

IBM Announcement Letter No. ZG91-0105 dated March 14, 1991.

See final section for details of availability and limitations.

Title

The IBM PS/2 Model L40 SX system (8543-A44) and Features.

Abstract

The IBM Personal System/2 (R) (PS/2 (R)) Model L40 SX is a small, light weight battery (AC/DC) operated portable laptop system. It is designed for the mobile professional who needs a high function portable that is convenient to carry and use, and has the speed and capacity to support advanced applications. Standard features include a 20 MHz 386SX processor, 2 MB of 80ns memory (expandable to 18MB), 60 Million Byte (MB) hard file, 3.5 inch 1.44 Million Byte (MB) diskette drive, Video Graphics Array (VGA) resolution Liquid Crystal Display (LCD), 84/85 key keyboard, math co-processor socket, and serial, parallel, keypad/mouse, VGA monitor, and external expansion I/O ports for attaching external devices. In addition each system includes an external 17 key numeric keypad, an AC adapter, a rechargeable battery pack, and a carrying case.

Also announced as options for the IBM PS/2 Model L40 SX are a second serial adapter, a trackball/mouse pointing device (Trackpoint), 2, 4, or 8MB memory upgrades, a quick charger, a car battery adapter, and additional rechargeable battery packs.

One Carrying case (P/N 79F3981) is supplied at no charge with each system. A replacement for this case, if needed, and a Deluxe Carrying case (P/N 79F0981) are available as options.

International Hardware Warranty Service is offered for those customers traveling worldwide to countries in which this product is sold by IBM, IBM Authorized Personal Computer Dealers and IBM Authorized Remarketers.

(R) Registered trademark of International Business Machines Corporation.

IBM's current intentions and plans stated in this announcement are subject to review. Announcement of any product will be based upon IBM's business and technical judgement. Planned General Availability Date is 2Q 1991.

General Availability Date for the following Options is 2Q91:

- IBM PS/2 Car Battery Adapter for Model L40 SX	Part # 79F3990
- IBM PS/2 Trackpoint for Model L40 SX	Part # 1397120
- IBM PS/2 Trackpoint for Model L40 SX	Part # 1397130
- IBM PS/2 Quick Charger for Model L40 SX	Part # 79F0195
- IBM PS/2 Serial Adapter for Model L40 SX	Part # 79F3986

Product Number

EMEA machines:

Description	Machines	Models
IBM PS/2 Model L40 SX (all countries) (There are 19 Language Specific Models in EMEA)	8543	A44

EMEA options:

Description of Options	F/C	Part #
IBM PS/2 Serial Adapter for Model L40 SX	0979	79F3986
IBM PS/2 2MB Memory Module Kit for Model L40 SX	0195	79F3987
IBM PS/2 4MB Memory Module Kit for Model L40 SX	0885	79F3988
IBM PS/2 8MB Memory Module Kit for Model L40 SX	0199	79F3989
IBM PS/2 Car Battery Adapter for Model L40 SX	0886	79F3990
IBM PS/2 Trackpoint for Model L40 SX (With UK, German, Spanish, Italian, French Publication)	7120	1397120
IBM PS/2 Trackpoint for Model L40 SX (With Dutch, Swedish, Danish, Finnish, Portuguese Publication)	7121	1397130
IBM PS/2 Quick Charger for Model L40 SX	0520	79F0195
IBM PS/2 Rechargeable Battery Pack for Model L40 SX (All countries except Switzerland)	0880	79F0197
IBM PS/2 Rechargeable Battery Pack for Model L40 SX (Switzerland)	3883	79F3883
IBM PS/2 Deluxe Carrying Case for Model L40 SX	0981	79F0981
IBM PS/2 Carrying Case for Model L40 SX (One case is provided at no charge with each system)	0521	79F3981

NOTE: The IBM PS/2 Car Battery Adapter for Model L40 SX may not fit in all cars in all of the EMEA countries. Customers should verify that it fits in their car PRIOR to purchase.

Highlights

Improves productivity of mobile professionals who need a high function, small, light weight, battery (AC/DC) portable laptop system.

Enables advanced business solutions in AC/DC portable laptops by providing a fast processor (20 MHz 80386-SX), large memory (2 to 18 MB), and large DASD (60MB).

Improves satisfaction with usability of AC/DC operated portable laptops for users who want a high resolution LCD, familiar IBM keyboard layout, and efficient power management.

Protects user's investment in supported IBM peripherals and software.

Description

Improves User Productivity

The small, light weight IBM PS/2 Model L40 SX is convenient for mobile professionals to take to home, client, and classroom locations where AC wall outlets are not always conveniently accessible. Timely electronic capture of data at its source, and immediate access to information in the client's work place, improves user and client productivity, and adds quality and value to the products and services they provide.

The IBM PS/2 Model L40 SX physical package is based on a clamshell design. It fits in most attache cases, and weighs 7.7 pounds including the rechargeable battery pack, but excluding options, AC adapter, and numeric keypad. For additional convenience a thin leather slip-in case is provided with each system.

A deluxe carrying case with pockets and compartments to carry portable options or business materials is offered as an optional accessory.

The high function in a small size and light weight is achieved by combining advanced technologies such as:

10 mm thick, cold flourescent sidelit black on white monochrome LCD with VGA resolution 2.5 inch hardfiles

17mm high "super slim" 3.5 inch Floppy Disk Drive

Thin 84/85 key keyboard

Highly integrated planar

Power management hardware and firmware

Low power DASD, LCD, memory technologies

Enables Advanced Business Solutions

The IBM PS/2 Model L40 SX combines the flexibility of a portable laptop and a desktop system that can be used in the office as well as remote environments, with the system resources to run advanced PS/2 applications.

While in the office or at home, users can attach one of the supported IBM color displays or use the integrated LCD. The external numeric keypad is provided with all systems for numeric data entry applications. The following IBM PS/2 Model L40 SX standard I/O ports are provided:

Pointing device port for the external numeric keypad, the IBM PS/2 Trackpoint for Model L40 SX or the IBM PS/2 Mouse. The numeric keypad also has a mouse port to enable both numeric keypad and pointing device connections concurrently.

Serial device port for connecting an external modem or other serial device.

Parallel device port for connecting devices such as printers.

VGA display port for connecting supported IBM VGA monitors.

External expansion port (reserved for future use).

To boost performance, a co-processor socket, designed to be compatible with Intel 80387SX 20MHz co-processor or equivalent, is provided for process/compute intensive applications.

For applications that require or perform better with large size memory, the IBM PS/2 Model L40 SX provides memory options up to 18MB with 2MB standard. There are 2 memory sockets available (not used by the 2MB standard memory) for up to 2 memory option kits of 2, 4, and 8 MB. Valid memory configurations are 2MB(standard), 4, 6, 8, 10, 12, 14, and 18 MB.

For customers worldwide who need a second serial port, the IBM PS/2 Serial Adapter for model L40 is optionally available. The co-processor, memory, and serial adapter sockets

(or modem, if available from other sources) are inside the covers of the system unit.

Improves Systems Management and Usability

The display, keyboard, power management, and packaging technologies used in the IBM PS/2 Model L40 SX improves user satisfaction with the convenience, and usability of AC/DC portables. The design provides:

Convenient weight and size for carrying in a briefcase or via the standard or optional carrying cases.

The Carrying Case for Model L40 SX is included with each IBM PS/2 Model L40 SX system. It is a thin, black leather case with a shoulder strap, a compartment for the system unit, and several small pockets for carrying diskettes.

The optional Deluxe Carrying Case for Model L40 SX is a black cloth case with pockets and compartments to carry portable options or business materials in addition to the system unit.

Easy to read, 10 inch Supertwisted Nematic (STN) Liquid Crystal Display (LCD) with 640 by 480 Video Graphics Array (VGA) resolution, and cold fluorescent sidelighting with a 12 to 1 contrast ratio. Depending on the application, up to 32 gray scales can be addressed on the LCD. It displays black characters on a white background with 80 characters per line and 25 lines per screen.

Familiar IBM Keyboard layout with 84/85 keys and an external, 17 key numeric keypad totaling 101/102 full size keys. The location, size, and spacing of the keys will be familiar to users of the IBM enhanced keyboard.

Adaptable 2 sided pointing device (Trackpoint) option used to control cursor movement. One side supports trackball operation and the other side is used as a mouse.

To provide productive use of a mobile users time, a suspend/resume function is provided. An application is suspended by closing the clamshell leaving the power switch on. When the clamshell is opened, the application resumes at the point it was suspended. During suspension, system components are automatically powered off except for the real time clock and application memory. The system can be set to resume at a specific time of day.

For changing the rechargeable battery pack without disrupting the application, an internal backup battery is provided.

To reduce the frequency of recharging the batteries, trickle recharging occurs during AC operation.

To prolong battery life between recharges, a switch is provided for user selection of manual or automatic mode. In automatic mode, the hardware initiates low clock speed operation during idle periods. In manual mode, the processor runs at the default clock speed set by the user when the system is configured. The clock speed settings are 20, 10 and 5MHz.

To conserve battery power, the hardware supports suspend mode. Suspend mode conserves battery power during idle times between clock cycles and key strokes by putting system components in an idle state resulting in low power usage. Suspend mode is not operational when an external display is attached. This function is exploited by DOS and OS/2.

Application, operational, operating system, and environmental characteristics will affect actual battery duration between recharges.

Informative LCD display with international symbols is provided to indicate operational and environmental status including battery gauge, dew point (humidity), temperature limit indicator, modem carrier detect, numeric lock, scroll lock, speaker sounded, suspend mode, diskette drive in use, and fixed disk drive in use.

Protects Investment

The IBM PS/2 Model L40 SX is designed as a compatible member of the PS/2 family using the IBM DOS or OS/2 operating systems. Users of IBM keyboards and software should adapt to the new IBM PS/2 Model L40 SX quickly. Mobile professionals who already have compatible peripherals and applications may view the portable IBM PS/2 Model L40 SX as an extension of their current investment strategy.

Statement of General Direction

IBM intends to provide an AC powered expansion unit for the IBM PS/2 Model L40 SX to provide connectivity to IBM 3270, IBM 5250, and IBM token Ring networks using IBM Personal Computer AT (R) half size adapter cards. Any other half sized adapter cards that may be supported will be identified at announcement.

IBM's current intentions and plans stated in this announcement are subject to review. Announcement of any product will be based upon IBM's business and technical judgement.

(R) Registered trademark of International Business Machines Corporation.

I/O DEVICES SUPPORTED

SCANNERS

3117 Scanner

3118 Scanner

PRINTERS

2205-001 PS/1(TM) Printer

3812-001 Page Printer

3852-002 Color Inkjet Printer

4019-001 LaserPrinter

4019-E01 LaserPrinter

4072 ExecJet

4201-002 ProPrinter II

4201-003 ProPrinter III

4202-001 ProPrinter XL
 4202-002 ProPrinter II XL
 4202-003 ProPrinter III XL
 4207-001 ProPrinter X24
 4207-002 ProPrinter X24E
 4208-001 ProPrinter XL24
 4208-002 ProPrinter XL24E
 4212-001 IBM Printer
 5201-001 Quietwriter(R)
 5201-002 Quietwriter
 5202-001 Quietwriter III
 5204-001 Quickwriter(R)

PLOTTERS

6180 IBM 6180 Color Plotter
 6182 IBM 6182 Color Plotter
 6184 IBM 6184 Color Plotter
 6186 IBM 6186 Color Plotter
 7371 IBM 7371 Color Plotter
 7372 IBM 7372 Color Plotter

DISPLAYS

8512 IBM PS/2 Color Display
 8513 IBM PS/2 Color Display
 8514 IBM PS/2 Color Display (VGA Mode Only)
 8515 IBM PS/2 Color Display (VGA Mode Only)

OTHER DEVICES

5853 IBM PC 2400 Baud Modem (External)
 3063 Personal System/2 Mouse (6450350)

The following Independent Option Vendors (IOV) have tested their connectivity and printer products listed below with the IBM PS/2 Model L40 SX and have advised IBM of compatibility. IBM has not evaluated these products and makes no comments or judgements about their functions, quality, performance, etc.

IOV PRODUCT

Eastman Kodak Diconix 150 Plus Printer
 Xircom Inc. Pocket Ethernet Adapter
 Pocket Token-Ring Adapter
 Parallel Port Multiplexor
 (All connect via parallel port)
 Axonix Corp External Expansion Station
 (Add PC/AT(R) adapter cards & DASD)

Publications

The following publications are shipped with the product at no charge.

Quick Reference Manual and Reference Diskette

The Quick Reference manual contains an introduction to the computer, and trouble-shooting instructions. The Quick Reference Diskette contains diagnostics and utilities.

The Quick Reference and Reference Diskette are available in the following languages:

Title	Language	Part #	F/C	Date Avail
-----	-----	-----	----	-----
Quick Reference and Diskette	English	70F8551	8551	ANN/GA
	French	70F8559	8559	2Q91
	German	70F8567	8567	2Q91
	Italian	70F8575	8575	2Q91
	Spanish	70F8583	8583	2Q91
	Swedish	70F8591	0201	2Q91
	Finnish	70F8599	0208	2Q91
	Dutch	70F8607	8607	2Q91
	Danish	70F8615	8615	2Q91
	Norwegian	70F8623	8623	2Q91
Portuguese	70F8631	0141	2Q91	

The following publications are available for purchase. SLSS is not available for any of the publications. Publications that may be purchased are available through IBM and IBM Authorized Remarketers.

Hardware Publications The Hardware Maintenance publications are for service personnel and detail many aspects of maintaining the machine. The publications include a parts catalog, the reference diskette containing advanced diagnostics, and instructions for identifying

the failing field replaceable unit.

The Hardware Maintenance Reference Supplement and Hardware Maintenance Service Supplement, are available in the following languages:

Title	Language	Part #	F/C	Date Avail
Hardware Maintenance Library	UK English	70F8639	0146	ANN/GA
	French	70F8643	0148	2Q91
	German	70F8647	8647	2Q91
	Italian	70F8651	8651	2Q91
	Spanish	70F8655	8655	2Q91
Hardware Maintenance Summary (Pack of 10)	UK English	70F8659	0523	ANN/GA
	French	70F8660	8660	2Q91
	German	70F8661	0524	2Q91
	Italian	70F8662	8662	2Q91
	Spanish	70F8663	8663	2Q91

The Technical Reference publications are for programmers, engineers, and others who want to understand the IBM PS/2 Model L40 SX system unit in greater detail. The publications include functional specifications, hardware specifications, and pinouts for peripheral connectors.

Title	Language	Part #	F/C	Date Avail
Hardware Interface Technical Reference	US English	15F2270	2270	2Q91

Technical Information

Specified Operating Environment

Width: 325mm (12.8 inches)

Depth: 272mm (10.7 inches)

Height: 53.2mm (2.1 inches)

Weight: 3.5kg (7.7 lbs including the battery pack)

FIXED DISK SPECIFICATIONS

Capacity 60MB (Million bytes)

Bytes/Sector 512

Sectors/Track 38

Cylinders 820

Number of Heads 4

Data Transfer Rate 1.5MB/sec (Million bytes)

Average Access Time 19ms

Seek 19ms

Latency 8.7

Sector Interleave 1:1

Temperature:

- At Sea Level: 5 to 40.6 degrees C (41 to 105 degrees F)

- At 8000 ft : 5 to 35.0 degrees C (41 to 95 degrees F)

Relative Humidity: 5% to 95%

Wet Bulb: 29.4 degrees C (85 degrees F)

Shock Class: S3

Vibration Class: V3

Acoustics Category: 3D

Altitude: 8000 Feet Maximum (2438 Meters)

AGENCY APPROVALS

SYSTEM UNIT APPROVALS:

FCC Class-B Certified to comply with subpart J, part 15 FCC Rules

VCCI Class-2

GOP

UL - 478 / 1950

CSA - C22.2 - 220

GERMAN GS LABEL(IEC950)

DEMKO, SEMKO, NEMKO

UK PTT

SETI

SASO

OVE

AC/DC ADAPTER APPROVALS:

UL - 478 / 1950

CSA - C22.2 No.223
 GERMAN GS LABEL
 DEMKO, SEMKO, NEMKO
 SETI
 SAA
 SEV
 DENTORI
 OVE

QUICK CHARGER APPROVALS:

***** NOTES:
 NEMKO, DEMKO, SEMKO and SETI APPROVALS EXPECTED BY 3/23/91. CERTIFICATION REQUIRED PRIOR TO ANNOUNCEMENT IN FINLAND & NORWAY
 SEV CERTIFICATION REQUIRED IN SWITZERLAND PRIOR TO GENERAL AVAILABILITY. APPROVAL APPLIED FOR AND EXPECTED BY 5/30/91.
 (TEMPORARY APPROVAL OBTAINED FOR MARCH 26 OR LATER GA)

UL 1236

CSA - C22.2 No.223
 GERMAN GS LABEL (IEC-950)
 DEMKO, SEMKO, NEMKO
 SETI
 SAA
 SEV
 DENTORI
 OVE

The following operating systems support the IBM PS/2 Model L40 SX:

IBM DOS 3.3
 IBM DOS 4.0
 IBM Operating System/2(R) Standard Edition 1.3 (At Refresh Level 1.30.1 - Available in NLS versions 2Q91).
 IBM Operating System/2(R) Extended Edition 1.3 (At Refresh Level 1.30.1 - Available in NLS versions 3Q91).

NOTE: If you already have Release 1.3 of either OS/2 Standard Edition or Extended Edition, contact IBM or your IBM Authorized Remarketer for the appropriate Corrective Service Diskettes (CSD).

The IBM PS/2 Model L40 SX is designed to be compatible with the IBM Personal Computer, Personal Computer XT (TM) and Personal Computer AT (R) at the BIOS interface level (BIOS not identical) and at most hardware interfaces. The IBM PS/2 Model L40 SX has been designed to maintain compatibility with existing personal computer software and non-timing dependent features. Due to battery operation, small size, and light weight design Personal Computer XT and Personal Computer AT memory upgrades and adapters are not supported. The IBM PS/2 Model L40 SX has not been tested with non-IBM features/options.

(TM) Trademark of International Business Machines Corporations
 (R) Registered trademark of International Business Machines Corporation.

COMPATIBILITY TEST RESULTS FOR THE IBM MODEL L40SX

Use the following guidelines to assist you in determining which particular IBM marketed products are supported by this product.

Support in no way implies that the software or hardware has been modified in any way to take full advantage of the new features and facilities of this product.

IBM, through the medium of testing and evaluation, has attempted to establish the extent to which this product is able to exploit the Software and Hardware listed in this report. Due to the ever increasing number of permutations of hardware and software, a totally definitive test is not possible. IBM, therefore, does not guarantee that additional incompatibilities will not occur.

The following products are compatible with the IBM Model L40SX and will operate substantially as described in their documentation unless indicated otherwise. Refer to the notes at the end for more specific information.

TEST PRODUCTS LIST

KEY

With reference to the column headed 'COMP'

YES = The product performs substantially as described in its documentation.

NO = The product will not function with the

IBM Model L40SX.

LIM = This product has only limited compatibility with the IBM Model L40SX.

N/T = No test results are provided for this product in this document.

N/S = The product is not supported for use with the IBM Model L40SX.

TEST PRODUCTS LIST

TEST HARDWARE

SYSTEM UNITS	MT-MOD	PART NO.	COMP	NOTES
IBM Model L40SX	8543-A44			
DISPLAY UNITS	MT-MOD	PART NO.	COMP	NOTES
PS/2 Colour Display	8512-002	6134328	YES	
PS/2 Colour Display	8513-002	6134302	YES	
PS/2 Colour Display	8514-002	75X5902	YES	
PS/2 Colour Display	8515-002	07F6645	YES	
PRINTERS	MT-MOD	PART NO.	COMP	NOTES
Epson	EPS LQ2550		YES	
HP Laserjet III	HP LJIII		YES	
IBM LaserPrinter	4019-001	0139656	YES	
IBM ExecJet Printer	4072-001	1232500	YES	
IBM LaserPrinter E	4019-E01	1320012	YES	
IBM Proprinter 24P	4212-001	1047331	YES	
Proprinter X24 E	4207-002	23F4602	YES	
Proprinter III	4201-003	23F4302	YES	
Quickwriter	5204	1319456	YES	

MISCELLANEOUS HARDWARE	FEATURE	PART NO.	COMP	NOTES
80387SX Co-Processor			YES	
IBM Model L40SX Trackpoint	7120 7121	1397120 1397130	YES	
IBM PS/2 Mouse	3063	6450350	YES	
2MB Memory Expansion	0195	79F3987	YES	
4MB Memory Expansion	0885	79F3988	YES	
8MB Memory Expansion	0199	79F3989	YES	

IBM European Language Application Software

BUSINESS/ PRODUCTIVITY PRODUCTS	LANG	VER	PART NO.	COMP	NOTES
Aldus Pagemaker (For PM) UK	UK	3.00	9997678	YES	
Current	UK	1.11		YES	
DisplayWrite 5/2	UK	1.1.3	44F4843	YES	
Displaywrite 4	DAN	2.50	37F9412	YES	
Displaywrite 4	DUT	2.50	37F9411	YES	
Displaywrite 4	UK	2.00	37F9410	YES	
Displaywrite 4	FRE	2.50	37F9413	YES	
Displaywrite 4	GER	2.50	37F9414	YES	
Displaywrite 4	ITA	2.50	37F9415	YES	
Displaywrite 4	NOR	2.50	37F9396	YES	
Displaywrite 4	SWE	2.50	37F9397	YES	
DisplayWrite 4	FIN	1.50	95X1208	YES	
DisplayWrite	POR	1.50	95X1209	YES	

4						
DisplayWrite	SPA	1.50	95X1203	YES		
4						
Displaywrite	DAN	1.0	70F6473	YES		
5 (DAN)						
Displaywrite	DUT	1.0	70F6477	YES		
5 (DUT)						
Displaywrite	WWE	1.0	69F9620	YES		
5						
DisplayWrite	WWE	1.1.3	44F4843	YES		
5/2						
Lotus	UK	1.0		YES		
1-2-3/G						
Microsoft	UK	2.2A		YES		
Excel (For						
PM)						
Microsoft	UK	2.10		YES		
Excel (For						
Windows)						
Microsoft	UK	3.0		YES		
Windows						
Microsoft	SWE	3.0		LIM	1	
Windows						
Microsoft	DUT	3.0		LIM	1	
Windows						
Microsoft	FRE	3.0		YES		
Windows						
Microsoft	GER	3.0		YES		
Windows						
Microsoft	ITA	3.0		YES		
Windows						
Microsoft	SPA	3.0		YES		
Windows						
PE II V1.00	UK	1.00	67X4051	YES		
Storyboard	UK	1.0		YES		
Live!						
Storyboard	UK	2.00	45F1324	YES		
Plus 2.00						
Aldus	UK			YES		
PageMaker						
(Windows)						
Microsoft	UK			YES		
Word						
(Windows)						

DeScribe	UK	1.1 (B)		YES	
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
COREL DRAW! (Windows)		2.0		YES	
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
COREL DRAW! (PM)		1.0		YES	
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
IBM European Language System Software					
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
OPERATING SYSTEM PRODUCTS	LANG	VER	PART NO.	COMP	NOTES
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
DOS 3.30	DAN	3.30	95X2703	YES	
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
DOS 3.30	DUT	3.30	95X2685	YES	
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
DOS 3.30	FRE	3.30	94X9579	YES	
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
DOS 3.30	GER	3.30	94X9596	YES	
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
DOS 3.30	ITA	3.30	94X9613	YES	
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
DOS 3.30	NOR	3.30	95X2756	YES	
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
DOS 3.30	POR	3.30	95X2739	YES	
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
DOS 3.30	SPA	3.30	94X9630	YES	
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
DOS 3.30	SWE	3.30	95X2721	YES	
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
DOS 3.30	UK	3.30	94X9573	YES	
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
DOS 4.01	DAN	UR31822	07F8720	YES	
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
DOS 4.01	DUT	UR31824	07F8719	YES	
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
DOS 4.01	FIN	4.01	07F8724	YES	
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
DOS 4.01	FRE	4.01	07F8715	YES	
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
DOS 4.01	GER	4.01	07F8716	YES	
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
DOS 4.01	ITA	UR31819	07F8717	YES	
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
DOS 4.01	NOR	UR31825	07F8723	YES	
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
DOS 4.01	POR	UR31826	07F8722	YES	
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
DOS 4.01	SPA	UR31820	07F8718	YES	
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
DOS 4.01	SWE	UR31827	07F8721	YES	
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
DOS 4.01	UK	UR31816	07F8714	YES	
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
OS/2 1.3 Standard	UK	1.3	70F7415	YES	2
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
OS/2 1.3 Extended	UK	1.3	70F7415	YES	2
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+

Reference Diskette/Utility Software

PRODUCT	LANG	VER	PART NO.	COMP	NOTES
Reference Diskette	WWE	1.0		YES	
Keyboard Password Program (KP)	WWE			YES	
IBMCACHE	WWE			YES	
Set Features Program	WWE			YES	3

NOTES:

Dutch and Swedish versions of Microsoft Windows 3.0 will fail on the PS/2 Model L40 SX when using the version 2.35 HIMEM.SYS driver provided. This problem can be avoided by obtaining the version 2.60 HIMEM.SYS driver from your country Microsoft Support Center. Refresh level 1.30.1 is required in order to support OS/2 1.3 SE and EE. This program will not install if the whole of the harddrive is formatted with the High Performance File System (HPFS) under OS/2.

HINTS AND TIPS

DOS POWER MANAGEMENT

Battery life can be affected if you install ANSI.SYS because it degrades proper power management. If ANSI.SYS is installed on your system, you can improve battery performance by removing ANSI.SYS from the CONFIG.SYS file. To do this, edit CONFIG.SYS and delete the statement:

```
DEVICE=ANSI.SYS
```

WINDOWS INSTALLATION

SETTING KEYBOARD TYPE

When installing Microsoft Windows(**) without the numeric keypad plugged in, Windows defaults to the 84/85 key keyboard. Change this to specify the 101-key keyboard.

CHANGING THE HIMEM.SYS STATEMENT

Toward the end of the installation process, Windows Setup presents a window giving three options for changing your CONFIG.SYS and AUTOEXEC.BAT files.

Setup can make modifications for you, let you review and edit changes, or let you make modifications later. At this point press the Down Arrow, then press Enter. This selects the second option and lets you review and edit changes.

The next window allows you to view or modify proposed changes to the AUTOEXEC.BAT file. Make any changes you want and press Enter.

The next window allows you to view or modify proposed changes to the CONFIG.SYS file. Use the arrow keys to put the cursor at the end of the line that reads:

```
DEVICE=C:\HIMEM.SYS
```

Change this line to read:

```
DEVICE=C:\HIMEM.SYS /M:2
```

and continue with Windows installation.

(**) Trademark of the Microsoft Corporation.

WINDOWS POWER MANAGEMENT

A file on the Reference Diskette permits the system to Suspend and Resume when you are running Windows. The driver PM_BIOS.386 is on the Reference Diskette. Install this driver in your Windows sub-directory. To install it, insert the Reference Diskette in the diskette drive and type:

```
COPY A :PM_BIOS.386 C:\WINDOWS\PM_BIOS.386
```

Press Enter.

After you have copied the PM_BIOS.386 file to your Windows sub-directory, edit the file named SYSTEM.INI using an editor. SYSTEM.INI is in your Windows sub-directory. Two changes are required to the SYS.INI file installed by Windows. In the SYSTEM.INI file, add the statement:

```
EMMEXCLUDE=E000-EFFF
```

Then find, within SYSTEM.INI, the section:

```
(386Enh)
```

and add:

```
DEVICE=PM_BIOS.386
```

Restart the system (CTRL+ALT+DEL) to activate the Power Management driver PM_BIOS.386.

BATTERY CONSIDERATIONS

Your system has two rechargeable nickel-cadmium batteries:

Rechargeable battery pack (user replaceable)

A small internal backup battery (dealer replaceable) that allows you to swap the main battery when the machine is in a Suspend state.

To ensure correct operation of the computer, charge both batteries before using the machine under battery operation. The Quick Reference Guide explains how to charge or recharge the batteries.

If your computer has been idle for a month or more, recharge the batteries before using battery operation. The working time of your new battery improves after it has been fully charged and discharged several times. This is a characteristic of nickel-cadmium batteries.

PARALLEL OR SERIAL PORT POWER

You can turn off the power to the serial and parallel ports by the PS2.EXE program contained on your Reference Diskette. If you are having problems with these ports, execute PS2 and check the power status of these ports.

HINTS GAINED FROM FIELD EXPERIENCE

1.A. QEMM (Quarterdeck Enhanced Memory Manager) V5.11 In CONFIG.SYS the statement:

DEVICE=QEMM.SYS should be updated to read:

DEVICE=QEMM.SYS X=B000-B7FF

This will prevent some programs from conflicting with QEMM on the Model L40 SX (i.e. Windows 3.0 will not run in Enhanced Mode without this statement).

1.B. When QEMM is installed AND active (for example Word Perfect is running and using enhanced memory) QEMM will NOT do a full suspend. It does partially suspend.

1.C. Despite what was stated in 1B above, if you are running Windows 3.0 and using QEMM as your memory manager, the Model L40 SX will suspend and resume correctly.

You must update the SYSTEM.INI file for Windows to achieve this. See below (2C).

1.D QEMM V5.11 is required and must have a code date of 09/07/90. There are at least three levels of QEMM 5.11 out -- one dated 8/17/90, another dated 8/24/90 and the good level dated 9/07/90. There are probably newer levels. The 9/07/90 versions corrected QEMM operation with Windows 3.0 among other things.

2.A. WINDOWS 3.0 is the only acceptable level of Windows. Windows 386 will not operate properly on the Model L40 SX due to the inability to add the "/M:2" parameter to the HIMEM.SYS statement in CONFIG.SYS. Windows 286 fails for the same reason. Windows 3.0 or above IS REQUIRED if you are going to run Windows.

2.B. HIMEM.SYS in WINDOWS 3.0 will cause a system hang/keyboard lockup unless the following change is made to CONFIG.SYS:

DEVICE=HIMEM.SYS

should be changed to read:

DEVICE=HIMEM.SYS /M:2

2.C. The following parameters must be added to SYSTEM.INI to run on the Model L40 SX:

After the statement (386Enh) add the following statements:

EMMEXCLUDE=E000-EFFF

DMABUFFERSIZE=64

DEVICE=PM_BIOS.386

Providing these statements will permit Windows 3.0 to work with both QEMM and Suspend/Resume, and run special programs in the DOS window such as MEM.

2.D SMARTDRV.SYS should NOT be used if you are running QEMM. It causes a Divide Overflow error. This may be an error in QEMM bug, or an error in SMARTDRV.

2E. HIMEM.SYS and QEMM.SYS should never be installed at the same time.

3.A. WordPerfect has some problems displaying the cursor and special highlighted fields. These can all be rectified by using Word Perfect Setup Display Colors.

Only one IBM PS/2 4 MB Memory Module Option Kit for Model L40 SX upgrade per system.

There are no internal slots for attaching adapters/cards other than the specific IBM PS/2 Model L40 SX options.

When the VGA port is operational, the integrated LCD is not operational.

External keyboards are not supported. When the 5Mhz manual speed is selected, some applications (such as communications and timing dependent programs) may not function properly.

Operating System/2 Standard Edition and Extended Edition versions 1.3 are supported only at Refresh Level 1.30.1 available 2Q91. (NLS versions of the refresh release available for Standard Edition in 2Q91, Extended Edition in 3Q91).

If you already have Rel 1.3 of either OS/2 SE or EE, contact IBM or your IBM Authorized Remarketer for the appropriate Corrective Service Diskettes (CSD).

Dutch and Swedish versions of Microsoft Windows 3.0 will fail on the PS/2 Model L40 SX when using the version 2.35 HIMEM.SYS driver provided. This problem can be avoided by obtaining the version 2.60 HIMEM.SYS driver from your country Microsoft Support Center.

Planning Information

INSTALLATION OF OPTIONS

The IBM PS/2 Model L40 SX system unit and external options are designated as Customer Set Up.

The internally installed options are not Customer Set Up and are designed to be installed by IBM trained personnel at your place of purchase.

These optional features are:

IBM PS/2 Serial Adapter for Model L40 SX

IBM PS/2 2MB Memory Module Kit for Model L40 SX

IBM PS/2 4MB Memory Module Kit for Model L40 SX

IBM PS/2 8MB Memory Module Kit for Model L40 SX

All cables are included with the system.

By following the setup instructions, the user attaches peripherals and inserts the Reference Diskette. Power is then turned on and Set Configuration is run after the computer has successfully completed its initial self-tests.

If a failure is found at initial installation, an instruction will appear on the screen.

If the test is successfully completed, the system attempts to load an operating system from the A drive. If an operating system is not found, the system attempts to load one from the C fixed disk drive. If an operating system is not found, the user will be prompted via an icon to insert a diskette. A final default is provided through the use of a ROM-loaded BASIC interpreter as explained in the Quick Reference manual.

The EMEA System Unit carton contains:

System unit with country specific keyboard

AC Adapter common to all countries

Rechargeable Battery Pack common to all countries

Carrying case common to all countries

Country specific Numeric Keypad and Cable

Country specific power cord

The appropriate language Quick Reference and Reference Diskette. (SEE NOTE)

Hints and Tips for Model L40 SX

NOTE: UK English Quick Reference and Reference Diskette will be shipped with the system unit at General availability. Translated versions will be shipped inside the system unit carton when available in 2Q91.

The following country numeric keypads are automatically included with the system unit order at no charge:

LANGUAGE	PART #	F/C	APPLICABLE COUNTRY
US English	1396199	6119	Belgium, Portugal, UK, Israel
French AZERTY	1396571	0247	France
German	1396572	0248	Germany
Italian	1396573	0249	Italy
Spain	1396574	0250	Spain
Sweden/Finland	1396575	0251	Sweden, Finland
Arabic	1396576	6576	Arabic Countries
Greece	1396577	6577	Greece, Denmark, Netherlands, Norway, Iceland, Turkey
Swiss/German	1396578	6578	Switzerland
Swiss/French	1396579	6579	Switzerland

The EMEA countries model and part numbers are:

Belgium

8543-VB4 - 79F1215

Denmark

8543-D44 - 79F1219

France

8543-F44 - 79F1223

Germany

8543-G44 - 79F1077

Italy

8543-I44 - 79F1227

The Netherlands

8543-H44 - 79F1231

Norway

8543-N44 - 79F1305
Portugal
8543-P44 - 79F1309
Spain
8543-C44 - 79F1313
Sweden/Finland
8543-W44 - 79F1317
Swiss French
8543-U44 - 79F1321
Swiss German
8543-VS4 - 79F1325
United Kingdom
8543-E44 - 79F1329
United States
8543-044 - 79F1049
Arabic
8543-VA4 - 79F1333
Greece
8543-VG4 - 79F1337
Hebrew
8543-VH4 - 79F1341
Iceland
8543-VI4 - 79F1345
Turkey
8543-VT4 - 79F1349

The package for each of the following options, which are installed inside the system unit covers, includes the installation instructions and a label that indicates that the feature is to be installed by IBM trained personnel or by IBM Authorized Remarketers:

IBM PS/2 Serial Adapter for Model L40 SX
IBM PS/2 2MB Memory Module Kit for Model L40 SX
IBM PS/2 4MB Memory Module Kit for Model L40 SX
IBM PS/2 8MB Memory Module Kit for Model L40 SX
NONE

Security, Auditability and Control

Security is provided by a user-invoked password capability on the Reference Diskette. User management is responsible for evaluation, selection and implementation of security features, administrative procedures and appropriate controls in application systems and communications facilities.

Consult your IBM Marketing Representative.

Terms and Conditions

INTERNATIONAL HARDWARE WARRANTY SERVICE:

International Hardware Warranty service is available only in the countries in which this product is sold by IBM, IBM Authorized Personal Computer Dealers, or IBM Authorized Remarketers. Hardware warranty service will be subject to the terms and conditions of the statement of limited warranty provided with the product in the country of purchase. Customers will be required to show proof of original purchase or a valid IBM Warranty Card from their country of purchase to obtain warranty service.

Existing warranty processing and reimbursement procedures apply.

WARRANTY OPTIONS:

IBM On-Site Repair (IOR)

This IBM On-Site Repair (IOR) warranty service alternative is not available as part of the International Hardware Service Offering.

INTERNATIONAL HARDWARE POST WARRANTY SERVICE: IBM On-Site Repair (IOR) is not recommended for post warranty service for the IBM PS/2 Model L40 SX, but is at the option of the country.

All Terms and Conditions are the same as those which apply to the IBM 8573 Model P70.

All European, Middle Eastern and African Countries.

The data in this letter is subject to the disclaimer in Letter ZS90-0112, which is available from IBM on request.