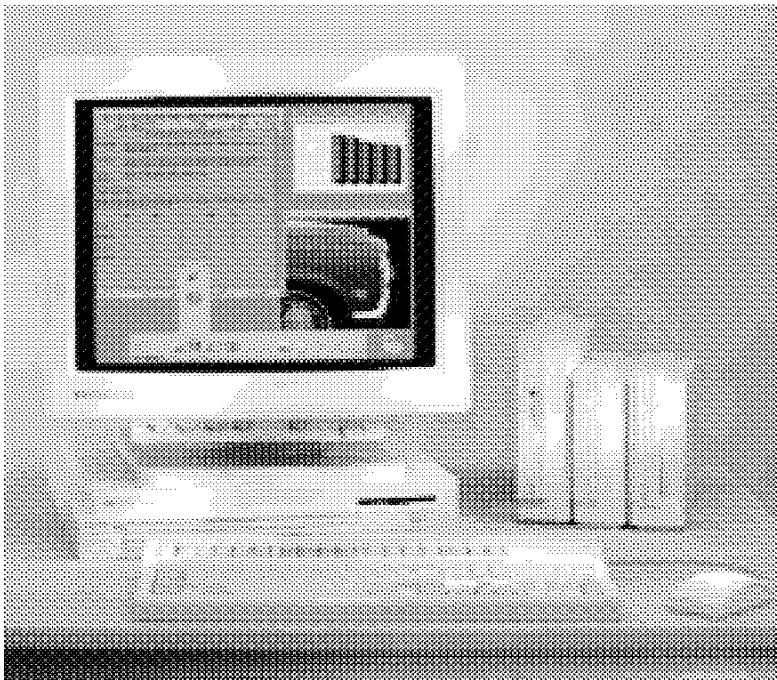




HP 9000 Series 700 Model 712/60 and 712/80i Workstations



The HP 9000 Series 700 Model 712/60 and 712/80i workstations offer outstanding performance at new low prices. They feature a unique combination of price/performance, ease of use, and networking functionality ideally suited for today's growing enterprise desktop requirements. High-performance graphics, as well as superb integer performance also make these workstations excellent tools for design, development, and analytical work. The Model 712/60 has an unequaled integer performance for its price: 58.1 SPECint92. The Model 712/80i is even more powerful, with a SPECint92 measure of 84.1. A broad set of choices for monitor sizes and resolutions fit easily on any deskpace.

The graphics are derived from HP's history of leadership in price/performance.

The Models 712/60 and 712/80i are designed for simple installation, expansion and serviceability. They are as easy to configure as stereo components, featuring plug-in memory modules and disks. Great application flexibility is provided through a wide selection of inexpensive networking and multimedia devices. To provide the best possible performance and cost savings for the user, the systems have the following built-in interfaces: IEEE (802.3) local area networking (LAN), external SCSI-2, bi-directional parallel (Centronics), one RS-232C. Two IBM PS/2 ports allow connection

of a standard PC 101/102 key keyboard and a mouse. The system may be expanded with inexpensive plug-in cards. The cards available include a second RS-232C port, a second LAN (IEEE 802.3 or IEEE 802.5), and X.25 wide area networking. The Model 712 features outstanding access to PC applications through HP Wabi 1.1 and SoftWindows™.

The Model 712/60 and 712/80i are the workstations of choice for a broad range of applications that require fast X Window System performance and low cost 2D wire-frame color graphics. Entry-level surface rendering is available through HP's 3D software, PowerShade. A second video monitor can be added by the use of a plug-in card. Multimedia functionality is also plentiful, including support for the easy to use HP MPower Version 2.0 (V2.0) software, fast JPEG and MPEG image display, and CD-quality audio I/O. HP TeleShare further enriches the possibilities with integrated telephone, FAX and modem capabilities.

Network control products such as OpenView and Ready-to-Wear Desktop Builder Kit (RTW DBK) enable simplified management of enterprise-wide systems, including the Model 712 and other client nodes. HP also offers financing alternatives to help get you the equipment you need now and to upgrade in the future. And HP products set the standard for quality, reliability, and low cost of ownership.

Technical Specifications	712/60	712/80i
System Processing Unit		
Central processor	PA7100LC	PA7100LC
Clock frequency	60MHz	80MHz
Performance		
SPECint92	58.1	84.1
SPECfp92	79	79
MFLOPS (DP)	12.8	15.6
AIM APR II	44.5	66.3
Memory management unit		
Virtual memory address	48 bit	48 bit
Instruction TLB and data TLB	120 page entries unified 16 variable block entries unified full associative	120 page entries unified 16 variable block entries unified full associative
External cache		
Instruction/data cache size	64KB	256KB
Organization	Direct mapped	Direct mapped
Bus width	64 bits	64 bits
Instruction cache bus peak performance	400MB/second I-fetch (4 byte)	400MB/second I-fetch (4 byte)
Data cache size	64KB	256KB
Organization	Direct mapped	Direct mapped
Data bus width	64 bits	64 bits
Data cache peak bus performance	400MB/second load (8 byte) 400MB/second single store (8 byte)	400MB/second load (8 byte) 400MB/second single store (8byte)
Note: Instruction and data cache are shared, the 712/60 has a total of 64KB external cache, and the 712/80i has 256KB total external cache.		
Main memory type	ECC SIMMs single bit correct double bit detect	ECC SIMMs single bit correct double bit detect
Capacity	16-128MB	16-128MB
Main memory bus width	64 data bits w/8 check bits	64 data bits w/8 check bits
Main memory bus peak performance	160MB/sec (64 byte duration)	160MB/sec (64 byte duration)
System DRAM technology	70ns, 4 & 16 Mbit DRAM	70ns, 4 & 16 Mbit DRAM
Memory Options	16, 32, 64, 128MB	16, 32, 64, 128MB
Note: The system has 4 memory expansion slots, and memory is installed in matching pairs. Memory modules are available in 4, 8, 16 and 32MB sizes.		
Graphics Monitors		
Monitor Size		
11.8" Flat Panel	1024 x 768	1024 x 768
15"	1024 x 768	
17" (Multi-mode)	1024 x 768 or 1280 x 1024	1024 x 768 or 1280 x 1024
19"	1280 x 1024	1280 x 1024
Performance		
Xmark93	5.9	8.5
X11 vectors/sec	1.1M	1.4M
2D/3D vectors/sec	1.2M	725K
Mass Storage		
Internal Capacity	260MB-1GB	260MB-1GB
Total External Capacity	14GB	14GB
Removable Media		
Internal Option	1.44MB Floppy	1.44MB Floppy

Operating System

HP-UX 9.03 Complies with IEEE POSIX.1993.1 and 1003.2 FIPS 151-1, ANS X3.159-1989, System V Interface Definition (SVID) Issue II (Base System and all Extensions except AS, NS and shmat [KE_OS]), X/Open Portability Guide Issue IV (XPG4), (Base Branding)

HP-UX 9.03 also complies with IS 9945/1 and Base Component and all Optional Components except XTI only.

X Window System

Version 11 Release 5 (X11R5), OSF/Motif 1.2

Languages

C, C++, Pascal, ANSI FORTRAN, ANSI C, PA RISC 1.1, Assembler

User Interface

HP VUE 3.0

User-friendly Features

HP VUE, OSF/Motif, X11 Window System, Instant Ignition

Cooperative Computing Products

NCS, Passwd Etc, Task Broker, NetLS, NFS, OmniBack, OpenView, SoftBench, Software Distribution Utility (SDU), The Ready-to-Wear Desktop Builder Kit (RTW DBK)

Systems Processing Unit**Physical Dimensions**

Desktop:
Height
70 mm (2.75 in)
Width
405mm (15.95 in)
Depth
370 mm (14.56 in)

Deskside:

Height
405 mm (15.95 in)
Width
70 mm (2.75 in)
Depth
370 mm (14.56 in)
Net weight
8.36 kg (18.4 lbs) (fully loaded)
Shipping weight
12.72 kg (28 lbs) (fully loaded)

System Unit Power Source Consumption

2.7 A RMS max @ 120V
1.2 A RMS max @ 240V
Auto ranging
90-132 vac
98-264 Volts
Line frequency
47-63Hz
Maximum power input
110 max Watts

Environmental Specifications

Temperature: operating
10C to 40C; 20C/hr. rate of change max.
Temperature: non-operating
-40 C to +70C
Humidity: non-condensing
Operating
15% to 80% R.H. max.
Operating max. wet bulb temp
37C
Non-operating max. wet bulb temp
68C
Altitude: operating
3050 meters (10,000 ft.) to 40C
Altitude: non-operating
4572 meters (15,000 ft.) to 60C

Regulatory and Safety

Regulatory compliance
FCC 47 cfr, part 15 sub-part J, Class A
Koren RRL, Class B
VCCI, Class 1
EN55022/CISPR 22 Class A
EN50082-1
IEC801-4

Safety

UL1950
CSA22.2 950
TUV EN60950
Finland TSH
EMKO TUE(74) DK203
Sweden SS43614 50

Ergonomics

TUV ZH-1/618
ISO9241
90/270 EEC

Power Budget

Maximum power output
70 Watts
Voltage/Current
5.1V @ 11.5 A
12.0V @ 1 A
3.3V @ 1 A
Terminator power
5.26V-4.5V @ 0.50 A

Human Interface**Keyboard**

Layout
101/102 Key PC standard
Languages
13
Length
463.2mm (18.23 in)
Width
177.6mm (6.99 in)
Height
3 angle settings
38.6mm (1.49 in) lowest
55.3mm (2.17 in) highest
Weight
1.54kg (3.39 lbs)
Regulatory specifications
EN 55022 Class A
EN 55024-2/IEC 801-2
EN 55024-3/IEC 801-3
IEC 950/EN 60950
ZH1/618
UL 1950
CSA C22.2 No.950
FCC Part 15 Subpart J Class B
RRL EMI

Mouse

3 button, rollerball

Keyboard and Mouse**Interface**

Electrical

IBM PS/2 compatible

Connectors

MiniDIN Pair

Data rate

2.5K 11-bit samples/sec

Power available

4A Fused

Graphics**Features**

Type

Integrated, Color, 8-plane with
HP Color Recovery

Resolutions

600 x 480 x 8 to 1024 x 768 x 8

Optional resolution

1280 x 1024 x 8 (V-Ram frame
buffer card)Optional second video card
resolutions

600 x 480 x 8 to 1280 x 1024 x 8

Note: The second video functions
the same as the integrated video
except it will not function as the
system boot console**Software**X11/R5, PEX, PHIGS, Starbase,
GKS**Monitors****11.8" Flat Panel**

Video

75Hz

Video signals

RS-343A levels

Resolution

1024 x 768

Colors

512

Electrical specifications:

Line voltage

90-132VAC

180-264VAC

Line frequency

47-63Hz

Maximum current

1.25A/0.6A

Power consumption

55 Watts max.

Environmental characteristics:

Operating temperature

0-40 degrees C

Non-operating temperature

-25-60 degrees C

Humidity operating

15-80%RH non-condensing

Max. altitude operating

3048m (10,000 ft)

Max. altitude non-operating

9144m (30,000 ft)

Regulatory compliance:

CISPR LEVEL: B

FCC CLASS: A

VCCI CLASS: 2

Safety:

UL, CSA, EN60950, GS Mark

Monitors physical characteristics:

Height

378mm (14.9 in.)

Width

330mm (13.0 in.)

Depth

153mm (6.0 in.)

Net weight

5.45 Kg (12 lbs)

15" color monitor

Screen refresh rate

70Hz (single mode)

Video signals

RS-343A levels

Resoluton

1024x768

Electrical specifications:

Line voltage

88-135VAC

193-269VAC

Line frequency

47-63Hz

Maximum currrent

1.5A/1.0A

Power consumption

75 Watts max.

Environmental characteristics:

Operating temperature

5-40 degrees C

Non-operating temperature

-40-70 degrees C

Humidity operating

15-80%RH non-condensing

Max. altitude operating

3048m (10,000 ft)

Max. altitude non-operating

10,668m (35,000 ft)

Regulatory compliance:

CISPR LEVEL: A

FCC CLASS: A

VCCI CLASS: 1

Safety:

UL, CSA, EN60950, GS Mark

Monitors physical characteristics:

Height

366mm (14.4 in.)

Width

354mm (13.9 in.)

Depth

400mm (15.8 in.)

Net weight

14kg (31 lbs)

17" color (Multi-mode)

Screen refresh rate

50-150Hz Vertical

28-82KHz Horizontal

Video signals

RS-343A levels

Resolution

640x480, 60Hz to 1280x1024,

75Hz

Electrical specifications:

Line voltage

90-132VAC

195-264 VAC

Line frequency

47-63Hz

Maximum current

2.7/1.5A

Power consumption

140 Watts max.

Environmental characteristics:

Operating temperature

0-40 degrees C

Non-operating

-40-60 degrees C

Humidity operating

10-80%RH non-condensing

Max. altitude operating

3658m (12,000 ft)

Max. altitude non-operating

15,240m (50,000 ft)

Regulatory compliance:

CISPR level: B

FCC class: B

VCCI class: 2

Safety:

UL, CSA, EN60950, GS Mark

Monitors physical characteristics:

Height

414mm (16.3 in.)

Width

406mm (15.98 in.)

Depth

450mm (17.71 in.)

Net weight

22kg (48.4 lbs)

19" Color

Screen refresh rate

72Hz (single sync)

Video signals

RS-343A level

Resolution

1280x1024

Electrical specifications:

Line voltage

88-135VAC

193-269VAC

Line frequency

47-63Hz

Maximum current

3.7A/2.0A

Power consumption

250 watts max.

Environmental characteristics:

Operating temperature

10-40 degrees C

Non-operating temp

-40-60 degrees C

Humidity operating 40 degrees C

10-80%RH non-condensing

Max. altitude operating

3048m (10,000 ft)

Max. altitude non-operating

10,668m (35,000 ft)

Regulatory compliance:

CISPR level: A

FCC class: A

VCCI class: 1

Safety:

UL, CSA, IEC950, GS Mark

Monitors physical characteristics:

Height

410mm (16.1 in.)

Width

485mm (19.1 in.)

Depth

510mm (20.1 in.)

Net weight

32.5kg (71.5 lbs)

Options**Second Monitor Support**

Type

Plug-in Card

Multimedia*Software*

HP MPower V2.0

Features:

MPEG decompression

HP Digital Video

Video Playback

Playback to 30 frames/sec

(352x240 pixel frame)

Maximum frame size full screen resolution

Pause, stop, looping, reverse playback, random frame access

Image viewer

Audio Editor/Player

Digital Video Player for MPEG

compressed digital chips

HP SharedX, Deskscan,

Sharedprint

Hardware

Integrated graphics/audio

Optional TeleShare card

Audio

Type

Integrated, CD quality, stereo

Inputs

Stereo line-in, MIC-in

Outputs

Stereo phone-out

Frequency response

Networking**LAN(2)**

Standard IEEE 802.3 LAN with interfaces

Type

IEEE 802.3/Ethernet

Data rate

10 Mbits/sec

Connectors

15 pin AUI

RJ45, UTP (10BaseT)

Optional

Second IEEE 802.3

HP Token Ring/9000

(IEEE 802.5)

X.25

Networking Products

NCS, NFS, Berkely 4.3 TCP-IP, BSD 4.3 Network Services, and ARPA Services

Standard I/O Specifications**SCSI Interface (standard)****Type**

SCSI-II: single-ended, 8 bit

Data rate

5MB/sec synchronous

1.5 MB/sec asynchronous with standard length cables

Device limit

7 devices

Connector

ALT-1 of SCSI-2 50-pin high density

Serial Interface (one standard)**Type**

EIA RS232C, CCITT V.24/V.28

Data rate

to 460.8kbps (16550A UART)

Connector

9 pin male DTE (PC Standard)

Parallel Interface (standard)**Type**

Centronics, BUSY handshake

Data rate

300+ KB/sec with DMA

200,B/sec sustained

Connector

25-pin female (PC standard)

Optional Internal Mass Storage**Max Internal Mass Storage**

One disk drive + floppy

Internal 260MB Disk**Operating system**

HP-UX 9.03

Size

3.5-inch

Formatted capacity

260MB

Average seek time

10 ms

Average latency

6.7 ms

Spindle speed

4,500 rpms

Internal 525MB Disk**Operating system**

HP-UX 9.03

Size

3.5-inch

Formatted capacity

525MB

Average seek time

10.5 ms

Average latency

6.7 ms

Spindle speed

4,500 rpm

Internal 1GB Disk**Operating system**

HP-UX 9.03

Size

3.5-inch

Formatted capacity

1.05GB

Average seek time

10.5 ms

Average latency

5.6 ms

Spindle speed

4,500 rpms

Internal removable disk (optional)

1.44MB 3.5" Floppy

Operating system

HP-UX 9.03

Media

HP 2MB or HP 1MB floppy disk

Formatted capacity

1.44MB 720MB

Format

MFM OR FM

Transfer rate

500Kb/sec or 250Kb/sec

Track to track access time

3 ms

Avg. latency

100 ms

Avg. access w/latency

194 ms

General optional I/O**Second Serial Interface****Type**

EIA RS232C, CCITT V.24/V.28

Data rate

to 460.8kbps (16550A UART)

Connector

9 pin male DTE (PC Standard)

Second LAN AUI + Second serial port**LAN****Type**

IEEE 802.3/Ethernet

Data rate

10 Mbits/sec

Connector

15 pin AUI

Serial
 Type
 EIA RS232C, CCITT V.24/V.28
 Data rate
 to 460.8kbps (16550A UART)
 Connector
 9 pin male DTE (PC Standard)

HP Token Ring/9000

Type
 IEEE 802.5
 (Full IBM Token Ring
 Interoperability)
 Rate
 4-16Mbps
 Media connections
 UTP (Unshielded Twisted Pair)
 (with media filter)
 STP (Shielded Twisted Pair)
 Physical connector type
 DB-9

X.25 + Second serial port

X.25
 Protocol
 LAP-B
 Data rates
 1.2 Kbps to 19.2 Kbps
 Window sizes
 1-7 (level 2 and level 3)
 Switched virtual circuits
 1 way/2 way
 Permanent virtual circuits
 packet sizes
 16 to 1024 bytes
 DTE (level 1) or DCE(s) support
 D-bit, Q-bit, M-bit
 Facilities negotiation
 Throughput, flow control, packet
 and window sizes
 Interface
 RS-232C/V.24
 Connector
 DB25S

Serial
 Type
 EIA RS232C, CCITT V.24/V.28
 Data rate
 to 460.8Kbps (16550A UART)
 Connector
 9 pin male DTE (PC Standard)

Second monitor connection

Type
 Expansion card
 Resolutions
 640 x 480 to 1280 x 1024
 Note: the first and second monitor
 must be identical
 Connector
 15-pin VGA (PC Standard)
 Note: The second monitor will not
 function as the boot console

External Peripherals

2GB DAT Drive

Dimensions
 Width 170.2mm (6.7 in)
 Height 62.8mm (2.47 in)
 Depth 220mm (8.66 in)
 Weight 1.9Kg (4.18 lbs)
 Interface
 SCSI-II
 Connector
 50-pin high density
 Transfer rate
 183Kb/sec
 Capacities
 1.3GB 60M tape
 2.0GB 90M tape
 Format
 DDS

1GB Hard Disk Drive

Dimensions
 Width 170.2mm (6.7 in)
 Height 62.8mm (2.47 in)
 Depth 222mm (8.74 in)
 Weight 2.19Kg (4.81 in)
 Interface
 SCSI-II
 Connector
 50-pin high density

Operating system
 HP-UX 9.03
 Size
 3.5 inch
 Formatted capacity
 1.05GB
 Average seek time
 10.5 ms
 Average latency
 5.6 ms
 Spindle speed
 4,500 rpms

CD-ROM Drive

Dimensions
 Width 210.5mm (8.28 in)
 Height 62.8mm (2.47 in)
 Depth 260mm (10.23 in)
 Weight 2.5Kg (5.5 in)
 Interface
 SCSI-II
 Connector
 50-pin high density
 Transfer rates
 330Kb/sec data
 150Kb/sec audio
 Capacities
 680MB nominal
 Formats
 IEC RedBook media and audio
 ISO 10149 YellowBook CD-ROM

**For more information, contact
 any of our worldwide sales
 offices or HP Channel Partners
 (In the U.S., call 1-800-637-7740;
 in Canada, call 1-800-387-3867).**

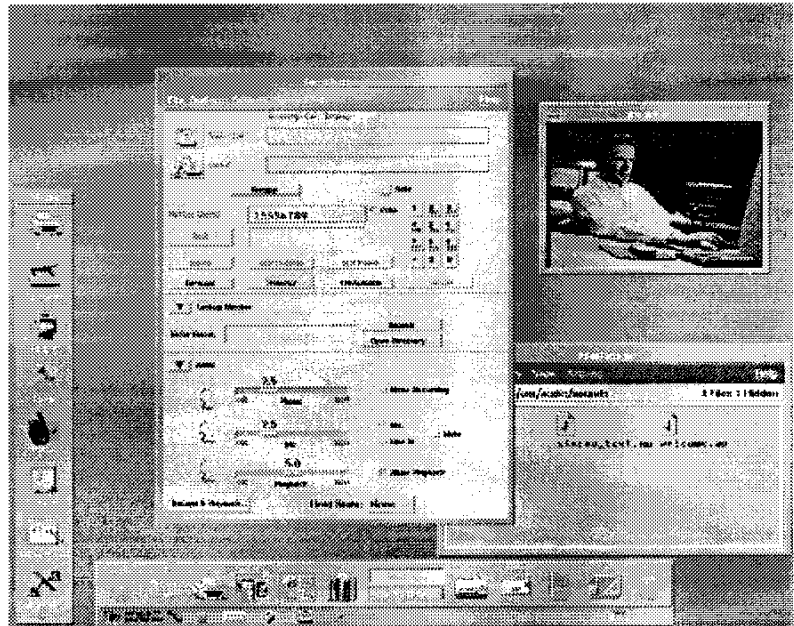
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HP TeleShare

HP TeleShare is a 3-in-1 telecommunication tool, incorporating telephone, FAX service, and data modem into the Model 712/60 and 712/80i workstations. The product contains two dual-line phone ports for analog phone line (POTS) access. The Motif-based TeleShare software provides an easy-to-use, point-and-click style graphical interface to all telecommunication needs. HP TeleShare can be ordered either factory-installed into the Model 712 or standalone (customer installed).



Features	Benefits
<ul style="list-style-type: none"> • 3-in-1 telecommunication tool including telephone, FAX and data modem • Two dual-line analog phone ports • Volume and ring control • Mute, hold, conference, and transfer buttons • Recording incoming or outgoing audio from phone lines • Play back audio information into phone line • Double-click to dial address book • Last number redial and programmable speed-dialing key 	<ul style="list-style-type: none"> • Eliminate separate telecommunications peripherals; the workstation becomes the one telecommunications tool with a single interface • FAX without delay from your workstation, while you talk, using HP TeleShare's dual-phone line design • Set the sound level most convenient for you and your work context • Access standard telephone services with less effort using the mouse and graphical user interface • Record calls for later reference using HP TeleShare's integration of telephony and audio services • Get immediate feedback on audio information from your caller by playing back the audio snippet directly into the phone line for your caller to hear • Speed phone number lookup and dialing with HP TeleShare's electronic phonebook • Avoid time consuming phone number lookup altogether

Software Specifications

GUI: X11R5, Motif 1.2
 Operating System: HP-UX 9.03
 Disk Space: 1.5 Mbytes
 Ram Required: 1 Mbytes
 FAX Class: Class II Group 3
 FAX Speeds: 300–14.4K baud
 (v.17, v.20, v.27ter, v.21)
 Data Compression: CCITT v.42bis,
 MNP Class 5
 Error Correction: CCITT v.42
 LAPM MNP Classes 2-4
 Data Speeds: 1.2K–14.4K baud
 (v.32bis, v.32, v.22bis, v.22)
 Modem: Based on HP Softmodem®

Hardware Specifications

Platform: S712 HP PA-RISC
 Data Modem: Hayes AT Command
 Set Compatible
 Line Type: Analog
 Connectors: 2 RJ14
 Tip/Ring Line 1: Pins 2, 3
 Tip/Ring Line 2: Pins 1, 4
 Accessories: Phone cable,
 splitter, adapter
 Dimensions: 2.5 in. x 8 in.

Headsets

(available separately)
 A4370A – Stereo headset
 with mike
 A4371A – Monaural (one-ear)
 headset with mike
 A4372A – Monaural headset with
 noise cancelling mike
 A4373A – Biaural (two-ear)
 headset with mike
 A4374A – Biaural headset with
 noise cancelling mike
 A4374A – Over-the-ear style
 headset with mike

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 Printed in U.S.A. 12/93
 6091-9780E