

3000CX Series Price/Configuration Guide



The HP 3000 CX Series offers a family of four small-scale, disc-based, virtual memory systems with true multiprogramming and multilingual capabilities. Each 3000 CX model contains the hardware and systems software necessary for a fully operational system. Optional software packages on the Models 100 CX, 200 CX, and 300 CX facilitate system tailoring to specific timeshare, business management, and scientific problem areas. The Model 50 CX provides a building block system for more specialized configurations.

The 3000 CX Series pricing and configuring is described in the following pages. List prices, monthly maintenance charges, information on each 3000 CX system model, supplemental 3000 CX hardware, unbundled software, customer training, and system configuration data are included for ready reference.

On Ordering A 3000CX

1. Specify one of the four 3000 CX Models by order number.
2. Specify the options associated with that model which are necessary for the application in question.
3. Select any required supplementary hardware from the following areas:
 - peripheral devices
 - memory and CPU enhancements
 - add-on I/O devices
 - real-time equipment
 - data communications equipment
 - miscellaneous equipment
4. Select any additional software required from the unbundled software section.
5. Specify the training courses desired by the customer.

NOTE: No product options can be ordered on a stand-alone basis. In all cases the related subsystem or model must also be specified.

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Model 50CX

PRODUCT NUMBER	OPTION NUMBER	DESCRIPTION	PRICE	MONTHLY MAINT. CHARGE
30000C		<p>Starter system for a customer seeking low cost terminal capability. It can be used as a basic building block because it is upgradeable to all other models. It also makes an attractive package for potential OEM's.</p> <p>Hardware Provided:</p> <ul style="list-style-type: none"> • Central processor with 96 K-Bytes of core memory • One multiplexer channel (15 device capacity) • Asynchronous terminal controller (16 ports) • System console and cabinets • Mag tape unit (30115A). Note: For 1600 BPI unit in place of 800 BPI unit, order Option 100. • 5 M-Byte cartridge disc unit (30110A) • Standard power with 120/208V and 3 phase/60 Hz 	\$ 99,500.00	\$ 687.00

3000 CX SERIES FUNDAMENTAL OPERATING SOFTWARE

- 32000C MPE Operating System
- 32211A Compiler Library
- 32212A Utilities
- 32222A Trace/3000
- 32122A SPL/3000
- 32214A Sort/3000
- 32201A Edit/3000

OPTIONS AVAILABLE ON MODEL 50 CX

001	MPET operating system in place of MPE. Supplied on 800 BPI tape unless Option 100 is specified.	0.00	0.00
015	System AC power option with 230V (208V-245V) single phase 50 Hz operation.	0.00	0.00
100	1600 BPI tape unit replaces 800 BPI tape unit. All software will be supplied on 1600 BPI mag tape.	1,500.00	30.00
181	Increases memory to 128 K-Bytes	10,000.00	34.00
202	Adds 202 type data set control to asynchronous terminal controller.	1,240.00	8.00
403	Delete disc cartridge subsystem (30110A). This deletion requires ordering either a 30102A or a 30103A.	-8,000.00	-136.00

Configuration Notes
 Customer Training
 Unbundled Software
 Supplemental Hardware
 Model 300CX
 Model 200CX
 Model 100CX
 Model 50CX

Model 100CX

PRODUCT NUMBER	OPTION NUMBER	DESCRIPTION	PRICE	MONTHLY MAINT. CHARGE
32400C		<p>System provides low cost terminal as well as background batch capabilities. Attractively-priced software options allow the user of this system to operate in timeshare, commercial, and scientific environments for a package price that falls below that of a system upgraded from a Model 50 CX.</p> <p>Hardware Provided:</p> <ul style="list-style-type: none"> • Central processor with 96 K-Bytes of core memory • One multiplexer channel (16 device capacity) • Asynchronous terminal controller (16 ports) • System console and cabinets • Mag tape unit (30115A). Note: For 1600 BPI unit in place of 800 BPI unit, order Option 100. • 10 M-Bytes of disc storage. 5 M-Byte cartridge disc unit (30110A) plus an additional 5 M-Byte drive (30110A-010). • 600 cpm card reader subsystem (30106A) • 200 lpm dot matrix printer (30118A) • Standard power with 120/208V and 3 phase/60 Hz 	\$129,500.00	\$ 953.00
3000 CX SERIES FUNDAMENTAL OPERATING SOFTWARE				
		<ul style="list-style-type: none"> • 32000C MPE Operating System • 32211A Compiler Library • 32212A Utilities • 32222A Trace/3000 • 32122A SPL/3000 • 32214A Sort/3000 • 32201A Edit/3000 		
OPTIONS AVAILABLE ON MODEL 100 CX				
001		MPET operating system in place of MPE. Supplied on 800 BPI tape unless Option 100 is specified.	0.00	0.00
015		System AC power option with 230V (208V-245V) single phase 50 Hz operation.	0.00	0.00
100		1600 BPI tape unit replaces 800 BPI tape unit. All software will be supplied on 1600 BPI mag tape.	1,500.00	30.00
102		128 character option for LP	500.00	0.00
181		Increases memory to 128 K-Bytes	10,000.00	34.00
202		Adds 202 type data set control to asynchronous terminal controller.	1,240.00	8.00
401		Deletes 600 cpm card reader (30106A)	-6,000.00	-66.00
402		Deletes dot matrix printer (30118A)	-9,000.00	-83.00

PRODUCT NUMBER	OPTION NUMBER	DESCRIPTION	PRICE	MONTHLY MAINT. CHARGE
32400C (Cont.)	600	Timeshare package. Includes the basic interpreter (32101A) and the basic compiler (32103A).	0.00	40.00
	601	Scientific package. Includes the extended floating point instruction set (30011A), Star/3000 (32204A), Scientific Library (32205A), and FORTRAN/3000 (32102A).	\$ 5,000.00	\$ 49.00
	602	Commercial package. Includes RPG (32104A), and decimal firmware (30011A plus 30011A-001).	5,000.00	44.00
	603	Commercial and Scientific package. Includes contents of Options 601 and 602. (Option 601 and Option 602 cannot be ordered together. Hardware and subsequent order processing requirements necessitate ordering Option 603 when both Scientific and Commercial capabilities are required.)	9,000.00	74.00

Configuration Notes
Customer Training
Unbundled Software
Supplemental Hardware
Model 300CX
Model 200CX
Model 100CX

Model 200CX

PRODUCT NUMBER	OPTION NUMBER	DESCRIPTION	PRICE	MONTHLY MAINT. CHARGE
32401C		<p>This system offers greater terminal capability than the 50 CX and 100 CX because of its fixed head disc and 32 K-Bytes of incremental core memory. It also offers greater disc storage capacity with its 47 M-Byte moving head disc. The timeshare and scientific options available on the 100 CX are also available on the 200 CX. In addition, an expanded commercial option is available which offers Cobol (32213A) as well as RPG (32104A) and decimal firmware (30011A plus 30011A-001).</p> <p>Hardware Provided:</p> <ul style="list-style-type: none"> • Central processor with 128 K-Bytes of core memory • One multiplexer channel (16 device capacity) • Asynchronous terminal controller (16 ports) • System console and cabinets • Mag tape unit (30115A). Note: For 1600 BPI unit in place of 800 BPI unit, order Option 100. • 2 M-Byte fixed head disc (30103A plus 30103A-001) • 47 M-Byte moving head disc (30102A) • 600 cpm card reader subsystem (30106A) • 200 lpm dot matrix line printer (30118A) • Standard power with 120/208V and 3 phase/60 Hz 	\$171,000.00	\$1,134.00
3000 CX SERIES FUNDAMENTAL OPERATING SOFTWARE				
		<ul style="list-style-type: none"> • 32000C MPE Operating System • 32211A Compiler Library • 32212A Utilities • 32222A Trace/3000 • 32122A SPL/3000 • 32214A Sort/3000 • 32201A Edit/3000 		
OPTIONS AVAILABLE ON MODEL 200 CX				
001		MPET operating system in place of MPE. Supplied on 800 BPI tape unless Option 100 is specified.	0.00	0.00
015		System AC power option with 230V (208V-245V) single phase 50 Hz operation.	0.00	0.00
100		1600 BPI tape unit replaces 800 BPI tape unit. All software will be supplied on 1600 BPI mag tape.	1,500.00	30.00
102		128 character option for LP.	500.00	0.00
104		Expands fixed head disc for 4 M-Bytes.	6,600.00	18.00

Configuration Notes
Customer Training
Unbundled Software
Supplemental Hardware
Model 300CX
Model 200CX

PRODUCT NUMBER	OPTION NUMBER	DESCRIPTION	PRICE	MONTHLY MAINT CHARGE
32401C (Cont.)	202	Adds 202 type data set control to asynchronous terminal controller.	1,240.00	8.00
	401	Deletes 600 cpm card reader (30106A).	-6,000.00	-66.00
	402	Deletes 200 lpm dot matrix printer (30118A).	-9,000.00	-83.00
	600	Timeshare package. Includes the basic interpreter (32101A) and the basic compiler (32103A).	\$ 0.00	\$ 40.00
	601	Scientific package. Includes the extended floating point instruction set (30011A), Star/3000 (32204A), Scientific Library (32205A), and FORTRAN/3000 (32102A).	5,000.00	49.00
	602	Commercial package. Includes RPG (32104A), Cobol (32213B), and decimal firmware (30011A plus 30011A-001).	6,000.00	64.00
	603	Commercial and Scientific package. Includes contents of Options 601 and 602. (Options 601 and 602 cannot be ordered together. Hardware and subsequent order processing requirements necessitate ordering Option 603 when both Scientific and Commercial capabilities are required.)	10,000.00	94.00

Model 300CX

PRODUCT NUMBER	OPTION NUMBER	DESCRIPTION	PRICE	MONTHLY MAINT. CHARGE
32402C		<p>This system, like the 200 CX, will operate efficiently in a terminal intensive environment, and in addition, will concurrently accommodate intensive batch operation because of its card-oriented peripherals. As with the 100 CX and 200 CX, package pricing makes the Model 300 CX more attractive from a price standpoint than any equivalent system upgraded from a lower level model. The timeshare and scientific options available on the 100 CX and 200 CX are also available on the 300 CX. The commercial option, which was expanded to include Cobol on the 200 CX, adds still another capability to the 300 CX with the addition of the Image/Query Data Base Management System.</p> <p>Hardware Provided:</p> <ul style="list-style-type: none"> ● Central processor with 128 K-Bytes of core memory ● One multiplexer channel (16 device capacity) ● Asynchronous terminal controller (16 ports) ● System console and cabinets ● Mag tape unit (30115A). Note: For 1600 BPI unit in place of 800 BPI unit, order Option 100. ● 2 M-Byte fixed head disc (30103A plus 30103A-001) ● 47 M-Byte moving head disc (30102A) ● 1,250 lpm printer (30128A) ● Reader/Punch subsystem (30119A) ● Standard power with 120/208V and 3 phase/60 Hz 	\$203,500.00	\$1,263.00
3000 CX SERIES FUNDAMENTAL OPERATING SOFTWARE				
<ul style="list-style-type: none"> ● 32000C MPE Operating System ● 32211A Compiler Library ● 32212A Utilities ● 32222A Trace/3000 ● 32122A SPL/3000 ● 32214A Sort/3000 ● 32201A Edit/3000 				
OPTIONS AVAILABLE ON MODEL 300 CX				
001		MPET operating system in place of MPE. Supplied on 800 BPI tape unless Option 100 is specified.	0.00	0.00
015		System AC power option with 230V (208V-245V) single phase 50 Hz operation.	0.00	0.00



PRODUCT NUMBER	OPTION NUMBER	DESCRIPTION	PRICE	MONTHLY MAINT. CHARGE
32402C (Cont.)	100	1600 BPI tape unit replaces 800 BPI tape unit. All software will be supplied on 1600 BPI mag tape.	1,500.00	30.00
	102	96 character option for LP.	2,000.00	0.00
	104	Expands fixed head disc to 4 M-Bytes.	6,600.00	18.00
	106	30119A-002 is added to 30119A. (Keyboard and verify capability are added to Reader/Punch).	\$ 2,000.00	\$ 0.00
	202	Adds 202 type data set control to asynchronous terminal controller.	1,240.00	8.00
	404	Delete card reader/punch subsystem (30119A).	-12,000.00	-127.00
	405	Delete high speed printer (30128A)	-28,000.00	-151.00
	600	Timeshare package. Includes basic interpreter (32101A) and the basic compiler (32103A).	0.00	40.00
	601	Scientific package. Includes extended floating point (30011A), Star/3000 (32204A), Scientific Library (32205A), and FORTRAN/3000 (32102A).	5,000.00	49.00
	602	Commercial package. Includes decimal firmware (30011A plus 30011A-001), RPG (32104A), Cobol (32213B), Image (32215A), and Query (32216A).	12,000.00	104.00
	603	Commercial and Scientific package. Includes contents of Options 601 and 602. (Option 601 and Option 602 cannot be ordered together. Hardware and order processing requirements necessitate ordering Option 603 when these scientific and commercial capabilities are required.)	16,000.00	134.00
	604	Commercial package without data base management capability. Includes decimal firmware (30011A plus 30011A-001), RPG (32104A), and Cobol (32213A).	6,000.00	64.00
	605	Commercial and Scientific package without data base management capability. Includes contents of Options 601 and 604, which cannot be ordered together because of hardware and order processing constraints	10,000.00	94.00

Configuration Notes
Customer Training
Unbundled Software
Supplemental Hardware
Model 300CX

Supplemental Hardware

PRODUCT NUMBER	OPTION NUMBER	DESCRIPTION	PRICE	MONTHLY MAINT. CHARGE
Line Printers				
30118A		200 lpm subsystem with 132 columns and 64 characters	\$ 9,750.00	\$ 83.00
	001	128 character set	500.00	0.00
	015	230V/50 Hz AC power option	0.00	0.00
30127A		300 lpm subsystem with 136 columns and 64 characters	13,500.00	135.00
	001	96 character set	2,000.00	0.00
	015	230V/50 Hz AC power option	0.00	0.00
30128A		1250 lpm subsystem with 132 columns and 64 characters	36,000.00	151.00
	001	96 character set	2,000.00	0.00
	015	230V/50 Hz AC power option	0.00	0.00
Card Subsystems				
30106A		Card reader subsystem: 600 cpm	7,160.00	66.00
	015	230V/50 Hz AC power option	0.00	0.00
30107A		Card reader subsystem: 1200 cpm	18,540.00	126.00
	001	Adds double read station	2,575.00	2.00
	015	230V/50 Hz power option	0.00	0.00
30119A		Card reader/punch subsystem: reads 200 cpm, punches 75 cpm	13,500.00	127.00
	002	Adds off-line keyboard punch and verify capability	2,000.00	0.00
	015	230V/50 Hz AC power option	0.00	0.00
Disc Subsystems				
30102A		47 M-Byte disc file subsystem: includes disc pack and controller interface with power units and a junction panel capable of controlling and interfacing up to eight 30102A type disc drives	32,000.00	216.00
	010	Adds drive on same controller (i.e., 2nd, 3rd, 4th, 5th, 6th, 7th, or 8th); includes disc pack only (no controller)	-12,000.00	-40.00
	015	230V/50 Hz AC power option	0.00	0.00
30103A		Fixed head disc subsystem with 1.0 M-Bytes of storage; includes controller interface, power supply, and necessary system cabinets. (System requires that either Option 001 or 002 must also be ordered.)	20,000.00	148.00
	001	Adds 1.0 M-Bytes of storage	3,300.00	36.00
	002	Adds 3.0 M-Bytes of storage (maximum subsystem storage capacity equals 4.0 M-Bytes.)	9,900.00	54.00

PRODUCT NUMBER	OPTION NUMBER	DESCRIPTION	PRICE	MONTHLY MAINT. CHARGE
30110A		Cartridge disc subsystem: includes 7900 disc drive (5 M-Bytes), power supply, controller interface, disc cartridge and necessary system cabinets. Controller interface will handle up to four 7900 discs (i.e., one 30110A and three 30110A-010 units.)	\$ 15,000.00	\$ 136.00
	010	Adds additional 7900 drive (5 M-Bytes): includes power supply, disc cartridge and necessary system cabinets only (no controller)	-5,025.00	-19.00
	015	230V/50 Hz AC power	0.00	0.00
Magnetic Tape Subsystems				
30115A		Mag tape subsystem; 9 channel, 800 cpi, 45 ips. Includes controller interface, 2400 feet of tape and the necessary systems cabinets. The controller interface will handle up to four 9-channel mag tape units - one 30115A and a mixture of up to three additional units (i.e., either 30115A-200's, 30115A-300's, or 30115A-400's)	12,000.00	93.00
	100	Mag tape subsystem: 9 channel, 1600 cpi, 45 ips. Includes controller interface, 2400 feet of tape and the necessary systems cabinets. The controller interface will handle up to four 9 channel mag tape units - one 30115A-100 and a mixture of up to three additional units (i.e., either 30115A-200's, 30115A-300's or 30115A-400's)	1,500.00	30.00
	200	Adds an additional 800 cpi, 45 ips, 9 channel drive. Includes 2400 feet of tape and necessary cabinets, but no controller.	-2,450.00	-22.00
	300	Adds a 9 channel, 1600 cpi, 45 ips, <i>master</i> drive. Includes 2400 foot tape and necessary cabinets, but no controller.	-975.00	8.00
	400	Adds a 9 channel, 1600 cpi, 45 ips, <i>slave</i> drive. Includes 2400 foot tape and necessary cabinets, but no controller. Before this option can be ordered, either a 30115A-100 or a 30115A-300 Master must be on the system.	-2,500.00	0.00
Paper Tape Subsystems				
30104A		Paper tape reader subsystem: reads 500 cps. Necessary system cabinets and the controller interface are included in subsystem price.	3,350.00	32.00
30105A		Paper tape punch subsystem: punches 75 cps. Necessary system cabinets and the controller interface are included in subsystem price.	4,225.00	52.00
Terminals				
30120A		Printer Terminal: 30 cps, 75 column, keyboard, and pin feed with paper guide. The pedestal is not included in this subsystem. This terminal is the G.E. Terminet, which is used as the system console on the 3000CX series.	4,920.00	38.00

Supplemental Hardware (Cont'd)

PRODUCT NUMBER	OPTION NUMBER	DESCRIPTION	PRICE	MONTHLY MAINT. CHARGE
30120A (Cont.)	001	Adds 118 column facility and replaces pin feed with tractor mechanism; vertical tab/form feed, horizontal tab, and a pedestal are included. Terminal still prints 30 cps.	1,135.00	0.00
	003	Friction feed replaces pin feed. This option also adds a pedestal.	\$ 0.00	\$ 0.00
	015	230V/50 Hz AC power option	220.00	0.00
30122A		Character-mode CRT (2615A). The listed price is the unit price for a quantity of less than four. The unit price is \$2,525.00 for a quantity greater than four.	2,835.00	36.00
	015	230V/50 Hz AC power option	0.00	0.00
30124A		Teletype terminal; 10 cps (ASR-33)	2,650.00	68.00
	015	230V/50 Hz AC power option	200.00	0.00
MEMORY & CPU ENHANCEMENTS				
30011A		Expanded instruction set. If this subsystem is ordered without specifying any options, the extended precision floating point instruction set alone will be added to the standard instruction set.	3,250.00	19.00
	001	This option replaces the extended precision floating point instruction set with the decimal firmware instruction set.	1,000.00	0.00
	002	This option adds the decimal firmware instruction set to the extended precision floating point instruction set.	2,000.00	0.00
30414A		This field installed memory upgrade kit increases memory from 30000A standard to Option 140 (i.e., 96 K-Bytes).	11,000.00	46.00
30429A		This field installed memory upgrade kit increases memory from 64 K-Bytes to 128 K-Bytes.	21,500.00	80.00
30431A		This field installed memory upgrade kit increases memory from 96 K-Bytes to 128 K-Bytes.	11,000.00	34.00
DATA COMMUNICATIONS CAPABILITY				
30130A		2780/3780 Emulation Subsystem	3,500.00	30.00
30441A		This field upgrade kit adds 202 modem support to asynchronous terminal controller.	1,500.00	8.00
EXPANDED I/O CAPABILITY				
30030A		High speed selector channel: 1.9 M-Bytes/sec. data rate capacity. Supports eight devices with one device at a time operating in block transfer mode. (Note: May be used only with disc subsystems in cases where multiplexer channel data rate is insufficient.)	6,080.00	13.00

PRODUCT NUMBER	OPTION NUMBER	DESCRIPTION	PRICE	MONTHLY MAINT. CHARGE
30032B		Asynchronous terminal controller (Note: Option 001 or 002 must be ordered.)	3,000.00	18.00
	001	For 103 type modems only	1,240.00	8.00
	002	For 103 and 202 type modems	2,480.00	16.00

ADDITIONAL DEVICE INTERFACES

30126A		Calcomp plotter interface for 500 Series Calcomp plotters.	\$ 1,030.00	\$ 5.00
30300A		Programmable controller with 8K of memory. Necessary system cabinets are included. BCS software also included.	18,000.00	207.00
	001	Separate cabinet (2860B-001) in place of system cabinet	0.00	0.00
	015	230V/50 Hz AC power option	0.00	0.00
	016	Expands memory from 8K to 16 K-Words	4,000.00	18.00
	024	Expands memory from 8K to 24 K-Words	7,000.00	37.00
	032	Expands memory from 8K to 32 K-Words	9,000.00	54.00
30361A		Programmable controller interface kit.	5,000.00	8.00

REAL-TIME CAPABILITY

30301A		Real-time programmable controller. Includes HP 2100S computer with 8 K-Words of memory, DMA, programmable time-base generator, hardware extended arithmetic and floating point instructions; HP 12925A Paper Tape Reader; HP 2752A Teleprinter; interconnection interfaces for the HP 2100 and HP 3000; signal cable, necessary cabinetry; supporting HP 3000 and HP 2100 software.	\$ 23,000.00	\$ *
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RTE-C/3000 SOFTWARE

HP 3000 Resident Software

- HP 32223A Cross Assembler program XA2100
- HP 32226A Cross Loader program XL2100
- Cross RTE-C Generation program XRTCGEN
- Download-Program library routine DNLDUSER
- Download-System library routine DNLDSYS
- Diagnostic program LINETEST

HP 2100 Resident Software

- Basic Binary Link Loader (BBLL)
- RTE-C Operating System (3000 version)
- Diagnostic Program LTEST

	001	Mounts programmable controller in a stand-alone cabinet (2860B-001 required)	0.00	0.00
	015	230V/50 Hz AC power option	0.00	0.00

*Maintenance prices not available at time of this publication.

Configuration Notes
 Customer Training
 Unbundled Software
 Supplemental Hardware (Cont'd)

PRODUCT NUMBER	OPTION NUMBER	DESCRIPTION	PRICE	MONTHLY MAINT. CHARGE
	016	Expands memory from 8 to 16 K-Words	4,000.00	18.00
	024	Expands memory from 8 to 24 K-Words	7,000.00	37.00
	032	Expands memory from 8 to 32 K-Words	9,000.00	54.00
30361A	001	This option to the programmable controller interface kit replaces the BCS/3000 software with the RTE-C/3000 software for an additional \$2,000. (Order 30361A as well as 30361A-001 to obtain the interface kit with real time capability.)	+2,000.00	*

*Maintenance prices not available at time of this publication.

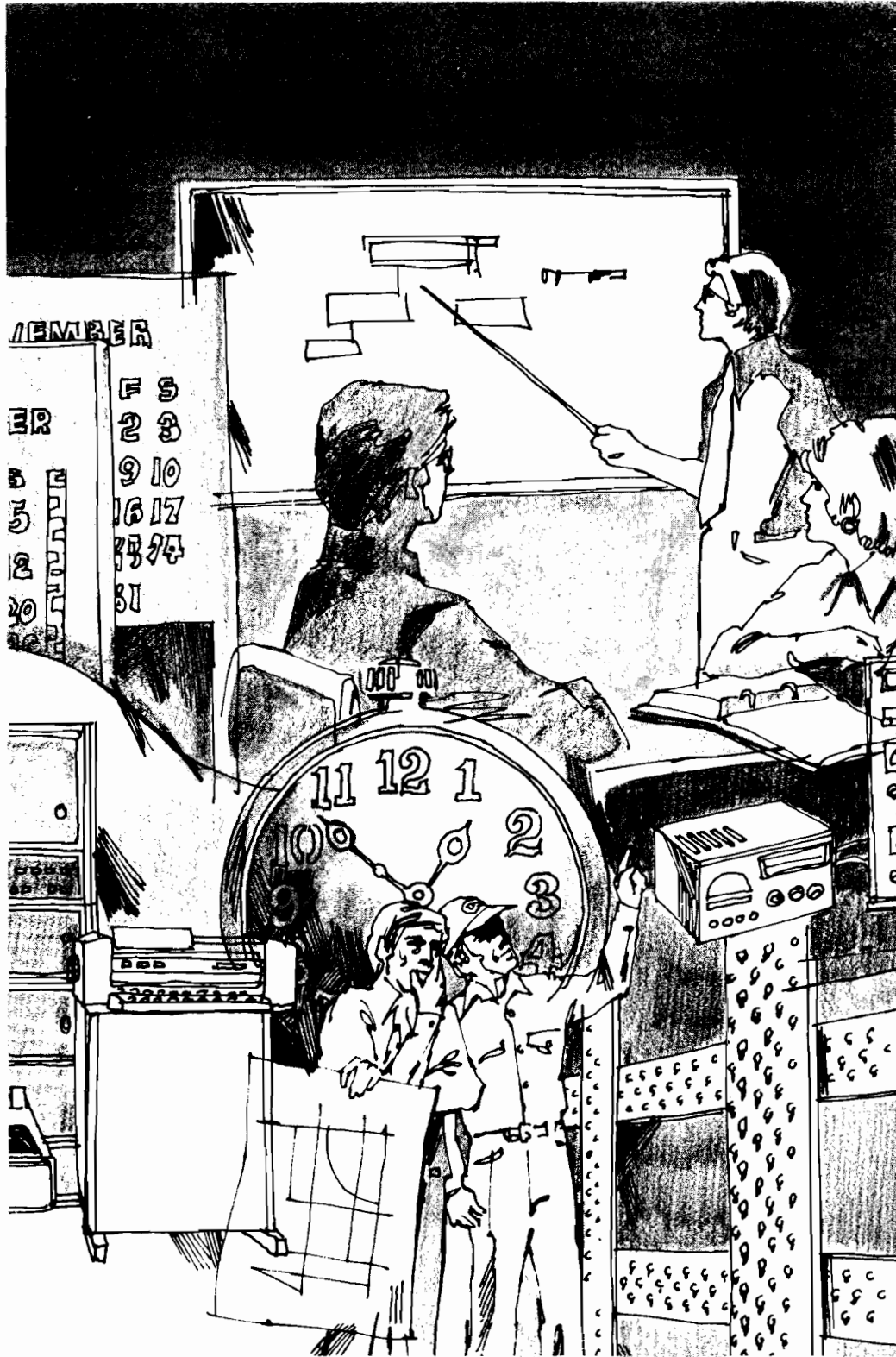
MISCELLANEOUS EQUIPMENT

30333A		11-high disc pack for 30102A and 2888A	620.00	0.00
30334A		Disc cartridge for 30110A (7900A)	130.00	0.00
30390A		Expansion bay: May be ordered when installation exceeds <i>normal</i> HP configuration or when additional matching bays are required. (Note: These bays are for 30000A or 30000B systems only. They cannot be used for the 3000CX series. Additional Note: Option 001 must be ordered in all cases.)	1,850.00	13.00
	001	I/O Bay configuration	600.00	-2.00
	015	230V/50 Hz AC power option	0.00	0.00
Cables				
30062-60004		Data set cable for 103 and 202 type data modems; 25 feet	55.00	0.00
30062-60006		Hardwired device cable; 25 feet	55.00	0.00
30062-60007		Data set cable for 103 and 202 type data modems; 50 feet	70.00	0.00
30062-60009		Hardwired device cable; 50 feet	70.00	0.00
30062-60010		Data set cable for 103 and 202 type data modems; 100 feet	80.00	0.00
30062-60012		Hardwired device cable; 100 feet	80.00	0.00
30062-60013		Hardwired terminal cable adapter allowing use of existing 12584-60007 cable	20.00	0.00



Unbundled Software

PRODUCT NUMBER	OPTION NUMBER	DESCRIPTION	PRICE	MONTHLY MAINT. CHARGE
32000C		MPE Operating System: supplied on 800 BPI mag tape	\$ 10,000.00	\$ 0.00
	100	MPE supplied on 1600 BPI tape instead of 800 BPI	0.00	0.00
32010A		MPET Operating System: supplied on 800 BPI mag tape	5,000.00	0.00
	100	MPET supplied on 1600 BPI tape instead of 800 BPI	0.00	0.00
32101A		BASIC/3000 interpreter	3,500.00	15.00
32102A		FORTRAN/3000 compiler	4,500.00	20.00
32103A		BASIC/3000 compiler	4,500.00	25.00
32104A		RPG/3000 compiler	4,500.00	25.00
32201A		Edit/3000	1,000.00	10.00
32204A		Star/3000	1,500.00	5.00
32205A		Scientific Library/3000	1,000.00	5.00
32213B		Cobol/3000 compiler	4,500.00	20.00
32215A		Image/3000 data base management package	10,000.00	30.00
32216A		Query/3000	1,000.00	10.00
32900A		SIS/3000: Student Information System – member of TOADS family. Includes family information facility, mark reporting, and attendance subsystem. 800 BPI mag tape, reference manual and system overview included in this package. A license agreement is required for SIS/3000. The following software is also required: MPE/3000, SPL/3000, SORT/3000, EDIT/3000, IMAGE/3000, and COBOL/3000.	7,500.00	35.00
	100	SIS/3000 will be shipped on 1600 BPI mag tape instead of 800 BPI tape if this option is selected.	0.00	0.00
32901A		SAS/3000: Student Assignment System – member of TOADS family. Provides student scheduling; shipped on 800 BPI tape; includes reference manual and system overview. A license agreement is required for SAS/3000. The following software is also required: MPE/3000, SPL/3000, SORT/3000, EDIT/3000, IMAGE/3000, and COBOL/3000.	7,500.00	35.00
	100	SAS/3000 will be shipped on 1600 BPI mag tape instead of 800 BPI tape if this option is selected.	0.00	0.00



EMBER

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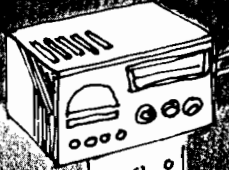
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Customer Training

HP 3000 CX TRAINING COURSES

HP 3000 SYSTEMS UTILIZATION

This course is designed primarily for the System Manager and operator. It is the minimum training required for a customer to use, operate and manage an HP 3000 computer installation. The goal of this course is to develop an understanding of the operation and capabilities of the HP 3000 computer system. Attendance prior to system installation is recommended.

Length: 10 days
Lab time: approximately 30-40%
Pre-requisites: Prior programming experience.
PRICE: \$800.00

SYSTEM PROGRAMMING LANGUAGE

Designed for experienced programmers, this one week course introduces the HP 3000 System Programming Language. This ALGOL-like compiler language was used by HP to write the HP 3000 Multiprogramming Executive (MPE) and all HP 3000 subsystems. This course also includes training in using MPE.

Length: 5 days
Lab time: approximately 30-40%
Pre-requisites: Prior programming experience and completion of the HP 3000 System Utilization or equivalent HP 3000 experience.
PRICE: \$400.00

HP IMAGE 3000

This course is designed to provide the student with a working knowledge of QUERY 3000 and IMAGE 3000. The student will use QUERY to produce reports, up-dates, and listings from an IMAGE Data Base. Additionally, he will use the Data Base Definition Language and IMAGE utilities to create and perform maintenance on an IMAGE Data Base. The student will modify an existing host program (COBOL, FORTRAN, or SPL) to exercise the capabilities of the Data Base Procedures Library.

Length: 5 days
Lab time: approximately 25-40%
Pre-requisites: Programming experience in COBOL, FORTRAN, or SPL. HP 3000 System user experience.
PRICE: \$400.00

Configuration Notes

SYSTEM CONSOLE

A Printer Terminal (30120A) is provided as a console for the 3000 CX Series. Its interface is contained in the CPU/Mainframe of each of the four models.

TERMINALS

The Hewlett-Packard terminals that are supported under the MPE/C and MPET Operating Systems and can be connected to the HP 3000 CX Series models are:

30120A	Printer Terminal
30122A	Character-mode CRT (2615A)
30124A	Teleprinter (ASR 33)
2640A	CRT

Non-Hewlett-Packard terminals which can be connected to the 3000 CX Series models and are supported under the MPE and MPET Operating Systems are:

IBM 2741
Memorex 1240
Execuport
G. E. Terminet 300
Teletype ASR 35
Teletype ASR 37

All terminals, except Teletype ASR 37, can be hardwired to the asynchronous terminal controller. Teletype ASR 37 requires connection via data set.

The asynchronous terminal controller which is supplied with all models will handle up to 16 hardwired terminals and/or Bell 103® Data Sets. In most cases, customer installation requirements will also call for additional cable length. Optional cables are listed below:

CABLE LENGTH	HP PART NUMBERS	
	DATA SET	HARDWIRED
25 feet	30062-60004	30062-60006
50 feet	30062-60007	30062-60009
100 feet	30062-60010	30062-60012

The addition of Option 202 to any system order will equip the asynchronous terminal controller to handle Bell 202® Data Sets to HP 2640A terminals only.

SYSTEM ACCENT COLOR

The 3000 CX Series comes with blue-accented cabinets. There are no optional colors available at this time.



MEMORY

The minimum core memory supplied on any 3000 CX model is 96 K-bytes (standard on the models 50 CX and 100 CX). Additional memory can be specified on the original orders for these two models or can be acquired at a later date through field memory upgrade kits.

The maximum core memory size for the 3000 CX Series is currently 128 K-bytes, which comes standard on the Models 200 CX and 300 CX.

CABINETS

The price of system cabinet bays is allocated to subsystems. Thus, if you order additional peripherals, the necessary system bays will be included at no additional charge. Additional bays need only be ordered when a customer desires cabinetry for a special purpose that differs from standard HP 3000 CX configuration and racking procedures.

AC POWER

In configurations requiring 230V/50 Hz operation, Option 015 must be specified for both the system model and all add-on peripheral devices.

MAGNETIC TAPE UNITS

One magnetic tape drive subsystem is included in each HP 3000 CX system. All software, including updates, will be distributed on magnetic tape.

All 9-track magnetic tape drives use the same basic product number (30115A), because they all use the same interface controller. The two-drive, 9-track interface controller can serve a mix of drives: 800 cpi and 1600 cpi drives (the 1600 cpi drive must be a master); a 1600 cpi master and 1600 cpi slave; two 1600 cpi masters; two 800 cpi masters; and an 800 cpi master and 800 cpi slave.

Two masters on the same controller are more reliable than a master and a slave. With the master-slave relationship, the slave shares the master's electronics; if the master goes down so does the slave. With a master-master relationship, if the first master goes down it has absolutely no effect on the second master's performance.

The 1600 cpi units have twice the transfer rate of 800 cpi units. Tape speed for both is 45 ips. HP 1600 cpi units are considerably less than twice the price of HP 800 cpi units; thus in performance orientation, they exhibit a better price/performance ratio. All tape units are mounted at the top of a bay. Two tape units, for example, will automatically result in at least a four bay system.

DISCS

Every 3000 CX series system requires at least one disc because MPE/C and MPET are disc-based operating systems. In systems configured with minimum disc storage the space needed for MPE/C or MPET should be considered when planning for total disc space requirements.

Configuration Notes (Cont'd)

The 30110A Cartridge Disc Subsystem (which comes standard on the Models 50 CX and 100 CX) has as its heart the 4.9 M-byte HP 7900A disc. The interface controller will handle up to four discs.

The HP 30102A, 47 M-byte, 11-high Moving-Head Disc Subsystem (standard on the Models 200 CX and 300 CX) is recommended when greater mass storage is required. The interface controller will handle up to eight disc drives.

The HP 30103A Fixed-Head Disc Subsystem (standard on the Models 200 CX and 300 CX as a swapping disc) is a performance improvement feature. Twenty to thirty percent performance improvement can be expected by adding the 30103A to a configuration.

SELECTOR CHANNEL

Aggregate data transfer rate on the S10 Multiplexer Channel Bus greater than 880,000 bytes/second requires the addition of a selector channel. Selector channel inputs completely by-pass the Input/Output Processor permitting concurrent data transfer with the Multiplexer Channel. Single device transfer rates on the selector channel may be up to 1.9 million bytes per second. The High Speed Selector Channel interfaces to eight devices through a single controller. Data transfer rates for the high speed 3000 CX Series peripherals follow for easy reference:

HIGH SPEED DISC SUBSYSTEM	TRANSFER RATE (BYTES/SEC)
30102A	312,000
30103A	485,000
30110A	245,760

HEAT DISSIPATION TABLE

ORDERING NUMBER	NOMENCLATURE	KILOCALORIES/BTU*
30000C	Minimum System (50 CX)	3023/12000
30102A	Moving Head Disc Subsystem	882/3500
30103A	Fixed Head Disc Subsystem	151/600
—	Power Supply	277/1100
30104A	Punched Tape Reader Subsystem	172/683
30105A	Tape Punch Subsystem	172/683
30106A	Card Reader Subsystem	310/1230
30107A	Card Reader Subsystem	576/2276
30110A	Cartridge Disc Subsystem	351/1393
30115A	Mag Tape Subsystem	350/1400
30118A	Line Printer Subsystem	630/2500
30119A	Reader Punch Subsystem	365/1450
30120A	Printer Terminal	207/820
30122A	CRT Character mode	140/555
2640A	CRT Character mode	107/426
30127A	Line Printer Subsystem	453/1800
30128A	Line Printer Subsystem	1662/6600

*Use for planning only. These are approximations and should not be used as a basis for determining precise air conditioning requirements.



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