Enhanced Memory Expansion Adapter

Presentation
Guide

IBM®

August 1987

References in this publication to IBM products, programs, or services do not imply that IBM intends to make these available in all countries in which IBM operates.

Address comments concerning the contents of this publication to IBM Corporation, Information Systems Group, Department KPE, 900 King Street, Rye Brook, NY 10573. IBM may use or distribute whatever information you supply in any way it believes appropriate without incurring any obligation to you.

© International Business Machines Corporation 1987

Script—Foil 1 IBM Enchanced Memory Expansion Adapter

Today, we are going to learn about a new IBM offering that includes: a 12 megabyte memory adapter and "Above Disc" EMS emulation software.

These products are used on the PC AT and XT-286 and support DOS, many LIM/EMS applications and the new Operating System/2.

Now let's take a look at the environment.

Script—Foil 2 Environment

The IBM Personal System/2, announced April 1987, combines the advanced architecture and technology derived from large IBM systems. New micro channel architecture, integrated circuits, video subsystem graphics support, large file storage subsystems and sophisticated operating systems, all combine to make the Personal System/2 ready for the most commonly used applications of today and provide a firm foundation for the applications and technologies of tomorrow... truly the next generation in personal computing.

However, while preparing for the future, our customers not only have to plan for the acquisition of PS/2 but also manage their prior investments. The IBM PC AT and the XT Model 286 are powerful and capable forerunners to the Personal System/2. The challenge is to demonstrate to our customers that their prior investments are compatible with the future—they provide a bridge to the Personal System/2.

History repeats itself. The requirement for more memory grows. When first conceived, the PC's 640KB memory limit seemed enormous. Now, new applications challenge this limit.

The announcement of an Enhanced Memory Expansion Adapter is a response to increased memory needs.

The IBM Enhanced Memory Expansion Adapter is a versatile, 12MB, multifunction adapter for all models of the IBM Personal Computer AT and XT Model 286. It offers an easy, convenient way to increase memory for today's DOS and EMS applications and provides for tomorrow's Operating System/2 applications.

Script—Foil 3 Product Overview

This versatile multifunction memory adapter can be used with *all models* of the IBM PC AT and XT Model 286.

The adapter comes with *zero memory* and can be populated with up to 12MB of convenient, "*snap in*" memory modules. These modules are available in one-half, one and two megabyte kits.

Above Disc™ EMS Emulation Software is included with the adapter to support many EMS expanded memory applications like Lotus 1-2-3,® Microsoft® Windows and Quarterdeck DESQview.™

The adapter also includes a parallel printer port and an asynchronous serial communications port.

Script—Foil 4 Memory Module Installation

A unique feature of the adapter is its ability to accept memory modules in increments of one-quarter, one-half or one megabyte. The memory modules literally *snap* into sockets on the adapter, providing improved handling and installation. There is no need for painstaking alignment of pins or dots. There is no concern for pin damage. No special tools are required.

The adapter comes with zero memory and may be configured to fit your requirements today and easily expanded to meet tomorrow's needs.

As depicted in the diagram of the adapter, memory is added in one-half, one or two megabyte module pairs. Using 256KB modules exclusively will yield a maximum memory capacity of 3MB. Using 512KB modules exclusively will yield a maximum memory capacity of 6MB. And installing 1024KB modules will yield the 12MB maximum capacity.

Note: Only 256KB and 512KB modules may be mixed on an adapter. In a mixed module environment the first two module pairs must be 256KB. When 1024KB modules are used, they may not be mixed with 256KB or 512KB modules.

Script—Foil 5 Configuration Planning

In helping our customers configure an adapter, it is important to ascertain their anticipated maximum memory requirements.

As you can see from the prices, the cost per megabyte installed will vary based upon the module kits selected. Generally, the best cost per megabyte can be achieved by selecting the module kits as shown:

The one-half megabyte kits will provide the best cost per megabyte in the range of one-half to three megabytes. Similarly, the one megabyte kit will serve the memory requirement from three to six megabytes. For requirements above six megabytes, the two megabyte kit should be recommended.

Script—Foil 6 Product Features and Benefits—Hardware

This high capacity adapter can meet your demanding memory needs. One adapter can be populated with up to 12MB. This eliminates the need to use multiple adapters or mother-daughter board configurations to achieve the required memory capacity. Expansion slot spaces are saved and made available for other applications, features and functions. Heat and power consumption is reduced. Only two adapters are required to provide access to 15MB, ensuring the capacity to support future Operating System/2 applications.

Snap in modules are a convenient way to expand memory. Module kits in three different sizes permit the customer to balance costs against memory needs. Stocking of multiple adapter configurations is eliminated. When requirements demand, additional memory may be purchased and easily installed in a *snap*.

A single switch block requires only that the starting address be set. No change in switch settings is required when memory is added. The adapter's logic performs many of the tasks that used to be accomplished by switches.

Split memory addressing, built into the adapter, allows the base area to be filled, while additional memory automatically becomes part of the expansion memory area. No filler boards are required—a cost savings to the customer.

As part of the adapter, serial and parallel ports permit the attachment of printers and communication devices without using additional slots.

Menu driven diagnostics help isolate problems quickly. If service is required, it is available from IBM and IBM authorized dealers.

Script—Foil 7 Product Features and Benefits—Software

Extended memory for DOS and Operating System/2 . . . plus . . . expanded memory emulation for EMS, are both available with the adapter. With "Above Disc" software included, a separate adapter is not required to support EMS Applications —saving an expansion slot. But more importantly, the adapter provides a bridge from the DOS/EMS applications of today to the Operating System/2 applications of tomorrow.

You have an opportunity to demonstrate your concern for our customers' commitment to the future . . . while recognizing their need to optimize prior investments in the PC AT and XT Model 286.

International Business Machines Corporation
Information Systems Group
Department KPE
900 King Street
Rye Brook, New York 10573

Printed in USA