICES*</b> Paper tape reader Paper tape punch Punched card reader Punched card punch Punched card reader/pun... Serial printer Line printer Reel-to-reel tape drive Cassette tape drive Cartridge tape drive Magnetic ledger card device CRT	Optional Optional Optional Optional Optional No No Optional No No No No Std.; 1920 char.	Optional Optional Optional Optional Optional No No Optional No No No No Std.; 1920 char.	Opt.; 300, 400 cps Opt.; 75 cps Opt.; 300-1000 cpm Opt.; 35 cpm No Std.; 165 cps Opt.; 200-600 lpm Std.; 7.5-60 KBS No No No Standard; 8 x 64, 27 x 74 char.	Opt.; 300, Opt.; 100 cps Opt.; RFQ Opt.; RFQ No Opt.; to 30 cps Opt.; 100/300 Opt.; RPQ Opt.; 100 Opt.; 400 No Opt.; to 80 x 24/ graphic	Opt.; 20-300 cps Opt.; 10-50 cps Opt.; 200 cpm Opt.; 100 cpm Opt.; RPQ Std.; 30 cps Opt.; 100-600 lpm Opt.; RPQ Opt.; RPQ Opt.; RPQ Opt.; RPQ Opt.; 20 x 40 char.
<b>COMMUNICATIONS CAPABILITIES*</b> Maximum no. of lines Synchronous Asynchronous Protocols supported	No No No No	No No No No	4 Std.; to 9600 bps Std.; to 9600 bps None	16, 32 Opt.; to 50K Opt.; to 9600K IBM—Bisync; DECnet (RPQ)	16 Opt.; to 9600 bps Opt.; to 9600 bps Bisync, other error correct. protocols
<b>SOFTWARE SUPPORT</b> COBOL RPG FORTRAN BASIC Assembler Other programming languages Multiprogramming Language implemented in firmware Operating system implemented in firmware General accounting packages Industry application areas  Data base management system File access methods supported  Software separately priced Technical help separately priced	No Yes Yes Yes Yes No Yes No No No No Process control  Yes Random, index sequential Yes Yes	No Yes Yes Yes Yes ALGOL Yes No No Mfg. mgmt., acctg., data logging Yes Random, index sequential Yes Yes	Yes Yes Yes No Yes None Yes No No Yes Property mgmt., accounting No Direct, sequential, index sequential Yes Yes	No No Optional Yes Yes PL/M optional Optional Optional Optional Yes Communications, graphics, d.p.  Sequential, random  Yes Yes	No No No Yes Yes PL/M — Partially Fully  Yes; custom Communications  No Sequential, random  Yes Yes
<b>PRICING &amp; AVAILABILITY</b> Purchase price of basic system, \$ Monthly rental of basic system, \$  Date of first U.S. delivery Number installed in U.S. to date	\$40,000 —  1976 —	\$40,000 —  1977 —	\$50,000-\$100,000 Purchase only  January 1972 10	\$1,500 \$75  1975 NA	\$5,000 \$250  1974 NA
<b>COMMENTS</b>	Computer-gen- erated image systems, process control systems	Data base management	Marketed in Chicago area only; see Report M11-446-101 for more details on CPU	Basic computer system for business and data communi- cations with modular expansion and peripheral options	Oriented toward local and satellite processing with communications support or custom applications

\*"Std." means the device is included in the price of the "basic system" as listed here.

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MANUFACTURER & MODEL	J. Baker & Associates Distribution System 11/03	J. Baker & Associates Distribution System	J. Baker & Associates Distribution System 2	Basic Four Corporation Model 350	Basic Four Corporation Model 400
<b>DATA FORMATS</b> Word length, bits Decimal digits per word Bytes (characters) per word Operand length, words Instruction length, words	16 2 2 1 1-3	16 2 2 1 1-3	16 2 2 1 1-3	8-bit byte 1 per byte 1 per byte — 2 bytes	8-bit byte 1 per byte 1 per byte — 2 bytes
<b>CPU</b> Model Add time, microseconds  No. of programmable registers No. of I/O ports on basic system and maximum	DEC PDP-11/03 7.7 (1 word)  8 3; 16	DEC PDP-11/34 4.9 (1 word)  8 3; 32	DEC PDP-11/70 1.8 (1 word)  8 3; 64	BFC 1320 7.4  3 11 (above req.)	BFC 1320 7.4  3 11 (above req.)
<b>INTERNAL STORAGE</b> Type Capacity of basic system, bytes Maximum capacity, bytes Increment size, bytes Cycle time, microseconds Access time, microseconds	MOS 32K 56K 8K — —	MOS, core 128K 256K 32K 0.51 1.00	MOS, core 128K 4M 32K 0.41 0.99	MOS 24K 64K 8K, 16K 0.6 0.4	MOS 24K 64K 8K, 16K 0.6 0.4
<b>MASS STORAGE CAPABILITIES*</b> Floppy disk drive Cartridge disk drive Pack disk drive Fixed-head disk/drum	Opt.; 1024K bytes Std.; 4.8M bytes No No	Opt.; 512K bytes Std.; 14M bytes No Opt.; 2M bytes	Opt.; 512K bytes Std.; 88M bytes Opt.; 176M bytes Opt.; 2M bytes	No Std.; M bytes No No	No Std.; 20M bytes No No
<b>KEYBOARD INPUT*</b> Alphanumeric (typewriter) keyboard 10-key numeric keyboard Full accounting keyboard	Standard Standard No	Standard Standard No	Standard Standard No	Standard Standard No	Standard Standard No
<b>INPUT/OUTPUT DEVICES*</b> Paper tape reader Paper tape punch Punched card reader Punched card punch Punched card reader/punch Serial printer Line printer Reel-to-reel tape drive Cassette tape drive Cartridge tape drive Magnetic ledger card device CRT	No No No No No Std.; 180 cps Std.; 230, 300 lpm No No No No Optional, 24 x 80 char.	Opt.; 300 cps Opt.; 50 cps Opt.; 1200 cpm No Opt.; 285 cpm Opt.; 30 cps Opt.; 230, 300 lpm Opt.; 9 KBS Opt.; 562 cps No Optional, 24 x 80 char.	Opt.; 300 cps Opt.; 50 cps Opt.; 1200 cpm No Opt.; 285 cpm Opt.; 30 cps Opt.; 300, 900 lpm Opt.; 9 KBS Opt.; 562 cps No Optional, 24 x 80 char.	Opt.; 300 cps Opt.; 75 cps Opt.; 300-400 cpm No Std.; 165 cps Opt.; 300, 600 lpm Opt.; 10 KBS No No Std.; 24 x 80, 16 x 32 char.	Opt.; 300 cps Opt.; 75 cps Opt.; 300-400 cpm No Std.; 165 cps Opt.; 150-600 lpm Opt.; 10 KBS No No Std.; 24 x 80, 16 x 32 char.
<b>COMMUNICATIONS CAPABILITIES*</b> Maximum no. of lines Synchronous Asynchronous Protocols supported	3 Opt.; 9600 bps Opt.; 9600 bps IBM 2780	32 Opt.; 9600 bps Opt.; 9600 bps IBM 2780	64 Opt.; 9600 bps Opt.; 9600 bps IBM 2780	8 No Std.; 9600 bps None	8 No Std.; 9600 bps None
<b>SOFTWARE SUPPORT</b> COBOL RPG FORTRAN BASIC Assembler Other programming languages Multiprogramming Language implemented in firmware Operating system implemented in firmware General accounting packages Industry application areas  Data base management system File access methods supported  Software separately priced Technical help separately priced	No No Yes Yes Yes Yes DIBOL (COBOL) Yes Partially No Yes Manufacturing, distribution No Sequential, random, index seq. Yes Yes	Yes Yes Yes Yes Yes Yes DIBOL (COBOL) Yes; 4 partitions Partially No Yes Manufacturing, distribution Yes Sequential, random, index seq. Yes Yes	Yes Yes Yes Yes Yes Yes DIBOL (COBOL) Yes; 4 partitions Partially No Yes Manufacturing, distribution Yes Sequential, random, index seq. Yes Yes	No No No Yes No None Yes; 8 partitions No Partially Yes Medical, insurance, general business No Sequential, random Yes Yes	No No No Yes No — Yes; 8 partitions No Partially Yes Medical, insurance, general business No Sequential, random Yes Yes
<b>PRICING &amp; AVAILABILITY</b> Purchase price of basic system, \$ Monthly rental of basic system, \$  Date of first U.S. delivery Number installed in U.S. to date	\$34,995 Contact vendor  May 1977 5	\$45,000 Contact vendor  September 1975 25	\$70,000 Contact vendor  September 1975 NA	\$34,400 \$757  1971 4000 (all models)	\$36,900 \$812  1971 4000 (all models)
<b>COMMENTS</b>	See Report M11-384-301 for more details on CPU	Software costs \$7K to \$9.5K for plumbing, soft drinks, auto parts, or hardware distribution; full manufacturing system also available	See Distribution System comments; developed with major brewery; see Report M11-384-301 for more details on CPU	Available as packaged systems only; system price also includes cartridge disk subsystem, serial or line printer, and CRT terminal; see Report M11-088-101 for more details	Available as packaged systems only; system price also includes cartridge disk subsystem, serial or line printer, and CRT terminal; see Report M11-088-101 for more details

\*"Std." means the device is included in the price of the "basic system" as listed here.

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MANUFACTURER & MODEL	Basic Four Corporation Model 600	Basic Four Corporation Model 700	Basic Timesharing 4000/15	Basic Timesharing 4000/25	Binary Data Systems UCOM I
<b>DATA FORMATS</b> Word length, bits Decimal digits per word Bytes (characters) per word Operand length, words Instruction length, words	8-bit byte 1 per byte 1 per byte — 2 bytes	8-bit byte 1 per byte 1 per byte — 2 bytes	16 2 2 1 1	16 2 2 1 1	16 2, 4 2 1, 2 1
<b>CPU</b> Model Add time, microseconds  No. of programmable registers No. of I/O ports on basic system and maximum	BFC 1320 7.4  3 11 (above req.)	BFC 1320 7.4  3 9 (above req.)	BTI 4020 20  2 11	BTI 4020 20  2 11	DG Nova 3 10 (1 word)  5 3, 10
<b>INTERNAL STORAGE</b> Type Capacity of basic system, bytes Maximum capacity, bytes Increment size, bytes Cycle time, microseconds Access time, microseconds	MOS 32K 64K 8K, 16K 0.6 0.4	MOS 64K 128K 8K, 16K 0.6 0.4	MOS 64K 64K None 0.65 0.3	MOS 64K 64K None 0.65 0.3	Core 64K 256K 32K 0.8 0.4
<b>MASS STORAGE CAPABILITIES*</b> Floppy disk drive Cartridge disk drive Pack disk drive Fixed-head disk/drum	No Std.; 40M bytes No No	No No Std.; 300M bytes No	No Std.; 40M bytes Opt.; 389M bytes No	No Opt.; 40M bytes Std.; 389M bytes No	Optional Std.; 40M bytes Opt.; 800M bytes Optional
<b>KEYBOARD INPUT*</b> Alphanumeric (typewriter) keyboard 10-key numeric keyboard Full accounting keyboard	Standard Standard No	Standard Standard No	No No No	No No No	Standard Standard No
<b>INPUT/OUTPUT DEVICES*</b> Paper tape reader Paper tape punch Punched card reader Punched card punch Punched card reader/punch Serial printer Line printer Reel-to-reel tape drive Cassette tape drive Cartridge tape drive Magnetic ledger card device CRT	Opt.; 300 cps Opt.; 75 cps Opt.; 300-400 cpm No No Std.; 165 cps Opt.; 300, 600 lpm Opt.; 10 KBS No No No Std.; 24 x 80 16 x 32 char.	No No No No No Opt.; 165 cps Std.; 300 lpm Opt.; 10 KBS No No No Std.; 24 x 80, 16 x 32 char.	No No No No No No Opt.; 300-900 lpm Opt.; to 72 KBS No Std.; 192 KBS No No	No No No No No No Opt.; 300-900 lpm Opt.; to 72 KBS No Std.; 192 KBS No No	Opt.; 400 cps Opt.; 75 Opt.; 1000 cpm Opt.; 150 cpm No Opt.; 165 cps Std.; 200-1500 lpm Opt.; 10-72 KBS Opt.; 1.6 KBS No No Std.; 1920 cps
<b>COMMUNICATIONS CAPABILITIES*</b> Maximum no. of lines Synchronous Asynchronous Protocols supported	8 Opt.; 2400 bps Std.; 9600 bps IBM 2780	— Opt.; 2400 bps Std.; 9600 bps IBM 2780	4 No Opt.; 2500 bps User-programmable	4 No Opt.; 2500 bps User-programmable	256 Opt.; to 48K bps Opt.; to 9600 bps IBM 2780/3780 SDLC
<b>SOFTWARE SUPPORT</b> COBOL RPG FORTRAN BASIC Assembler Other programming languages Multiprogramming Language implemented in firmware Operating system implemented in firmware General accounting packages Industry application areas  Data base management system File access methods supported  Software separately priced Technical help separately priced	No No No Yes No — Yes; 8 partitions No Partially Yes Medical, insurance, general business No Sequential, random  Yes Yes	No No No Yes No — Yes; 16 partitions No Partially Yes Medical, insurance, general business No Sequential, random  Yes Yes	No No No Yes No No Partially Partially Yes School administration Yes Random, sequential, index seq. Yes No	No No No Yes No No Partially Partially Yes School administration Yes Random, sequential, index seq. Yes No	Yes No Yes Yes Yes — Yes; 64 partitions No No Yes Whlsl./dist., real estate, medical Yes Random, sequential, ISAM No Yes
<b>PRICING &amp; AVAILABILITY</b> Purchase price of basic system, \$ Monthly rental of basic system, \$  Date of first U.S. delivery Number installed in U.S. to date	\$51,400 \$1131  1975 4000 (all models)	\$115,000 \$2530  1976 4000 (all models)	\$35,950 No  January 1976 NA	\$56,300 —  January 1976 NA	\$45,000 —  July 1973 NA
<b>COMMENTS</b>	Available as packaged systems only; system price also includes cartridge disk subsystem, serial or line printer, and CRT terminal; see Report M11-088-101 for more details	600-lpm printer available as an option; available only as packaged system including pack disk, line printer, and CRT; see Report M11-088-101 for more details	Up to 32 user terminals concurrently, or 24 + 4 comm. lines; 10M-byte non-removable disk drive std.; see Report M11-089-101 for details	Up to 32 user terminals concurrently, or 24 + 4 comm. lines; 49M-byte pack drive std.; see Report M11-089-101 for more details	See Report M11-304-101 for more details on CPU

\*"Std." means the device is included in the price of the "basic system" as listed here.

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MANUFACTURER & MODEL	Binary Data Systems UCOM II	Binary Data Systems UCOM III	Burroughs B 80	Burroughs B 730/B 720	Burroughs B 801
<b>DATA FORMATS</b> Word length, bits Decimal digits per word Bytes (characters) per word Operand length, words Instruction length, words	16 2, 4 2 1, 2 1	16 2, 4 2 1, 2 1	8 2 1 Variable Variable	64 15 8 Variable Variable	64 16 8 1 2, 3, 4, 5 bytes
<b>CPU</b> Model Add time, microseconds  No. of programmable registers No. of I/O ports on basic system and maximum	DG Dual Nova 3/D 10 (1 word)  5 3, 10	DG Eclipse C330 6 (5 digits)  8 64	B 80/30/40/50 —  None 8, 11	Burroughs B 731 430  4 6, 8	Burroughs B 800 —  20 7
<b>INTERNAL STORAGE</b> Type Capacity of basic system, bytes Maximum capacity, bytes Increment size, bytes Cycle time, microseconds Access time, microseconds	Core 128K each 256K each 32K 0.8 0.4	Core 256K 512K 32K 0.8 0.4	MOS 32K/60K 60K/124K 4K/16K 1.0 0.5	MOS 32K 80K 8K 1.0 0.5	MOS 32K 80K 8K 1.0 0.5
<b>MASS STORAGE CAPABILITIES*</b> Floppy disk drive Cartridge disk drive Pack disk drive Fixed-head disk/drum	Optional Std.: 40M bytes Opt.: 800M bytes Optional	Optional Std.: 40M bytes Opt.: 800M bytes Optional	Opt.: 6M bytes Opt.: 27.6M bytes No No	Opt.: 243K bytes Opt.: 36.8M bytes No No	Opt.: 486K bytes Opt.: 36.8M bytes No No
<b>KEYBOARD INPUT*</b> Alphanumeric (typewriter) keyboard 10-key numeric keyboard Full accounting keyboard	Standard Standard No	Standard Standard No	Standard Standard No	Standard Standard No	Standard Standard No
<b>INPUT/OUTPUT DEVICES*</b> Paper tape reader Paper tape punch Punched card reader Punched card punch Punched card reader/punch Serial printer Line printer Reel-to-reel tape drive Cassette tape drive Cartridge tape drive Magnetic ledger card device CRT	Opt.: 400 cps Opt.: 75 cps Opt.: 1000 cpm Opt.: 150 cpm No Opt.: 165 cps Std.: 200-1500 lpm Opt.: 10-72 KBS Opt.: 1.6 KBS No No Std.: 1920 cps	Opt.: 400 cps Opt.: 75 cps Opt.: 1000 cpm Opt.: 150 cpm No Opt.: 165 cps Std.: 200-1500 lpm Opt.: 10-72 KBS Opt.: 1.6 KBS No No Std.: 1920 cps	No No No No No Std.: 60, 180 cps Opt.: 160, 250 lpm No Std.: 1 KBS No No Standard; 8 x 32 char.	Opt.: 40 cps Opt.: 40 cps Opt.: 600 cpm No Opt.: 600/60 cpm Std.: 60 cps Opt.: 85-400 lpm Opt.: 10 KBS Opt.: 1 KBS No No Optional; 24 x 80, 12x40, 8x32 char.	No No Opt.: 300 cpm No Opt.: 300/60,200/45 Std.: 120 cps Opt.: 85-400 lpm Opt.: 10 KBS Opt.: 1 KBS No No Opt.: 256-1920 char.
<b>COMMUNICATIONS CAPABILITIES*</b> Maximum no. of lines Synchronous Asynchronous Protocols supported	256 Opt.: to 48K bps Opt.: to 9600 bps IBM 2780/3780 SDLC	256 Opt.: to 48K bps Opt.: to 9600 bps IBM 2780/3780 SDLC	4 Opt.: to 4800 bps Opt.: to 9600 bps Basic mode, bisync., BDLC	1 Opt.: to 9600 bps Opt.: to 9600 bps Basic mode, bisync., 3780, BDLC	4 Opt.: to 9600 bps Opt.: to 9600 bps Basic mode, bisync., 3780
<b>SOFTWARE SUPPORT</b> COBOL RPG FORTRAN BASIC Assembler Other programming languages Multiprogramming Language implemented in firmware Operating system implemented in firmware General accounting packages Industry application areas  Data base management system File access methods supported  Software separately priced Technical help separately priced	Yes No Yes Yes Yes — Yes; 64 partitions No No Yes Basic accounting	Yes No Yes Yes Yes — Yes; 2 partitions No No Yes Basic accounting	Yes Yes No No No DSC/MPL/NDL Yes; to 3 programs Fully Fully	Yes Yes No No No AEL Yes; see comments Fully Fully	Yes Yes No No No AEL, MPL, NDL Yes Fully Fully
<b>PRICING &amp; AVAILABILITY</b> Purchase price of basic system, \$ Monthly rental of basic system, \$  Date of first U.S. delivery Number installed in U.S. to date	\$95,000 —  May 1975 NA	\$130,000 —  March 1976 NA	\$22,010 w/MCP \$720 with MCP  April 1976 NA	\$30,400 \$968  May 1973 NA	\$32,400 \$880  April 1977 —
<b>COMMENTS</b>	Dual processor featuring completely redundant systems; see Report M11-304-101 for more details on CPU	See Report M11-304-101 for more details on CPU	See Report M11-112-351 for more details	AEL programs can execute concurrently w./RPG or COBOL programs; B 730 supports up to 4 Direct Data Entry stations; see Report M11-112-451 for details	See Report M11-112-401 for more details

\*"Std." means the device is included in the price of the "basic system" as listed here.

Small Business Computer Specifications

MANUFACTURER & MODEL	Burroughs B 810/B 820	Burroughs B 1830 Series	Burroughs B 1860 Series	Burroughs B 1870 Series	Business Controls System 80/8
<b>DATA FORMATS</b> Word length, bits Decimal digits per word Bytes (characters) per word Operand length, words Instruction length, words	64 16 8 1 2, 3, 4, 5 bytes	16 4 2 Variable Variable	16 4 2 Variable Variable	16 4 2 Variable Variable	12 4 2 1 1
<b>CPU</b> Model Add time, microseconds  No. of programmable registers No. of I/O ports on basic system and maximum	Burroughs B 800 — 20 7	Burroughs B 1830 — — 1, 14	Burroughs B 1860 — — 1, 14	Burroughs B 1870 — — 1, 14	DEC PDP-8/A, E 2.6-3.0 (word)  8 2, 12
<b>INTERNAL STORAGE</b> Type Capacity of basic system, bytes Maximum capacity, bytes Increment size, bytes Cycle time, microseconds Access time, microseconds	MOS 64K 131K 8K 1.0 0.5	MOS/LSI 48K 256K 16K, 32K, 64K 1.2 0.4	MOS/LSI 64K 384K 32K, 64K, 128K 0.333 0.167	MOS/LSI 96K 512K 32K, 128K 0.333 0.167	Core 32K 256K 16K 1.2 0.6
<b>MASS STORAGE CAPABILITIES*</b> Floppy disk drive Cartridge disk drive Pack disk drive Fixed-head disk/drum	Opt.; 2 million Opt.; 368 million Opt.; 521 million No	Opt.; 486K bytes Std.; 74.4M bytes Opt.; 697.6M bytes No	Opt.; 486K bytes Opt.; 74.4K bytes Std.; 697.6M bytes No	Opt.; 486K bytes Opt.; 74.4K bytes Std.; 697.6M bytes Std.; 18M bytes	Opt.; 670K bytes Std.; 25.6M bytes No No
<b>KEYBOARD INPUT*</b> Alphanumeric (typewriter) keyboard 10-key numeric keyboard Full accounting keyboard	Standard Standard No	Standard No No	Standard No No	Standard No No	Standard Optional No
<b>INPUT/OUTPUT DEVICES*</b> Paper tape reader Paper tape punch Punched card reader Punched card punch Punched card reader/punch Serial printer Line printer Reel-to-reel tape drive Cassette tape drive Cartridge tape drive Magnetic ledger card device CRT	No No Opt.; 300 cpm No Opt.; 300/60,200/45 Opt.; 120 cps Opt.; 85-750 lpm Opt.; 10 KBS Opt.; 1 KBS No No Opt.; 256-1920 char.	No No Std.; 300 cpm Opt.; 150, 300 cpm Opt.; 200/45,300/60 No Std.; 400 lpm Opt.; 10-120 KBS Opt.; 1 KBS No No Std.; 24 x 80 char.	No No Std.; 600 cpm Opt.; 150, 300 cpm Opt.; 200/45,300/60 No Std.; 750 lpm Opt.; 10-120 KBS Opt.; 1 KBS No No Std.; 24 x 80 char.	No No Std.; 1400 cpm Std.; 300 cpm Opt.; 200/45,300/60 No Std.; 1500 lpm Std.; 80 KBS (4) Opt.; 1 KBS No No Std.; 24 x 80 char.	Opt.; 300 cps Opt.; 50 cps Opt.; 200 cpm No Std.; 180 cps Opt.; 250-600 lpm Opt.; 36 KBS Opt.; 3 KBS No No Std.; 12 x 80 char.; Opt.; 24 x 80 char.
<b>COMMUNICATIONS CAPABILITIES*</b> Maximum no. of lines Synchronous Asynchronous Protocols supported	4 Opt.; to 9600 bps Opt.; to 9600 bps Basic mode, bisync, 360/20 HASP	4 Opt.; 50,000 bps Opt.; 9600 bps Basic mode, bisync, BDLC	32 Opt.; 50,000 bps Opt.; 9600 bps Basic mode, bisync, BDLC	8 Std.; 24 opt. Opt.; 50,000 bps Opt.; 9600 bps Basic mode, bisync, BDLC	16 Opt.; to 4800 bps Opt.; to 9600 bps IBM 2780
<b>SOFTWARE SUPPORT</b> COBOL RPG FORTRAN BASIC Assembler Other programming languages Multiprogramming Language implemented in firmware Operating system implemented in firmware General accounting packages Industry application areas  Data base management system File access methods supported  Software separately priced Technical help separately priced	Yes Yes No No No AEL, MPL, NDL Yes Fully Fully  Yes All business acct'g. applications No Random, indexed seq., index random Yes Yes	Yes Yes Yes Yes No NDL, UPL, AEL Yes Fully Fully  Yes All business acct'g. applications Yes Random, index seq., index random Yes Yes	Yes Yes Yes Yes No NDL, UPL, AEL Yes Fully Fully  Yes All business acct'g. applications Yes Random, index seq., index random Yes Yes	Yes Yes Yes Yes No NDL, UPL, AEL Yes Fully Fully  Yes All business acct'g. applications Yes Random, index seq., index random Yes Yes	No No Yes Yes Yes NDL, UPL, AEL Yes; 15 partitions No No  Yes Retail, mfg., dist., whlsl., list maint. No Random, sequential, indexed sequential No No
<b>PRICING &amp; AVAILABILITY</b> Purchase price of basic system, \$ Monthly rental of basic system, \$  Date of first U.S. delivery Number installed in U.S. to date	\$35,900 \$975  April 1977 —	\$115,590 (98KB) \$3,058 (5-yr. lease)  2nd quarter 1977 NA	\$194,760 (160KB) \$4,815 (5-yr. lease)  2nd quarter 1977 NA	\$470,935 (384KB) \$11,671 (5-yr. lease)  2nd quarter 1977 NA	\$29,990 \$600  1971 100
<b>COMMENTS</b>	See Report M11-112-401 for more details	300-1400 cpm card readers opt.; 85-1500 lpm line printers opt.; see Report M11-112-601 for more details	300-1400 cpm card readers opt.; 85-1500 lpm line printers opt.; see Report M11-112-601 for more details	150 cpm card punch, 300-1400 cpm card readers, 85-1500 lpm line printers, 10-120KB mag tapes opt.; see Report M11-112-601 for more details	

\*"Std." means the device is included in the price of the "basic system" as listed here.

### Small Business Computer Specifications

MANUFACTURER & MODEL	Business Controls System 80/11	Business Systems Products Adviser II	Business Systems Products Adviser III	Cado Systems Corporation System 40	Cascade Data, Inc. Concept II
<b>DATA FORMATS</b> Word length, bits Decimal digits per word Bytes (characters) per word Operand length, words Instruction length, words	16 5 2+ ½, 1, 2 1	16 bits 2 2 2 1, 2, 3	16 bits 2 2 2 1, 2, 3	8-bit byte 2 per byte 1 per byte 0-4 1 byte	16 2 2 1-256 bytes 2-5 bytes
<b>CPU</b> Model Add time, microseconds  No. of programmable registers No. of I/O ports on basic system and maximum	DEC PDP-11/34,/70 2.7-7.3 (word)  8-16 2, 64	CA LSI-2/60 8.24 msec (8 digits)  8 4; 24	CA LSI-2/60 8.24 msec (8 digits)  8 8; 24	Intel 8080A 200 (9 digits)  6 2	Cascade Data 8.8 (word)  16 5; 32
<b>INTERNAL STORAGE</b> Type Capacity of basic system, bytes Maximum capacity, bytes Increment size, bytes Cycle time, microseconds Access time, microseconds	Core, MOS, bipolar 64K 204K 16K 0.980 0.490	Core 64K 64K — 0.980 0.520	Core 64K 304K 16K 0.980 0.520	MOS 5K 9K 4K 1.1 —	Core 16K 64K 16K 1.2 per byte 0.35 per byte
<b>MASS STORAGE CAPABILITIES*</b> Floppy disk drive Cartridge disk drive Pack disk drive Fixed-head disk/drum	Opt.; 2048K bytes Std.; 112M bytes Opt.; 1400M bytes Opt.; 8M bytes	No Std.; 40M bytes No No	No No Std.; 640M bytes No	Std.; 3.6M bytes Opt.; 19M bytes No No	No Std.; 40M bytes No No
<b>KEYBOARD INPUT*</b> Alphanumeric (typewriter) keyboard 10-key numeric keyboard Full accounting keyboard	Standard Optional No	Standard Standard No	Standard Standard No	Standard Standard No	Standard Standard No
<b>INPUT/OUTPUT DEVICES*</b> Paper tape reader Paper tape punch Punched card reader Punched card punch Punched card reader/punch Serial printer Line printer Reel-to-reel tape drive Cassette tape drive Cartridge tape drive Magnetic ledger card device CRT	Opt.; 300 cps Opt.; 50 cps Opt.; 300-1200 No No Std.; 180 cps Opt.; 250-1200 lpm Opt.; 10-72 KBS Opt.; 4 KBS No No No Std.; 12 x 80 char.; Opt.; 24 x 80 char.	Opt.; 1300 cps Opt.; 60 cps Opt.; 300 cpm Opt.; 50 cpm None 1 Std.; 120 cps Opt.; 300-600 lpm Opt.; 20-40 KCS No No No Std.; 1920 char.	Opt.; 1300 cps Opt.; 60 cps Opt.; 300 cpm Opt.; 50 cpm None Std.; 120 cps Opt.; 300-600 lpm Opt.; 20-40 KCS No No No Std.; 1920 char.	Optional Optional Optional No No Optional Std.; 300 lpm Optional No No No Standard; 24 x 80 char.	Opt.; 300 cps Opt.; 75 cps Opt.; 300 cpm No No Opt.; 55 cps Opt.; 125-600 lpm Opt.; 30, 60 KBS No No No Std.; 16 x 80 char.
<b>COMMUNICATIONS CAPABILITIES*</b> Maximum no. of lines Synchronous Asynchronous Protocols supported	64 Opt.; to 50K bps Opt.; to 9600 bps IBM 2780, SDLC	24 Opt.; 4800 bps Std.; 9600 bps IBM 2780, 3780, SDLC	24 Opt.; 4800 bps Std.; 9600 bps IBM 2780, 3780, SDLC	1 Std.; to 9600 bps Std.; to 9600 bps IBM 2770, 2780, 3780	8 Opt.; to 9600 bps Opt.; to 9600 bps 2780 bisync
<b>SOFTWARE SUPPORT</b> COBOL RPG FORTRAN BASIC Assembler Other programming languages Multiprogramming Language implemented in firmware Operating system implemented in firmware General accounting packages Industry application areas  Data base management system File access methods supported  Software separately priced Technical help separately priced	Yes Yes Yes Yes Yes DIBOL, DECform Yes; 63 partitions No No Yes Retail, mfg., dist., whsl., list maint. DBMS-11 Random, sequential, indexed sequential No No	No No Yes No No ABOL Yes; 24 partitions No Partially Yes Distribution Yes Seq., Random, ISAM Yes Yes	No No Yes No No ABOL Yes; 24 partitions No Partially Yes Distribution Yes Seq., Random, ISAM Yes Yes	No No No Yes (CADOL) Yes None No Fully Fully Yes Dist. proc., text editing Yes Random, indexed sequential Yes No	No Yes No No Yes None Yes; 2 partitions No No Yes Route acctg., Banking, Medical No All Yes Yes
<b>PRICING &amp; AVAILABILITY</b> Purchase price of basic system, \$ Monthly rental of basic system, \$  Date of first U.S. delivery Number installed in U.S. to date	\$40,000 \$800  1976 NA	\$38,700 \$850  7/76 Not published	\$65,800 \$1,450  12/76 Not published	\$19,900* 3rd party  April 1976 200	\$22,200 \$666  January 1970 200+
<b>COMMENTS</b>	Supports all DEC operating systems, sorts, etc.	Single-source responsibility for software & service; applications program packages library	Single-source responsibility for software & service; applications program packages library	*Price includes 80-column printer; add \$700 for 132-column unit; 2 floppy disk drives std., 6 max.	Add'l. industry applications: release acctg., public acctg., auto dealerships, grain elevators, film processors

\*"Std." means the device is included in the price of the "basic system" as listed here.



### Small Business Computer Specifications

MANUFACTURER & MODEL	Cascade Data, Inc. Concept III	Cascade Data, Inc. Concept IV	CDA, Inc. INVOMAT-20	CDA, Inc. INVOMAT-40	CDA, Inc. INVOMAT-60
<b>DATA FORMATS</b> Word length, bits Decimal digits per word Bytes (characters) per word Operand length, words Instruction length, words	16 2 2 1-256 bytes 2-5 bytes	8 1 1 1-256 bytes 1-2 bytes	16 4 2, 3 ½ 1	16 4 2, 3 ½ 1	16 4 2, 3 ½ 1
<b>CPU</b> Model Add time, microseconds  No. of programmable registers No. of I/O ports on basic system and maximum	Cascade Data 7.5 (word)  16 5; 32	Cascade Data 2.0 (byte)  14 6; 256	DG Nova 1200/D-116 1.35  4 2; 4	DG Nova 1200/D-116 1.35  4 4; 8	DG Nova 1200/D-116 1.35  4 4; 12
<b>INTERNAL STORAGE</b> Type Capacity of basic system, bytes Maximum capacity, bytes Increment size, bytes Cycle time, microseconds Access time, microseconds	Core 16K 64K 16K 1.0 per byte 0.35 per byte	MOS 16K 64K 16K 1.0 per byte 0.2 per byte	Core 32K 64K 16K 1.35 —	Core 32K 64K 16K 1.35 —	Core 48K 64K 16K 1.35 —
<b>MASS STORAGE CAPABILITIES*</b> Floppy disk drive Cartridge disk drive Pack disk drive Fixed-head disk/drum	Opt.; 1.2M bytes Std.; 40M bytes No No	Std.; 4.8M bytes No No No	Std.; 0.6M bytes No No No	Std.; 1.2M bytes No No No	Std.; 2.4M bytes No No No
<b>KEYBOARD INPUT*</b> Alphanumeric (typewriter) keyboard 10-key numeric keyboard Full accounting keyboard	Standard Standard No	Standard Standard No	Standard No No	Standard Optional No	Standard Optional No
<b>INPUT/OUTPUT DEVICES*</b> Paper tape reader Paper tape punch Punched card reader Punched card punch Punched card reader/punch Serial printer Line printer Reel-to-reel tape drive Cassette tape drive Cartridge tape drive Magnetic ledger card device CRT	Opt.; 300 cps Opt.; 75 cps Opt.; 300 cpm No No No Opt.; 55 cps Opt.; 125-600 lpm Opt.; 30, 60 KBS No No No No Std.; 16 x 80 char.	No No No No No Opt.; 60 cps Opt.; 200-400 lpm No No No No Std.; 16 x 80 char.	Opt.; 300 cps Opt.; 10 cps No No No Std.; 1; 30 cps No No No No Std.; 1; 960	Opt.; 300 cps Opt.; 10 cps No No No Std.; 1; 30 cps Opt.; 200 lpm No No No No Std.; 2; 960-1920	Opt.; 300 cps Opt.; 10 cps No No No Std.; 1; 165 cps Opt.; 300 lpm No No No No Std.; 3; 960-1920
<b>COMMUNICATIONS CAPABILITIES*</b> Maximum no. of lines Synchronous Asynchronous Protocols supported	8 Opt.; to 9600 bps Opt.; to 9600 bps 2780 bisync	8 Std.; to 9600 bps Std.; to 9600 bps 2780 bisync	No No No No	4 — — —	4 — — Opt.; to 9600 bps IBM 2780
<b>SOFTWARE SUPPORT</b> COBOL RPG FORTRAN BASIC Assembler Other programming languages Multiprogramming Language implemented in firmware Operating system implemented in firmware General accounting packages Industry application areas  Data base management system File access methods supported  Software separately priced Technical help separately priced	No Yes No No Yes None Yes; 4 partitions No No Yes Dist., MRP VSAM telecomm. network No All Yes Yes	No No No Yes Yes None Yes; 2 partitions Partially Partially Yes Business acctg. No All Yes Yes	No No No No Yes No No No No No Distrib., inventory, acctg. No Sequential; index sequential Some No	No No No No Yes No No No No No Distrib., inventory, acctg. Yes Sequential; index sequential Some No	No No No No Yes No No No No No Distrib., inventory, acctg. Yes Sequential; index sequential Some No
<b>PRICING &amp; AVAILABILITY</b> Purchase price of basic system, \$ Monthly rental of basic system, \$  Date of first U.S. delivery Number installed in U.S. to date	\$26,900 \$807  November 1977 NA	\$14,000 \$420  April 1978 NA	\$16,800 \$355  November 1974 50	\$23,600 \$500  May 1977 8	\$29,600 \$625  September 1977 NA
<b>COMMENTS</b>			Turnkey system; inventory mgt. program is included in price	Turnkey system; inventory manage- ment; invoicing, A/R programs are included in price	Turnkey system; Inventory/purchas- ing mgt., invoicing, and A/R programs are included in price

\*"Std." means the device is included in the price of the "basic system" as listed here.

### Small Business Computer Specifications

MANUFACTURER & MODEL	CDA, Inc. INVOMAT-200	Century Computer Century 300	Century Computer Century 400	Century Computer Century 700	Century Computer Century 900
<b>DATA FORMATS</b> Word length, bits Decimal digits per word Bytes (characters) per word Operand length, words Instruction length, words	16 4 2, 3 ½ 1	8 2 1 1 1-3	16 4 2 1 ½ to 1½	8, 16 4 2 2 ½ to 3	8, 16 4 2 2 ½ to 3
<b>CPU</b> Model Add time, microseconds  No. of programmable registers No. of I/O ports on basic system and maximum	DG Nova 1200/D-116 1.35  4 4; 16	Century 200 2.6 (5 digits)  16 2,256	Century 400 2.6 (5 digits)  16 2,256	Century 400 2.6/5 digits  16 2; 256	Century 400 2.6/5 digits  16 2; 256
<b>INTERNAL STORAGE</b> Type Capacity of basic system, bytes Maximum capacity, bytes Increment size, bytes Cycle time, microseconds Access time, microseconds	Core 48K 64K 16K 1.35 —	MOS 32K 60K 16K, 32K 0.6 0.2	MOS 32K 240K 32K 0.6 0.2	MOS 32K 256K 32K .05 1.4	MOS 96K 512K 32K .05 1.2
<b>MASS STORAGE CAPABILITIES*</b> Floppy disk drive Cartridge disk drive Pack disk drive Fixed-head disk/drum	Std.; 1; 0.6M bytes Std.; 1; 10M bytes No No	Opt.; 376K bytes Std.; 20M bytes Opt.; 100M bytes No	Opt.; 384K bytes Std.; 20M bytes Opt.; 100M bytes No	Opt.; 376K Std.; 20M bytes Opt.; 200M bytes No	Opt.; 376K Opt.; 40M bytes Opt.; 600M bytes No
<b>KEYBOARD INPUT*</b> Alphanumeric (typewriter) keyboard 10-key numeric keyboard Full accounting keyboard	Standard Optional No	Standard Standard Optional	Standard Standard Optional	Optional Optional Optional	Optional Optional Optional
<b>INPUT/OUTPUT DEVICES*</b> Paper tape reader Paper tape punch Punched card reader Punched card punch Punched card reader/punch Serial printer Line printer Reel-to-reel tape drive Cassette tape drive Cartridge tape drive Magnetic ledger card device CRT	Opt.; 300 cps Opt.; 60 cps Opt.; 200 cpm Opt.; 100 cpm Opt.; 250/60 cpm Std.; 165 cps Opt.; 300 lpm Opt.; 60 KBS No No No No Std.; 3; 960-1920	Opt.; 300, 400 cps No Opt.; 300, 600 cpm No Std.; 165 cps Opt.; 300, 600 lpm Opt.; 120 KBS Opt.; 300 cps No Standard; 24 x 80 char.	Opt.; 300, 400 cps No Opt.; 300/600 cpm No Opt.; 165 cps Std.; 300, 600 lpm Opt.; 120 KBS Opt.; 300 cps No Standard; 24 x 80 char.	Opt.; 400 cps Opt.; 150 cps Opt.; 300 cpm No 300 lpm 120K bytes Opt.; 300 cps No No No Std.; 24 x 80 char.	Opt.; 400 cps Opt.; 150 cps Opt.; 300 cpm No 600 lpm 120K bytes 300 cps No No No Std.; 24 x 80 char.
<b>COMMUNICATIONS CAPABILITIES*</b> Maximum no. of lines Synchronous Asynchronous Protocols supported	8 — Opt.; to 9600 bps IBM 2780	256 Opt.; to 9600 bps Opt.; to 9600 bps CCS	256 Opt.; to 9600 bps Opt.; to 9600 bps CCS	256 Opt.; 9600 bps Opt.; 9600 bps CCS	256 Opt.; 9600 bps Opt.; 9600 bps CCS
<b>SOFTWARE SUPPORT</b> COBOL RPG FORTRAN BASIC Assembler Other programming languages Multiprogramming Language implemented in firmware Operating system implemented in firmware General accounting packages Industry application areas  Data base management system File access methods supported  Software separately priced Technical help separately priced	Optional No Optional Optional Yes No No No No Yes Distrib., inventory, accounting Yes Sequential, index sequential Some No	No No No Yes Yes CPL Yes; 10 partitions No No Yes Bus. acct'g., dist. Yes Random sequential, index seq. Yes Yes	No No No Yes Yes CPL Yes; 10 partitions No Partially Yes Bus. acct'g., dist. Yes Random, sequential, index seq. Yes Yes	No No No Yes Yes CPL, MOD. Fortran Yes; 20 partitions Partial Partial Yes Distribution, Business, Finance Yes Random, sequential, index seq. Yes Yes	No No No Yes Yes CPL Yes; 20 partitions Partial Partial Yes Business, Finance, Hotel Yes Random, sequential, index, seq. Yes Yes
<b>PRICING &amp; AVAILABILITY</b> Purchase price of basic system, \$ Monthly rental of basic system, \$  Date of first U.S. delivery Number installed in U.S. to date	\$37,500 \$790  June 1975 10	\$30,000 Purchase only  February 1971 Over 600	\$34,000 Purchase only  March 1975 117	\$38,000 Purchase/lease  April 1976 40	\$45,000 Purchase/lease  February 1977 23
<b>COMMENTS</b>	Turnkey system; inventory/purchasing management, invoicing, and A/R programs are included in price	Turnkey system or business accounting; all software sold separately	Turnkey business accounting system with communications capability	Designed for general bus., distribution, & finance markets; expandable with software/hardware	Designed for large data base processing, real-time operating environment, finance, hotels, inventory control

\*"Std." means the device is included in the price of the "basic system" as listed here.

Small Business Computer Specifications

MANUFACTURER & MODEL	Century Computer Century 1000	Complete Computer System #2820	Complete Computer System #2851	Complete Computer System #3510	Complete Computer System #3720
<b>DATA FORMATS</b>					
Word length, bits	8, 16, 24	16 + 1	16 + 1	16 + 1	16 + 1
Decimal digits per word	4	4	4	4	4
Bytes (characters) per word	2	2	2	2	2
Operand length, words	2	1	1	1	1
Instruction length, words	½ to 3	1	1	1	1
<b>CPU</b>					
Model	Century 400	DG Nova 2/10	DG Nova 2/10	DG Nova 3/4	DG Nova 3/12
Add time, microseconds	2.6/5 digits	1 (1 word)	1 (1 word)	0.7 (1 word)	0.7 (1 word)
No. of programmable registers	16	16	16	32	32
No. of I/O ports on basic system and maximum	2; 256	4; 12	7; 11	3; 4	4; 20
<b>INTERNAL STORAGE</b>					
Type	MOS	Core	Core	MOS	MOS
Capacity of basic system, bytes	128K	64K	64K	64K	64K
Maximum capacity, bytes	512K	64K	64K	64K	256K
Increment size, bytes	32K	—	—	—	32K
Cycle time, microseconds	1.2	1	1	0.70	0.70
Access time, microseconds	0.5	—	—	0.35	0.35
<b>MASS STORAGE CAPABILITIES*</b>					
Floppy disk drive	Opt.; 376K	Opt.; 630K bytes	Opt.; 630K bytes	Opt.; 630K bytes	Opt.; 630K bytes
Cartridge disk drive	Opt.; 40M bytes	Std.; 46.4M bytes	Std.; 46.4M bytes	Std.; 232M bytes	Std.; 46.4M bytes
Pack disk drive	Opt.; 900M bytes	No	No	No	No
Fixed-head disk/drum	No	No	No	No	No
<b>KEYBOARD INPUT*</b>					
Alphanumeric (typewriter) keyboard	Optional	Standard	Standard	Standard	Standard
10-key numeric keyboard	Optional	Standard	Standard	Standard	Standard
Full accounting keyboard	Optional	No	No	No	No
<b>INPUT/OUTPUT DEVICES*</b>					
Paper tape reader	Opt.; 400 cps	Opt.; 400 cps	Opt.; 400 cps	Opt.; 400 cps	Opt.; 400 cps
Paper tape punch	Opt.; 150 cps	Opt.; 60 cps	Opt.; 60 cps	Opt.; 60 cps	Opt.; 60 cps
Punched card reader	Opt.; 300 cpm	Opt.; 300 cpm	Opt.; 300 cpm	Opt.; 300 cpm	Opt.; 300 cpm
Punched card punch	No	No	No	No	No
Punched card reader/punch	No	No	No	No	No
Serial printer	1200 lpm	Std.; 330 cps	Std.; 330 & 30 cps	Std.; 60 cps	Std.; 180 cps
Line printer	120K bytes	Opt.; 300 lpm	Opt.; 300 lpm	Opt.; 300 lpm	Opt.; 300 lpm
Reel-to-reel tape drive	300 cps	Opt.; 36 KBS	Opt.; 36 KBS	No	Opt.; 36 KBS
Cassette tape drive	No	Opt.; 1.6 KBS	Opt.; 1.6 KBS	No	Opt.; 1.6 KBS
Cartridge tape drive	No	No	No	No	No
Magnetic ledger card device	No	No	No	No	No
CRT	Std.; 24 x 80 char.	Std.; 1920 char. 24 x 80	Std.; 1920 char.	Std.; 1920 char.	Std.; 1920 char.
<b>COMMUNICATIONS CAPABILITIES*</b>					
Maximum no. of lines	256	10	9	2	18
Synchronous	Opt.; 9600 bps	Opt.; to 9600 bps	Opt.; to 9600 bps	Opt.; to 9600 bps	Opt.; to 9600 bps
Asynchronous	Opt.; 9600 bps	Opt.; to 9600 bps	Opt.; to 9600 bps	Opt.; to 9600 bps	Opt.; to 9600 bps
Protocols supported	CCS	Opt.; 2780 via DG RSTCP	Opt.; 2780 via DG RSTCP	Opt.; 2780 via DG RSTCP	Opt.; 2780 via DG RSTCP
<b>SOFTWARE SUPPORT</b>					
COBOL	No	No	No	No	No
RPG	No	No	No	No	No
FORTRAN	No	Yes	Yes	Yes	Yes
BASIC	Yes	Yes	Yes	Yes	Yes
Assembler	Yes	Yes	Yes	Yes	Yes
Other programming languages	CPL, ALGOL	"CREATE" DBMS	"CREATE" DBMS	"CREATE" DBMS	"CREATE" DBMS
Multiprogramming	Yes; 20 partitions	Yes	Yes	Yes	Yes
Language implemented in firmware	Partially	Partially	Partially	Partially	Partially
Operating system implemented in firmware	Partially	Partially	Partially	Partially	Partially
General accounting packages	Yes	Yes	Yes	Yes	Yes
Industry application areas	Bus., fin., dist., hotel, medicine	Mfg., costing, dist., printing	Mortgage banking, mfg.	Property mgt., mfg., dist.	Municipal acctg., mfg., DBMS, dist.
Data base management system	Yes	Yes	Yes	Yes	Yes
File access methods supported	Random, sequential, index seq.	Seq., Random, ind. seq.	Seq., random, ind. seq.	Seq., random, ind. seq.	Seq., random, ind. seq.
Software separately priced	Yes	Yes	Yes	Yes	Yes
Technical help separately priced	Yes	Yes	Yes	Yes	Yes
<b>PRICING &amp; AVAILABILITY</b>					
Purchase price of basic system, \$	\$65,000	\$35,675	\$41,275	\$23,850	\$28,300
Monthly rental of basic system, \$	Purchase/lease	\$774	\$895	\$517	\$614
Date of first U.S. delivery	June 1977	March 1974	December 1974	October 1976	September 1976
Number installed in U.S. to date	6	NA	NA	NA	NA
<b>COMMENTS</b>	Large data base management sys- tems; real-time/ batch processing	Includes two CRT's and hardware float- ing-point unit	The 30-cps printer includes forms con- trol; system in- cludes hardware floating-point unit	Disk storage ex- pandable to 100MB	Disk storage ex- pandable to 100MB

\*"Std." means the device is included in the price of the "basic system" as listed here.

### Small Business Computer Specifications

MANUFACTURER & MODEL	Complete Computer System #3955	Compucorp 402	Compucorp 450	Compucorp 450/D	Compucorp 450/DP
<b>DATA FORMATS</b>					
Word length, bits	16 + 1	64	64	64	64
Decimal digits per word	4	13	13	13	13
Bytes (characters) per word	2	8	8	8	8
Operand length, words	1	1, 2	1, 2	1, 2	1, 2
Instruction length, words	1	1-7 bytes	1-7 bytes	1-7 bytes	1-7 bytes
<b>CPU</b>					
Model	DG Nova 3/12	Compucorp 3000	Compucorp 3000	Compucorp 3000	Compucorp 3000
Add time, microseconds	0.7 (1 word)	80 (13 digits)	80 (13 digits)	80 (13 digits)	80 (13 digits)
No. of programmable registers	32	—	—	—	—
No. of I/O ports on basic system and maximum	4/20	—	—	—	—
<b>INTERNAL STORAGE</b>					
Type	MOS	MOS	MOS	MOS	MOS
Capacity of basic system, bytes	96K	12K	16K	16K	16K
Maximum capacity, bytes	256K	16K	16K	16K	16K
Increment size, bytes	32K	4K	None	None	None
Cycle time, microseconds	0.7	—	—	—	—
Access time, microseconds	0.5	—	—	—	—
<b>MASS STORAGE CAPABILITIES*</b>					
Floppy disk drive	Opt.; 630K bytes	Std.; 1.2M bytes	Std.; 1.2M bytes	Std.; 1.2M bytes	Std.; 1.2M bytes
Cartridge disk drive	Std.; 384M bytes	No	No	No	No
Pack disk drive	No	No	No	No	No
Fixed-head disk/drum	No	No	No	No	No
<b>KEYBOARD INPUT*</b>					
Alphanumeric (typewriter) keyboard	Standard	Standard	Standard	Standard	Standard
10-key numeric keyboard	Standard	Standard	Standard	Standard	Standard
Full accounting keyboard	No	No	No	No	No
<b>INPUT/OUTPUT DEVICES*</b>					
Paper tape reader	Opt.; 400 cps	No	No	No	No
Paper tape punch	Opt.; 400 cps	No	No	No	No
Punched card reader	Opt.; 300 cpm	No	No	No	No
Punched card punch	No	No	No	No	No
Punched card reader/punch	No	No	No	No	No
Serial printer	Std.; 660 cps	Std.; 30 cps	Std.; 30 cps	Std.; 30 cps	Std.; 30 cps
Line printer	Opt.; 300 lpm	No	No	No	No
Reel-to-reel tape drive	Opt.; 36 KBS	Opt.; 40 KBS	No	No	No
Cassette tape drive	Opt.; 1.6 KBS	No	No	No	No
Cartridge tape drive	No	No	No	No	No
Magnetic ledger card device	No	No	No	No	No
CRT	Std.; 1920 char. char.	Optional; 24 x 80 char.	Optional; 24 x 80 char.	Standard; 24 x 80 char.	Optional; 24 x 80 char.
<b>COMMUNICATIONS CAPABILITIES*</b>					
Maximum no. of lines	18	4	7	7	7
Synchronous	Opt.; to 9600 bps	No	No	No	No
Asynchronous	Opt.; to 9600 bps	Std.; to 4800 bps	Std.; to 4800 bps	Std.; to 4800 bps	Std.; to 4800 bps
Protocols supported	Opt.; 2780 VIA D.G. RSTCP	None	None	None	None
<b>SOFTWARE SUPPORT</b>					
COBOL	Optional	No	No	No	No
RPG	Optional	No	No	No	No
FORTRAN	Yes	No	No	No	No
BASIC	Yes	No	No	No	No
Assembler	Yes	Yes	Yes	Yes	Yes
Other programming languages	"CREATE" & ALGOL	None	None	None	None
Multiprogramming	Yes	No	No	No	No
Language implemented in firmware	Partially	Partially	Partially	Partially	Partially
Operating system implemented in firmware	Partially	Fully	Fully	Fully	Fully
General accounting packages	Yes	No	No	No	No
Industry application areas	Shared logic; word proc. & DBMS	Agric. bus.; gen'l. bus.	Agric. bus.; gen'l. bus.	Agric. bus.; gen'l. bus.	Agric. bus.; gen'l. bus.
Data base management system	Yes	Yes	Yes	Yes	Yes
File access methods supported	Seq., random, index seq.	Random, sequential, index seq.	Random, sequential, index seq.	Random, sequential, index seq.	Random, sequential, index seq.
Software separately priced	Yes	No	No	No	No
Technical help separately priced	Yes	Yes	Yes	Yes	Yes
<b>PRICING &amp; AVAILABILITY</b>					
Purchase price of basic system, \$	\$55,500	\$12,880	\$11,490	\$14,550	\$15,320
Monthly rental of basic system, \$	\$1,204	Purchase only	Purchase only	Purchase only	Purchase only
Date of first U.S. delivery	October 1976	January 1976	April 1976	June 1976	April 1976
Number installed in U.S. to date	NA	15	2	1	1
<b>COMMENTS</b>					
	System includes floating-point processor; handles word processing along with DBMS or business applications	Over 400 delivered in Europe; kits available to upgrade Monroe 1800 Series calculators to 402 status	Also being delivered in Europe; includes magnetic card reader	Also being delivered in Europe; includes magnetic card reader	Also being delivered in Europe; includes magnetic card reader

\*"Std." means the device is included in the price of the "basic system" as listed here.

### Small Business Computer Specifications

MANUFACTURER & MODEL	Compucorp 450-OPD	Compucorp 625	Computata Systems (DEC 300 Series)	Computata Systems (DEC 500 Series)	Computata Systems (IBM Series/1)
<b>DATA FORMATS</b>					
Word length, bits	64	48	16 + 2	16 + 2	16
Decimal digits per word	13	12	5	5	5
Bytes (characters) per word	8	6	2	2	2
Operand length, words	1	—	1, 2	1, 2	1
Instruction length, words	1, 2	1, 4	1, 2, 3	1, 2, 3	1, 2, 3
<b>CPU</b>					
Model	Compucorp 3000	Zilog Z-80	DEC LSI-11, PDP-11/34	DEC PDP-11/34, 11/70	IBM 4953/4955
Add time, microseconds	80	50	2.03	0.30-1.20	4.2
No. of programmable registers	32	—	6	12	32
No. of I/O ports on basic system and maximum	16	256	1-8	1-64	4-56
<b>INTERNAL STORAGE</b>					
Type	MOS	MOS	MOS	Core	MOS
Capacity of basic system, bytes	8K	24K	32K	128K	64K
Maximum capacity, bytes	16K	65K	256K	512K	128K
Increment size, bytes	4K	8K	32K	32K	32K
Cycle time, microseconds	4	1.6	0.98; 0.725	0.98	0.66
Access time, microseconds	4	0.4	0.51/0.635	0.36	0.50
<b>MASS STORAGE CAPABILITIES*</b>					
Floppy disk drive	Std.; 630K bytes	Std.; 630K bytes	Opt.; 310K bytes	Opt.; 310K bytes	Opt.; 2.5M bytes
Cartridge disk drive	No	Optional	Std.; 2.5 or 5M bytes	Std.; 2.5 or 5M bytes	Opt.; 9 or 13M bytes
Pack disk drive	No	No	Opt.; 14M bytes	Opt.; 14, 88, 176 MB	No
Fixed-head disk/drum	No	No	No	Opt.; 512M bytes	No
<b>KEYBOARD INPUT*</b>					
Alphanumeric (typewriter) keyboard	Standard	Standard	Standard	Standard	Standard
10-key numeric keyboard	Standard	Standard	Standard	Standard	Standard
Full accounting keyboard	No	No	No	No	No
<b>INPUT/OUTPUT DEVICES*</b>					
Paper tape reader	No	No	Optional	Optional	No
Paper tape punch	No	No	Optional	Optional	No
Punched card reader	No	No	No	Optional	No
Punched card punch	No	No	No	No	No
Punched card reader/punch	No	No	Opt.; 300 cpm	Opt.; 300, 1200 cpm	No
Serial printer	Std.; 30 cps	Std.; 80 cps	Std.; 180 cps	Std.; 180 cps	Opt.; 120 cps
Line printer	Optional	Optional	Opt.; 300 lpm	Opt.; 300 lpm	Opt.; 155 lpm
Reel-to-reel tape drive	Optional	Optional	Opt.; 800/1600 bpi	Opt.; 800/1600 bpi	No
Cassette tape drive	No	No	No	No	No
Cartridge tape drive	No	Optional	No	No	No
Magnetic ledger card device	No	No	No	No	No
CRT	Std.; 1920 char.	Std.; 1024 char.	Std.; 1920 char.	Std.; 1920 char.	Std.; 1920 char.
<b>COMMUNICATIONS CAPABILITIES*</b>					
Maximum no. of lines	4	4	32	64	256
Synchronous	No	No	Opt.; 2400 bps	Opt.; 2400 bps	Opt.; 2400 bps
Asynchronous	Optional	Optional	Std.; 9600 bps	Std.; 9600 bps	Std.; 9600 bps
Protocols supported	RS-232	RS-232	IBM 2780/3780	IBM 2780/3780	IBM 2780/3780
<b>SOFTWARE SUPPORT</b>					
COBOL	No	No	No	Yes	Yes
RPG	No	No	No	Yes	No
FORTRAN	No	No	Yes	Yes	Yes
BASIC	No	Yes	No	Yes	No
Assembler	Yes	Yes	No	No	Yes
Other programming languages	No	No	DIBOL	DIBOL	No
Multiprogramming	No	No	Yes	Yes	Yes
Language implemented in firmware	Partially	No	No	No	No
Operating system implemented in firmware	Partially	No	No	No	No
General accounting packages	Yes	Yes	Yes	Yes	Yes
Industry application areas	Various	Various	Manuf., distrib., services, retail	Manuf., distrib., services, retail	Manuf., distrib., services, retail
Data base management system	Yes	Yes	Yes	Yes	No
File access methods supported	Random, keyed, hashed	Random, keyed, hashed	Sequential, random, index sequential	Sequential, random, index sequential	Sequential, random, index sequential
Software separately priced	Yes	Yes	Yes	Yes	Yes
Technical help separately priced	Yes	Yes	Yes	Yes	Yes
<b>PRICING &amp; AVAILABILITY</b>					
Purchase price of basic system, \$	\$15,000	\$7,000	\$17,000	\$60,000	\$26,000
Monthly rental of basic system, \$	—	—	\$350	\$1.250	\$540
Date of first U.S. delivery	February 1976	July 1977	1975	1976	1977
Number installed in U.S. to date	100	NA	100	25	1
<b>COMMENTS</b>					

\*"Std." means the device is included in the price of the "basic system" as listed here.

### Small Business Computer Specifications

MANUFACTURER & MODEL	Computer Automation SyFA	Computer Covenant CPBS 1	Computer Covenant CPBS 2	Computer Covenant CPBS 3	Computer Hardware Inc. 2130
<b>DATA FORMATS</b> Word length, bits Decimal digits per word Bytes (characters) per word Operand length, words Instruction length, words	16 2 2 1 bit to 255 bytes 1, 2	16 2 2 1, 2 1	16 2 2 1, 2 1	16 2 2 1, 2 1	16 2 2 16 1
<b>CPU</b> Model Add time, microseconds  No. of programmable registers No. of I/O ports on basic system and maximum	CA LSI-2/60 76 (5 digits)  2 2, 6	DEC PDP-11/04 3.2 (1 word)  8 9	DEC PDP-11/34 3.2 (1 word)  9 4	DEC PDP-11/70 0.40 (1 word)  10 26	CHI 2130 2.7  8 21; 128
<b>INTERNAL STORAGE</b> Type Capacity of basic system, bytes Maximum capacity, bytes Increment size, bytes Cycle time, microseconds Access time, microseconds	Core 64K 304K 16K 1.2 0.5	MOS 56K 56K None 0.98 0.49	MOS 64K 248K 16K 0.51 0.26	Core 256K 2048K 64K, 256K 0.38 0.19	MOS 16K bytes 4M bytes 16K bytes 0.8 —
<b>MASS STORAGE CAPABILITIES*</b> Floppy disk drive Cartridge disk drive Pack disk drive Fixed-head disk/drum	No Std.; 40M bytes Opt.; 640M bytes No	Opt.; 512K bytes Opt.; 10M bytes No No	Opt.; 512K bytes Opt.; 10M bytes Opt.; 1408M bytes No	No Opt.; 10M bytes Std.; 1408M bytes No	— Opt.; 2M bytes Std.; 1200M bytes Opt.; 2M bytes
<b>KEYBOARD INPUT*</b> Alphanumeric (typewriter) keyboard 10-key numeric keyboard Full accounting keyboard	Optional Optional No	Standard Standard No	Standard Standard No	Standard Standard No	Standard Optional Optional
<b>INPUT/OUTPUT DEVICES*</b> Paper tape reader Paper tape punch Punched card reader Punched card punch Punched card reader/punch Serial printer Line printer Reel-to-reel tape drive Cassette tape drive Cartridge tape drive Magnetic ledger card device CRT	No No No No No Opt.; 100, 165 cps Opt.; 300, 600 lpm No No No No Optional; 24 x 80 char.	No No Opt.; 300 cpm No No Std.; 30, 180 cps Opt.; 300 lpm Opt.; 10-120 KBS No No Standard; 24 x 80 char.	No No Opt.; 300 cpm No No Std.; 30, 180 cps Opt.; 300-1200 lpm Opt.; 10-120 KBS No No Standard; 24 x 80 char.	No No Opt.; 300 cpm No No Std.; 30, 180 cps Opt.; 300-1200 lpm Opt.; 10-120 KBS No No Standard; 24 x 80 char.	Opt.; 300 cps Opt.; 110 cps Opt.; 1000 cpm Optional (IBM 1442) Optional (IBM 1442) Opt.; 60 cps Std.; 600 lpm Opt.; 75 lps Opt.; 30 cps No No Std.; 1920 char.
<b>COMMUNICATIONS CAPABILITIES*</b> Maximum no. of lines Synchronous Asynchronous Protocols supported	25 Opt.; to 4800 bps Std.; to 2400 bps IBM 2780/3780 HASP	4 Opt.; to 9600 bps Opt.; to 9600 bps IBM 2780, bisync, SDLC, DDCMP	16 Opt.; to 9600 bps Opt.; to 9600 bps IBM 2780, bisync, SDLC, DDCMP	60 Opt.; to 9600 bps Opt.; to 9600 bps IBM 2780, bisync, DLC, DDCMP	32 async; 4 sync. Opt.; to 4800 bps Opt.; to 9600 bps IBM 3270, 2780, 3780, 3741
<b>SOFTWARE SUPPORT</b> COBOL RPG FORTRAN BASIC Assembler Other programming languages Multiprogramming Language implemented in firmware Operating system implemented in firmware General accounting packages Industry application areas  Data base management system File access methods supported  Software separately priced Technical help separately priced	No No Yes Yes No SYBOL Yes; 43 partitions No No No Distributed processing No Random, sequential, index seq. Yes No	No No Yes Yes Yes DIBOL-11 Yes; 4 partitions No No Yes Manufacturing, dist./wholesale RMS-11 Random, sequential, index seq. Yes Yes	Yes No Yes Yes Yes DIBOL-11 Yes; 16 partitions No No Yes Manufacturing, dist./wholesale RMS-11 Random, sequential, index seq. Yes Yes	Yes Yes Yes Yes Yes DIBOL-11 Yes; 60 partitions No No Yes Manufacturing, dist./wholesale RMS-11/DBMS-11 Random, sequential, index seq. Yes Yes	Yes Yes Yes Yes Yes ALGOL, SNOBOL Yes; 32 partitions No Partially  Yes General accounting  Yes Random, sequential, index seq. Some No
<b>PRICING &amp; AVAILABILITY</b> Purchase price of basic system, \$ Monthly rental of basic system, \$  Date of first U.S. delivery Number installed in U.S. to date	\$45,000 NA  1976 NA	\$24,000 \$530 (5-yr. lease)  June 1976 2	\$42,000 \$910 (5-yr. lease)  September 1976 2	\$100,000 \$2,150 (5-yr. lease)  December 1976 1	Consult factory Consult factory  1974 NA
<b>COMMENTS</b>	Supports up to 24 terminals and up to 35 peripherals; FORTRAN and BASIC are un-bundled	Includes 180-cps serial printer	Includes 180-cps serial printer	High-speed controllers and dual access disk drives; cache memory	Hardware floating-point available

\*"Std." means the device is included in the price of the "basic system" as listed here.

### Small Business Computer Specifications

MANUFACTURER & MODEL	Computer Hardware Inc. 3230	Computer Hardware Inc. 4210	Computer Horizons CHC Distribution System	Computer Interactions Compo-II	Control Data Cyber 18-10
<b>DATA FORMATS</b>					
Word length, bits	16	16	16	12	16
Decimal digits per word	2	2	2	3	—
Bytes (characters) per word	2	2	2	2 (6-bit)	2
Operand length, words	16	16	½ or 1	1	—
Instruction length, words	1	1	1-3	1, 2	1-3
<b>CPU</b>					
Model	CHI 3231	CHI 4210	DEC PDP-11/34	DEC PDP-8/E or F	Cyber 18-10
Add time, microseconds	2.7	50	2 (1 word)	15 (5 digits)	1.76 (1 word)
No. of programmable registers	8	16	8	8	22
No. of I/O ports on basic system and maximum	21; 128	12	3, 7	3, 32	2 per memory mod.
<b>INTERNAL STORAGE</b>					
Type	MOS	MOS	MOS, core	Core, MOS	Core, MOS
Capacity of basic system, bytes	16K bytes	8K bytes	16K	16K	32K
Maximum capacity, bytes	4M bytes	4M bytes	248K	64K	64K
Increment size, bytes	16K bytes	8K bytes	16K, 32K, 64K	8K	16K
Cycle time, microseconds	0.8	1.2	0.49, 0.725, 0.98	1.2	0.75
Access time, microseconds	—	—	—	0.6	0.3
<b>MASS STORAGE CAPABILITIES*</b>					
Floppy disk drive	—	Std.; 1.0M bytes	No	Opt.; 256K bytes	Opt.; 560K bytes
Cartridge disk drive	Opt.; 2M bytes	Opt.; 3M bytes	No	Std.; 26M bytes	No
Pack disk drive	Std.; 1200M bytes	—	Std.; 88M bytes	Opt.; 90M bytes	No
Fixed-head disk/drum	Opt.; 2M bytes	—	No	No	No
<b>KEYBOARD INPUT*</b>					
Alphanumeric (typewriter) keyboard	Optional	Standard	No	Yes	Standard
10-key numeric keyboard	Optional	Optional	No	Yes	Standard
Full accounting keyboard	Optional	Optional	No	No	No
<b>INPUT/OUTPUT DEVICES*</b>					
Paper tape reader	Optional	No	No	Opt.; 300 cps	No
Paper tape punch	Optional	No	No	Opt.; 60 cps	No
Punched card reader	Optional	Optional	No	Opt.; 600-1200	Std.; 300, 600 cps
Punched card punch	Optional	No	No	No	No
Punched card reader/punch	Optional	No	No	No	No
Serial printer	Optional	Opt.; 180 cps	Std.; 180 cps	Opt.; 165, 300 cps	No
Line printer	Optional	Opt.; 300 lpm	Opt.; 1200 lpm	Std.; 300 lpm	Opt.; 300, 600 lpm
Reel-to-reel tape drive	Optional	No	Std.; 75 ips	Opt.; 20, 40 KBS	Opt.; 20 KBS
Cassette tape drive	Optional	Standard	No	No	No
Cartridge tape drive	No	No	No	Opt.; 40 KBS	No
Magnetic ledger card device	No	No	No	No	No
CRT	Opt.; 1920 char.	Opt.; 1920 char.	Standard; 24 x 80 char.	Standard; 24 x 80 char.	Standard; 24 x 80 char.
<b>COMMUNICATIONS CAPABILITIES*</b>					
Maximum no. of lines	32 async.; 4 sync.	8 async.; 1 sync.	64	32	—
Synchronous	Opt.; to 4800 bps	Opt.; to 4800 bps	Opt.; to 9600 bps	Opt.; to 9600 bps	Opt.; to 9600 bps
Asynchronous	Opt.; to 9600 bps	Opt.; to 9600 bps	Opt.; to 9600 bps	Opt.; to 2400 bps	Opt.; to 19.2K bps
Protocols supported	IBM 3270, 2780, 3780, 3741	IBM 3780	HDLC, ADDCP, DDCMP, SDLC	None	IBM 2780/3780, HASP, CDC 200
<b>SOFTWARE SUPPORT</b>					
COBOL	Yes	No	Yes	No	No
RPG	Yes	No	No	No	No
FORTRAN	Yes	Yes	No	Yes	No
BASIC	Yes	No	Yes	Yes	No
Assembler	Yes	Yes	No	Yes	Yes
Other programming languages	ALBOL, SNOBOL	—	None	None	None
Multiprogramming	Yes; 32 partitions	Yes; 8 partitions	Yes; 32 partitions	Yes; 4 partitions	No
Language implemented in firmware	No	No	No	No	No
Operating system implemented in firmware	Partially	No	No	No	No
General accounting packages	Yes	Yes	Yes	Yes	No
Industry application areas	General accounting	General accounting	Inv., order proc., business acct'g.	Wholesale dist., pharm., medical	Under development
Data base management system	Yes	No	No	No	No
File access methods supported	Random, sequential, index seq.	Sequential, random	Sequential, index sequential	Random, sequential, index seq.	—
Software separately priced	Some	Yes	No	No	Yes
Technical help separately priced	No	No	Yes	Yes	Yes
<b>PRICING &amp; AVAILABILITY</b>					
Purchase price of basic system, \$	Consult factory	Consult factory	\$30,000	\$50,000	\$27,840
Monthly rental of basic system, \$	Consult factory	Consult factory	No	\$1,200 (5-yr. lease)	\$933 (3-yr. lease)
Date of first U.S. delivery	1976	1977	NA	2nd quarter 1972	May 1976
Number installed in U.S. to date	NA	NA	0	77	NA
<b>COMMENTS</b>	Hardware floating-point available		DEC PDP-11/70 CPU can also be used; see Report M11-384-301 for more details on CPU	System has paged memory	Lower prices for quantity purchasers; full-payout 5-yr. lease plans also available

\*"Std.:" means the device is included in the price of the "basic system" as listed here.

### Small Business Computer Specifications

MANUFACTURER & MODEL	Control Data Cyber 18-20	Corstar Business Computing Co. Corstar 310	Corstar Business Computing Co. Corstar 350	Corstar Business Computing Co. Corstar 534	Corstar Business Computing Co. Corstar 570
<b>DATA FORMATS</b>					
Word length, bits	16	12	16	16	16
Decimal digits per word	—	2	2	2	2
Bytes (characters) per word	2	2 (6-bit)	2	2	2
Operand length, words	—	1, 2	1, 2	1, 2	1, 2
Instruction length, words	1-3	1, 2	1, 2	1, 2	1, 2
<b>CPU</b>					
Model	Cyber 18-20	DEC Datasystem 310	DEC Datasystem 350	DEC Datasystem 534	DEC Datasystem 570
Add time, microseconds	1.76 (1 word)	2.8	7.0 (11/10); 1.0 (11/40)	6.0	2.7
No. of programmable registers	22	8	8; 10	10	16
No. of I/O ports on basic system and maximum	2 per memory mod.	—	—	—	—
<b>INTERNAL STORAGE</b>					
Type	MOS	Core, MOS	Core	Core, MOS	Core
Capacity of basic system, bytes	32K	16K (6-bit)	32K	64K	128K
Maximum capacity, bytes	256K	64K (6-bit)	64K	248K	1024K
Increment size, bytes	32K, 64K	16K (6-bit)	32K	16K	64K
Cycle time, microseconds	0.75	1.4	0.98	0.98; 0.725	0.98
Access time, microseconds	0.3	0.7	0.49	0.49; 0.500	0.49
<b>MASS STORAGE CAPABILITIES*</b>					
Floppy disk drive	Opt.; 560K bytes	Std.; 1.2M bytes	No	No	No
Cartridge disk drive	No	Opt.; 1.28M bytes	Std.; 19.2M bytes	Std.; 19.2M bytes	Std.; 19.2M bytes
Pack disk drive	Opt.; 400M bytes	No	Opt.; 160M bytes	Opt.; 704M bytes	Opt.; 1408M bytes
Fixed-head disk/drum	No	No	No	No	No
<b>KEYBOARD INPUT*</b>					
Alphanumeric (typewriter) keyboard	Standard	Standard	Standard	Standard	Standard
10-key numeric keyboard	Standard	Optional	Standard	Standard	Standard
Full accounting keyboard	No	No	No	No	No
<b>INPUT/OUTPUT DEVICES*</b>					
Paper tape reader	No	Optional	Optional	Optional	Optional
Paper tape punch	No	Optional	Optional	Optional	Optional
Punched card reader	Std.; 300, 600 cps	Optional	Optional	Optional	Optional
Punched card punch	No	No	No	No	No
Punched card reader/punch	No	No	No	No	No
Serial printer	No	Std.; 180 cps	Std.; 180 cps	Opt.; 180 cps	Opt.; 180 cps
Line printer	Opt.; 300, 600 lpm	Opt.; 300 lpm	Opt.; 300 lpm	Std.; 300 lpm	Std.; 300 lpm
Reel-to-reel tape drive	Opt.; 20 KBS	No	Optional	Optional	Optional
Cassette tape drive	No	No	No	No	No
Cartridge tape drive	No	No	No	No	No
Magnetic ledger card device	No	No	No	No	No
CRT	Standard; 24 x 80 char.	Standard; 12 x 80, 24 x 80 char.	Standard; 24 x 80 char.	Standard; 24 x 80 char.	Standard; 24 x 80 char.
<b>COMMUNICATIONS CAPABILITIES*</b>					
Maximum no. of lines	—	1	4	32	63
Synchronous	Opt.; to 9600 bps	Opt.; to 2200 bps	Opt.; to 2200 bps	Opt.; to 2200 bps	Opt.; to 2200 bps
Asynchronous	Opt.; to 19.2K bps	No	Opt.; to 9600 bps	Opt.; to 9600 bps	Opt.; to 9600 bps
Protocols supported	—	IBM 2780	IBM 2780	IBM 2780	IBM 2780
<b>SOFTWARE SUPPORT</b>					
COBOL	No	No	No	Yes	Yes
RPG	No	No	No	RPG II	RPG II
FORTRAN	Yes	No	No	Yes	Yes
BASIC	Yes	No	No	BASIC Plus	BASIC Plus
Assembler	Macro assembler	No	No	No	No
Other programming languages	None	DIBOL	DIBOL	None	None
Multiprogramming	Yes; 16 partitions	No	Yes; 4 partitions	Yes; 32 partitions	Yes; 63 partitions
Language implemented in firmware	No	No	No	No	No
Operating system implemented in firmware	No	No	No	No	No
General accounting packages	No	Yes	Yes	Yes	Yes
Industry application areas	Manufacturing, distribution	Manufacturing, distribution	Manufacturing, distribution	Advert. agency, financial	Financial, publishing
Data base management system	No	No	No	No	No
File access methods supported	—	Random, sequential, index sequential	Random, sequential, index sequential	Random, sequential, index sequential	Random, sequential, index sequential
Software separately priced	Yes	Yes	Yes	Yes	Yes
Technical help separately priced	Yes	Yes	Yes	Yes	Yes
<b>PRICING &amp; AVAILABILITY</b>					
Purchase price of basic system, \$	\$29,940	\$13,000-\$23,000	\$36,000-\$65,000	\$75,000-\$125,000	\$135,000-\$250,000
Monthly rental of basic system, \$	\$981 (3-yr. lease)	Purchase only	Purchase only	Purchase only	Purchase only
Date of first U.S. delivery	August 1976	1972	October 1975	November 1973	June 1975
Number installed in U.S. to date	NA	10	4	14	4
<b>COMMENTS</b>					
	Lower prices for quantity purchasers; full-payout 5-yr. lease plans also available	See Reports M11-385-101 and M11-384-101 for more details on hardware	See Reports M11-385-201 and M11-384-301 for more details on hardware	See Reports M11-385-501 and M11-384-301 for more details on hardware	See Reports M11-385-501 and M11-384-301 for more details on hardware

\*"Std." means the device is included in the price of the "basic system" as listed here.



### Small Business Computer Specifications

MANUFACTURER & MODEL	Data Communications Corp. TPS	Data Communications Corp. DPS	Data Communications Corp. DCS	Data General CS/40 Mod. C1	Data General CS/40 Mod. C3
<b>DATA FORMATS</b> Word length, bits Decimal digits per word Bytes (characters) per word Operand length, words Instruction length, words	16 4 2 1 1	16 4 2 1, 2 1, 2	16 4 2 1 1	16 4 2 1 1	16 4 2 1 1
<b>CPU</b> Model Add time, microseconds  No. of programmable registers No. of I/O ports on basic system and maximum	DG Nova 3/12 0.800 (1 word)  4 4; 24	DG S/200, C/300 0.600 (1 word)  16 5; 59	DG Nova 3/4 0.800 (1 word)  4 4; 24	DG Nova 3/12 0.700 (1 word)  4 1; 1	DG Nova 3/12 0.700 (1 word)  4 1; 4
<b>INTERNAL STORAGE</b> Type Capacity of basic system, bytes Maximum capacity, bytes Increment size, bytes Cycle time, microseconds Access time, microseconds	Core 96K 256K 32K 0.800 0.400	Core 32K, 64K 256K 16K 0.800 0.400	Core 8K 32K 8K 0.800 0.400	MOS 64 64 — 0.700 —	MOS 64 64 — 0.700 —
<b>MASS STORAGE CAPABILITIES*</b> Floppy disk drive Cartridge disk drive Pack disk drive Fixed-head disk/drum	Opt.: 500K bytes Std.: 10M bytes Opt.: 92M bytes Opt.: 2M bytes	Opt.: 500K bytes Std.: 10M bytes Opt.: 92M bytes Opt.: 2M bytes	Opt.: 500K bytes Std.: 10M bytes Opt.: 92M bytes Opt.: 2M bytes	Std.: 315K bytes Std.: 10M bytes No No	Std.: 315K bytes Std.: 10M bytes No No
<b>KEYBOARD INPUT*</b> Alphanumeric (typewriter) keyboard 10-key numeric keyboard Full accounting keyboard	Standard Optional No	Standard Standard No	Standard Optional No	Standard Standard No	Standard Standard No
<b>INPUT/OUTPUT DEVICES*</b> Paper tape reader Paper tape punch Punched card reader Punched card punch Punched card reader/punch Serial printer Line printer Reel-to-reel tape drive Cassette tape drive Cartridge tape drive Magnetic ledger card device CRT	Opt.: 400 cps Opt.: 70 cps Opt.: 150-1000 cpm No No Std.: 165 cps Opt.: 300-1200 lpm Opt.: 60 KBS Optional No No Standard; 24 x 80 char.	Opt.: 400 cps Opt.: 70 cps Opt.: 150-1000 cpm No No Std.: 165 cps Opt.: 200-1200 lpm Opt.: 60 KBS Optional No No Standard; 24 x 80 char.	Opt.: 400 cps Opt.: 70 cps Opt.: 150-1000 cpm No No Std.: 165 cps Opt.: 300-1200 lpm Opt.: 60 KBS Optional No No Standard; 24 x 80 char.	No No No No No Std.: 165 cps Std.: 300 lpm Opt.: 60 KCS No No No Std.: 24 x 80; single-term model	No No No No No Std.: 165 cps Std.: 300 lpm Opt.: 60 KCS No No No Std.: 24 x 80; up to 4 units
<b>COMMUNICATIONS CAPABILITIES*</b> Maximum no. of lines Synchronous Asynchronous Protocols supported	256 Opt.: to 9600 bps Opt.: to 9600 bps All	256 Opt.: to 50K bps Opt.: to 9600 bps All	256 Opt.: to 9600 bps Opt.: to 9600 bps All	1 Opt.: to 9600 bps No IBM 2780/3780	1 Opt.: to 9600 bps No IBM 2780/3780
<b>SOFTWARE SUPPORT</b> COBOL RPG FORTRAN BASIC Assembler Other programming languages Multiprogramming Language implemented in firmware Operating system implemented in firmware General accounting packages Industry application areas  Data base management system File access methods supported  Software separately priced Technical help separately priced	Yes No FORTRAN IV, V Yes Yes ALGOL No No No Yes Mortgages  No Random, sequential, index seq. Yes Yes	Yes RPG II FORTRAN IV, V Yes Yes ALGOL Yes; 1F, 1B Fully No Yes Mortgages  INFOS Random, sequential, index seq. Yes Yes	Yes Yes FORTRAN IV, V Yes Yes ALGOL Yes No No Yes Gen'l. mktg., mortgages, broadcasting No Random, sequential, index sequential Yes Yes	Yes No No No No No No No No No No No Sequential, random, ISAM No No	Yes No No No No No No No No No No No Sequential, random, ISAM No No
<b>PRICING &amp; AVAILABILITY</b> Purchase price of basic system, \$ Monthly rental of basic system, \$  Date of first U.S. delivery Number installed in U.S. to date	\$7,500 Purchase only  NA NA	\$10,000 Purchase only  September 1976 NA	\$5,000 Purchase only  March 1977 NA	\$32,915 \$741  September 1977 NA	\$34,165 \$769  September 1977 NA
<b>COMMENTS</b>	Transactional Processing System; see Report M11-304-101 for more details on CPU	Distributed Processing System; see Report M11-304-201 for more details on CPU	Data Collection System; see Report M11-304-101 for more details on CPU	Interactive COBOL; built-in screen handlers	Interactive COBOL; up to 4 terminals; multiterminal control & built-in screen handlers

\*"Std." means the device is included in the price of the "basic system" as listed here.

### Small Business Computer Specifications

MANUFACTURER & MODEL	Data General CS/40 Mod. C5	Datapoint Cassette 1100	Datapoint Diskette 1100	Datapoint 1150	Datapoint 1170
<b>DATA FORMATS</b> Word length, bits Decimal digits per word Bytes (characters) per word Operand length, words Instruction length, words	16 4 2 1 1	8-bit byte 1 per byte 1 per byte 1 byte 1-3 bytes	8-bit byte 1 per byte 1 per byte 1 byte 1-3 bytes	8-bit byte 1 per byte 1 per byte 1 byte 1-3 bytes	8-bit byte 1 per byte 1 per byte 1 byte 1-3 bytes
<b>CPU</b> Model Add time, microseconds  No. of programmable registers No. of I/O ports on basic system and maximum	DG Nova 3/D 0.700 (1 word)  4 1, 9	Datapoint 1100 4.8  14 1	Datapoint 1100 4.8  14 1	Datapoint 1150 1.4  16 2	Datapoint 1170 1.4  16 4
<b>INTERNAL STORAGE</b> Type Capacity of basic system, bytes Maximum capacity, bytes Increment size, bytes Cycle time, microseconds Access time, microseconds	MOS 128 192 64 0.700 —	MOS 4K 8K 4K 1.6 0.6	MOS 16K 16K None 1.6 0.3	MOS 24K (user) 24K (user) None 0.3	MOS 48K (user) 48K (user) None 0.8 0.3
<b>MASS STORAGE CAPABILITIES*</b> Floppy disk drive Cartridge disk drive Pack disk drive Fixed-head disk/drum	Std.: 315K bytes Std.: 10M bytes No No	No No No No	Std.: 1M bytes No No No	Std.: 1M bytes No No No	Std.: 1M bytes No No No
<b>KEYBOARD INPUT*</b> Alphanumeric (typewriter) keyboard 10-key numeric keyboard Full accounting keyboard	Standard Standard No	Standard Standard No	Standard Standard No	Standard Standard No	Standard Standard No
<b>INPUT/OUTPUT DEVICES*</b> Paper tape reader Paper tape punch Punched card reader Punched card punch Punched card reader/punch Serial printer Line printer Reel-to-reel tape drive Cassette tape drive Cartridge tape drive Magnetic ledger card device CRT	No No No No No Std.: 165 cps Std.: 300 lpm Opt.: 60K cps No No No Std.: 24 x 80; up to 9 units	No No Opt.: 300 cpm No No Opt.: 120 lpm Opt.: 300-600 lpm Opt.: 9.6-20 KBS Std.: 352 cps No No No Standard; 12 x 80 char.	No No Opt.: 300 cpm No No Opt.: 120 lpm Opt.: 300-500 lpm Opt.: 9.6-20 KBS No No No Standard; 12 x 80 char.	No No Opt.: 300 cpm No No Opt.: 80/120 cps Opt.: 300, 600 lpm Opt.: to 1600 bpi No No No Std.: 12 x 80 char.	No No Opt.: 300 cpm No No Opt.: 80/120 cps Opt.: 300, 600 lpm Opt.: to 1600 bpi No No No Std.: 12 x 80 char.
<b>COMMUNICATIONS CAPABILITIES*</b> Maximum no. of lines Synchronous Asynchronous Protocols supported	1 Opt.: to 9600 bps No IBM 2780/3780	1 Opt.: to 9600 bps Opt.: to 9600 bps IBM 2265, 2741, 2780/3780, HASP	1 Opt.: to 9600 bps Opt.: to 9600 bps IBM 2265, 2741, 2780/3780, HASP	1 Opt.: to 9600 bps Opt.: to 9600 bps IBM, Burroughs, CDC, HIS, Univac	5 Opt.: to 9600 bps Opt.: to 9600 bps IBM, Burroughs, CDC, HIS, Univac
<b>SOFTWARE SUPPORT</b> COBOL RPG FORTRAN BASIC Assembler Other programming languages Multiprogramming Language implemented in firmware Operating system implemented in firmware General accounting packages Industry application areas  Data base management system File access methods supported  Software separately priced Technical help separately priced	Yes No No No No No Yes No No No — No Sequential, random, ISAM No No	No Yes No Yes Yes Databus, Scribe No No No — No Sequential Yes No	No Yes No Yes Yes Databus, Scribe No No No Yes Banking, insur., govt., acctg. No Random, sequential, index seq. Yes No	No Yes No Yes Yes Databus, Datashare No No No Yes Banking, insur., govt., pub. acctg. No Seq., random, ISAM Yes No	No Yes No Yes Yes Databus, Datashare No No No Yes Banking, insur., govt., pub. acctg. No Seq., random, ISAM Yes No
<b>PRICING &amp; AVAILABILITY</b> Purchase price of basic system, \$ Monthly rental of basic system, \$  Date of first U.S. delivery Number installed in U.S. to date	\$46,240 \$1,041  September 1977 NA	\$7,200 \$165 (2-yr. lease)  January 1974 3500	\$12,880 \$214 (2-yr. lease)  February 1975 2500	\$14,480 \$344 (2-yr. lease)  January 1977 NA	\$15,980 \$384 (2-yr. lease)  July 15 NA
<b>COMMENTS</b>	Interactive COBOL; up to 9 terminals; multiterminal control & built-in screen handlers	Dataform and Data- share program lan- guages are also supported	Dataform, Data- share, and RPG II program languages are also supported	Under Databus/ Multiink, system can run 2 programs without partitioning	Under Datashare, system can run 4 programs without partitioning

\*"Std." means the device is included in the price of the "basic system" as listed here.

**Small Business Computer Specifications**

MANUFACTURER & MODEL	Datapoint 2200	Datapoint 5500	Datapoint 6600	Decision Data Computer Corp. System/4	Design Data ECS 40
<b>DATA FORMATS</b> Word length, bits Decimal digits per word Bytes (characters) per word Operand length, words Instruction length, words	8-bit byte 1 per byte 1 per byte 1 byte 1-3 bytes	8-bit byte 1 per byte 1 per byte 1 byte 1-4 bytes	8-bit byte 1 per byte 1 per byte 1 byte 1-4 bytes	8-bit byte 2 per byte 1 per byte 1 byte 2-4 bytes	16 2 2 1 1
<b>CPU</b> Model Add time, microseconds  No. of programmable registers No. of I/O ports on basic system and maximum	Datapoint 2200 4.8  14 4	Datapoint 5500 1.4  16 16	Datapoint 6600 1.15  16 24	System/4 —  6 5.8	DG Nova 3/12 0.95; 0.7  8 64
<b>INTERNAL STORAGE</b> Type Capacity of basic system, bytes Maximum capacity, bytes Increment size, bytes Cycle time, microseconds Access time, microseconds	MOS 4K 16K 4K 1.6 0.6	MOS 48K 48K None 0.8 0.3	MOS 120K (user) 120K (user) None 0.6 0.2	MOS 32K 64K 16K 1.0 0.5	Core; MOS 32K 96K 32K 1.0; 0.7 —
<b>MASS STORAGE CAPABILITIES*</b> Floppy disk drive Cartridge disk drive Pack disk drive Fixed-head disk/drum	Opt.: 1M bytes Opt.: 9.6M bytes Opt.: 50M bytes No	Opt.: 1M bytes Opt.: 160M bytes Opt.: 200M bytes No	Opt.: 1M bytes Opt.: 160M bytes Opt.: 200M bytes No	Std.: 2M bytes Opt.: 40M bytes No No	Std.: 1.2M bytes Opt.: 10M bytes Opt.: 92M bytes No
<b>KEYBOARD INPUT*</b> Alphanumeric (typewriter) keyboard 10-key numeric keyboard Full accounting keyboard	Standard Standard No	Standard Standard No	Standard Standard No	Standard Standard Standard	Standard No No
<b>INPUT/OUTPUT DEVICES*</b> Paper tape reader Paper tape punch Punched card reader Punched card punch Punched card reader/punch Serial printer Line printer Reel-to-reel tape drive Cassette tape drive Cartridge tape drive Magnetic ledger card device CRT	No No Opt.: 300 cpm No No Opt.: 120 lpm Opt.: 300, 600 lpm Opt.: 9.6-20 KBS Std.: 352 cps No No No Standard; 12 x 80 char.	No No Opt.: 300 cpm No No Opt.: 120 lpm Opt.: 300, 600 lpm Opt.: 9.6-20 KBS Std.: 352 cps No No No Standard; 12 x 80 char.	No No Opt.: 300 cpm No No Opt.: 80/120 cps Opt.: 300, 600 lpm Opt.: to 1600 bsi Std.: 352 cps No No No Std.: 12 x 80 char.	No No Opt.: 300-1200 No Opt.: 300/120 cpm Std.: 120 cps Opt.: 300/600 lpm No No No Standard; 24 x 80 char.	Std.: 400 cps Opt.: 62.2 cps Optional No Std.: 165 cps Opt.: to 1200 lpm Optional Optional No Standard; 24 x 90 char.
<b>COMMUNICATIONS CAPABILITIES*</b> Maximum no. of lines Synchronous Asynchronous Protocols supported	4 Opt.: to 9600 bps Opt.: to 9600 bps IBM 2265, 2741, 2780/3780, HASP	16 Opt.: to 9600 bps Opt.: to 9600 bps IBM 2265, 2741, 2780/2780, HASP	25 Opt.: to 9600 bps Opt.: to 9600 bps IBM, Burroughs, CDC, HIS, Univac	2 Std.: to 9600 bps Opt.: to 9600 bps IBM 2780/3780	32 Optional Standard IBM 2780/3780
<b>SOFTWARE SUPPORT</b> COBOL RPG FORTRAN BASIC Assembler Other programming languages Multiprogramming Language implemented in firmware Operating system implemented in firmware General accounting packages Industry application areas  Data base management system File access methods supported  Software separately priced Technical help separately priced	No Yes No Yes Yes Databus, Scribe No No No Yes Banking, insur., gov't., acct'g. No Random, sequential, index seq. Yes No	Yes Yes No Yes Yes Databus, Scribe Yes, 2 partitions No No Yes Banking, insur., gov't., acct'g. No Random, sequential, index seq. Yes No	Yes Yes No Yes Yes Databus, Datashare Yes, 2 partitions No No Yes Banking, insur., gov't., acct'g. No Seq., random, ISAM Yes No	No Yes No No No Ideal Yes; 2 partitions No Partially Yes Distribution No Direct, sequential, index seq. Some Some	Yes No Yes Yes Yes ALGOL Yes; 2 partitions No No Yes Manufacturing, order entry No Index sequential Yes Yes
<b>PRICING &amp; AVAILABILITY</b> Purchase price of basic system, \$ Monthly rental of basic system, \$  Date of first U.S. delivery Number installed in U.S. to date	\$8,571 \$216 (2-yr. lease)  April 1972 9000	\$33,888 \$855 (2-yr. lease)  1975 500	\$32,500 \$975 (2-yr. lease)  July 1, 1977 NA	\$20,000 NA  July 1975 15	\$40,000 Purchase only  May 1977 15
<b>COMMENTS</b>	Dataform, Data-share, and RPG II program languages are also supported	Dataform, Data-share, and RPG II program languages are also supported	Under Datashare, system can run 24 programs without partitioning		See Report M11-304-101 for more details on CPU

\*\*"Std." means the device is included in the price of the "basic system" as listed here.

### Small Business Computer Specifications

MANUFACTURER & MODEL	Design Data EC330	Digital Computer Controls Synergist Model 1500	Digital Computer Controls Synergist Model 2500	Digital Computer Controls Synergist Model 3700	Digital Equipment Corp. Datasync 310
<b>DATA FORMATS</b> Word length, bits Decimal digits per word Bytes (characters) per word Operand length, words Instruction length, words	16 2 2 1 1	16 5 2 1 1	16 5 2 1 1	16 5 2 1 1	12 2 2 (6-bit) 1 1
<b>CPU</b> Model Add time, microseconds  No. of programmable registers No. of I/O ports on basic system and maximum	DG Eclipse C/300 2.4  12 64	DG MicroNova 2.4  4 1-3	DG Nova 3/12 1 msec.  4 1-8	DG Nova 3/D 1 nsec.  4 1-16	DEC PDP-8/A 1000 (15 digits)  8 + 8 in mem. 2, 12
<b>INTERNAL STORAGE</b> Type Capacity of basic system, bytes Maximum capacity, bytes Increment size, bytes Cycle time, microseconds Access time, microseconds	Core 96K 256K 16K 0.8 0.4	MOS 48K 64K 8K, 16K 0.96 0.16	Core 64K 64K 8K, 16K, 32K 1.0 1.0	Core 128K 256K 8K, 16K, 32K 1.0 1.0	Core 16K (6-bit) 64K (6-bit) 16K, 32K (6-bit) 1.4 0.7
<b>MASS STORAGE CAPABILITIES*</b> Floppy disk drive Cartridge disk drive Pack disk drive Fixed-head disk/drum	No Opt.: 10M bytes Opt.: 92M bytes No	Std.: 1.26M bytes No No No	No Std.: 10M bytes Opt.: 96-192M bytes No	No Std.: 10M bytes Opt.: 96-192M bytes No	Std.: 670K bytes Opt.: 12.8M bytes No No
<b>KEYBOARD INPUT*</b> Alphanumeric (typewriter) keyboard 10-key numeric keyboard Full accounting keyboard	Standard No No	Standard Standard No	Standard Standard No	Standard Standard No	Standard Standard No
<b>INPUT/OUTPUT DEVICES*</b> Paper tape reader Paper tape punch Punched card reader Punched card punch Punched card reader/punch Serial printer Line printer Reel-to-reel tape drive Cassette tape drive Cartridge tape drive Magnetic ledger card device CRT	Opt.: 400 cps Opt.: 62.2 cps Optional No No Std.: 165 cps Opt.: to 1200 lpm Standard Optional No No Standard; 22 x 90 char.	Opt.: 400 cps Opt.: 63 cps Opt.: 400-1000 cpm No No Std.: 30 cps No Opt.: 60, 72 KCS No No No Opt.: 1920 char.	Opt.: 400 cps Opt.: 63 cps Opt.: 400-1000 cpm No No Std.: 275 cps Opt.: 300, 600 lpm Opt.: 60, 72 KCS No No No Std.: 1920 char.	Opt.: 400 cps Opt.: 63 cps Opt.: 400-100 cpm No No No Std.: 300 lpm Opt.: 60, 72 KCS No No No Std.: 1920 char.	No No No No No Opt.: 30, 165 cps Opt.: 300 lpm No No No No Optional; 12 x 80 char.
<b>COMMUNICATIONS CAPABILITIES*</b> Maximum no. of lines Synchronous Asynchronous Protocols supported	256 Optional Standard IBM 2780/3780, HASP	16 Optional Optional No	16 Optional Optional IBM 2780/3780	16 Optional Optional IBM 2780/3780	1 Opt.: to 4800 bps No IBM 2780
<b>SOFTWARE SUPPORT</b> COBOL RPG FORTRAN BASIC Assembler Other programming languages Multiprogramming Language implemented in firmware Operating system implemented in firmware General accounting packages Industry application areas  Data base management system File access methods supported  Software separately priced Technical help separately priced	Yes Yes Yes Yes Yes ALGOL Yes; 2 partitions No No Yes Manufacturing, order entry Yes Random, sequential, index seq. Yes Yes	No No No Yes Yes No No No Yes Manufacturing, wholesale distr. No Sequential, random, index sequential Yes No	No No No Yes Yes No No No Yes Manufacturing, wholesale distr. No Sequential, random, index sequential Yes No	No No No Yes Yes No No No Yes Manufacturing, wholesale distr. No Sequential, random, index sequential Yes No	No No No No No DIBOL (COBOL) No No No No Business accounting No Sequential, index sequential No Yes
<b>PRICING &amp; AVAILABILITY</b> Purchase price of basic system, \$ Monthly rental of basic system, \$  Date of first U.S. delivery Number installed in U.S. to date	\$60,000 Purchase only  November 1975 5	\$8,000 NA  January 1977 10	\$27,000 NA  December 1976 40	\$40,000 NA  January 1977 10	\$14,095 Purchase only  May 1975 NA
<b>COMMENTS</b>	See Report M11-304-201 for more details on CPU	1-, 2-, and 3-user versions of Synergist are available	Supports "logi-safe" application library including EIS, an executive inquiry system	Supports "logi-safe" application library including EIS, an executive inquiry system	Bytes are 6 bits; see Report M11-385-101 for more details

\*"Std." means the device is included in the price of the "basic system" as listed here.

## Small Business Computer Specifications

MANUFACTURER & MODEL	Digital Equipment Corp. Datsystem 322	Digital Equipment Corp. Datsystem 324	Digital Equipment Corp. Datsystem 354	Digital Equipment Corp. Datsystem 357	Digital Equipment Corp. Datsystem 530
<b>DATA FORMATS</b> Word length, bits Decimal digits per word Bytes (characters) per word Operand length, words Instruction length, words	16 2 2 1 1, 2, 3	16 2 2 1 1, 2, 3	16 2 2 1 1, 2, 3	16 2 2 1 1, 2, 3	16 2 2 ½, 1, 2 1
<b>CPU</b> Model Add time, microseconds  No. of programmable registers No. of I/O ports on basic system and maximum	DEC LSI-11 1.07 (word)  8 4	DEC LSI-11 7.3 (word)  8 4	DEC PDP-11/34 1.07 (word)  9 15	DEC PDP-11/34 1.07 (word)  9 15	DEC PDP-11/34 7.3 (word)  7 2, 10
<b>INTERNAL STORAGE</b> Type Capacity of basic system, bytes Maximum capacity, bytes Increment size, bytes Cycle time, microseconds Access time, microseconds	MOS 32K 56K 8K 1.2 0.7	MOS 32K 56K 8K 0.7 0.7	MOS 32K 248K 32K 0.7 0.7	MOS 64K 248K 32K 0.7 0.7	MOS 64K -256K -64K 0.7 (w/parity) 0.7 (w/parity)
<b>MASS STORAGE CAPABILITIES*</b> Floppy disk drive Cartridge disk drive Pack disk drive Fixed-head disk/drum	Std.: 1M bytes Opt.: 19.2M bytes No No	Std.: 7.2M bytes Opt.: 19.2M bytes No No	Opt.: 512K bytes Std.: 19.2M bytes No No	Opt.: 512K bytes Std.: 112M bytes No No	No Std.: 7.2M bytes Opt.: 704M bytes No
<b>KEYBOARD INPUT*</b> Alphanumeric (typewriter) keyboard 10-key numeric keyboard Full accounting keyboard	Standard Standard No	Standard Standard No	Standard Standard No	Standard Standard No	Standard Standard No
<b>INPUT/OUTPUT DEVICES*</b> Paper tape reader Paper tape punch Punched card reader Punched card punch Punched card reader/punch Serial printer Line printer Reel-to-reel tape drive Cassette tape drive Cartridge tape drive Magnetic ledger card device CRT	No No Opt.: 300 cpm No No Opt.: 30, 180 cps Opt.: 240, 300 lpm Opt.: 10 KBS No No No Standard; 24 x 80 char.	No No Opt.: 300 cpm No No Opt.: 30, 180 cps Opt.: 240, 300 lpm Opt.: 10 KBS No No No Standard; 24 x 80 char.	No No Opt.: 300 cpm No No Opt.: 30, 180 cps Opt.: 240, 300 lpm Opt.: 10 KBS No No No Standard; 24 x 80 char.	No No Opt.: 300 cpm No No Opt.: 30, 180 cps Opt.: 240, 300 lpm Opt.: 10 KBS No No No Standard; 24 x 80 char.	No No Opt.: 300 cpm No No Std.: 30, 180 cps Opt.: 860-1200 lpm Opt.: 10-72 KBS No No No Opt.: 24 x 80 char.; EIA inter.
<b>COMMUNICATIONS CAPABILITIES*</b> Maximum no. of lines Synchronous Asynchronous Protocols supported	4 Opt.: to 4800 bps No IBM 2780	4 Opt.: to 4800 bps No IBM 2780	8 Opt.: to 9600 bps No IBM 2780	8 Opt.: to 9600 bps No IBM 2780	32EIA; 20 ma Opt.: to 50K bps Opt.: to 9600 bps 2780/3780, 3271, SDLC, DDCMP
<b>SOFTWARE SUPPORT</b> COBOL RPG FORTRAN BASIC Assembler Other programming languages Multiprogramming Language implemented in firmware Operating system implemented in firmware General accounting packages Industry application areas  Data base management system File access methods supported  Software separately priced Technical help separately priced	No No No No No DIBOL (COBOL) No No No No Business accounting No Sequential, index sequential No Yes	No No No No No DIBOL (COBOL) No No No No Business accounting No Sequential, index sequential No Yes	No No No No No DIBOL (COBOL) No No No No Business accounting No Sequential, index sequential No Yes	No No No No No DIBOL (COBOL) No No No No Business accounting No Sequential, index sequential No Yes	Yes Yes Yes Yes Yes, and macro APL, DIBOL Yes; 32 partitions No No No Business acctg. and data proc. No Direct, seq., index seq. See comments See comments
<b>PRICING &amp; AVAILABILITY</b> Purchase price of basic system, \$ Monthly rental of basic system, \$  Date of first U.S. delivery Number installed in U.S. to date	\$19,315 Purchase only  March 1977 NA	\$32,615 Purchase only  March 1977 NA	\$37,950 Purchase only  July 1975 600	\$51,170 Purchase only  July 1975 600	\$35,000 Special arrangements October 1976 NA
<b>COMMENTS</b>	See Report M11-385-201 for more details	See Report M11-385-201 for more details	See Report M11-385-201 for more details	See Report M11-385-201 for more details	Replaces Datsystems based on PDP-11/40 and 11/45; see Report M11-385-401 for more details; optional bundled software and support

\*“Std.” means the device is included in the price of the “basic system” as listed here.

Small Business Computer Specifications

MANUFACTURER & MODEL	Digital Equipment Corp. Datasystem 570	Digital Scientific Corporation Meta 4/1130	Digital Scientific Corporation Meta 4/VM2-TS0	Digital Scientific Corporation Meta 4/1800	Digital Systems Galaxy/5 Model 130
<b>DATA FORMATS</b> Word length, bits Decimal digits per word Bytes (characters) per word Operand length, words Instruction length, words	16 2 2 ½, 1, 2 1	16 (+2 parity) 5 2 1-2 1-2	16 (+2 parity) 5 2 1-2 1-2	16 (+2 parity) 5 2 1-2 1-2	8 1 per byte 1 per byte 1-256 bytes 2, 4, 6 bytes
<b>CPU</b> Model Add time, microseconds No. of programmable registers No. of I/O ports on basic system and maximum	DEC PDP-11/70 2.7 (word) 10 10 & high speed	DSC 4030 2.9 (5 digits) 5 4	DSC 4031 2.9 (5 digits) 5 4	DSC 4040 2.9 (5 digits) 5 4	Galaxy/5 5 (5 digits) 8-20 15-60
<b>INTERNAL STORAGE</b> Type Capacity of basic system, bytes Maximum capacity, bytes Increment size, bytes Cycle time, microseconds Access time, microseconds	Core 128K 2048K 64K 1.0 (w/parity) 0.5 (w/parity)	Core 16K 128K 16K 0.9 0.5	Core 16K 128K 16K 0.9 0.5	Core 16K 256K 16K 0.9 0.5	MOS 64K 1M 64K 0.75 0.50
<b>MASS STORAGE CAPABILITIES*</b> Floppy disk drive Cartridge disk drive Pack disk drive Fixed-head disk/drum	No Opt.; 14-28M bytes Std.; 88M bytes Opt.; 8M bytes	No Opt.; 5.12M bytes Opt.; 160M bytes No	No Opt.; 5.12M bytes Opt.; 160M bytes Opt.; 1-2M bytes	No Opt.; 5.12M bytes Opt.; 160M bytes No	See comments See comments Std.; 32-240M bytes 24M bytes
<b>KEYBOARD INPUT*</b> Alphanumeric (typewriter) keyboard 10-key numeric keyboard Full accounting keyboard	Standard Standard No	Standard No No	Standard No No	Standard No No	Yes Yes Yes
<b>INPUT/OUTPUT DEVICES*</b> Paper tape reader Paper tape punch Punched card reader Punched card punch Punched card reader/punch Serial printer Line printer Reel-to-reel tape drive Cassette tape drive Cartridge tape drive Magnetic ledger card device CRT	No No Opt.; 300 cpm No No Std.; 30, 180 cps Opt.; 860-1200 lpm Opt.; 10-72 KBS No No No No Opt.; 24 x 80 char., EIA int.	Opt.; 400 cps Opt.; 50 cps Opt.; 600, 1000 Opt.; 35, 160 cpm Opt.; 400/160 cpm No Opt.; 300, 600 lpm Opt.; 30, 60 KBS No No No No	Opt.; 400 cps Opt.; 50 cps Opt.; 600, 1000 Opt.; 35, 160 cpm Opt.; 400/160 cpm No Opt.; 300, 600 lpm Opt.; 30, 60 KBS No No No No	Opt.; 400 cps Opt.; 50 cps Opt.; 600, 1000 Opt.; 35, 160 cpm Opt.; 400/160 cpm No Opt.; 300, 600 lpm Opt.; 30, 60 KBS No No No No	See comments See comments Yes See comments See comments See comments Std.; 100-900 lpm Yes See comments No No Standard; 24 x 80 char.
<b>COMMUNICATIONS CAPABILITIES*</b> Maximum no. of lines Synchronous Asynchronous Protocols supported	63 EIA; 20 ma Opt.; to 50K bps Opt.; to 9600 bps 2780/3780, 3271, SDLC, DDCMP	32 Opt.; to 9600 bps Opt.; 50-19.2K bps IBM 2780/3780, BSC	32 Opt.; to 9600 bps Opt.; 50-19.2K bps IBM 2780/3780, BSC	2 Opt.; to 9600 bps No IBM 2780/3780, BSC	120 Std.; to 15,000 bps Std.; to 9600 bps Programmable
<b>SOFTWARE SUPPORT</b> COBOL RPG FORTRAN BASIC Assembler Other programming languages Multiprogramming Language implemented in firmware Operating system implemented in firmware General accounting packages Industry application areas Data base management system File access methods supported Software separately priced Technical help separately priced	Yes Yes Yes Yes Yes, and macro APL, DIBOL Yes; 63 partitions No No No Business acctg. and data proc. DBMS-11 Direct, seq. index seq. See comments See comments	Yes Yes Yes No Yes, and macro None Partially No Yes Mktg. research, civil eng., educ. Yes Random, sequential, index seq. Yes No	Yes Yes Yes Yes Yes, and macro APL, S/1 Yes; 32 partitions Partially No Yes Mktg. research, civil eng., educ. Yes Random, sequential, index seq. Yes No	No No Yes No Yes, and macro None Yes; 24 partitions Partially No Med., process ctl., eng., research No Random, sequential, index seq. No No	No Yes Yes (early 1978) Yes Yes LMP, FMP Yes No Partially Yes Most industries Yes Random, sequential, index seq. Yes Yes
<b>PRICING &amp; AVAILABILITY</b> Purchase price of basic system, \$ Monthly rental of basic system, \$ Date of first U.S. delivery Number installed in U.S. to date	\$108,000 Special arrangements May 1976 NA	\$60,000 \$1,500 1970 Over 200	\$100,000 2,300 1974 See Meta 4/1130	\$80,000 \$1,850 1971 Over 30	\$32,700 (CPU only) \$752 (CPU only) December 1975 8
<b>COMMENTS</b>	High-speed controllers and dual-access disks avail.; see Report M11-385-401 for more details; optional bundled software and support	Can run most IBM 1130/1180 programs; firmware arithmetic unit is optional; see Report M11-388-101 for more details	Can run most IBM 1130/1800 programs; firmware arithmetic unit is optional; time-share, conversational operating system	Can run most IBM 1130/1800 programs; digital/analog I/O; real-time, batch, time-share OS	Nonstd. peripherals are not sold by DSC but may be connected thru comm. port; lease is 5-yr. full-payout with purchase

\*"Std." means the device is included in the price of the "basic system" as listed here.

Small Business Computer Specifications

MANUFACTURER & MODEL	Digital Systems Galaxy/5 Model 140	Digital Systems Galaxy/5 Model 150	Dimis Inc. Total 100	Display Data Corporation In*Sight	Distribution Management Systems DMS-1000-8
<b>DATA FORMATS</b> Word length, bits Decimal digits per word Bytes (characters) per word Operand length, words Instruction length, words	8 1 per byte 1 per byte 1-256 bytes 2, 4, 6	8 1 per byte 1 per byte 1-256 bytes 2, 4, 6	16 4 4 4 1	8 2 1 to 4 1-5	12 2 2 1 1, 2
<b>CPU</b> Model Add time, microseconds  No. of programmable registers No. of I/O ports on basic system and maximum	Galaxy/5 5 (5 digits)  8-20 15-60	Galaxy/5 5 (5 digits)  8-20 15-60	Modcomp II 0.8  15 2; 8	Microdata 1600/30 4.6  3 2; 20	DEC PDP-8 3.0 (word)  8+8 in memory 2-10
<b>INTERNAL STORAGE</b> Type Capacity of basic system, bytes Maximum capacity, bytes Increment size, bytes Cycle time, microseconds Access time, microseconds	MOS 128K 1M 64K 0.75 0.50	MOS 256K 1M 64K 0.75 0.50	Core 128K 128K None 0.80 0.50	Core 32K 64K 8K-16K 1.00 0.35	Core 32K (6-bit) 32K 16K 1.2-1.5 0.75
<b>MASS STORAGE CAPABILITIES*</b> Floppy disk drive Cartridge disk drive Pack disk drive Fixed-head disk/drum	See comments See comments Std.: 32-240M bytes 24M bytes	See comments See comments Std.: 32-240M bytes 24M bytes	Optional Optional Std.: 700M bytes No	No Std.: 80M bytes No No	No Std.: 6.4-25.6M bytes No No
<b>KEYBOARD INPUT*</b> Alphanumeric (typewriter) keyboard 10-key numeric keyboard Full accounting keyboard	Yes Yes Yes	Yes Yes Yes	Optional Optional Optional	Standard Standard No	Standard Standard No
<b>INPUT/OUTPUT DEVICES*</b> Paper tape reader Paper tape punch Punched card reader Punched card punch Punched card reader/punch Serial printer Line printer Reel-to-reel tape drive Cassette tape drive Cartridge tape drive Magnetic ledger card device CRT	See comments See comments Yes See comments See comments See comments Std.: 100-900 lpm Yes See comments No No Standard; 24 x 80 char.	See comments See comments Yes See comments See comments See comments Std.: 100-900 lpm Yes See comments No No Standard; 24 x 80 char.	Optional Optional Optional Optional Optional Std.: 300 lpm Std.: 36 KBS No No No Standard; 24 x 80 char.	No No No No No Std.: 120 cps Opt.: 300-600 lpm Opt.: 10, 20 KBS No No No Standard; 24 x 80 char.	No No No No No Std.: 180 cps Opt.: 300 lpm Opt.: 36 KBS No No No Standard; 1920 char.
<b>COMMUNICATIONS CAPABILITIES*</b> Maximum no. of lines Synchronous Asynchronous Protocols supported	240 Std.: to 15,000 bps Std.: to 9600 bps Programmable	480 Std.: to 15,000 bps Std.: to 9600 bps Programmable	32 Optional Std.: to 9600 bps None	16 No Std.: to 9600 bps None	10 Opt.: to 50 K bps Opt.: to 9600 bps IBM 2780/3780 HASP
<b>SOFTWARE SUPPORT</b> COBOL RPG FORTRAN BASIC Assembler Other programming languages Multiprogramming Language implemented in firmware Operating system implemented in firmware General accounting packages Industry application areas  Data base management system File access methods supported  Software separately priced Technical help separately priced	No Yes Yes (early 1978) Yes Yes LMP, FMP Yes No Partially Yes Most industries  Yes Random, sequential, index seq. Yes Yes	No Yes (late 1976) Yes (early 1978) Yes Yes LMP, FMP Yes No Partially Yes Most industries  Yes Random, sequential, index seq. Yes Yes	No No Yes No Yes None Yes No No Yes Distribution  Yes Random, sequential, index seq. No Yes	No No No No Yes None Yes; 20 partition Fully No Yes Auto dlrs., contractors, whlsr. No Sequential, random, index seq. Yes No	No No No No Yes DEAL, ORACLE Yes; 10 partitions No No Yes Distribution  Yes Index sequential, sequential, random Yes Yes
<b>PRICING &amp; AVAILABILITY</b> Purchase price of basic system, \$ Monthly rental of basic system, \$  Date of first U.S. delivery Number installed in U.S. to date	\$60,800 (CPU only) \$1,400 (CPU only)  October 1976 3	\$108,400 (CPU only) \$3,500 (CPU only)  October 1976 NA	\$135,000 NA  June 1974 3	\$37,700 NA  January 1974 180	\$54,000 Purchase only  1970 43
<b>COMMENTS</b>	Dual-processor system	Three-processor system	3 CRT's standard; package includes staff & mgmt. training & conversion support; see Report M11-641-101 for more details on CPU	Specialists in complete turnkey systems, support, forms, & maintenance for selected businesses	

\*"Std." means the device is included in the price of the "basic system" as listed here.

### Small Business Computer Specifications

MANUFACTURER & MODEL	Distribution Management Systems DMS-1000-11	Educomp-Quodata E-100	Educomp-Quodata E-500	Educomp-Quodata E-600	Educomp-Quodata E-700
<b>DATA FORMATS</b>					
Word length, bits	16	12	12	16	16
Decimal digits per word	2	4	3	4	4
Bytes (characters) per word	2	2	2	2	2
Operand length, words	1/2, 1, 2	1	—	1, 2	—
Instruction length, words	1, 2, 3	1	1	1	1 or 2 or 3
<b>CPU</b>					
Model	DEC PDP-11	DEC PDP-8A	DEC PDP-8/A	DEC PDP-11/34	DEC PDP-11/34
Add time, microseconds	0.3-3.17 (word)	3.0	2.6	3.0	2.16
No. of programmable registers	9-47	6 + 8 in mem.	1	8	8
No. of I/O ports on basic system and maximum	7-50	3; 7	—	4; 6	—
<b>INTERNAL STORAGE</b>					
Type	Core; MOS	Core	Core or MOS	Core	MOS
Capacity of basic system, bytes	64K	64K (6-bit)	64K	32K	128K
Maximum capacity, bytes	248K-2048K	64K (6-bit)	256K	256K	248K
Increment size, bytes	8K-64K	None	32K	32K	32K
Cycle time, microseconds	0.980	1.2, 1.5	1.2	0.9	0.775
Access time, microseconds	0.490	0.6, 0.75	1.2	0.45	0.635
<b>MASS STORAGE CAPABILITIES*</b>					
Floppy disk drive	Opt.; 512K bytes	Std.; 500K bytes	Optional	Optional	Optional
Cartridge disk drive	Opt.; 20M bytes	Optional	Std.; 64M bytes	Standard	Optional
Pack disk drive	Std.; 28-1200M bytes	Optional	No	Optional	Std.; 20M bytes
Fixed-head disk/drum	Opt.; 8M bytes	Optional	No	Optional	Optional
<b>KEYBOARD INPUT*</b>					
Alphanumeric (typewriter) keyboard	Standard	Standard	Standard	Standard	Standard
10-key numeric keyboard	Standard	Optional	Optional	Optional	Standard
Full accounting keyboard	No	No	No	No	No
<b>INPUT/OUTPUT DEVICES*</b>					
Paper tape reader	No	Optional	Optional	Optional	Optional
Paper tape punch	No	Optional	Optional	Optional	Optional
Punched card reader	No	Optional	Optional	Optional	Optional
Punched card punch	No	Optional	Optional	Optional	Optional
Punched card reader/punch	No	Optional	Optional	Optional	Optional
Serial printer	Std.; 180 cps	Optional	Opt.; 180 cps	Optional	Opt.; 180 cps
Line printer	Opt.; 60-1200 lpm	Optional	Opt.; 300-900 lpm	Optional	Opt.; 300-900 lpm
Reel-to-reel tape drive	Opt.; 36-120 KBS	Optional	No	Optional	Standard
Cassette tape drive	No	Optional	No	Optional	No
Cartridge tape drive	No	No	No	No	No
Magnetic ledger card device	No	No	No	No	No
CRT	Std.; 1920 char.	Optional; 24 x 80 char.	Opt.; 1920 char.	Optional; 24 x 80 char.	Opt.; 1920 char.
<b>COMMUNICATIONS CAPABILITIES*</b>					
Maximum no. of lines	32	16	32	32	63
Synchronous	Opt.; to 50K bps	Optional	Optional	Optional	Optional
Asynchronous	Opt.; to 9600 bps	Standard	Std.; to 19.2K bps	Standard	Std.; to 9600 bps
Protocols supported	IBM 2780/3780, HASP, SDLC	IBM 2780/3780, SDLC, etc.	IBM 2780, DDCMP	IBM 2780/3780, SDLC, etc.	IBM 2780, DDCMP
<b>SOFTWARE SUPPORT</b>					
COBOL	Yes	Yes	Yes (subset)	Yes	Yes
RPG	No	No	No	Yes	Yes
FORTRAN	Yes	Yes	Yes	Yes	Yes
BASIC	Yes	Yes	Yes	Yes	Yes
Assembler	Yes	Yes	Yes	Yes	Yes
Other programming languages	DEAL; ORACLE	FOCAL	DIBOL	FOCAL	APL, PASCAL, DIBOL
Multiprogramming	Yes; 30 partitions	Yes	Yes; 63 partitions	Yes	Yes; 63 partitions
Language implemented in firmware	No	No	No	No	No
Operating system implemented in firmware	No	Partially	Partially	No	No
General accounting packages	Yes	No	No	Yes	Yes
Industry application areas	Distribution	Education, municipal government	General	Education, municipal government	Education & government
Data base management system	Yes	No	No	Yes	Yes
File access methods supported	Indexed sequential, sequential, random	Random, sequential, index sequential	Sequential, random	Random, sequential, index seq.	Sequential, random, index sequential
Software separately priced	Yes	Yes	Yes	Yes	Yes
Technical help separately priced	Yes	Yes	Yes	Yes	Yes
<b>PRICING &amp; AVAILABILITY</b>					
Purchase price of basic system, \$	\$65,000	\$6,000 to \$40,000	\$33,000	\$45,000	\$65,000
Monthly rental of basic system, \$	Purchase only	NA	—	NA	—
Date of first U.S. delivery	NA	1971	1974	1972	1973
Number installed in U.S. to date	NA	NA	100+	NA	100+
<b>COMMENTS</b>		Complete administrative and instructional systems built to customer spec's; see Report M11-384-101 for more details on CPU		Complete administrative and instructional systems built to customer spec's; see Report M11-384-301 for more details on CPU	Software systems specifically designed for educational institutions and government entities

\*"Std." means the device is included in the price of the "basic system" as listed here.



Small Business Computer Specifications

MANUFACTURER & MODEL	Educomp-Quodata E-940	Financial Computer Fedder System III/10	Financial Computer Fedder System III/6	Four-Phase Systems Inc. System IV/40	Four-Phase Systems Inc. System IV/50
<b>DATA FORMATS</b> Word length, bits Decimal digits per word Bytes (characters) per word Operand length, words Instruction length, words	16 or 32 4 or 8 2 or 4 — 1 or 2 or 3	8-bit byte 2 per byte 1 per byte 1 byte 1 byte	8-bit byte 2 per byte 1 per byte 1 byte 1 byte	24 — 3 15 bits 1	24 — 3 15 bits 1
<b>CPU</b> Model Add time, microseconds  No. of programmable registers No. of I/O ports on basic system and maximum	DEC PDP-11/70 Variable  16 —	Fedder S III —  256 5; 64	Fedder S III —  256 5; 64	Four-Phase 16 (word)  5 34	Four-Phase 16 (word)  5 29
<b>INTERNAL STORAGE</b> Type Capacity of basic system, bytes Maximum capacity, bytes Increment size, bytes Cycle time, microseconds Access time, microseconds	Core Cache plus 256K 2 million 64K Variable Variable	MOS 32K 256K 8, 16, 32K — —	MOS 32K 256K 8, 16, 32K — —	MOS 24K 72K 24K 2 —	MOS 24K 96K 12K, 24K 2 —
<b>MASS STORAGE CAPABILITIES*</b> Floppy disk drive Cartridge disk drive Pack disk drive Fixed-head disk/drum	Optional Optional Std.; 88M bytes Optional	Opt.; 2.4M bytes Std.; 10.6M bytes No No	Std.; 1.8 bytes Opt.; 10.6M bytes No No	Opt.; 354K bytes Std.; 10M bytes No No	Std.; 354K bytes Std.; 10M bytes Opt.; 270M bytes No
<b>KEYBOARD INPUT*</b> Alphanumeric (typewriter) keyboard 10-key numeric keyboard Full accounting keyboard	Standard Standard	Standard Standard No	Standard Standard No	Standard Standard No	Standard Standard No
<b>INPUT/OUTPUT DEVICES*</b> Paper tape reader Paper tape punch Punched card reader Punched card punch Punched card reader/punch Serial printer Line printer Reel-to-reel tape drive Cassette tape drive Cartridge tape drive Magnetic ledger card device CRT	Optional Optional Optional Optional Optional Opt.; 180 cpm Opt.; 300-900 lpm Standard No No No Opt.; 1920 char.	Opt.; 300, 1000 cps Opt.; 300, 1000 cps Opt.; 300, 600 cpm Opt.; 300 cpm No Std.; 200 cps Opt.; 300-1250 lpm Opt.; 72 KBS Optional No Standard; 24 x 80 char.	Opt.; 300, 1000 cps Opt.; 300, 1000 cps Opt.; 300, 600 cpm Opt.; 300 cpm No Opt.; 30 cps Opt.; 300-1250 lpm Opt.; 72 KBS Optional No Standard; 24 x 80 char.	No No Opt.; 300, 600 cpm No No Opt.; 30 cps Opt.; 245-700 lpm No No No Standard; 24 x 80 char.	No No Opt.; 300, 600 cpm No No Opt.; 30 cps Opt.; 245-700 lpm No No No Standard; 24 x 80 char.
<b>COMMUNICATIONS CAPABILITIES*</b> Maximum no. of lines Synchronous Asynchronous Protocols supported	63 Optional Std.; to 9600 bps IBM 2780, DDCMP	64 Opt.; to 9600 bps Std.; to 9600 bps None	64 Opt.; to 9600 bps Std.; to 9600 bps None	— Std.; to 9600 bps Opt.; to 2400 bps IBM 3270, 2780, 3780	— Std.; to 9600 bps Opt.; to 2400 bps IBM 3270, 2780, 3780, bisync
<b>SOFTWARE SUPPORT</b> COBOL RPG FORTRAN BASIC Assembler Other programming languages Multiprogramming Language implemented in firmware Operating system implemented in firmware General accounting packages Industry application areas  Data base management system File access methods supported  Software separately priced Technical help separately priced	Yes Yes Yes Yes Yes Yes Yes; 63 partitions No No Yes Education & government Yes Sequential, random, index sequential Yes Yes	No No No Yes Yes CPL, PL/X Yes; 32 partitions No Partially Yes Dist., manuf., construct., acctg. Yes Random, sequential, index sequential Yes Yes	No No No Yes Yes CPL, PL/X Yes; 32 partitions No Partially Yes Dist., manuf., construct., acctg. Yes Random, sequential, index sequential Yes Yes	No; comp. on IV/70 No; comp. on IV/70 No No Yes None No — No Mfg., insurance, education No Contig., chained, seq., rand., ind. seq. No —	Yes No No No Yes None No — No Mfg., insurance, education No Contig., chained, seq., rand., ind. seq. No —
<b>PRICING &amp; AVAILABILITY</b> Purchase price of basic system, \$ Monthly rental of basic system, \$  Date of first U.S. delivery Number installed in U.S. to date	\$142,000 —  1975 —	\$37,500 \$750  January 1975 150	\$22,950 \$460  April 1977 20	\$30,315 \$604  June 1973 2300+ (IV/40, 70)	\$69,330 \$1,335 (42-mo. lease)  4th quarter 1976 NA
<b>COMMENTS</b>	Software systems specifically designed for educational institutions and government entities	Can run interactive or batch in any partitions; Fedder Data Systems is a division of Financial Computer Corp.		4 CRT's & 2.5M-byte cartridge disk are standard; applications in data entry & network transaction processing see Report M11-435-101 for more details	12 CRT's and 10M-byte cartridge disk are standard; applications in data entry & network transaction processing

\*"Std." means the device is included in the price of the "basic system" as listed here.

### Small Business Computer Specifications

MANUFACTURER & MODEL	Four-Phase Systems Inc. System IV/70	General Automation 440 Data Series	General Automation DM-130/2	General Automation DM-130	General Automation DM-140
<b>DATA FORMATS</b>					
Word length, bits	24	18	16	16	16
Decimal digits per word	—	4	4	4	4
Bytes (characters) per word	3	2	2	2	2
Operand length, words	15 bits	1	1, 2	1, 2	1, 2
Instruction length, words	1	1, 2	1	1	1
<b>CPU</b>					
Model	Four-Phase	GA-16/440	GA SPC-16/40	GA SPC-16/65	GA SPC-16/65
Add time, microseconds	16 (word)	0.78 (16 bits)	1.44	0.96	0.96
No. of programmable registers	5	16	16	16	16
No. of I/O ports on basic system and maximum	78	1; 128	8	18	18
<b>INTERNAL STORAGE</b>					
Type	MOS	Core	Core	Core	Core
Capacity of basic system, bytes	24K	128K	64K	64K	80K
Maximum capacity, bytes	96K	128K	64K	64K	128K
Increment size, bytes	12K, 24K	—	—	—	4K
Cycle time, microseconds	2	0.72	1.44	0.96	0.96
Access time, microseconds	—	0.25	0.72	0.48	0.48
<b>MASS STORAGE CAPABILITIES*</b>					
Floppy disk drive	Opt.; 354K bytes	No	No	No	No
Cartridge disk drive	Std.; 10M bytes	Std.; 40M bytes	Std.; 20M bytes	Std.; 40M bytes	Std.; 40M bytes
Pack disk drive	Opt.; 270M bytes	Opt.; 2400M bytes	No	Opt.; 200M bytes	Opt.; 200M bytes
Fixed-head disk/drum	No	Opt.; 2M bytes	No	No	Opt.; 512K bytes
<b>KEYBOARD INPUT*</b>					
Alphanumeric (typewriter) keyboard	Standard	Standard	Standard	Standard	Standard
10-key numeric keyboard	Standard	Standard	Standard	Standard	Standard
Full accounting keyboard	No	No	No	No	No
<b>INPUT/OUTPUT DEVICES*</b>					
Paper tape reader	No	No	No	No	No
Paper tape punch	No	No	No	No	No
Punched card reader	Opt.; 300, 600 cpm	Opt.; 400, 1000 cpm	Opt.; 400, 1000 cpm	Opt.; 400, 1000 cpm	Opt.; 400, 1000 cpm
Punched card punch	No	No	No	No	Opt.; 35 cpm
Punched card reader/punch	No	No	No	No	No
Serial printer	Opt.; 30 cps	No	Std.; 165 cpm	Std.; 165 cps	Std. (2); 165 cps
Line printer	Opt.; 245-700 lpm	Std.; 200,300,600 lpm	200-600 lpm	Std.; 200-600 lpm	Std. (2); to 600 lpm
Reel-to-reel tape drive	Std.; 10, 60 KBS	Opt.; 20, 30, 60 KBS	No	No	Opt.; 30, 60 KBS
Cassette tape drive	No	No	No	No	No
Cartridge tape drive	No	No	No	No	No
Magnetic ledger card device	No	No	No	No	No
CRT	Standard; 6 x 48 char.	Std.; 24 x 80 char.	Standard (2); 24 x 80 char.	Standard; 24 x 80 char.	Standard; 24 x 80 char.
<b>COMMUNICATIONS CAPABILITIES*</b>					
Maximum no. of lines	—	16	5	5	25
Synchronous	Opt.; to 9600 bps	Opt.; to 9600 bps	Opt.; to 9600 bps	Opt.; to 9600 bps	Opt.; to 9600 bps
Asynchronous	Opt.; to 2400 bps	Std.; to 9600 bps	Opt.; to 9600 bps	Opt.; to 9600 bps	Opt.; to 9600 bps
Protocols supported	IBM 3270, 2260, 2780, 3780	IBM 2780	IBM HASP, 2780	IBM HASP, 2780	IBM HASP, 2780
<b>SOFTWARE SUPPORT</b>					
COBOL	Yes	Yes	No	No	No
RPG	Yes	No	No	No	No
FORTRAN	No	No	Yes	Yes	Yes
BASIC	No	No	No	No	No
Assembler	Yes	No	Yes	Yes	Yes
Other programming languages	None	None	None	None	None
Multiprogramming	No	Yes; 4 partitions	Yes; 4 partitions	Yes; 4 partitions	Yes; 2 partitions
Language implemented in firmware	—	No	No	No	No
Operating system implemented in firmware	—	No	No	No	No
General accounting packages	No	No	Yes	Yes	Yes
Industry application areas	Mfg., insurance, education	Mfg., insurance, dist., medicine	Mfg., insurance, dist., medicine	Mfg., insurance, dist., medicine	Mfg., insurance, dist., medicine
Data base management system	No	No	No	No	No
File access methods supported	Contig., chained, seq., random, ind. seq.	ISAM, sequential, relative	Index sequential	Index sequential	Index sequential
Software separately priced	No	No	No	No	No
Technical help separately priced	—	Yes	Yes	Yes	Yes
<b>PRICING &amp; AVAILABILITY</b>					
Purchase price of basic system, \$	\$68,055	\$57,566	\$35,000	\$35,000	\$55,000
Monthly rental of basic system, \$	\$1,432	Purchase only	Purchase only	Purchase only	Purchase only
Date of first U.S. delivery	February 1971	May 1977	January 1974	November 1974	June 1975
Number installed in U.S. to date	2300+ (IV/40, 70)	NA	NA	NA	NA
<b>COMMENTS</b>	12 CRT's and 2.5M-byte cartridge disk are standard; applications in data entry and network transaction processing	Bundled software includes COBOL and full ISAM file management system	Sold as turnkey system by OEM's		

\*"Std." means the device is included in the price of the "basic system" as listed here.

## Small Business Computer Specifications

MANUFACTURER & MODEL	General Information Systems ABLE-322	General Information Systems ABLE-322F	General Information Systems ABLE-350	GRI Computer Corp. System 99	Harris Computer Systems S110
<b>DATA FORMATS</b> Word length, bits Decimal digits per word Bytes (characters) per word Operand length, words Instruction length, words	16 4 2 1 1 to 3	16 4 2 1 1 to 3	16 4 2 1 1 to 3	16 4 2 — 1-3	24 6 3 1 or 2 1 or 2
<b>CPU</b> Model Add time, microseconds  No. of programmable registers No. of I/O ports on basic system and maximum	DEC PDP-11/03 3.1, 6  8 2, 16	DEC PDP-11/03 3.1, 6  8 2, 16	DEC PDP-11/34 3.1, 6  8 5, 64	GRI 99/50 —  13 9, 80	Harris Series 100 0.75 (1 word)  5 3, 12
<b>INTERNAL STORAGE</b> Type Capacity of basic system, bytes Maximum capacity, bytes Increment size, bytes Cycle time, microseconds Access time, microseconds	MOS 24K 56K 16K 0.72 0.5	MOS 24K 56K 16K 0.72 0.5	Core, MOS 32K 256K 16K 0.98 0.75	Static MOS 32K 64K 16K/32K 1.76 0.15	Core 96K 768K 24K or 48K 0.750 0.300
<b>MASS STORAGE CAPABILITIES*</b> Floppy disk drive Cartridge disk drive Pack disk drive Fixed-head disk/drum	Std.; 1024K bytes Std.; 20M bytes — —	Std.; 1024K bytes Std.; 20M bytes — 1, 2, 9.6M bytes	— 2, 8, 29M bytes 0, 8 160M bytes —	No Std.; 6M bytes No No	Opt.; 310K bytes Std.; 10.8M bytes Opt.; 1200M bytes Opt.; 2.15M bytes
<b>KEYBOARD INPUT*</b> Alphanumeric (typewriter) keyboard 10-key numeric keyboard Full accounting keyboard	Standard Standard Standard	Standard Standard Standard	Standard Standard Standard	Standard Standard No	Standard No No
<b>INPUT/OUTPUT DEVICES*</b> Paper tape reader Paper tape punch Punched card reader Punched card punch Punched card reader/punch Serial printer Line printer Reel-to-reel tape drive Cassette tape drive Cartridge tape drive Magnetic ledger card device CRT	Opt.; 300 cps Opt.; 50 cps Opt.; 300 cps — Opt.; 1200 cpm Std.; 2, 180 cps Opt.; to 1200 lpm Opt.; 72K cps Opt.; 560 cps Opt.; 10K cps No Std.; 1920 char. per screen	Opt.; 300 cps Opt.; 50 cps Opt.; 300 cps — Opt.; 1200 cpm Std.; 2, 180 cps Opt.; to 1200 lpm Opt.; 72K cps Opt.; 560 cps Opt.; 10K cps No Std.; 1920 char. per screen	Opt.; 300 cps Opt.; 50 cps Opt.; 300 cps — Opt.; 1200 cpm Std.; to 900 cps Opt.; to 1200 lpm Opt.; 72K cps Opt.; 560 cps Opt.; 10K cps No Std.; 1920 char. per screen	Opt.; 300 cps Opt.; 75 cps Opt.; 300 cpm No Opt.; 300/120 cpm Opt.; 100/165 cps Opt.; 250/600 cpm Opt.; 30K cps No No No Std.; 640/1280 char.	Opt.; 300 cps Opt.; 75 cps Opt.; 1000 cpm No Opt.; 500/100 cpm Opt.; 30 cps Opt.; 900 lpm Std.; 36K cps Opt.; 30 cps No No Std.; 24 x 80 char.
<b>COMMUNICATIONS CAPABILITIES*</b> Maximum no. of lines Synchronous Asynchronous Protocols supported	16 No Opt.; to 4800 bps IBM 2780	16 No Opt.; to 4800 bps IBM 2780	16 No Opt.; to 9600 bps IBM 2780	3 Opt.; 4800 bps Opt.; 1200 bps None	128 Opt.; to 9.6K bps Opt.; to 19.2K bps IBM 2780, HASP, CDC UT200, Univac 1004
<b>SOFTWARE SUPPORT</b> COBOL RPG FORTRAN BASIC Assembler Other programming languages Multiprogramming Language implemented in firmware Operating system implemented in firmware General accounting packages Industry application areas  Data base management system File access methods supported  Software separately priced Technical help separately priced	Yes Yes Yes Yes Yes Yes DIBOL Yes; 16 partitions No No Yes CPA, mfg., dist., medical, legal Yes Sequential, random  Yes Yes	Yes Yes Yes Yes Yes Yes DIBOL Yes; 16 partitions No No Yes CPA, mfg., dist., medical, legal Yes Sequential, random  Yes Yes	Yes Yes Yes Yes Yes Yes DIBOL Yes; 24 partitions No No Yes CPA, mfg., dist., medical, legal Yes Sequential, random  Yes Yes	No Yes (interactive) No No Yes None Yes; 4 partitions No No Yes Mfg., retail, dist., constr., banking No Sequential, random, indexed sequential Applications only Yes	Yes Yes Yes Yes Yes SNOBOL, FORGO Yes; 256 partitions No No No Multi-use and time- sharing Yes Sequential, random, index sequential No (see comments) No
<b>PRICING &amp; AVAILABILITY</b> Purchase price of basic system, \$ Monthly rental of basic system, \$  Date of first U.S. delivery Number installed in U.S. to date	\$24,000 \$500  NA NA	\$31,000 \$650  NA NA	\$48,000 \$1,000  December 1975 4	\$33,333 Purchase only  2nd qtr. 1975 NA	\$85,000 3rd-party lease  1975 NA
<b>COMMENTS</b>	Turnkey system; ABLE, a financial control system, costs \$6,500; other packages from \$1,500 to \$3,000	Turnkey system; ABLE, a financial control system, costs \$6,500; other packages from \$1,500 to \$3,000	Turnkey system; ABLE, a financial control system, costs \$6,500; other packages from \$1,500 to \$3,000	Sold through distributor network	Total DBMS and query language priced separately; RJE host and remote

\*\*Std.\*\* means the device is included in the price of the "basic system" as listed here.

**Small Business Computer Specifications**

MANUFACTURER & MODEL	Harris Computer Systems S115	Harris Computer Systems S120	Harris Computer Systems S125	Harris Computer Systems S130	Harris Computer Systems S135
<b>DATA FORMATS</b> Word length, bits Decimal digits per word Bytes (characters) per word Operand length, words Instruction length, words	24 6 3 1 or 2 1 or 2	24 6 3 1 or 2 1 or 2	24 6 3 1 or 2 1 or 2	24 6 3 1 or 2 1 or 2	24 6 3 1 or 2 1 or 2
<b>CPU</b> Model Add time, microseconds  No. of programmable registers No. of I/O ports on basic system and maximum	Harris Series 100 Model 6-5 0.6 (1 word)  5 3; 7	Harris Series 100 0.75 (1 word)  5 4; 12	Harris Series 100 Model 6-6 0.6 (1 word)  5 3; 24	Harris Series 100 0.75 (1 word)  5 4; 12	Harris Series 100 Model 6-7 0.6 (1 word)  5 3; 24
<b>INTERNAL STORAGE</b> Type Capacity of basic system, bytes Maximum capacity, bytes Increment size, bytes Cycle time, microseconds Access time, microseconds	MOS 144K 192K 48K 0.450 0.300	Core 192K 768K 24K or 48K 0.750 0.300	MOS 144K 624K 48K 0.450 0.300	Core 288K 768K 24K or 48K 0.750 0.300	MOS 384K 768K 48K 0.450 0.300
<b>MASS STORAGE CAPABILITIES*</b> Floppy disk drive Cartridge disk drive Pack disk drive Fixed-head disk/drum	Opt.; 310K bytes Std.; 10.8M bytes Opt.; 3000M bytes Opt.; 2.15M bytes	Opt.; 310K bytes Std.; 10.8M bytes Opt.; 1200M bytes Opt.; 2.15M bytes	Opt.; 310K bytes Std.; 40M bytes Opt.; 3000M bytes Opt.; 2.15M bytes	Opt.; 310K bytes Std.; 40M bytes Opt.; 1200M bytes Opt.; 2.15M bytes	Opt.; 310K bytes Std.; 40M bytes Opt.; 3000M bytes Opt.; 2.15M bytes
<b>KEYBOARD INPUT*</b> Alphanumeric (typewriter) keyboard 10-key numeric keyboard Full accounting keyboard	Standard No No	Standard No No	Standard No No	Standard No No	Standard No No
<b>INPUT/OUTPUT DEVICES*</b> Paper tape reader Paper tape punch Punched card reader Punched card punch Punched card reader/punch Serial printer Line printer Reel-to-reel tape drive Cassette tape drive Cartridge tape drive Magnetic ledger card device CRT	Opt.; 300 cps Opt.; 75 cps Opt.; 1000 cpm No Opt.; 500/100 cpm Opt.; 30 cps Opt.; 900 lpm Std.; 36K cps Opt.; 30 cps No No No Std.; 24 x 80 char.	Opt.; 300 cps Opt.; 75 cps Std.; 300 cpm No Opt.; 500/100 cpm Opt.; 30 cps Std.; 900 lpm Std.; 36K cps Opt.; 30 cps No No No Std.; 24 x 80 char.	Opt.; 300 cps Opt.; 75 cps Opt.; 1000 cpm No Opt.; 500/100 cpm Opt.; 30 cps Opt.; 900 lpm Std.; 36K cps Opt.; 30 cps No No No Std.; 24 x 80 char.	Opt.; 300 cps Opt.; 75 cps Std.; 300 cpm No Opt.; 500/100 cpm Opt.; 30 cps Std.; 900 lpm Std.; 36K cps Opt.; 30 cps No No No Std.; 24 x 80 char.	Opt.; 300 cps Opt.; 75 cps Opt.; 1000 cpm No Opt.; 500/100 cpm Opt.; 30 cps Opt.; 900 lpm Std.; 36K cps Opt.; 30 cps No No No Std.; 24 x 80 char.
<b>COMMUNICATIONS CAPABILITIES*</b> Maximum no. of lines Synchronous Asynchronous Protocols supported	128 Mux. std.; LIU opt. Mux. std.; LIU opt. IBM 2780, HASP, CDC, UT200, Univac 1004	128 Opt.; to 9.6K bps Opt.; to 19.2K bps IBM 2780, HASP, CDC UT200, Univac 1004	128 Std.; to 50K bps Std.; to 19.2K bps IBM 2780, HASP, CDC UT200, Univac 1004	128 Opt.; to 9.6 bps Opt.; to 19.2K bps IBM 2780, HASP, CDC UT200, Univac 1004	128 Std.; to 50K bps Std.; to 19.2K bps IBM 2780, HASP, CDC UT200, Univac 1004
<b>SOFTWARE SUPPORT</b> COBOL RPG FORTRAN BASIC Assembler Other programming languages Multiprogramming Language implemented in firmware Operating system implemented in firmware General accounting packages Industry application areas  Data base management system File access methods supported  Software separately priced Technical help separately priced	Yes Yes Yes Yes Yes SNOBOL, FORGO Yes; 256 partitions No No No No Yes Sequential, random, index sequential No (see comments) No	Yes Yes Yes Yes Yes SNOBOL, FORGO Yes; 256 partitions No No No No Yes Sequential, random, index sequential No (see comments) No	Yes Yes Yes Yes Yes SNOBOL, FORGO Yes; 256 partitions No No No No Yes Sequential, random, index sequential No (see comments) No	Yes Yes Yes Yes Yes SNOBOL, FORGO Yes; 256 partitions No No No No Yes Sequential, random, index sequential No (see comments) No	Yes Yes Yes Yes Yes SNOBOL, FORGO Yes; 256 partitions No No No No Yes Sequential, random, index sequential No (see comments) No
<b>PRICING &amp; AVAILABILITY</b> Purchase price of basic system, \$ Monthly rental of basic system, \$  Date of first U.S. delivery Number installed in U.S. to date	\$85,000 3rd-party lease  1977 NA	\$125,000 3rd-party lease  1975 NA	\$100,000 3rd-party lease  1977 NA	\$155,000 3rd-party lease  1975 NA	\$150,000 3rd-party lease  1977 NA
<b>COMMENTS</b>	Total DBMS and query language priced separately; RJE host and remote	Total DBMS and query language priced separately; RJE host and remote	Total DBMS and query language priced separately; RJE host and remote	Total DBMS and query language priced separately; RJE host and remote; 40MB disk drive is standard	Total DBMS and query language priced separately; RJE host and remote; 40MB disk drive is standard

\*"Std." means the device is included in the price of the "basic system" as listed here.

**Small Business Computer Specifications**

MANUFACTURER & MODEL	Harris Computer Systems S140	Harris Computer Systems S150	Hewlett-Packard Data Systems Div. 1000 Model 20/21	Hewlett-Packard Data Systems Div. 1000 Model 30/31	Hewlett-Packard Data Systems Div. 1000 Model 80/81
<b>DATA FORMATS</b>					
Word length, bits	24	24	16	16	16
Decimal digits per word	6	6	2	2	2
Bytes (characters) per word	3	3	2	2	2
Operand length, words	1 or 2	1 or 2	1, 2	1, 2	1, 2
Instruction length, words	1 or 2	1 or 2	1, 2, 3	1, 2, 3	1, 2, 3
<b>CPU</b>					
Model	Harris Series 100	Harris Series 100	HP 21MX E	HP 21MX E	HP 21MX E
Add time, microseconds	0.75 (1 word)	0.75 (1 word)	1.12	1.12	1.12
No. of programmable registers	5	5	20	20	20
No. of I/O ports on basic system and maximum	5; 12	5; 12	14; 46	14; 46	14; 46
<b>INTERNAL STORAGE</b>					
Type	Core	Core	MOS	MOS	MOS
Capacity of basic system, bytes	384K	480K	64K	64K	128K
Maximum capacity, bytes	768K	768K	608K	608K	608K
Increment size, bytes	24K or 48K	24K or 48K	32K	32K	32K
Cycle time, microseconds	0.750	0.750	0.560	0.560	0.560
Access time, microseconds	0.300	0.300	0.300	0.300	0.300
<b>MASS STORAGE CAPABILITIES*</b>					
Floppy disk drive	Opt.; 310K bytes	Opt.; 310K bytes	Opt.; 2M bytes	Opt.; 2M bytes	Opt.; 2M bytes
Cartridge disk drive	Std.; 340M bytes	Std.; 640M bytes	No	Std.; 120M bytes	Std.; 120M bytes
Pack disk drive	Opt.; 1200M bytes	Opt.; 1200M bytes	No	Opt.; 365M bytes	Opt.; 365M bytes
Fixed-head disk/drum	Opt.; 2.15M bytes	Opt.; 2.15M bytes	No	No	No
<b>KEYBOARD INPUT*</b>					
Alphanumeric (typewriter) keyboard	Standard	Standard	Optional	Optional	Optional
10-key numeric keyboard	No	No	No	No	No
Full accounting keyboard	No	No	No	No	No
<b>INPUT/OUTPUT DEVICES*</b>					
Paper tape reader	Opt.; 300 cps	Opt.; 300 cps	Opt.; 500 cps	Opt.; 500 cps	Opt.; 500 cps
Paper tape punch	Opt.; 75 cps	Opt.; 75 cps	Opt.; 75 cps	Opt.; 75 cps	Opt.; 75 cps
Punched card reader	Std.; 600 cpm	Std.; 1000 cpm	Opt.; 600 cpm	Opt.; 600 cpm	Opt.; 600 cpm
Punched card punch	No	No	No	No	No
Punched card reader/punch	Opt.; 500/100 cpm	Opt.; 500/100 cpm	No	No	No
Serial printer	Opt.; 30 cps	Opt.; 30 cps	Opt.; 10-120 cps	Opt.; 10-120 cps	Opt.; 10-120 cps
Line printer	Std.; 600 lpm	Std.; 900 lpm	Opt.; 200-1250 lpm	Optional	Std.; 200 lpm
Reel-to-reel tape drive	Std.; 36K cps	Std.; 36K cps	Opt.; 72 KBS	—	Std.; 36 KBS
Cassette tape drive	Opt.; 30 cps	Opt.; 30 cps	No	No	No
Cartridge tape drive	No	No	Std.; 960 cps	Std.; 960 cps	Std.; 960 cps
Magnetic ledger card device	No	No	No	No	No
CRT	Std.; 24 x 80 char.	Std.; 24 x 80 char.	Std.; 24 x 80 char.	Std.; 24 x 80 char.	Std.; 24 x 80 char.
<b>COMMUNICATIONS CAPABILITIES*</b>					
Maximum no. of lines	128	128	16—see comments	16—see comments	16—see comments
Synchronous	Opt.; to 9.6K bps	Opt.; to 9.6K bps	No	Opt.; 9600 bps	Opt.; 9600 bps
Asynchronous	Opt.; to 19.2K bps	Opt.; to 19.2K bps	No	Opt.; 1800 bps	Opt.; 1800 bps
Protocols supported	IBM 2780, HASP, CDC UT200, Univac 1004	IBM 2780, HASP, CDC UT200, Univac 1004	IBM 2780	IBM 2780, bisync	IBM 2780, bisync
<b>SOFTWARE SUPPORT</b>					
COBOL	Yes	Yes	No	No	No
RPG	Yes	Yes	No	No	No
FORTRAN	Yes	Yes	Yes	Yes	Yes
BASIC	Yes	Yes	Yes	Yes	Yes
Assembler	Yes	Yes	Yes	Yes	Yes
Other programming languages	SNOBOL, FORGO	SNOBOL, FORGO	ALGOL	ALGOL	ALGOL
Multiprogramming	Yes; 256 partitions	Yes; 256 partitions	Yes	Yes	Yes
Language implemented in firmware	No	No	No	No	No
Operating system implemented in firmware	No	No	Partially	Partially	Partially
General accounting packages	No	No	No	No	No
Industry application areas	Multi-use and time-sharing	Multi-use and time-sharing	Manufacturing	Manufacturing	Manufacturing
Data base management system	Yes	Yes	No	Yes	Yes
File access methods supported	Sequential, random, index sequential	Sequential, random, index sequential	Sequential, random	Sequential, random	Sequential, random
Software separately priced	No (see comments)	No (see comments)	Yes—see comments	Yes—see comments	Yes—see comments
Technical help separately priced	No	No	Yes	Yes	Yes
<b>PRICING &amp; AVAILABILITY</b>					
Purchase price of basic system, \$	\$225,000	\$290,000	\$21,000	\$31,500	\$61,700
Monthly rental of basic system, \$	3rd-party lease	3rd-party lease	See comments	See comments	See comments
Date of first U.S. delivery	1975	1975	May 1977	December 1976	December 1976
Number installed in U.S. to date	NA	NA	NA	NA	NA
<b>COMMENTS</b>	Total DBMS and query language priced separately; RJE host and remote; one 300 MB and one 40 MB disk drives are standard	Total DBMS and query language priced separately; RJE host and remote; two 300 MB and one 40 MB disk drives are standard	HP recommends a maximum of four active terminals; operating system is included in package price; third-party lease only	HP recommends a maximum of four active terminals; operating system is included in package price; third-party lease only	HP recommends a maximum of four active terminals; operating system is included in package price; third-party lease only

\*"Std." means the device is included in the price of the "basic system" as listed here.

### Small Business Computer Specifications

MANUFACTURER & MODEL	Hewlett-Packard General Sys. Div. 3000 Series I	Hewlett-Packard General Sys. Div. 3000/II Model 6	Hewlett-Packard General Sys. Div. 3000/II Model 8	Hewlett-Packard Calculator Products Division 9830A	Hewlett-Packard Calculator Products Division 9830B
<b>DATA FORMATS</b> Word length, bits Decimal digits per word Bytes (characters) per word Operand length, words Instruction length, words	16 2 2 1, 2, 4 ½, 1	16 2 2 1, 2, 4 ½, 1	16 2 2 1, 2, 4 ½, 1	8-bit byte 1 per byte 1 per byte — 2 bytes	8-bit byte 1 per byte 1 per byte — 2 bytes
<b>CPU</b> Model Add time, microseconds  No. of programmable registers No. of I/O ports on basic system and maximum	HP 3000 1.225  16 5; 15	HP 3000 1.050  20 10	HP 3000 1.050  20 23	HP 9830A 1000 (approx.)  See comments 5; 13	HP 9830B 1000 (approx.)  See comments 5; 13
<b>INTERNAL STORAGE</b> Type Capacity of basic system, bytes Maximum capacity, bytes Increment size, bytes Cycle time, microseconds Access time, microseconds	Core 128K 128K — 1.00 0.50	MOS 128K 256K 64K 0.70 0.35	MOS 320K 512K 64K 0.70 0.35	MOS 3520 15,808 4, 8K 13 —	MOS 15,808 30,144 14,336 13 —
<b>MASS STORAGE CAPABILITIES*</b> Floppy disk drive Cartridge disk drive Pack disk drive Fixed-head disk/drum	No No Std.; 50-350M bytes No	No No Std.; 50-400M bytes No	No No Std.; 50-400M bytes No	No Opt.; 4.8M bytes No No	No Opt.; 4.8M bytes No No
<b>KEYBOARD INPUT*</b> Alphanumeric (typewriter) keyboard 10-key numeric keyboard Full accounting keyboard	Standard Standard No	Standard Standard No	Standard Standard No	Standard Standard No	Standard Standard No
<b>INPUT/OUTPUT DEVICES*</b> Paper tape reader Paper tape punch Punched card reader Punched card punch Punched card reader/punch Serial printer Line printer Reel-to-reel tape drive Cassette tape drive Cartridge tape drive Magnetic ledger card device CRT	Opt.; 500 cps Opt.; 75 cps Opt.; 600 cpm No Opt.; 75/45 cpm Opt.; 30-120 cps Opt.; 200-1250 lpm Std.; 72 KBS Opt.; 240 cps No No Opt.; 24 x 80 char.	Opt.; 500 cps Opt.; 75 cps Opt.; 600 cpm No Opt.; 200/75 cpm Opt.; 30-120 cps Opt.; 200-1250 lpm Std.; 72 KBS No Opt.; 240 cps No Opt.; 24 x 80 char.	Opt.; 500 cps Opt.; 75 cps Opt.; 600 cpm No Opt.; 200/75 cpm Opt.; 30-120 cps Opt.; 200-1250 lpm Std.; 72 KBS No Opt.; 240 cps No Opt.; 24 x 80 char.	Opt.; 20 cps No Opt.; 300 cpm No No Std.; 250, 300 lpm Std.; 375 bps No Opt.; 24 x 80 char.	Opt.; 20 cps No Opt.; 300 cpm No No Opt.; 250, 300 lpm Std.; 375 bps No Opt.; 24 x 80 char.
<b>COMMUNICATIONS CAPABILITIES*</b> Maximum no. of lines Synchronous Asynchronous Protocols supported	16 Opt.; to 4800 bps Opt.; to 2400 bps IBM 2780/3780	31 Opt.; to 9600 bps Opt.; to 2400 bps IBM 2780/3780	63 Opt.; to 9600 bps Opt.; to 2400 bps IBM 2780/3780	1 Opt.; to 9600 bps Opt.; to 9600 bps None	1 Opt.; to 9600 bps Opt.; to 9600 bps None
<b>SOFTWARE SUPPORT</b> COBOL RPG FORTRAN BASIC Assembler Other programming languages Multiprogramming Language implemented in firmware Operating system implemented in firmware General accounting packages Industry application areas  Data base management system File access methods supported  Software separately priced Technical help separately priced	Yes Yes Yes Yes SPL None Yes Partially Partially  No Manufacturing education Yes Direct, sequential, keyed sequential Yes Yes	Yes Yes Yes Yes SPL APL Yes Partially Partially  No Manufacturing, education Yes Direct, sequential, keyed seq., chained Yes Yes	Yes Yes Yes Yes SPL APL Yes Partially Partially  No Manufacturing, education Yes Direct, sequential, keyed seq., chained Yes Yes	No No No Yes No None No Fully Fully  Yes Real estate, medical, engineering No None Yes Yes	No No No Yes No None No Fully Fully  Yes Real estate, medical, engineering No None Yes Yes
<b>PRICING &amp; AVAILABILITY</b> Purchase price of basic system, \$ Monthly rental of basic system, \$  Date of first U.S. delivery Number installed in U.S. to date	\$75,000 \$1,566  April 1977 850 (3000 Series)	\$110,000 \$2,297 (5-yr. lease)  March 1977 850 (3000 Series)	\$140,000 \$2,923 (5-yr. lease)  March 1977 850 (3000 Series)	\$4,900 NA  November 1972 NA	\$8,350 NA  May 1976 NA
<b>COMMENTS</b>		3000 Series II is upgrade from previous 3000CX Series; see Report M11-472-601 for more details	3000 Series II is upgrade from previous 3000CX Series; see Report M11-472-601 for more details	Software assigns portions of read/write memory to serve as registers; see Report M11-472-401 for more details	Software assigns portions of read/write memory to serve as registers; see Report M11-472-401 for more details

\*"Std." means the device is included in the price of the "basic system" as listed here.

### Small Business Computer Specifications

MANUFACTURER & MODEL	IBM System/360 Model 20	IBM 5100	International Computers Ltd. 2903	International Computers Ltd. 2904	Jacquard Systems J100 Videocomputer
<b>DATA FORMATS</b> Word length, bits Decimal digits per word Bytes (characters) per word Operand length, words Instruction length, words	8-bit byte 2 per byte 1 per byte 1-16 digits 2, 4, 6 bytes	8-bit byte 1 per byte 1 per byte — 2 bytes	24 7 4 12 bits 1	24 7 4 12 bits 1	16 4 2 1 1
<b>CPU</b> Model Add time, microseconds No. of programmable registers No. of I/O ports on basic system and maximum	IBM 360/20 209 (5 digits) 8 —	IBM 5100 1000 (approx.) Software-assigned 2; variable	ICL 2903 17.7 (12 bits) 8 6	ICL 2904 11.8 (12 bits) 8 8	Jacquard J100 7 4 1; 63
<b>INTERNAL STORAGE</b> Type Capacity of basic system, bytes Maximum capacity, bytes Increment size, bytes Cycle time, microseconds Access time, microseconds	Core 4K 32K 4K See comments —	MOS 16K 64K 16K 0.53 (2 bytes) 0.33	MOS 64K (6-bit) 256K (6-bit) 32K (6-bit) 1.14 0.57	MOS 128K (6-bit) 384K (6-bit) 32K (6-bit) 1.14 0.57	MOS, core 32K 256K 32K 1.5 3.0
<b>MASS STORAGE CAPABILITIES*</b> Floppy disk drive Cartridge disk drive Pack disk drive Fixed-head disk/drum	No No Opt.; 21.6M bytes No	No No No No	No Opt.; 30M bytes Opt.; 240M bytes No	No Opt.; 30M bytes Opt.; 240M bytes No	Std.; 2; 250K bytes Opt.; 4; 12M bytes Opt.; 4; 80M bytes No
<b>KEYBOARD INPUT*</b> Alphanumeric (typewriter) keyboard 10-key numeric keyboard Full accounting keyboard	Optional No No	Standard Standard No	Standard Standard No	Standard Standard No	Standard Standard No
<b>INPUT/OUTPUT DEVICES*</b> Paper tape reader Paper tape punch Punched card reader Punched card punch Punched card reader/punch Serial printer Line printer Reel-to-reel tape drive Cassette tape drive Cartridge tape drive Magnetic ledger card device CRT	No No Opt.; 600, 1000 cpm Opt.; 300, 500 cpm Opt.; 310/90 cpm Opt.; 15.5 cps Opt.; 260-1100 lpm Opt.; 150-60 KBS No No No No No	No No No No Opt.; 80 cps No No No Std.; 2850 cps No	Opt.; 1000 cps Opt.; 110 cps Std.; 300 cpm Opt.; 100 cpm No No Std.; 300-1200 lpm Opt.; 80 KBS No No No Std.; 8 x 32, 20 x 50 char.	Opt.; 1000 cps Opt.; 110 cps Std.; 300 cpm Opt.; 100 cpm No No Std.; 300-1500 lpm Opt.; 80 KBS No No No Std.; 8 x 32, 20 x 50 char.	No No Opt.; 300/60 cpm No No Opt.; to 166 cps Opt.; to 900 lpm Opt.; 72K cps No No No Opt.; 1920 char.; up to 30 units
<b>COMMUNICATIONS CAPABILITIES*</b> Maximum no. of lines Synchronous Asynchronous Protocols supported	1 Opt.; to 50K bps No Bisync	1 No Opt.; to 300 bps IBM 2741	4 Std.; to 4800 bps Opt.; 600 bps ICL 7181, IBM 2780	6 Std.; to 4800 bps Opt.; 600-1200 bps ICL 7181, IBM 2780	10 Opt.; to 9600 bps Opt.; to 9600 bps IBM 2780/3780; SILA II
<b>SOFTWARE SUPPORT</b> COBOL RPG FORTRAN BASIC Assembler Other programming languages Multiprogramming Language implemented in firmware Operating system implemented in firmware General accounting packages Industry application areas Data base management system File access methods supported Software separately priced Technical help separately priced	No Yes No No Yes and macro PL/1 No No No Yes Manuf., dist., educ., gov't. No Random, sequential, index seq. Yes Yes	No No No Yes No APL No Fully Fully No Financial analy- sis, statistics No Sequential Some Yes	Yes Yes Yes Yes No None Yes; 4 partitions No Partially Yes Mfg., retail, distribution Yes Random, sequential, index seq. Yes Yes	Yes Yes Yes No Yes None Yes; 4 partitions No Partially Yes Mfg., retail, distribution Yes Random, sequential, index seq. Yes Yes	No No No Yes Yes None Yes; 256 partitions No No Yes Distrib. processing, bus.med.,word proc. No Sequential, random, index sequential Yes (app. packages) Yes
<b>PRICING &amp; AVAILABILITY</b> Purchase price of basic system, \$ Monthly rental of basic system, \$ Date of first U.S. delivery Number installed in U.S. to date	\$13,470 \$638 November 1964 10,000 (approx.)	\$8,975 \$450 (3-mo. lease) September 1975 NA	\$85,000 \$2,200 July 1974 16	\$135,000 \$3,500 NA NA	\$21,060 \$725 August 1975 500
<b>COMMENTS</b>	Low end of IBM's 360 Series; cycle times vary with processor model; see Report M11-491-801 for more details	Portable computer weighing 50 lbs.; RS-232C interface available for non-IBM peripherals; see Report M11-491-201 for more details	Multijobbing capability with full simultaneity; direct data entry through CRT displays (8 max.); jobs include RJE, batch, spooling	Firmware-enhanced version of 2903	Includes CPU with 64K bytes of memory, 45-cps printer, & multi-tasking system that permits simultaneous execution of word processing and data processing tasks

\*"Std." means the device is included in the price of the "basic system" as listed here.

### Small Business Computer Specifications

MANUFACTURER & MODEL	Jacquard Systems J50 Videocomputer	Litton/Sweda International Litton 1600 Series	Logical Machine Corp. ADAM	Medical Computer System 2000	Microdata Reality
<b>DATA FORMATS</b> Word length, bits Decimal digits per word Bytes (characters) per word Operand length, words Instruction length, words	16 4 2 1 1	16 4 2 ½, 1 1	16 — 2 1 1, 2	16 4 2 1-3 1-3	16 2 2 ½, 1, 2, 3 ½, 1, 2, 3
<b>CPU</b> Model Add time, microseconds  No. of programmable registers No. of I/O ports on basic system and maximum	Jacquard J50 7  4 1, 63	DG Nova 1220 0.95  4 1	LOMAC ALP —  64 7, 7	HP 2108 1.94 (5 digits)  5 9, 41	Microdata 1600 5  34 —
<b>INTERNAL STORAGE</b> Type Capacity of basic system, bytes Maximum capacity, bytes Increment size, bytes Cycle time, microseconds Access time, microseconds	MOS, core 32K 256K 32K 1.5 3.0	Core 64K 64K — 1.2 0.5	MOS 32K 64K 32K 0.8 0.5	MOS 4K 384K 8, 16, 32K 0.65 0.40	Core 16K 128K 8, 16K 1 —
<b>MASS STORAGE CAPABILITIES*</b> Floppy disk drive Cartridge disk drive Pack disk drive Fixed-head disk/drum	Std.; 2; 250K bytes No No No	No Std.; 40M bytes No No	Opt.; 280K bytes Std.; 10.6M bytes No No	Std.; 300K bytes Optional Opt.; 160M bytes No	No Std.; 40M bytes Opt.; 900M bytes Opt.; 2M bytes
<b>KEYBOARD INPUT*</b> Alphanumeric (typewriter) keyboard 10-key numeric keyboard Full accounting keyboard	Standard Standard No	Standard Standard No	Standard Standard Standard	Standard Standard No	Optional Optional No
<b>INPUT/OUTPUT DEVICES*</b> Paper tape reader Paper tape punch Punched card reader Punched card punch Punched card reader/punch Serial printer Line printer Reel-to-reel tape drive Cassette tape drive Cartridge tape drive Magnetic ledger card device CRT	No No No No No Opt.; to 166 cps Opt.; to 900 lpm No No No No No No	No No No No No Std.; 165 cps No No No No No Opt.; 24 x 80 char.	No No No No No Std.; 100-300 cps No No No No No Std.; 1920 char.	No No No No No Std.; to 1200 lpm Std.; 72 KBS Standard Standard No Standard; 24 x 80 char.	No No Opt.; 150-600 cpm No Opt.; 200/75 cpm Opt.; 165 cps Opt.; 300-600 lpm Std.; 20, 40 KBS No Opt.; 12.8 KBS No Standard; 24 x 80 char.
<b>COMMUNICATIONS CAPABILITIES*</b> Maximum no. of lines Synchronous Asynchronous Protocols supported	10 Std.; to 9600 bps Std.; to 9600 bps IBM 2780/3780; SILA II	8 — — —	No No No No	64 Opt.; to 9600 bps Std.; to 9600 bps None	32 Opt.; to 9600 bps Opt.; to 9600 bps IBM 2780
<b>SOFTWARE SUPPORT</b> COBOL RPG FORTRAN BASIC Assembler Other programming languages Multiprogramming Language implemented in firmware Operating system implemented in firmware General accounting packages Industry application areas Data base management system File access methods supported  Software separately priced Technical help separately priced	No No No Yes Yes None Yes; 256 partitions No No Yes Distrib. processing, bus., med., word proc. No Sequential, random, index sequential Yes (app. packages) Yes	No No No Yes No None Yes No No Yes Wholesale distribution, client acctg. No Sequential, index sequential Yes Yes	No No No No No ADAM No Partial Partial All No Index sequential No No	No No Yes Yes Yes ALGOL No Partially No Yes Hospital Yes Sequential, index sequential Yes No	No Yes No Yes Yes English Yes Partially Partially Yes Engin., educ. time-share, acctg. Yes Random, sequential No No
<b>PRICING &amp; AVAILABILITY</b> Purchase price of basic system, \$ Monthly rental of basic system, \$  Date of first U.S. delivery Number installed in U.S. to date	\$17,960 \$550  August 1975 150	\$40,140 —  — NA	\$34,995 \$720 (5-yr. lease)  April 1975 250-300	\$150,000-\$550,000 \$2,500-\$7,500  October 1973 15	\$33,950 Purchase only  November 1973 Over 500
<b>COMMENTS</b>	Includes CPU with 64K bytes of memory, 45-cps printer; stand-alone word or data processing system with sophisticated communications capability	See Report M11-791-101 for more details	ADAM is designed for use by non-data processing professionals	Separate systems for on-line admission and charge collection also available; see Report M11-472-201 for more details on CPU	Multi-user, interactive system; marketed through a nationwide dealer network; see Report M11-663-301 for more details

\*"Std." means the device is included in the price of the "basic system" as listed here.



Small Business Computer Specifications

MANUFACTURER & MODEL	Hewlett-Packard Calculator Products Division 9896A	Honeywell Series 60 Model 6/06	Honeywell Series 60 Model 6/34	Honeywell Series 60 Model 6/36	Honeywell Series 60 Model 6/43
<b>DATA FORMATS</b> Word length, bits Decimal digits per word Bytes (characters) per word Operand length, words Instruction length, words	16 4 2 — 1	16 2 2 bit, 1/2, 1, 2 1	16 2 2 bit, 1/2, 1, 2 1, 2, 3	16 2 2 bit 1/2, 1, 2 1, 2, 3	16 2 2 bit, 1/2, 1, 2 1, 2, 3
<b>CPU</b> Model Add time, microseconds  No. of programmable registers No. of I/O ports on basic system and maximum	HP 9831A 470 (12 digits)  No 3; 12	Honeywell CPS 92XX 2  7 64	Honeywell CPS 945X 1.9  18 8 maximum	Honeywell CPS 946X 1.9  18 160 maximum	Honeywell CPS 955X —  24 + 3 (SIP) 160 maximum
<b>INTERNAL STORAGE</b> Type Capacity of basic system, bytes Maximum capacity, bytes Increment size, bytes Cycle time, microseconds Access time, microseconds	MOS 7,162 31,738 7,162 1.83 —	NMOS, core 8K 128K 8K, 16K 0.65/0.55, 1.2 0.44/0.29, 0.4	NMOS, core 8K 64K 8K, 16K, 32K 0.65/0.55, 1.2 0.44/0.29, 0.4	NMOS, core 8K 128K 8K, 16K 0.65/0.55, 1.2 0.44/0.29, 0.4	NMOS, core 8K 1024K 8K, 16K 0.65/0.55, 1.2 0.44/0.29, 0.4
<b>MASS STORAGE CAPABILITIES*</b> Floppy disk drive Cartridge disk drive Pack disk drive Fixed-head disk/drum	Std.; 2M bytes Std.; 250K bytes No No	No Opt.; 40M bytes Opt.; 60M bytes Opt.; 1024K bytes	Opt.; 1024K bytes Opt.; 40M bytes No No	Opt.; 1024K bytes Opt.; 40M bytes No No	Opt.; 1024K bytes Opt.; 40M bytes No No
<b>KEYBOARD INPUT*</b> Alphanumeric (typewriter) keyboard 10-key numeric keyboard Full accounting keyboard	Standard Standard No	Optional Optional No	Optional Optional No	Optional Optional No	Optional Optional No
<b>INPUT/OUTPUT DEVICES*</b> Paper tape reader Paper tape punch Punched card reader Punched card punch Punched card reader/punch Serial printer Line printer Reel-to-reel tape drive Cassette tape drive Cartridge tape drive Magnetic ledger card device CRT	Opt.; 20 cps No Opt.; 300 cpm No No Std.; 30 cps Opt.; 250, 300 lpm No No Opt.; 2750 cps No Opt.; 24 x 80 char.	Opt.; 300 cps Opt.; 110 cps Opt.; 300-1000 cpm Opt.; 100-400 cpm Opt.; 400/100 cpm Opt.; 165 cps Opt.; 240-1100 cpm Opt.; 20 KBS Opt.; 700 cps No No Opt.; 12 x 80, 24 x 80 char.	No No Opt.; 300, 500 cpm No No Opt.; 165 cps Opt.; 240-600 lpm Opt.; 25-60 KBS Opt.; 700 cps No No Opt.; 12 x 80, 24 x 80 char.	No No Opt.; 300, 500 cpm No No Opt.; 165 cps Opt.; 240-600 lpm Opt.; 25-60 KBS Opt.; 700 cps No No Opt.; 12 x 80, 24 x 80 char.	No No Opt.; 300, 500 cpm No No Opt.; 165 cps Opt.; 240-600 lpm Opt.; 25-60 KBS Opt.; 700 cps No No Opt.; 12 x 80, 24 x 80 char.
<b>COMMUNICATIONS CAPABILITIES*</b> Maximum no. of lines Synchronous Asynchronous Protocols supported	None No No None	128 Opt.; to 100K bps Opt.; to 9600 bps None	8/controller Opt.; to 72K bps Opt.; to 9600 bps Bisync/2780	8/controller Opt.; to 72K bps Opt.; to 9600 bps Bisync/2780	8/controller Opt.; to 72K bps Opt.; to 9600 bps Bisync/2780
<b>SOFTWARE SUPPORT</b> COBOL RPG FORTRAN BASIC Assembler Other programming languages Multiprogramming Language implemented in firmware Operating system implemented in firmware General accounting packages Industry application areas  Data base management system File access methods supported  Software separately priced Technical help separately priced	No No No Yes No None No Fully Fully Yes Manufacturing, distribution No Direct Yes Yes	No No Yes Yes Macro assembler None Yes No No Yes Hospital, manuf., inventory, education No Random, sequential, index seq. Yes Yes	Yes Yes Yes Yes Macro preprocessor Yes No No No Office automation No Random, sequential, fixed random Yes Yes	Yes Yes Yes Yes Macro preprocessor Yes No No No Office automation No Random, sequential, fixed random Yes Yes	Yes Yes Yes Yes Macro preprocessor Yes No No No Office automation No Random, seq., index seq., fixed random Yes Yes
<b>PRICING &amp; AVAILABILITY</b> Purchase price of basic system, \$ Monthly rental of basic system, \$  Date of first U.S. delivery Number installed in U.S. to date	\$18,700 \$500  March 1977 —	\$5,500 (proc.) —  January 1976 NA	\$4,500 (proc.) \$211 (3-yr. lease)  January 1976 NA	\$3,700 (proc.) \$161 (3-yr. lease)  January 1976 NA	\$6,350 (proc.) \$295 (3-yr. lease)  1977 NA
<b>COMMENTS</b>		Microprogrammed to emulate the Honeywell 716 CPU; see Report M11-480-201 for more details	Processor includes basic control panel and 4-slot chassis; see Report M11-480-301 for more details	Processor includes basic control panel and 5-slot chassis; see Report M11-480-301 for more details	Processor includes basic control panel and 5-slot chassis; see Report M11-480-301 for more details

\*"Std." means the device is included in the price of the "basic system" as listed here.

### Small Business Computer Specifications

MANUFACTURER & MODEL	Honeywell Series 60 Level 62	IBM System/3	IBM System/32	IBM System/34	IBM 1130
<b>DATA FORMATS</b> Word length, bits Decimal digits per word Bytes (characters) per word Operand length, words Instruction length, words	8-bit byte 2 per byte 1 per byte 2 bytes 2-8 bytes	8-bit byte 1 per byte 1 per byte 1-16 digits 4-6 bytes	8-bit byte 1 per byte 1 per byte 1-16 digits 3-6 bytes	8-bit byte 1 per byte 1 per byte 1-16 digits 4, 5, 6 bytes	16 2 2 1, 2 1, 2
<b>CPU</b> Model Add time, microseconds  No. of programmable registers No. of I/O ports on basic system and maximum	Honeywell 62 — 29 6 std., 3 opt.	IBM System 3 24 (5 digits) —	IBM System/32 150 (5 digits) —	IBM System/34 68.5 (5 digits) NA	IBM 1130 4.9; 8.0 3 —
<b>INTERNAL STORAGE</b> Type Capacity of basic system, bytes Maximum capacity, bytes Increment size, bytes Cycle time, microseconds Access time, microseconds	MOS 48K 224K 16K 1.0 —	Core, MOS 8K 256K 4, 8, 16, 32K 1.52 —	MOS 16K 32K 8K 0.60 0.25	MOS 32K 65K 16K 0.60 —	Core 8K 64K 8K 2.2; 3.6 —
<b>MASS STORAGE CAPABILITIES*</b> Floppy disk drive Cartridge disk drive Pack disk drive Fixed-head disk/drum	Opt.: 512K bytes Opt.: 46.4M bytes Opt.: 480M bytes No	Opt.: via 3741 Opt.: 9.8M bytes Opt.: 506M bytes No	Std.: 303K bytes See comments No No	Std.: 303K bytes See comments No No	No Std.: 5.12M bytes Opt.: 5.12M bytes No
<b>KEYBOARD INPUT*</b> Alphanumeric (typewriter) keyboard 10-key numeric keyboard Full accounting keyboard	Standard Standard No	Optional Optional No	Standard Standard No	Optional Optional No	Standard No No
<b>INPUT/OUTPUT DEVICES*</b> Paper tape reader Paper tape punch Punched card reader Punched card punch Punched card reader/punch Serial printer Line printer Reel-to-reel tape drive Cassette tape drive Cartridge tape drive Magnetic ledger card device CRT	No No Opt.: 300-1050 cpm Opt.: 100-400 cpm Opt.: 500, 1000 cpm Std.: 30 cps console Opt.: 100-1600 lpm Opt.: 10.4-60 KBS Opt.: 700 cps No No No Opt.: 12 x 80 char.	No No Opt.: 600, 1000 cpm No Opt.: 250/60 cpm Opt.: 85 cps Opt.: 100-1100 lpm Opt.: 20-80 KBS No No No Opt.: 12 x 40, 12 x 80, 24 x 80 char.	No No No No Opt.: 50/12-50 cpm Std.: 40, 80 cps Std.: 50-155 lpm No No No Standard; 6 x 40 char.	No No No No Opt.: 40, 80, 120 cps Opt.: 160, 300 lpm No No No Optional; 24 x 80 char.	Opt.: 60 cps Opt.: 14.8 cps Opt.: 100, 600 cpm Opt.: 120 cpm Opt.: 300/60 cpm Std.: 15 cps Opt.: 40-1100 lpm Opt.: 15 KBS No No No Optional; 52 x 74 char.
<b>COMMUNICATIONS CAPABILITIES*</b> Maximum no. of lines Synchronous Asynchronous Protocols supported	9 Opt.: 9600 bps Opt.: to 2400 bps None	8 Opt.: to 50K bps No SDLC	1 Opt.: to 7200 bps No SDLC, Bisync	8 Opt.: to 9600 bps No SDLC, Bisync	16 Opt.: to 4800 bps No Bisync
<b>SOFTWARE SUPPORT</b> COBOL RPG FORTRAN BASIC Assembler Other programming languages Multiprogramming Language implemented in firmware Operating system implemented in firmware General accounting packages Industry application areas  Data base management system File access methods supported  Software separately priced Technical help separately priced	Yes Yes Yes No No None Yes No No Yes Distribution, manufacturing Yes Sequential, indexed, relative Yes Yes	Yes RPG II Yes Yes No None Yes; 3 partitions No No Yes Dist., medical, manuf., educ. No Random, sequential, index sequential Yes Yes	No RPG II No No Macro assembler None No No Partially  Yes Dist., medical, manuf., word proc. No Random, sequential, index sequential Yes Yes	No RPG II No No Yes No Yes; 8 partitions Partially Partially  Yes Distribution, medical, manufacturing No Random, sequential, index sequential Yes Yes	No Yes Yes No Yes, and macro None No No No Yes Engin., manuf., dist., medical No Random, sequential, index sequential Yes Yes
<b>PRICING &amp; AVAILABILITY</b> Purchase price of basic system, \$ Monthly rental of basic system, \$  Date of first U.S. delivery Number installed in U.S. to date	\$36,879 (proc.) \$885 (1-yr. lease)  August 1974 NA	\$22,430 \$674  December 1970 Over 30,000	\$33,560 \$748  February 1975 Over 10,000	\$34,700 \$1,062  January 1978 0	\$19,840 \$136  1965 4,000 (approx.)
<b>COMMENTS</b>	Performance increase packages of 25, 67, or 117 percent opt.; see Report M11-480-701 for more details	Six different models currently in line; see Report M11-491-501 for more details	System also includes 3.2M-13.75M bytes of nonremovable disk storage; see Report M11-491-601	Multi-user system; serves up to 8 independently functioning users; system includes 8.6M to 27.1M bytes of nonremovable disk storage; see Report M11-491-651	Also available without std. disk for as little as \$14,150; cycle times vary with processor model; see Report M11-491-701 for more details

\*"Std." means the device is included in the price of the "basic system" as listed here.

Small Business Computer Specifications

MANUFACTURER & MODEL	Mini-Computer Systems MICOS System 1003	Mini-Computer Systems MICOS System 2003	Mini-Computer Systems MICOS System 3003	Mini-Computer Systems MICOS System 4006	Minuteman Computer Corp. 1774
<b>DATA FORMATS</b>					
Word length, bits	16	16	16	16	16
Decimal digits per word	4	4	4	4	2
Bytes (characters) per word	2	2	2	2	2
Operand length, words	Variable	Variable	Variable	Variable	1
Instruction length, words	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2
<b>CPU</b>					
Model	DG Nova 3/12	DG Nova 3/12	DG Nova 3/12	DG Nova 3/12	DG Nova 3/4
Add time, microseconds	0.8	0.8	0.8	0.8	2.7
No. of programmable registers	4	4	4	4	5
No. of I/O ports on basic system and maximum	62 maximum	62 maximum	62 maximum	62 maximum	2
<b>INTERNAL STORAGE</b>					
Type	Core	Core	Core	Core	Core
Capacity of basic system, bytes	65K	65K	65K	128K	16K
Maximum capacity, bytes	256K	256K	256K	256K	32K
Increment size, bytes	32K	32K	32K	32K	8, 16K
Cycle time, microseconds	0.8	0.8	0.8	0.8	0.8; 1.0
Access time, microseconds	0.4	0.4	0.4	0.4	—
<b>MASS STORAGE CAPABILITIES*</b>					
Floppy disk drive	No	No	No	No	No
Cartridge disk drive	Std.; 9.8M bytes	Opt.; 9.8M bytes	Opt.; 9.8M bytes	Opt.; 9.8M bytes	Std.; 40M bytes
Pack disk drive	Opt.; 40-160M bytes	Opt.; 80M bytes	Std.; 160M bytes	Std.; 160M bytes	Optional
Fixed-head disk/drum	No	No	No	No	No
<b>KEYBOARD INPUT*</b>					
Alphanumeric (typewriter) keyboard	Standard	Standard	Standard	Standard	Standard
10-key numeric keyboard	Standard	Standard	Standard	Standard	Standard
Full accounting keyboard	No	No	No	No	No
<b>INPUT/OUTPUT DEVICES*</b>					
Paper tape reader	Optional	Optional	Optional	Optional	Optional
Paper tape punch	Optional	Optional	Optional	Optional	Optional
Punched card reader	Opt.; 300-1000 cpm	Opt.; 300-1000 cpm	Opt.; 300-1000 cpm	Opt.; 300-1000 cpm	Optional
Punched card punch	No	No	No	No	Optional
Punched card reader/punch	No	No	No	No	Optional
Serial printer	Std.; 165 cps	Opt.; 165, 330 cps	Opt.; 165, 330 cps	Opt.; 165, 330 cps	Std.; 165 cps
Line printer	Opt.; 300, 600 lpm	Std.; 300 lpm	Std.; 600 lpm	Std.; 600 lpm	Opt.; 300-900 lpm
Reel-to-reel tape drive	Opt.; 30-72 KBS	Opt.; 30-72 KBS	Opt.; 30-72 KBS	Opt.; 30-72 KBS	Optional
Cassette tape drive	No	No	No	No	Optional
Cartridge tape drive	No	No	No	No	Optional
Magnetic ledger card device	No	No	No	No	No
CRT	Std.; 24 x 80 char.	Std.; 24 x 80 char.	Std.; 24 x 80 char.	Std.; 24 x 80 char.	Standard; 24 x 80 char.
<b>COMMUNICATIONS CAPABILITIES*</b>					
Maximum no. of lines	1	1	1	1	1
Synchronous	Opt.; 50,000 bps	Opt.; 50,000 bps	Opt.; 50,000 bps	Opt.; 50,000 bps	Optional
Asynchronous	No	No	No	No	Optional
Protocols supported	IBM 2780, HASP, CDC 200 UT	IBM 2780, HASP, CDC 200 UT	IBM 2780, HASP, CDC 200 UT	IBM 2780, HASP, CDC 200 UT	None
<b>SOFTWARE SUPPORT</b>					
COBOL	No	No	No	No	Yes
RPG	No	No	No	No	No
FORTRAN	No	No	No	No	Yes
BASIC	Yes (Extensive)	Yes (Extensive)	Yes (Extensive)	Yes (Extensive)	Yes
Assembler	No	No	No	No	Yes
Other programming languages	None	None	None	None	None
Multiprogramming	Yes	Yes	Yes	Yes	No
Language implemented in firmware	No	No	No	No	No
Operating system implemented in firmware	No	No	No	No	No
General accounting packages	Yes	Yes	Yes	Yes	Yes
Industry application areas	Munic. govt., educ., fuel, apparel, etc.	Munic. govt., educ., fuel, apparel, etc.	Munic. govt., educ., fuel, apparel, etc.	Munic. govt., educ., fuel, apparel, etc.	Dist., mfg., liquor wholesalers
Data base management system	No	No	No	No	Yes
File access methods supported	Sequential, random, index sequential	Sequential, random, index sequential	Sequential, random, index sequential	Sequential, random, index sequential	Random, sequential, index seq.
Software separately priced	Yes (applications)	Yes (applications)	Yes (applications)	Yes (applications)	Yes
Technical help separately priced	Yes	Yes	Yes	Yes	Yes
<b>PRICING &amp; AVAILABILITY</b>					
Purchase price of basic system, \$	\$49,900	\$74,600	\$84,450	\$104,950	\$34,995
Monthly rental of basic system, \$	NA	NA	NA	No	Purchase only
Date of first U.S. delivery	March 1973	—	—	—	1973
Number installed in U.S. to date	Over 600 all mdl.	Over 600 all mdl.	Over 600 all mdl.	Over 600 all mdl.	10
<b>COMMENTS</b>					
	3 CRT's std.; 330-cps printer opt.; see Reports M11-683-101 and M11-304-101 for more details	3 CRT's std.; 600-lpm printer opt.; see Reports M11-683-101 and M11-304-101 for more details	3 CRT's std.; 300-lpm printer opt.; see Reports M11-683-101 and M11-304-101 for more details	3 CRT's std.; 300-lpm printer opt.; see Reports M11-683-101 and M11-304-101 for more details	Turnkey system; see Report M11-304-101 for more details on CPU

\*"Std." means the device is included in the price of the "basic system" as listed here.

Small Business Computer Specifications

MANUFACTURER & MODEL	Minuteman Computer Corp. 1775	Minuteman Computer Corp. 1776	Modular Computer Systems Modcomp II	Modular Computer Systems Modcomp IV	Mylee Digital Sciences 3056
<b>DATA FORMATS</b> Word length, bits Decimal digits per word Bytes (characters) per word Operand length, words Instruction length, words	16 2 2 1 1, 2	16 2 2 1 1, 2	16 words 4 2 1 1 or 2	16 words 4 2 1 or 2 1, 2, 3, or 4	16 2 2 1/2-8 1-3
<b>CPU</b> Model Add time, microseconds  No. of programmable registers No. of I/O ports on basic system and maximum	DG Nova 3/12 2.7  5 14	DG Nova 3/12 2.7  5 14	Modcomp II/26 2.4  15 8; 16	Modcomp IV/35 1.6  15 16; 32	Mylee System 3000 125 (5 digits)  4 11; 19
<b>INTERNAL STORAGE</b> Type Capacity of basic system, bytes Maximum capacity, bytes Increment size, bytes Cycle time, microseconds Access time, microseconds	Core 16K 64K 8, 16, 32K 0.8; 1.0 —	Core 32K 64K 8, 16, 32K 0.8; 1.0 —	Core 64K 128K 32, 64 0.8; 1.1 NA	Core 128K 1M 128 0.5 NA	MOS 56K 152K 32K 0.8 —
<b>MASS STORAGE CAPABILITIES*</b> Floppy disk drive Cartridge disk drive Pack disk drive Fixed-head disk/drum	No Std.; 40M bytes Optional No	No Std.; 40M bytes Optional No	Opt.; 315K bytes Opt.; 40M bytes Opt.; 168M bytes Opt.; 2M bytes	Opt.; 315K bytes Opt.; 40M bytes Opt.; 168M bytes Opt.; 2M bytes	No Std.; 12.5M bytes No No
<b>KEYBOARD INPUT*</b> Alphanumeric (typewriter) keyboard 10-key numeric keyboard Full accounting keyboard	Standard Standard No	Standard Standard No	Optional Optional No	Optional Optional No	Standard Standard No
<b>INPUT/OUTPUT DEVICES*</b> Paper tape reader Paper tape punch Punched card reader Punched card punch Punched card reader/punch Serial printer Line printer Reel-to-reel tape drive Cassette tape drive Cartridge tape drive Magnetic ledger card device CRT	Optional Optional Optional Optional Optional Std.; 165 cps Std.; 300-900 lpm Optional Optional Optional No Standard; 24 x 80 char.	Optional Optional Optional Optional Optional Std.; 165 cps Std.; 300-900 lpm Optional Optional Optional No Standard; 24 x 80 char.	Opt.; 625 cps Opt.; 110 cps Opt.; 300-1000 cpm Opt.; 100 cpm No Opt.; 165 cps Opt.; 300-1000 lpm Opt.; 45-75 ips No No No Opt.; 1920 char.	Opt.; 625 cps Opt.; 110 cps Opt.; 300-1000 cpm Opt.; 100 cpm No Opt.; 165 cps Opt.; 300-1000 lpm Opt.; 45-75 ips No No No Opt.; 1920 char.	No No Opt.; 300 cpm No No Std.; 165 cpm Opt.; 300 lpm No No No No Standard (2); 11 x 32 char.
<b>COMMUNICATIONS CAPABILITIES*</b> Maximum no. of lines Synchronous Asynchronous Protocols supported	1 Optional Optional None	1 Optional Optional None	32 Opt.; 250-2400 bps Opt.; 10-960 bps IBM 2780/3780, 3270, SDLC	128 Optional Optional IBM 2780/3780, 3270, SDLC	16 No Opt.; to 1200 bps None
<b>SOFTWARE SUPPORT</b> COBOL RPG FORTRAN BASIC Assembler Other programming languages Multiprogramming Language implemented in firmware Operating system implemented in firmware General accounting packages Industry application areas  Data base management system File access methods supported  Software separately priced Technical help separately priced	Yes No Yes Yes Yes None No No No Yes Dist., mfg., liquor wholesalers Yes Random, sequential, index seq. Yes Yes	Yes No Yes Yes Yes None No No No Yes Dist., mfg., liquor wholesalers Yes Random, sequential, index seq. Yes Yes	October 1977 Yes Yes No Yes None Yes; 256 tasks No No Yes Distribution, manufacturing Yes Random, sequential, index seq. Yes Yes	October 1977 Yes Yes No Yes None Yes; 256 tasks No No Yes Distribution, manufacturing Yes Random, sequential, index seq. Yes Yes	No No No No No ACE Yes; 12 partitions Partially Partially Yes Dist., inventory, accounting Yes Index sequential Some No
<b>PRICING &amp; AVAILABILITY</b> Purchase price of basic system, \$ Monthly rental of basic system, \$  Date of first U.S. delivery Number installed in U.S. to date	\$36,995 Purchase only  1973 30	\$39,995 Purchase only  1973 40	\$45,000 Purchase only  1973 NA	\$75,000 Purchase only  1976 NA	\$37,500 Purchase only  May 1976 12
<b>COMMENTS</b>	Turnkey system; see Report M11-304- 101 for more details on CPU	Turnkey system; see Report M11-304- 101 for more details on CPU	Full turnkey system and support avail- able	Full turnkey system and support avail- able	Turnkey system; user has choice of 1 of 8 inventory man- agement packages included with system

\*"Std." means the device is included in the price of the "basic system" as listed here.

Small Business Computer Specifications

MANUFACTURER & MODEL	Nixdorf 8870	Norfield Datasystems (Nova-based system)	Norfield Datasystems (Eclipse-based system)	Northrop Data Systems BDS 700	Northrop Data Systems BDS 1000
<b>DATA FORMATS</b>					
Word length, bits	16	16	16	Variable, 8-32	Variable, 8-32
Decimal digits per word	4	2	4	1-7	1-7
Bytes (characters) per word	2	2	2	1-4	1-4
Operand length, words	1	1, 2	½, 1, 2	Variable	Variable
Instruction length, words	1	1	1, 2	Variable	Variable
<b>CPU</b>					
Model	DCC 116-H	DG Nova	DG Eclipse C/300	Microdata 1600	Microdata 1600
Add time, microseconds	1.0 (1 word)	0.800 (1 word)	0.600 (1 word)	9.68 (7 digits)	9.68 (7 digits)
No. of programmable registers	4	5	12	16	16
No. of I/O ports on basic system and maximum	17	3, 62	3, 59	4, 16	4, 16
<b>INTERNAL STORAGE</b>					
Type	Core	Core	Core	Core	Core
Capacity of basic system, bytes	64K	32K	32K	16K	16K
Maximum capacity, bytes	128K	256K	128K	64K	64K
Increment size, bytes	32K	16K	16K	8, 16K	8, 16K
Cycle time, microseconds	0.96	0.800	0.800	1.0	1.0
Access time, microseconds	0.48	0.400	0.400	—	—
<b>MASS STORAGE CAPABILITIES*</b>					
Floppy disk drive	No	No	No	No	No
Cartridge disk drive	Std.: 40M bytes	Std.: 2.5M bytes	Std.: 2.5M bytes	Std.: 10M bytes	Std.: 10M bytes
Pack disk drive	No	Opt.: 200M bytes	Opt.: 200M bytes	No	No
Fixed-head disk/drum	No	No	No	No	No
<b>KEYBOARD INPUT*</b>					
Alphanumeric (typewriter) keyboard	Standard	Standard	Standard	Standard	Standard
10-key numeric keyboard	Standard	Optional	Optional	Standard	Standard
Full accounting keyboard	No	No	No	No	No
<b>INPUT/OUTPUT DEVICES*</b>					
Paper tape reader	Opt.: 300 cps	Opt.: 400 cps	Opt.: 400 cps	No	No
Paper tape punch	Opt.: 75 cps	Opt.: 63 cps	Opt.: 63 cps	No	No
Punched card reader	Opt.: 300 cpm	Opt.: 300 cpm	Opt.: 300 cpm	Opt.: 300 cpm	Opt.: 300 cpm
Punched card punch	No	No	No	No	No
Punched card reader/punch	No	No	No	No	No
Serial printer	Std.: 165 cps	Opt.: 100-420 cps	Opt.: 100-420 cps	Opt.: 30-120 cps	Opt.: 30-120 cps
Line printer	Opt.: 300, 600 lpm	Opt.: 300, 600 lpm	Opt.: 300, 600 lpm	Std.: 200 lpm	Std.: 200 lpm
Reel-to-reel tape drive	Opt.: 10, 20 KBS	Opt.: 20-72 KBS	Opt.: 20-72 KBS	Opt.: 20 KBS	Opt.: 20 KBS
Cassette tape drive	No	Opt.: 750 cps	Opt.: 750 cps	No	No
Cartridge tape drive	No	No	No	No	No
Magnetic ledger card device	No	No	No	No	No
CRT	Standard; 27 x 74 char.	Standard; 24 x 80 char.	Standard; 24 x 80 char.	Standard; 24 x 80 char.	Standard; 24 x 80 char.
<b>COMMUNICATIONS CAPABILITIES*</b>					
Maximum no. of lines	9	32 (typical)	128 (typical)	4	4
Synchronous	Optional	Opt.: 50K bps	Opt.: 50K bps	No	No
Asynchronous	Std.; to 9600 bps	Opt.; to 9600 bps	Opt.; to 9600 bps	Std.; to 1200 bps	Std.; to 1200 bps
Protocols supported	Various	IBM 2780, 3780, 2260; all async	IBM 2780, 3780, 2260; all async	None	None
<b>SOFTWARE SUPPORT</b>					
COBOL	No	No	Yes	No	No
RPG	No	No	Yes	No	No
FORTRAN	No	Yes	Yes	No	No
BASIC	Yes	Yes	Yes	Yes	Yes
Assembler	Yes	Yes	Yes	Yes	Yes
Other programming languages	None	None	None	None	None
Multiprogramming	Yes	Yes; 2 partitions	Yes	Yes; 3 partitions	Yes; 3 partitions
Language implemented in firmware	No	No	Fully	Partially	Partially
Operating system implemented in firmware	No	No	No	Partially	Partially
General accounting packages	Yes; APL, GL, Pay.	No	No	Yes	Yes
Industry application areas	Distribution, medical, garment	Automated reporting, order entry	Automated reporting, order entry	Hospital, medical, furniture manuf.	Hospital, medical, furniture manuf.
Data base management system	No	Yes	Yes	Yes	Yes
File access methods supported	Random, sequential, index seq.	Random, sequential, index seq.	Random, sequential, index seq.	Random, sequential, index seq.	Random, sequential, index seq.
Software separately priced	Yes	Yes	Yes	Yes	Yes
Technical help separately priced	Yes	Yes	Yes	Yes	Yes
<b>PRICING &amp; AVAILABILITY</b>					
Purchase price of basic system, \$	\$37,990	\$35,000	\$75,000	\$38,900	\$49,276
Monthly rental of basic system, \$	\$851	\$1,250	\$3,000	Purchase only	Purchase only
Date of first U.S. delivery	1975	June 1973	NA	March 1977	June 1972
Number installed in U.S. to date	NA	Over 20	NA	NA	20
<b>COMMENTS</b>	Turnkey system that includes NIDAS distribution accounting system	Automated reporting system for organizations with multiple dispersed operations; see Report M11-304-101 for more details on CPU	See Report M11-304-201 for more details on CPU	Number of CRT's is limited to two; see Reports M11-633-101 and M11-663-101 for more details	See Reports M11-633-101 and M11-663-101 for more details

\*"Std." means the device is included in the price of the "basic system" as listed here.

### Small Business Computer Specifications

MANUFACTURER & MODEL	Olivetti A4	Olivetti A5 Model 10	Olivetti A5 Model 20	Olivetti A5 Model 30	Olivetti A6
<b>DATA FORMATS</b> Word length, bits Decimal digits per word Bytes (characters) per word Operand length, words Instruction length, words	8-bit byte 2 per byte 1 per byte — 1, 2 bytes	64 15 8 8 bits 4 instr./word	64 15 8 8 bits 4 instr./word	64 15 8 8 bits 4 instr./word	64 15 8 8 bits 4 instr./word
<b>CPU</b> Model Add time, microseconds  No. of programmable registers No. of I/O ports on basic system and maximum	Olivetti 4000 150 milliseconds  10 1	Olivetti 5010 10  47 2	Olivetti 5020 10  111, 229, 485 2	Olivetti 5030 10  111, 229, 485 2	Olivetti 5040 10 (word)  229, 485 4
<b>INTERNAL STORAGE</b> Type Capacity of basic system, bytes Maximum capacity, bytes Increment size, bytes Cycle time, microseconds Access time, microseconds	MOS 224 224 — 5 milliseconds —	MOS 0.5K 4K 1K, 2K 1.5 —	MOS 1K 4K 1K, 2K 1.5 —	MOS 1K 4K 1K, 2K 1.5 —	MOS 2K 4K 2K 1.5 —
<b>MASS STORAGE CAPABILITIES*</b> Floppy disk drive Cartridge disk drive Pack disk drive Fixed-head disk/drum	No No No No	No No No No	No No No No	No No No No	Opt.; 1.2M bytes No No No
<b>KEYBOARD INPUT*</b> Alphanumeric (typewriter) keyboard 10-key numeric keyboard Full accounting keyboard	No Standard No	Standard Standard No	Standard Standard No	Standard Standard No	Standard Standard No
<b>INPUT/OUTPUT DEVICES*</b> Paper tape reader Paper tape punch Punched card reader Punched card punch Punched card reader/punch Serial printer Line printer Reel-to-reel tape drive Cassette tape drive Cartridge tape drive Magnetic ledger card device CRT	No Opt.; 24 cps No No No Std.; 16 cps No No Opt.; 1000 cps No No No No	No Opt.; 24 cps No No No Std.; 16 cps No No Opt.; 1000 bps No No No No	No Opt.; 24 cps No No No Std.; 16 cps No No Opt.; 1000 bps No No No No	Opt.; 20 cps Opt.; 24 cps No No No Std.; 16 cps Opt.; 60 lpm No Opt.; 1000 bps No No No No	Opt.; 20 cps Opt.; 24 cps No No No Std.; 16 cps Opt.; 60-130 lpm No Opt.; 1000 cps No Optional No
<b>COMMUNICATIONS CAPABILITIES*</b> Maximum no. of lines Synchronous Asynchronous Protocols supported	None No No None	1 Opt.; to 4800 bps Opt.; to 1200 bps IBM 2848, 2260, 2780	1 Opt.; to 4800 bps Opt.; to 1200 bps IBM 2848, 2260, 2780	1 Opt.; to 4800 bps Opt.; to 1200 bps IBM 2848, 2260, 2780	1 Opt.; to 4800 bps Opt.; to 1200 bps IBM 2848, 2260, 2780
<b>SOFTWARE SUPPORT</b> COBOL RPG FORTRAN BASIC Assembler Other programming languages Multiprogramming Language implemented in firmware Operating system implemented in firmware General accounting packages Industry application areas  Data base management system File access methods supported  Software separately priced Technical help separately priced	No No No No No BAL No Fully Fully Yes Credit union, finan., fuel oil No None Yes Yes	No No No No Yes APLO No Fully No Yes Credit union, educ., distrib. No None Yes Yes	No No No No Yes APLO No Fully No Yes Credit union, educ., distrib. No None Yes Yes	No No No No Yes APLO No Fully No Yes Credit union, educ., distrib. No None Yes Yes	No No No No Yes APCO No Fully Partially Yes Whisl. dist., credit unions, educ. No Random, sequential, index sequential Yes Yes
<b>PRICING &amp; AVAILABILITY</b> Purchase price of basic system, \$ Monthly rental of basic system, \$  Date of first U.S. delivery Number installed in U.S. to date	\$2,395 \$86.45 (3-yr. lease)  November 1975 Over 2,000	\$4,900 \$177 (3-yr. lease)  February 1975 NA	\$6,600 \$232 (3-yr. lease)  February 1975 NA	\$7,150 \$252 (3-yr. lease)  February 1975 NA	\$8,820 \$310 (3-yr. lease)  January 1976 NA
<b>COMMENTS</b>		Integral mag card unit allows mag cards to be used for program storage and data I/O; see Report M11-671-101 for more details	Integral mag card unit allows mag cards to be used for program storage and data I/O; see Report M11-671-101 for more details	Integral mag card unit allows mag cards to be used for program storage and data I/O; see Report M11-671-101 for more details	Integral mag card unit allows mag cards to be used for program storage and data I/O; see Report M11-671-109 for more details

\*"Std." means the device is included in the price of the "basic system" as listed here.

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MANUFACTURER & MODEL	Olivetti A7 (7072 CPU)	Olivetti A7 (7074 CPU)	Pako Corp. Pricing System	Pako Corp. Pricing/ Invoicing System	Philips P310
<b>DATA FORMATS</b> Word length, bits Decimal digits per word Bytes (characters) per word Operand length, words Instruction length, words	8-bit byte 2 per byte 1 per byte 1-3 bytes 1, 2 bytes	8-bit byte 2 per byte 1 per byte 1-3 bytes 1, 2 bytes	16 4 2 1 1, 2	16 4 2 1 1, 2	8-bit byte 1 per byte 1 per byte Variable Variable
<b>CPU</b> Model Add time, microseconds	Olivetti 7072 6.1	Olivetti 7074 6.1	CAI LSI-2/20 25 (8 digits)	CAI LSI-2/20 25 (8 digits)	Philips 310 —
No. of programmable registers No. of I/O ports on basic system and maximum	— 16	— 16	2 —	2 —	8 10
<b>INTERNAL STORAGE</b> Type Capacity of basic system, bytes Maximum capacity, bytes Increment size, bytes Cycle time, microseconds Access time, microseconds	MOS 16K 48K 8K 0.9 —	MOS 16K 48K 8K 0.9 —	Core 16K 64K 8K 1.2 —	Core 24K 64K 8K 1.2 —	Core 8K 16K 8K 1.5 0.6
<b>MASS STORAGE CAPABILITIES*</b> Floppy disk drive Cartridge disk drive Pack disk drive Fixed-head disk/drum	No Opt. 40M bytes No Opt.; 160K bytes	Std.; 512K bytes Opt.; 40M bytes No Opt.; 160K bytes	Opt.; 500K bytes No No No	No Std.; 10M bytes No No	Opt.; 1.024M bytes No No No
<b>KEYBOARD INPUT*</b> Alphanumeric (typewriter) keyboard 10-key numeric keyboard Full accounting keyboard	Standard Standard No	Standard Standard No	No Standard No	Standard Standard No	Standard Standard No
<b>INPUT/OUTPUT DEVICES*</b> Paper tape reader Paper tape punch Punched card reader Punched card punch Punched card reader/punch Serial printer Line printer Reel-to-reel tape drive Cassette tape drive Cartridge tape drive Magnetic ledger card device CRT	Opt.; 20 cps Opt.; 24 cps Opt.; 400 cpm No No Std.; 40 cps Opt.; 130-600 lpm No Std.; 1000 bps No Optional 16-char. alpha-numeric display	Opt.; 20 cps Opt.; 24 cps Opt.; 400 cpm No No Std.; 40 cps Opt.; 130-600 lpm No Opt.; 1000 bps No Optional 16-char. alpha-numeric display	Opt.; 150 cps Opt.; 75 cps Opt.; 300 cpm Opt.; 23 cpm No No Optional No No No No	No Opt.; 75 cps Opt.; 300 cpm Opt.; 23 cpm No Std.; 125-300 lpm Optional No No No Optional; 24 x 80 char.	No Opt.; 50 cps No Opt.; 50 cpm Std.; 50 cps Opt.; 70 lpm No Opt.; 1000 cps No Optional No
<b>COMMUNICATIONS CAPABILITIES*</b> Maximum no. of lines Synchronous Asynchronous Protocols supported	1 Opt. to 9600 bps Opt. to 1200 bps Bisync	1 Opt. to 9600 bps Opt. to 1200 bps Bisync	1 Opt. to 2400 bps No IBM 2780	1 Opt. to 2400 bps No IBM 2780	1 Opt. to 9600 bps Opt. to 2400 bps IBM 2780
<b>SOFTWARE SUPPORT</b> COBOL RPG FORTRAN BASIC Assembler Other programming languages Multiprogramming Language implemented in firmware Operating system implemented in firmware General accounting packages Industry application areas Data base management system File access methods supported Software separately priced Technical help separately priced	No Yes No No Yes PL/1 Yes; 2 partitions Fully Partially Yes Whsl. dist., contractors Yes Random, sequential, index sequential Yes Yes	No Yes No No Yes PL/1 Yes; 2 partitions Fully Partially Yes Whsl. dist., contractors Yes Random, sequential, index sequential Yes Yes	No No No No No None Yes; 10 partitions No No No Photofinishing Yes Random, sequential, index seq. Yes Yes	No No No No No None Yes; 15 partitions No No No Photofinishing Yes Random, sequential, index seq. Yes Yes	No No No No Yes None No Partially Partially Yes Banking, insur., medical, utilities No Random, sequential, index seq. Yes Yes
<b>PRICING &amp; AVAILABILITY</b> Purchase price of basic system, \$ Monthly rental of basic system, \$ Date of first U.S. delivery Number installed in U.S. to date	\$12,935 \$455 (3-yr. lease) March 1975 NA	\$14,885 \$524 (3-yr. lease) March 1975 NA	\$29,505 Purchase only June 1975 NA	\$76,404 Purchase only June 1975 NA	\$7,500-\$14,000 \$170-\$315 June 1975 750 (P300 Series)
<b>COMMENTS</b>	See Report M11-671-101 for more details	See Report M11-671-101 for more details	Includes pricing terminal (8 opt.) with bar code reader & keyboard; bar code is read & pricing info. printed on customer envelope	Same as pricing system with added capability for statements, invoices, and other management reports; see Report M1-168-101 for more details on CPU	Another 1500 P300's have been installed worldwide

\*"Std." means the device is included in the price of the "basic system" as listed here.

### Small Business Computer Specifications

MANUFACTURER & MODEL	Philips P320	Philips P350	Prime 300	Prime 400	Prime 500
<b>DATA FORMATS</b> Word length, bits Decimal digits per word Bytes (characters) per word Operand length, words Instruction length, words	8-bit byte 1 per byte 1 per byte Variable Variable	64 15 8 1 1	16 + 2 2 2 1-4 1, 2, 3	16 + 2 or 6 (ECC) 2 2 1-4 1, 2, 3	16 + 6 (ECC) 2 2 1-4 1, 2, 3
<b>CPU</b> Model Add time, microseconds  No. of programmable registers No. of I/O ports on basic system and maximum	Philips 320 — 8 10	Philips 350 — Software-assigned 16	Prime 300 1.56 8 10	Prime 400 0.56 14 64	Prime 500 0.56 17 64
<b>INTERNAL STORAGE</b> Type Capacity of basic system, bytes Maximum capacity, bytes Increment size, bytes Cycle time, microseconds Access time, microseconds	Core 8K 16K 8K 1.5 0.6	Core 12.8K 19.2K 6.4K 1.5 0.6	MOS 64KB 512KB 64K, 256K 0.76 0.60	MOS 128K 8 million 128K, 256K 0.76 0.60	MOS 256K 8 million 256K 0.76 0.60
<b>MASS STORAGE CAPABILITIES*</b> Floppy disk drive Cartridge disk drive Pack disk drive Fixed-head disk/drum	Opt.: 1.024M bytes No No No	No Opt.: 9.2M bytes No No	Opt.: 2.4M bytes Opt.: 48M bytes Opt.: 2400M bytes Opt.: 8 million	Opt.: 2.4M bytes Opt.: 48M bytes Opt.: 2400M bytes Opt.: 8 million	Opt.: 2.4M bytes Opt.: 48M bytes Opt.: 2400M bytes Opt.: 8 million
<b>KEYBOARD INPUT*</b> Alphanumeric (typewriter) keyboard 10-key numeric keyboard Full accounting keyboard	Standard Standard No	Standard Standard No	Standard Optional No	Standard Optional No	Standard Optional No
<b>INPUT/OUTPUT DEVICES*</b> Paper tape reader Paper tape punch Punched card reader Punched card punch Punched card reader/punch Serial printer Line printer Reel-to-reel tape drive Cassette tape drive Cartridge tape drive Magnetic ledger card device CRT	No Opt.: 50 cps No Opt.: 50 cpm No Std.: 50 cps Opt.: 70 lpm No Opt.: 1000 cps No Standard No	Opt.: 50 cps Opt.: 50 cps Opt.: 280 cpm Opt.: 50 cpm No Std.: 40 cps Opt.: 120-600 lpm No Opt.: 1000 cps Standard No	Opt.: 200 cps Opt.: 75 cps Opt.: 285 cpm No Opt.: 300 cpm Opt.: 165 cps Opt.: 1220 lpm Opt.: 120 KBS No No No Opt.: 24 x 80 char.	Opt.: 200 cps Opt.: 75 cps Opt.: 285 cpm No Opt.: 300 cpm Opt.: 165 cps Opt.: 1220 lpm Opt.: 120 KBS No No No Opt.: 24 x 80 char.	Opt.: 200 cps Opt.: 75 cps Opt.: 285 cpm No Opt.: 300 cpm Opt.: 165 cps Opt.: 1220 lpm Opt.: 120 KBS No No No Opt.: 24 x 80 char.
<b>COMMUNICATIONS CAPABILITIES*</b> Maximum no. of lines Synchronous Asynchronous Protocols supported	1 Opt.: to 9600 bps Opt.: to 2400 bps IBM 2780	1 Opt.: to 9600 bps Opt.: to 2400 bps IBM 2780	64 Opt.: 56K bps Opt.: 19.2K bps 2780, HASP, UT200	64 Opt.: 56K bps Opt.: 19.2K bps 2780, HASP, UT200	64 Opt.: 56K bps Opt.: 19.2K bps 2780, HASP, UT200
<b>SOFTWARE SUPPORT</b> COBOL RPG FORTRAN BASIC Assembler Other programming languages Multiprogramming Language implemented in firmware Operating system implemented in firmware General accounting packages Industry application areas  Data base management system File access methods supported  Software separately priced Technical help separately priced	No No No No Yes None No Partially Partially Yes Banking, insur., medical, utilities No Random, sequential, index seq. Yes Yes	No No No No Yes None No No Yes Banking, insur., medical, utilities No Random, sequential, index seq. Yes Yes	Yes Yes Yes Yes Yes Forms Yes, 31 Partially Partially No Graphics, statistics No Sequential, random, index sequential Yes Yes	Yes Yes Yes Yes Yes Forms Yes, 63 Partially Partially No Graphics, statistics Yes Sequential, random, index sequential Yes Yes	Yes Yes Yes Yes Yes Forms Yes, 63 Partial Partial No Graphics, statistics Yes Sequential, random, index sequential Yes Yes
<b>PRICING &amp; AVAILABILITY</b> Purchase price of basic system, \$ Monthly rental of basic system, \$  Date of first U.S. delivery Number installed in U.S. to date	\$14,000-\$19,000 \$315-\$430  June 1975 750 (P300 series)	\$15,500-\$26,500 \$350-\$600  June 1970 2300	\$21,500 \$473 (5-yr. lease)  February 1973 450	\$69,600 \$1,524 (5-yr. lease)  2nd qtr. 1976 200	\$130,000 \$2,847 (5-yr. lease)  3rd qtr. 1977 10
<b>COMMENTS</b>	Another 1500 P300's have been installed worldwide	Another 20,000 P350's have been installed worldwide	Each user has 128K bytes of virtual address space	Each user has 512 million bytes of virtual address space	Each user has 512 million bytes of virtual address space; includes fast floating-point business instruction set hardware

\*"Std." means the device is included in the price of the "basic system" as listed here.



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MANUFACTURER & MODEL	Programmed Control Corp. Prophet 21 Model 1	Programmed Control Corp. Prophet 21 Model 2	Q1 Corporation Q1/LMC	Q1 Corporation Q1/LITE	Qantel 900, 950
<b>DATA FORMATS</b> Word length, bits Decimal digits per word Bytes (characters) per word Operand length, words Instruction length, words	16 4 2 1 2	16 4 2 1 1-3	8-bit byte 2 per byte 1 per byte 1, 2 bytes 1-3 bytes	8 2 1 1, 2 3	8 2 1 Variable 3-10
<b>CPU</b> Model Add time, microseconds  No. of programmable registers No. of I/O ports on basic system and maximum	TI 960B 3.6 (word)  16 1, 22	TI 990/10 2.8 (word)  16 1, 128	8080 2  7 11, 32	Q1/LITE —  4 64; 256	Qantel std. CPU —  17 in memory 6
<b>INTERNAL STORAGE</b> Type Capacity of basic system, bytes Maximum capacity, bytes Increment size, bytes Cycle time, microseconds Access time, microseconds	MOS 32K 128K 8K 0.7 —	MOS 32K 2048K 8K 0.7 —	MOS 8K 64K 8, 16K 0.5 0.3	MOS 16K; 6K ROM 64K 16K 0.35 0.25	MOS 32K 64K 8K 1.5 —
<b>MASS STORAGE CAPABILITIES*</b> Floppy disk drive Cartridge disk drive Pack disk drive Fixed-head disk/drum	No Std.; 5M bytes No No	No Std.; 50M bytes Opt.; 5M bytes No	Std.; 1.2M bytes Opt.; 24M bytes No No	Std.; 500K bytes No Opt.; 54M bytes Opt.; bubble memory	No Std.; 6-36M bytes No No
<b>KEYBOARD INPUT*</b> Alphanumeric (typewriter) keyboard 10-key numeric keyboard Full accounting keyboard	Standard Standard No	Standard Standard No	Standard Standard No	Standard Standard Standard	Standard Standard No
<b>INPUT/OUTPUT DEVICES*</b> Paper tape reader Paper tape punch Punched card reader Punched card punch Punched card reader/punch Serial printer Line printer Reel-to-reel tape drive Cassette tape drive Cartridge tape drive Magnetic ledger card device CRT	No No No No No Std.; 30 cps Opt.; 250 lpm No No No No No Standard; 24 x 80 char.	No No No No No Std.; 165 cps Opt.; 250 lpm No No No No No Standard; 24 x 80 char.	No No No No No Std.; 45-200 cps Opt.; 300 lpm No No No No No Standard; 6 x 40 char.	No No No No No Std.; 45 cps Std.; 40 cps Opt.; 300 lpm No No No No Plasma display; 12 x 47 char.	No No Opt.; 500 cpm No No Std.; 165 cps Opt.; 300-600 lpm Opt.; 36-72 KBS No No Std.; 27 x 64 char.
<b>COMMUNICATIONS CAPABILITIES*</b> Maximum no. of lines Synchronous Asynchronous Protocols supported	— No Opt.; to 1200 bps None	— No Opt.; to 9600 bps None	8 Opt.; to 2400 bps Opt.; to 9600 bps IBM 3741	16 Std.; to 4800 bps Std.; to 1200 bps IBM 2780 Bisync	1 Opt.; to 50K bps Opt.; to 38,400 cps HASP
<b>SOFTWARE SUPPORT</b> COBOL RPG FORTRAN BASIC Assembler Other programming languages Multiprogramming Language implemented in firmware Operating system implemented in firmware General accounting packages Industry application areas  Data base management system File access methods supported  Software separately priced Technical help separately priced	No No No No No Prophet 21 Yes; 22 partitions No No Yes Industrial dist. & wholesalers Yes Random, sequential, index seq. No No	No No No No No Prophet 21 Yes; 128 partitions No No Yes Industrial dist. & wholesalers Yes Random, sequential, index seq. No No	No No No No Yes PL/1 Yes Partially Fully Yes Acctg., credit unions, word proc. Yes Random, sequential No No	No No No No Yes PL/1 Multiprocessing PL/1 interpreter Fully Yes Credit unions, banks, gen'l. bus., wd. proc. — ISAM, KSAM Yes No	No No No No Yes QICBASIC Yes; 5 partitions Partially Partially Yes Whsl. dist., medical clinics No Random, sequential, index sequential Some Yes
<b>PRICING &amp; AVAILABILITY</b> Purchase price of basic system, \$ Monthly rental of basic system, \$  Date of first U.S. delivery Number installed in U.S. to date	\$42,500 Purchase only  1972 20	\$42,500 Purchase only  January 1978 NA	\$17,950 Purchase only  1975 200	\$21,000 NA  July, 1977 NA	\$27,900 NA  1st qtr., 1975 —
<b>COMMENTS</b>	Turnkey system is marketed nationwide	Turnkey system is marketed nationwide; see Report M11-840-301 for more details on CPU	A 24 x 80 char. CRT is optionally available; up to 4 CRT/workstations per system	Std. config. for data and wd. proc., data entry, prog. calc., intel. ter., graphics. Up to 64 intelligent workstations can share data base	Program and report generating packages; up to 16 on-line terminals

\*"Std." means the device is included in the price of the "basic system" as listed here.

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MANUFACTURER & MODEL	Qantel 1400	Qantel 1400-2	Randal Data Systems Link-100	Randal Data Systems Link-200	Randal Data Systems Link-500
<b>DATA FORMATS</b> Word length, bits Decimal digits per word Bytes (characters) per word Operand length, words Instruction length, words	8 2 1 Variable 3-10	8 2 1 Variable 3-10	16 4 2 Variable 1, 2, 3	16 4 2 Variable 1, 2, 3	16 4 2 Variable 1, 2, 3
<b>CPU</b> Model Add time, microseconds No. of programmable registers No. of I/O ports on basic system and maximum	Qantel high-performance CPU — 6 + 17 in memory 12	Qantel high-performance CPU — 6 + 17 in memory 12	Randal-100 1.2 4 63 max.	Randal-200 1.2 4 63 max.	Randal-500 1.2 (5 digits) 4 63 max.
<b>INTERNAL STORAGE</b> Type Capacity of basic system, bytes Maximum capacity, bytes Increment size, bytes Cycle time, microseconds Access time, microseconds	MOS 40K 128K 8K 1.1 —	MOS 48K 128K 8K 1.1 —	MOS 32K 64K 16K 0.3 0.3	MOS 32K 64K 16K 0.3 0.3	MOS 64K bytes 128K bytes 32K bytes 0.3 0.3
<b>MASS STORAGE CAPABILITIES*</b> Floppy disk drive Cartridge disk drive Pack disk drive Fixed-head disk/drum	No Std.; 12-48MB Opt.; 25-600MB No	No Opt.; 12-48MB Std.; 25-600MB No	Std.; 2.5M bytes No No No	No Std.; 10M bytes No No	Std.; 1.2M bytes No Std.; 200M bytes No
<b>KEYBOARD INPUT*</b> Alphanumeric (typewriter) keyboard 10-key numeric keyboard Full accounting keyboard	Standard Standard No	Standard Standard No	Standard Standard No	Standard Standard No	Standard Standard No
<b>INPUT/OUTPUT DEVICES*</b> Paper tape reader Paper tape punch Punched card reader Punched card punch Punched card reader/punch Serial printer Line printer Reel-to-reel tape drive Cassette tape drive Cartridge tape drive Magnetic ledger card device CRT	No No Opt.; 500 cpm No No Std.; 165 cps Std.; 300-600 lpm Opt.; 36-72 KBS No No No No Std.; 27 x 64 char.	No No Opt.; 500 cpm No No Std.; 165 cps Std.; 300-600 lpm Std.; 36-72 KBS No No No No Std.; 27 x 64 char.	No No Opt.; 450 cpm No No Opt.; 30, 55, 180 cps Opt.; 300 lpm Opt.; 10 KBS No No No No Std.; 12 x 80 char.	No No Opt.; 450 cpm No No Opt.; 30, 55, 180 cps Opt.; 300 lpm Opt.; 10 KBS No No No No Std.; 12 x 80 char.	No No 450 cpm No No Std.; 180 cps Opt.; 300 lpm Opt.; 10K cps No No No No Std.; 12 x 80 char.
<b>COMMUNICATIONS CAPABILITIES*</b> Maximum no. of lines Synchronous Asynchronous Protocols supported	4 Opt.; to 50K bps Opt.; to 38,400 cps HASP	4 Opt.; to 50K bps Opt.; to 38,400 cps HASP	2 Opt.; 9600 bps Opt.; 9600 bps IBM 2780, Univac DCT 1000	8 Opt.; 9600 bps Opt.; 9600 bps IBM 2780, Univac DCT 1000	16 Opt.; 9600 bps Opt.; 9600 bps IBM 2780, DCT 1000
<b>SOFTWARE SUPPORT</b> COBOL RPG FORTRAN BASIC Assembler Other programming languages Multiprogramming Language implemented in firmware Operating system implemented in firmware General accounting packages Industry application areas Data base management system File access methods supported Software separately priced Technical help separately priced	No No No No Yes Yes Yes; 30 partitions Partially Partially Yes Whisl. dist., medical clinics No Random, sequential, index sequential Some Yes	No No No No Yes Yes Yes; 30 partitions Partially Partially Yes Whisl. dist., medical clinics No Random, sequential, index sequential Some Yes	No No No Yes Yes — Yes; 2 users No No; Timeshare OS Yes Lumber industry; med., dental mgmt. No Formatted, text, index sequential Yes Yes	No No No Yes No None Yes; 16 partitions No No; Timeshare OS Yes Lumber industry; med., dental mgmt. No Formatted, text, index sequential Yes Yes	No No No Yes Yes — Yes No No Yes Distribution, medical, accounting No Formatted, text, index sequential Yes Yes
<b>PRICING &amp; AVAILABILITY</b> Purchase price of basic system, \$ Monthly rental of basic system, \$ Date of first U.S. delivery Number installed in U.S. to date	\$43,900 — 2nd qtr. 1977	\$64,900 — 2nd qtr. 1977	\$12,750 \$280 October 1975 200	\$24,506 \$551 August 1976 NA	\$45,900 \$1,000 October 1977 0
<b>COMMENTS</b>	Program and report generating packages; up to 64 on-line terminals	Program and report generating packages; up to 64 on-line terminals	Marketed exclusively through qualified distributors	Marketed exclusively through qualified distributors	Marketed exclusively through qualified distributors

\*"Std." means the device is included in the price of the "basic system" as listed here.

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MANUFACTURER & MODEL	Raytheon PTS/1200	Shasta General Systems Diablo 3200	A. O. Smith Mesa Two 7000 Series	Span Management Systems	Sperry Univac BC/7
<b>DATA FORMATS</b>					
Word length, bits	16	8 + parity	16	16	8
Decimal digits per word	2	2	4, 9	2	2
Bytes (characters) per word	2	1	2	2	1
Operand length, words	½, 1, 1½	1 or 2	1	Variable	1
Instruction length, words	1, 2	1-3	1	1	1, 2, 3
<b>CPU</b>					
Model	Raytheon PTS/1200	Diablo 3200	DG Nova 3	IBM Series/1	Univac T3038
Add time, microseconds	2.8 (1 word)	23.9/6 digits	—	—	106 (5 digits)
No. of programmable registers	4	7	4	8	7
No. of I/O ports on basic system and maximum	42	22; 256	4; 16	8; 256	3; 12
<b>INTERNAL STORAGE</b>					
Type	MOS	MOS	Core	MOS	MOS
Capacity of basic system, bytes	48K	16	64K	16K	32K
Maximum capacity, bytes	128K	65	256K	128K	64K
Increment size, bytes	16K	4K, 8K, 12K, 16K	64K	16K	16K
Cycle time, microseconds	1.28	0.488	1.0	0.660	1.0
Access time, microseconds	0.80	0.300	—	0.300	0.5
<b>MASS STORAGE CAPABILITIES*</b>					
Floppy disk drive	No	Std.; 2M bytes	No	Opt.; 606K bytes	Std.; 2M bytes
Cartridge disk drive	Std.; 40M bytes	Opt.; 10M bytes	No	—	Opt.; 40M bytes
Pack disk drive	No	No	Std.; 320M bytes	Opt.; 13.9M bytes	No
Fixed-head disk/drum	No	No	No	Opt.; 9.4M bytes	No
<b>KEYBOARD INPUT*</b>					
Alphanumeric (typewriter) keyboard	Standard	Standard	Standard	Optional	Standard
10-key numeric keyboard	Optional	Standard	Standard	Optional	Standard
Full accounting keyboard	No	No	No	Optional	—
<b>INPUT/OUTPUT DEVICES*</b>					
Paper tape reader	No	No	No	No	No
Paper tape punch	No	No	No	No	No
Punched card reader	Opt.; 300 cpm	No	No	No	Opt.; 300, 600 cpm
Punched card punch	No	No	No	No	No
Punched card reader/punch	No	No	No	No	No
Serial printer	Opt.; 15-165 cps	Std.; 45, 55, 200 cps	Std.; 165 cps	Opt.; 120 cps	Std.; 200 cps
Line printer	Opt.; 300 lpm	No	Std.; 300-600 lpm	Opt.; 414 lpm	Opt.; 125, 250 lpm
Reel-to-reel tape drive	Std.; 800 bpi	No	Opt.; 800 bpi	No	Opt.; 20, 40 KBS
Cassette tape drive	Std.; 600 bytes/sec.	No	No	No	No
Cartridge tape drive	No	No	No	No	No
Magnetic ledger card device	No	No	No	No	No
CRT	Opt.; 480 to 1920 char.	Std.; 24 x 80 char.	Std.; 23 x 74 char.	Opt.; 24 x 80 char.	Std.; 1920 char.
<b>COMMUNICATIONS CAPABILITIES*</b>					
Maximum no. of lines	1	9	16	—	2
Synchronous	Std.; to 9600 bps	Opt.; to 9600 bps	Opt.; to 4800 bps	Optional	Std.; to 9600 bps
Asynchronous	Std.; to 9600 bps	Opt.; to 9600 bps	Opt.; to 1200 bps	Optional	No
Protocols supported	IBM 2780, 3780	IBM 2780	IBM 3780, HASP	Bisync, SDLC	Transparent
<b>SOFTWARE SUPPORT</b>					
COBOL	No	No	No	No	No
RPG	No	No	Yes	No	Yes
FORTRAN	No	No	No	No	No
BASIC	No	No	No	No	No
Assembler	No	Yes	No	Yes	No
Other programming languages	MACROL	DACL	Mesa RPG II, FPG	No	ESCORT
Multiprogramming	Yes; 20 partitions	Yes	Yes; 2 partitions	Yes	Yes; 2 partitions
Language implemented in firmware	No	No	No	No	Partially
Operating system implemented in firmware	No	No	No	No	No
General accounting packages	No	Yes	Yes	Yes	Yes
Industry application areas	Transport., insurance, finance	Whisl., dist., med., finan., gen'l. acct'g.	Distribution, manufacturing	Many	Distribution, manufacturing
Data base management system	Yes	No	Yes	Yes	No
File access methods supported	Random, sequential, index seq.	Random, sequential, index sequential	Random, sequential, index seq.	IAM	Random, sequential, index seq.
Software separately priced	No	No	No	Yes	Partly
Technical help separately priced	No	Yes	No	Yes	Partly
<b>PRICING &amp; AVAILABILITY</b>					
Purchase price of basic system, \$	\$30,580	\$18,950	\$56,700	\$35,000	\$17,283
Monthly rental of basic system, \$	\$830 (3-yr. lease)	Various	Lease available	\$1,167 (1-yr. lease)	\$385
Date of first U.S. delivery	November 1974	December 1976	May 1977	June 1977	March 1977
Number installed in U.S. to date	100	50	5	NA	NA
<b>COMMENTS</b>	Display-oriented distributed system. Applications also in RJE, data entry, 3270 emulation	DACL compiler language is high level English-like language source statement compiler	System designed for data base management with remote job entry	System features sophisticated time-shared operating system on IBM hardware; vendor provides turnkey systems	Interactive applications; high-level ESCORT language provides both direct and tutorial programming modes; see Report M11-877-401 for details

\*"Std." means the device is included in the price of the "basic system" as listed here.

Small Business Computer Specifications

MANUFACTURER & MODEL	STC Systems Ultimacc 2010	STC Systems Ultimacc 3010	STC Systems Ultimacc 3080	STC Systems Ultimacc 3300	Sycor 410
<b>DATA FORMATS</b>					
Word length, bits	16	16	16	16	8
Decimal digits per word	4	4	4	4	1
Bytes (characters) per word	2.3	2.3	2.3	2.3	1
Operand length, words	1/2	1/2	1/2	1/2	1
Instruction length, words	1	1	1	1	1-5
<b>CPU</b>					
Model	DG Nova 3/12	Nova 3D	Nova 3D	Nova 3D	Sycor 410
Add time, microseconds	1.35	1	1	1	
No. of programmable registers	4	4	4	4	7
No. of I/O ports on basic system and maximum	20	60	60	60	16, 512
<b>INTERNAL STORAGE</b>					
Type	Core	Core	Core	Core	MOS
Capacity of basic system, bytes	32K	32K	32K	32K	32K
Maximum capacity, bytes	64K	256K	256K	256K	40K
Increment size, bytes	16K	32K	32K	32K	64K
Cycle time, microseconds	1.35	1	1	1	8K
Access time, microseconds					0.50
					0.25
<b>MASS STORAGE CAPABILITIES*</b>					
Floppy disk drive	Optional	Optional	Optional	Optional	Opt.; 256K bytes
Cartridge disk drive	Std.; 10-40M bytes	Std.; 10-40M bytes	No	No	Std.; to 5M bytes
Pack disk drive	No	No	Std.; 80-320M bytes	Std.; 300-1200M bytes	No
Fixed-head disk/drum	No	No	No	No	No
<b>KEYBOARD INPUT*</b>					
Alphanumeric (typewriter) keyboard	Standard	Standard	Standard	Standard	Standard
10-key numeric keyboard	Standard	Standard	Standard	Standard	Standard
Full accounting keyboard	No	No	No	No	No
<b>INPUT/OUTPUT DEVICES*</b>					
Paper tape reader	Optional	Optional	Optional	Optional	Optional
Paper tape punch	Optional	Optional	Optional	Optional	No
Punched card reader	Optional	Optional	Optional	Optional	Opt.; 250 cpm
Punched card punch	Optional	Optional	Optional	Optional	No
Punched card reader/punch	Optional	Optional	Optional	Optional	No
Serial printer	Std.; 165 cps	Optional	Optional	Optional	Std.; to 180 cps
Line printer	Opt.; 300-600 lpm	Opt.; 300-900 lpm	Opt.; 300-900 lpm	Opt.; 300-900 lpm	Opt.; 300 lpm
Reel-to-reel tape drive	Opt.; 60 KBS	Opt.; 60 KBS	Opt.; 60 KBS	Opt.; 60 KBS	Opt.; 10,000 cps
Cassette tape drive	No	No	No	No	Std.; 1000 cps
Cartridge tape drive	No	No	No	No	No
Magnetic ledger card device	No	No	No	No	No
CRT	Std.; 24 x 80 char.	Std.; 24 x 80 char.	Std.; 24 x 80 char.	Std.; 24 x 80 char.	Std.; 576 char. per screen
<b>COMMUNICATIONS CAPABILITIES*</b>					
Maximum no. of lines	Unlimited	Unlimited	Unlimited	Unlimited	2
Synchronous	Opt.; to 9600 bps	Opt.; to 9600 bps	Opt.; to 9600 bps	Opt.; to 9600 bps	Std.; to 9600 bps
Asynchronous	Opt.; to 1200 bps	Opt.; to 1200 bps	Opt.; to 1200 bps	Opt.; to 1200 bps	Opt.; to 1200 bps
Protocols supported	IBM 2780/3780, 3270	IBM 2780/3780, 3270	IBM 2780/3780, 3270	IBM 2780/3780, 3270	IBM 2770, 2780, 3780, HASP, TTY, RJE
<b>SOFTWARE SUPPORT</b>					
COBOL	Yes	Yes	Yes	Yes	Yes
RPG	No	No	No	No	No
FORTRAN	No	No	No	No	No
BASIC	Yes	Yes	Yes	Yes	Yes
Assembler	Yes	Yes	Yes	Yes	No
Other programming languages	ENGLISH 210	ENGLISH 210	ENGLISH 210	ENGLISH 210	TAL-2
Multiprogramming	Yes; 8 partitions	Yes; 50 partitions	Yes; 50 partitions	Yes; 50 partitions	Yes
Language implemented in firmware	No	No	No	No	No
Operating system implemented in firmware	No	No	No	No	No
General accounting packages	Yes	Yes	Yes	Yes	Yes
Industry application areas	Mfg., banking, dist. govt., dist. proc.	Mfg., banking, dist. govt., dist. proc.	Mfg., banking, dist. govt., dist. proc.	Mfg., banking, dist. govt., dist. proc.	Used in many industries
Data base management system	Yes	Yes	Yes	Yes	No
File access methods supported	Random, sequential, index sequential	Random, sequential, index sequential	Random, sequential, index sequential	Random, sequential, index sequential	Sequential, ISAM, random
Software separately priced	No	No	No	No	No
Technical help separately priced	No	No	No	No	No
<b>PRICING &amp; AVAILABILITY</b>					
Purchase price of basic system, \$	\$41,000	\$62,000	\$75,000	\$87,000	\$25,230
Monthly rental of basic system, \$	Purchase only	Purchase only	Purchase only	Purchase only	\$553
Date of first U.S. delivery	1973	1975	1976	1976	May 1976
Number installed in U.S. to date	100	20	5	3	600
<b>COMMENTS</b>					
	Company was formerly called Ultimacc Systems, Inc.; turn-key system; see Report M11-304-101 for more details on CPU	See Report M11-304-101 for more details on CPU	See Report M11-304-101 for more details on CPU	See Report M11-304-104 for more details on CPU	Designed for transaction proc. in distributed or stand-alone environments; industry application software packages are available through Sycor's distributors

\*"Std." means the device is included in the price of the "basic system" as listed here.

Small Business Computer Specifications

MANUFACTURER & MODEL	Sycor 440	Tal-Star TDMS System	Tealtronic 2500	Terak 8510	Terak 8510A
<b>DATA FORMATS</b>					
Word length, bits	8	16	8-bit byte	16	16
Decimal digits per word	1	4	1 per byte	2	2
Bytes (characters) per word	1	2	—	2	2
Operand length, words	1	1	—	—	—
Instruction length, words	1-5	1, 2	4 bytes	1-3	1-3
<b>CPU</b>					
Model	Sycor 440	GA 18/30	Tealtronic 2500	DEC LSI-11	DEC LSI-11
Add time, microseconds	—	2.4	—	3.5	3.5
No. of programmable registers	7	16	26	8	8
No. of I/O ports on basic system and maximum	16; 512	—	32	2; 21	2; 21
<b>INTERNAL STORAGE</b>					
Type	MOS	Core	MOS	MOS, RAM	MOS, RAM
Capacity of basic system, bytes	24K	32K	20,480 bytes	24K	56K
Maximum capacity, bytes	64K	64K	65,536 bytes	56K	56K
Increment size, bytes	8K	8, 16K	4K, 8K, 16K	8K	—
Cycle time, microseconds	0.50	1.2	0.60	1.2	1.2
Access time, microseconds	0.25	—	—	0.6	0.6
<b>MASS STORAGE CAPABILITIES*</b>					
Floppy disk drive	Opt.; 256K	Opt.; 300K bytes	Std.; 512K bytes	Std.; to 1024K bytes	Std.; to 1024K bytes
Cartridge disk drive	Std.; to 5M bytes	No	No	No	No
Pack disk drive	No	Std.; 20M bytes	No	No	No
Fixed-head disk/drum	No	No	No	No	No
<b>KEYBOARD INPUT*</b>					
Alphanumeric (typewriter) keyboard	Standard	Standard	Standard	Optional	Standard
10-key numeric keyboard	Standard	Optional	Standard	Optional	Standard
Full accounting keyboard	No	No	No	No	No
<b>INPUT/OUTPUT DEVICES*</b>					
Paper tape reader	No	Opt.; 400 cps	No	No	No
Paper tape punch	No	Opt.; 75 cps	No	No	No
Punched card reader	Opt.; 250 cpm	Std.; 400 cpm	No	No	No
Punched card punch	No	Opt.; 100 cpm	No	No	No
Punched card reader/punch	No	No	No	No	No
Serial printer	Opt.; to 180 cps	Std.; 10 cps	Opt.; 45, 165 cps	Opt.; 100 cps	Opt.; 100 cps
Line printer	Opt.; 300 lpm	Std.; 240 lpm	Opt.; 300 lpm	Opt.; 300 lpm	Opt.; 300 lpm
Reel-to-reel tape drive	Opt.; 10,000 cps	Opt.; 20-60 KBS	No	No	No
Cassette tape drive	Std.; 1000 cps	No	No	No	No
Cartridge tape drive	Opt.; to 24,000 cps	No	No	No	No
Magnetic ledger card device	No	No	No	No	No
CRT	Opt.; to 8,576 char. per screen	Opt.; 25 x 80 char.	Std.; 6 x 40 char.	Opt.; 80 x 24 char.	Opt.; 80 x 24 char. 240x320 dot graphics
<b>COMMUNICATIONS CAPABILITIES*</b>					
Maximum no. of lines	2	15	1	4	4
Synchronous	Opt.; to 9600 bps	Opt.; to 9600 bps	Opt.; to 4800 bps	No	No
Asynchronous	Opt.; to 1200 bps	Std.; to 1200 bps	No	Opt.; to 19.2K bps	Opt.; to 19.2K bps
Protocols supported	IBM 2770, 2780, 3780, HASP, TTY, RJE	None	IBM 2780	None	None
<b>SOFTWARE SUPPORT</b>					
COBOL	Yes	Yes	No	No	No
RPG	No	Yes	No	No	No
FORTRAN	No	Yes	No	Yes	Yes
BASIC	Yes	No	No	Yes	Yes
Assembler	No	Yes	Yes	Yes	Yes
Other programming languages	TAL-2	None	ACL	APL, AG/1	APL, AG/1
Multiprogramming	Yes	Yes; 2 partitions	No	Yes	Yes
Language implemented in firmware	No	No	Partially	No	No
Operating system implemented in firmware	No	No	Partially	No	No
General accounting packages	Yes	Yes	Yes	Yes	Yes
Industry application areas	Used in many industries	Graphic arts, newspapers	—	Small business, education	Education, graphics
Data base management system	No	Yes	No	Yes	Yes
File access methods supported	Sequential, ISAM, random	Random, sequential, index sequential	Sequential	Random, sequential, index sequential	Random, sequential, index sequential
Software separately priced	No	Yes	Free	Yes	Yes
Technical help separately priced	No	Yes	Yes	Yes	Yes
<b>PRICING &amp; AVAILABILITY</b>					
Purchase price of basic system, \$	\$25,670	\$73,600	\$9,900	\$6,615	\$7,225
Monthly rental of basic system, \$	\$641	Purchase only	NA	—	—
Date of first U.S. delivery	May 1976	1972	2nd qtr. 1977	June 1976	April 1977
Number installed in U.S. to date	600	NA	—	NA	NA
<b>COMMENTS</b>					
	Designed for transaction processing in distributed or stand-alone environments; industry application software packages are avail. through Sycor's distributors	System features on-line data base support; direct entry circulation system for publications with large files	ACL is compatible with the IBM 3741; see Report M11-823-101 for more details	Compatible with DEC RT-11 and standard DEC languages; compact, portable system	Features simultaneous graphics and character display; compact, portable system

\*"Std." means the device is included in the price of the "basic system" as listed here.

### Small Business Computer Specifications

MANUFACTURER & MODEL	Vanguard Computer Systems V500	Vanguard Computer Systems V400	Wang 2200T	Wang WCS-20	Wang WCS-25
<b>DATA FORMATS</b> Word length, bits Decimal digits per word Bytes (characters) per word Operand length, words Instruction length, words	16 2, 4 2 1, 2, 3 1, 2, 3	16 2, 4 2 1, 2, 3 1, 2, 3	8-bit byte 1 per byte 1 per byte 1 byte 1 byte	8-bit byte 1 per byte 1 per byte 1 byte 1 byte	8-bit byte 1 per byte 1 per byte 1 byte 1 byte
<b>CPU</b> Model Add time, microseconds No. of programmable registers No. of I/O ports on basic system and maximum	Raytheon RDS500 400 (18 digits)  15 6; 15	Raytheon RDS500 400 (18 digits)  15 6; 15	Wang 2200T 800 (13 digits)  None 6; 9	Wang 2200T 800 (13 digits)  None 3; 9	Wang 2200T 800 (13 digits)  None 6; 9
<b>INTERNAL STORAGE</b> Type Capacity of basic system, bytes Maximum capacity, bytes Increment size, bytes Cycle time, microseconds Access time, microseconds	Core 65K 131K 32K 0.7, 0.9 0.35	Core 65K 65K — 0.9 0.45	MOS 16K 32K 4, 8K 1.6 —	MOS 8K 32K 8K 1.6 —	MOS 24K 32K 8K 1.6 —
<b>MASS STORAGE CAPABILITIES*</b> Floppy disk drive Cartridge disk drive Pack disk drive Fixed-head disk/drum	Optional Opt.; 40M bytes Std.; 3200M bytes No	Optional Std.; 40M bytes No No	Opt.; 786K bytes Opt.; 20M bytes No No	Std.; 786K bytes Opt.; 20M bytes No No	Std.; 524K bytes Opt.; 20M bytes No No
<b>KEYBOARD INPUT*</b> Alphanumeric (typewriter) keyboard 10-key numeric keyboard Full accounting keyboard	Standard Standard No	Standard Standard No	Optional Optional No	Standard Standard No	Standard Standard No
<b>INPUT/OUTPUT DEVICES*</b> Paper tape reader Paper tape punch Punched card reader Punched card punch Punched card reader/punch Serial printer Line printer Reel-to-reel tape drive Cassette tape drive Cartridge tape drive Magnetic ledger card device CRT	No No Opt.; 200, 1000 cpm No No Std.; 30, 330 cps Std.; 300, 1250 lpm Std.; 30-200 KBS No No No Standard; 24 x 80 char.	No No No No No Std.; 330 cps No No No No Standard; 24 x 80 char.	Opt.; 300 cps Opt.; 50 cps Opt.; 300 cpm Opt.; 45 cpm No Opt.; 200 cps Opt.; 250 lpm Opt.; 10 KBS Opt.; 326 bps No Optional; 16 x 64, 24 x 80 char.	Opt.; 300 cps Opt.; 50 cps Opt.; 300 cpm Opt.; 45 cpm No Opt.; 200 cps Opt.; 250 lpm Opt.; 10 KBS Opt.; 326 cps No Standard; 16 x 64 char.	Opt.; 300 cps Opt.; 50 cps Opt.; 30 cpm No No Std.; 120 cps Opt.; 600 lpm Opt.; 10 KBS Opt.; 200 cps No Standard; 24 x 80 char.
<b>COMMUNICATIONS CAPABILITIES*</b> Maximum no. of lines Synchronous Asynchronous Protocols supported	32 Opt.; to 9600 bps Std., 110-9600 bps 4th qtr. 1977	None No No None	1 Opt.; to 4800 bps Opt.; to 9600 bps IBM 2780/3780, 2741, 3741	4 Opt.; to 4800 bps Opt.; to 9600 bps IBM 2780/3780, 2741, 3741	4 Opt.; to 4800 bps Opt.; to 9600 bps IBM 2780/3780, 2741, 3741
<b>SOFTWARE SUPPORT</b> COBOL RPG FORTRAN BASIC Assembler Other programming languages Multiprogramming Language implemented in firmware Operating system implemented in firmware General accounting packages Industry application areas Data base management system File access methods supported Software separately priced Technical help separately priced	Yes No No No No SPL Yes; variable No No No Inventory billing; customized only Yes Direct, sequential linked, index seq. Yes Yes	Yes No No No No SPL Yes; variable No No No Inventory billing; customized only No Direct, sequential linked, index seq. No Yes	No No No Yes No None No Fully Partially Yes Mfg., dist., insur., banking No Random, sequential, index sequential Yes No	No No No Yes No None No Fully Partially Yes Mfg., dist., insur., banking Yes Random, sequential, index sequential Yes No	No No No Yes No None No Fully Partially Yes Mfg., dist., banking, medical Yes Random, sequential, index sequential Yes No
<b>PRICING &amp; AVAILABILITY</b> Purchase price of basic system, \$ Monthly rental of basic system, \$ Date of first U.S. delivery Number installed in U.S. to date	\$55,000-\$250,000 Third party  March 1976 5	\$46,000 Third party  July 1977 1	\$6,400 \$156.80  January 1975 NA	\$12,200 \$229 (5-yr. lease)  April 1975 NA	\$26,750 \$655 (5-yr. lease)  August 1977 NA
<b>COMMENTS</b>	Terminal-oriented system supporting variable number of tasks; designed for ease of development and application; multi-CPU capability to 5 CPU's		See Report M11-908-101 for details	Packaged system includes 16K 2200T, CRT/key-board, and 262K-byte floppy disk drive; see Report M11-908-101 for details	Pkgd. system includes 24K 2200T, 3 int. terminals, 2 diskette drives, 120-cps printer, & terminal access methods programs; see Report M11-908-101

\*\*"Std." means the device is included in the price of the "basic system" as listed here.

Small Business Computer Specifications

MANUFACTURER & MODEL	Wang WCS-30	Wang WCS-40	Warrex Computer Centurion I-A	Warrex Computer Centurion II	Warrex Computer Centurion IIA
<b>DATA FORMATS</b> Word length, bits Decimal digits per word Bytes (characters) per word Operand length, words Instruction length, words	8-bit byte 1 per byte 1 per byte 1 byte 1 byte	8-bit byte 1 per byte 1 per byte 1 byte 1 byte	8 2 1 1, 2 1, 2, 3	16 2 2 ½, 1 ½, 1, 1½	8 2 1 1, 2 1, 2, 3
<b>CPU</b> Model Add time, microseconds  No. of programmable registers No. of I/O ports on basic system and maximum	Wang 2200T 800 (13 digits)  None 3; 9	Wang 2200MVP 110 (13 digits)  None 9	CC-201 3.6 (16 bits)  16 4; 12	CC-202 —  8 3; 4	CC-202 3.6 (16 bits)  16 4; 12
<b>INTERNAL STORAGE</b> Type Capacity of basic system, bytes Maximum capacity, bytes Increment size, bytes Cycle time, microseconds Access time, microseconds	MOS 16K 32K 8K 1.6 —	MOS 32K 64K 16K 1.6 —	MOS 32K 60K 8K, 16K, 32K 0.800 —	MOS 16K 16K None 0.800 —	MOS 32K 60K 8K, 16K, 32K 0.800 —
<b>MASS STORAGE CAPABILITIES*</b> Floppy disk drive Cartridge disk drive Pack disk drive Fixed-head disk/drum	Std.; 786K bytes Std.; 20M bytes No No	Std.; 262K bytes Std.; 10M bytes No No	Std.; 616 bytes No No No	No Std.; 41.6M bytes No No	Std.; 616 bytes No Std.; 10.4-41.6MB No
<b>KEYBOARD INPUT*</b> Alphanumeric (typewriter) keyboard 10-key numeric keyboard Full accounting keyboard	Standard Standard No	Standard Standard No	Standard Standard No	Standard Standard No	Standard Standard No
<b>INPUT/OUTPUT DEVICES*</b> Paper tape reader Paper tape punch Punched card reader Punched card punch Punched card reader/punch Serial printer Line printer Reel-to-reel tape drive Cassette tape drive Cartridge tape drive Magnetic ledger card device CRT	Opt.; 300 cps Opt.; 50 cps Opt.; 300 cpm Opt.; 45 cpm No Std.; 200 cps Opt.; 250 lpm Opt.; 10 KBS Opt.; 326 cps No No No Std.; 16 x 64 char.	Opt.; 300 cps Opt.; 50 cps Opt.; 300 cpm No No Std.; 240 lpm Opt.; 600 lpm Opt.; 10 KBS No No No Std.; 24 x 80 char.	No No No No No Optional Opt.; 125-600 lpm No No No Std.; 24 x 80 char.	Opt.; 50 cps No Opt.; 300 cpm No No Std.; 175 cps Opt.; 125-600 lpm No Opt.; 200 cps No No Std.; 24 x 80 char.	No No No No No Optional Opt.; 125-600 lpm No No No Std.; 24 x 80 char.
<b>COMMUNICATIONS CAPABILITIES*</b> Maximum no. of lines Synchronous Asynchronous Protocols supported	4 Opt.; to 4800 bps Opt.; to 9600 bps IBM 2780/3780, 2741, 3741	5 Opt.; to 4800 bps Opt.; to 9600 bps IBM 2780/3780, 2741, 3741	4, 12 No Optional None	1 No Optional None	4, 12 No Optional None
<b>SOFTWARE SUPPORT</b> COBOL RPG FORTRAN BASIC Assembler Other programming languages Multiprogramming Language implemented in firmware Operating system implemented in firmware General accounting packages Industry application areas  Data base management system File access methods supported  Software separately priced Technical help separately priced	No No No Yes No None No Fully Partially  Yes Mfg., dist., insur., banking Yes Random, sequential, index sequential Yes No	No No No Yes No None No Fully Partially  Yes Mfg., dist., banking, insur., medical Yes Random, sequential, index sequential Yes No	No No No No Yes CPL I Yes No No  Yes Acct'g., route acct'g., inventory control No Random, sequential  Some Yes	No No Yes Yes Yes CPL I No No No  Yes Oil/gas, medical acct'g., dist., banking Yes Random  Some Yes	No No No No Yes CPL I Yes No No  Yes Acct'g., route acct'g., inven. control No Random, sequential  Some Yes
<b>PRICING &amp; AVAILABILITY</b> Purchase price of basic system, \$ Monthly rental of basic system, \$  Date of first U.S. delivery Number installed in U.S. to date	\$30,400 \$744.80 (5-yr. lease)  April 1975 NA	\$48,950 \$1,200 (5-yr. lease)  November 1977 NA	Approx. \$20,000 Purchase/lease  2nd qtr., 1977 NA	\$26,950 Purchase only  1975 NA	Below \$30,000 Purchase/lease  2nd qtr., 1977 NA
<b>COMMENTS</b>	Packaged system includes 16K 2200T, CRT/keyboard, 262K-byte floppy disk drive, and 200-cps printer; see Report M11-908-101 for details	Pkgd. system includes 32K 2200MVP, 3 int. terminals, 1 diskette drive, 10MB disk, 240-lpm serial printer, access methods programs			

\*"Std." means the device is included in the price of the "basic system" as listed here.

### All About Small Business Computers

MANUFACTURER & MODEL	Warrex Computer Centurion III	Warrex Computer Centurion IV	Warrex Computer Centurion VI	Wintex Computer 200 NS Business Information System
<b>DATA FORMATS</b> Word length, bits Decimal digits per word Bytes (characters) per word Operand length, words Instruction length, words	8 2 1 1, 2 1, 2, 3	16 2 2 ½, 1 ½, 1, 1½	8 2 1 1-256 1-7	8 1 or 2 1 1, 2, variable 1-6
<b>CPU</b> Model Add time, microseconds  No. of programmable registers No. of I/O ports on basic system and maximum	CC-203 3.6 (16 bits)  16 4; 12	CC-204 —  8 4; 25	CC-206 2.2 (16 bits)  16 4; 64	Wintex microproc. 1500 (5 digits)  Unltd. (in memory) 256
<b>INTERNAL STORAGE</b> Type Capacity of basic system, bytes Maximum capacity, bytes Increment size, bytes Cycle time, microseconds Access time, microseconds	MOS 32K 60K 8K, 16K, 32K 0.800 —	MOS 32K 60K 16K; 32K 0.800 —	MOS (error corr.) 32K 252K 8K, 16K, 32K 0.600 —	MOS 8K 64K 4K 0.650 —
<b>MASS STORAGE CAPABILITIES*</b> Floppy disk drive Cartridge disk drive Pack disk drive Fixed-head disk/drum	Optional Std.; 10.4-41.6MB Optional No	No Std.; 41.6M bytes Std. No	Optional Std.; 10.4-77.6MB Optional No	Std.; 6M bytes Opt.; 10-40M bytes Optional No
<b>KEYBOARD INPUT*</b> Alphanumeric (typewriter) keyboard 10-key numeric keyboard Full accounting keyboard	Standard Standard No	Standard Standard No	Standard Standard No	Standard Standard No
<b>INPUT/OUTPUT DEVICES*</b> Paper tape reader Paper tape punch Punched card reader Punched card punch Punched card reader/punch Serial printer Line printer Reel-to-reel tape drive Cassette tape drive Cartridge tape drive Magnetic ledger card device CRT	Opt.; 120 cps No Opt.; 300 cpm No No Optional Std.; 125-600 lpm No No No No Std.; 24 x 80 char.	Opt.; 50 cps No Opt.; 300 cpm No No Std.; 175 cps Opt.; 125-600 lpm Optional Opt.; 200 cps No No Std.; 24 x 80 char.	Opt.; 120 cps No Opt.; 300 cpm No No Optional Std.; 125-600 lpm No No No No Std.; 24 x 80 char.	No No No No No No Std.; 66 lpm No No No No Std.; 27 x 40 char.
<b>COMMUNICATIONS CAPABILITIES*</b> Maximum no. of lines Synchronous Asynchronous Protocols supported	4, 12 No Optional None	8 No Standard None	4, 64 No Optional None	1 Under development Opt.; to 9600 bps None
<b>SOFTWARE SUPPORT</b> COBOL RPG FORTRAN BASIC Assembler Other programming languages Multiprogramming Language implemented in firmware Operating system implemented in firmware General accounting packages Industry application areas  Data base management system File access methods supported  Software separately priced Technical help separately priced	No No No No Yes CPL I Yes No No Yes Oil & gas acct'g., dist., banking, medical No Random, sequential  Some Yes	No No Yes Yes Yes CPL I Yes No No Yes Accounting, distribution No Sequential  Some Yes	No No No No Yes CPL I, CPL II Yes Partially Partially Yes Oil & gas acct'g., dist., banking, medical No Random, sequential  Some Yes	No No No Yes Yes None Under development Fully; assembler Partially Yes Distribution, professional services No Random, sequential, index sequential Yes Some
<b>PRICING &amp; AVAILABILITY</b> Purchase price of basic system, \$ Monthly rental of basic system, \$  Date of first U.S. delivery Number installed in U.S. to date	Below \$40,000 Purchase/lease  1974 NA	\$34,150 Purchase only  1975 NA	NA Purchase/lease  1st qtr. 1978 0	\$12,000 —  January 1975 NA
<b>COMMENTS</b>				Two 300K-byte floppy disk drives are standard; cartridge disk drives hold 2.5-10M bytes each

\*"Std." means the device is included in the price of the "basic system" as listed here.