AMSTRAD *Ordinateur Personnel 640K* **PC 1640**

MARCHE
ARRÊT

STAB. HORIZ.   STAB. VERT.

SERVICE ENGINEER
PLEASE NOTE
When ordering spare parts
for this model quote.

PC 1640 HD20-TAN

ENTRALE

:12V

3/R6/AA

E D'EXTENSION:5V/0.8A MAX

531-7Y33648

CTEUR D'ECRAN

MFRS VERSION
F

ENTREE DC   SORTIE VIDEO   IMPRIMANTE PARALLELE   INTERFACE SERIE

AMSTRAD

PC-ECD

MARCHE

"ATTENTION"
AVANT DE TRANSPORTER CETTE UNITE CENTRALE A DISQUE DUR
VERIFIER QUE LES TETES DE LECTURE SONT "PARKEES"
(VOIR EXPLICATIONS DANS LE MANUEL)

AMSTRAD Unité Centrale

PC1640HD20

SOURIS   CLAVIER   VOLUME

GRAND PRIX CIRCUIT

Accolade

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Pop Corn

F1	Jouer	
F2	Démo.	
F3	Souris	
F4	Clavier	
F5	Définition Clavier	
F6	Table High-Score	
F9	Son (on/off)	

(c) 1988 Lacral SOFTWARE
Programmation: LACAZE Christophe
Graphismes : RAYNAL Frederick

Et offert

MENU PRINCIPAL

► Changer code touche [ENTER] ◄
Changer code touche [DEL→]
Changer boutons Joystick
Changer boutons Souris
Echelle de Déplacement de la Souris
Mode Initial de l'Ecran
Couleurs Initiales de l'Ecran
Taille du disque RAM
Paramètres RS232 Standard
Paramètres RS232 Optionnelle
Contrôle de Flux RS232 Etendue
Nombre de Drives
* Menu de Sortie *

Sélection avec ↑ ↓ ou [SPC] et validation avec ↵

Amstrad PC1640 HD20

The Amstrad PC1640 was based around an 8 MHz Intel 8086 processor and was a very successful entry level PC bought by many small and medium sized businesses. Not only was a success in the business arena but due to the price and Amstrad's marketing it was also largely responsible for introducing the PC into the home environment.

It had 640Kb of RAM and was available with a 20Mb Hard Disk.

Our Amstrad 1640 does include the 20Mb Hard Disk, GEM operating system and original DOS disks.

Manufacturer: Amstrad
Date: 1986

Gloub - Amstrad PC 1640

Jimpqfly

13-16 minutes

<<< RETOUR

L'Amstrad PC1640 HD20

Cliquez pour agrandir

L'Amstrad PC1640 est un PC XT (= de première génération), et le successeur du PC1512 dont il corrige pas mal de défauts. Il s'agit pour Amstrad, en 1987, de positionner ce PC comme une machine bureautique et familiale, moitié prix par rapport à la concurrence (environ 1500$ aux USA, où il se dénomme PC-6400). Une diversification voulue par Amstrad, absolument pas causée par une baisse des ventes du CPC comme je peux le lire ici ou là : en 1986/87 le CPC marchait très bien pour les familles qui ne pouvaient pas mettre 10 ou 12 000F dans un PC.

Voici donc le PC de Monsieur Tout-le-monde, conçu pour être simple.

(Notez le budget "effets spéciaux")

Cliquez pour agrandir

Amstrad opte avec le PC1640 pour la teinte beige/moche des PC des années 80, cependant, fin des années 80 oblige, certaines mentions sont imprimées en rose fluo :)

On note que l'ensemble est RELATIVEMENT compact et léger, notamment grâce au fait que l'alimentation de toute la machine se trouve dans l'écran (comme dans un CPC), et que sa puissance n'est que de 57W. L'écran monochrome (MD) ou couleur (ECD) se cale sur l'UC, dans un emplacement dédié (il existe également un écran CD pour 1512 pour Color Display, mais cet écran est uniquement compatible CGA). Le clavier se branche sur le côté de la bête, et est assez confortable. La disposition des touches est standard pour un clavier XT, différente des claviers auxquels nous sommes aujourd'hui habitués.

Question connexions, c'est pas mal foutu avec une prise série, parallèle, clavier, souris, une prise joystick sur le clavier compatible CPC (!!!), et 4 emplacements pour cartes ISA 8bits - un des quatres est non accessible par Mr Tout-le-monde, car il s'agit de la carte contrôleur du disque dur.

2 inconvénients majeurs au niveau connectiques :
- premièrement la prise souris est spécifique Amstrad, et il faut en plus utiliser la version Amstrad de mouse.com pour la faire fonctionner...
- deuxièmement le fait d'avoir l'alimentation dans l'écran OBLIGE à utiliser cet écran pour faire fonctionner le tout. Si on veut upgrader le PC en VGA, c'est compliqué car il faudrait changer d'écran (la version ECD est EGA). Autant accepter la machine comme elle est !

Cliquez pour agrandir

CARACTERISTIQUES TECHNIQUES

Système :

L'Amstrad PC1640 est doté d'un processeur Intel 8086 16 bits cadencé à 8Mhz. Il est disponible en version :

- SD pour Single Drive : un seul lecteur de disquette 5"1/4. *(rare à mon avis...)*,
- DD pour Double Drive : 2 lecteurs 5"1/4,
- HD pour Hard Drive : disque dur de 20 ou 30Mo.

Cette version "HD20" possède un disque dur MFM de 20Mo - le standard MFM étant le précurseur de l'IDE PATA (format appelé "IDE" par abus de language), qui est lui-même le précurseur de l'IDE SATA (appelé "SATA" par abus de language aussi).

Au niveau des améliorations par rapport au PC1512, le PC1640 possède 640Ko de mémoire RAM (ça peut paraître ridicule aujourd'hui, mais à l'époque c'était suffisant et recommandé par Microsoft), la gestion de l'EGA et un écran compatible, et des corrections logicielles de certaines bugs pénibles.

Partie sonore :

Un bon vieux speaker à l'ancienne, le volume est réglable sur le côté de la machine.

Partie graphique :

Un écran Enhanced Color Display (ECD), permettant d'afficher de l'EGA, donc 16 couleurs simultanéement dans une palette de 64 couleurs, dans une résolution de 640x350.

Périphériques :

Les 3 emplacements ISA 8bits disponibles permettent d'ajouter 3 cartes : un capot (voir ci-image dessous) permet d'y accéder sans démonter toute la machine, et surtout sans faire de bêtise... la date de construction de la machine est gravée dans le plastique du capot intérieur.

Cliquez pour agrandir

PERFORMANCES / LUDOTHEQUE

L'ordinateur est fourni avec 4 disquettes, comportant un DOS de chez Locomotive (oh, comme pour le CPC !), et une version de GEM qui est une surcouche graphique, à l'époque concurrente de Windows, et développée par Digital Research. On trouve aussi des utilitaires comme NVR.EXE (NVR = "Non Volatile RAM") qui permet d'accéder à la configuration de la bête. Sur ce genre de machine, pas de BIOS, on peut uniquement configurer avec un exécutable (voir photo ci-dessous).

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Le PC1640 est compatible avec de très nombreux programmes PC XT, et sur les images ci-dessus on peut voir Popcorn et Grand Prix Circuit tourner en version CGA (4 couleurs).

PROBLEMES DE COLLECTIONNEUR

Ces vieux PC sont caractériels, l'Amstrad n'échappe pas à la règle.

Le lecteur de disquettes 5"1/4 de l'Amstrad est un lecteur 360Ko DD, ou Double Density, compatible **uniquement** avec des disquettes DD 48TPI.

Si votre lecteur de disquettes n'arrive plus à lire aucune disquette, il faut probablement nettoyer sa tête de lecture : soit avec une disquette de nettoyage 5"1/4 imbibée d'alcool à 90° pure, soit en démontant le lecteur et en nettoyant la tête au coton tige+alcool. La disquette de nettoyage étant très chère aujourd'hui, je suis devenu le champion du démontage en moins de 5 minutes.

Important : on ne pourra **écrire** une disquette pour l'Amstrad qu'avec ce type de lecteur 360Ko (qui se connecte parfaitement sur n'importe quel 486 ou Pentium, du moment que le BIOS gère les lecteurs de disquettes 360Ko). Les lecteurs 5"1/4 de 1,2Mo (HD) qu'on trouve encore ne pourront généralement que **lire** les disquettes 360Ko, et pas les écrire (ou alors elles seront illisibles sur l'Amstrad).

Le disque dur, maintenant... si vous avez un disque dur, et constatez un message "*Disque dur pas prêt*" au démarrage, 2 cas de figure :

1. Les disques durs de l'époque "prennent leur temps" pour démarrer, essayez de faire un Ctrl+Alt+Del (le Del du pavé numérique) pour faire un Reset soft, et laisser le temps au disque de se lancer.

2. Si ça ne fonctionne pas... ça se corse. Comme tout PC de 30 ans, le disque est probablement resté sans tourner pendant des années. Cela peut avoir pour effet de coller la tête de lecture soit sur son emplacement de "garage" (un coup de bol dans votre malheur), soit en plein milieu du disque. Il faudra donner un coup assez fort et très sec sur la tranche du disque dur avec un manche de tournevis en caoutchouc par exemple pour décoller la tête. Ensuite, en le rebranchant, si vous entendez le disque redémarrer mais qu'il ne fonctionne toujours pas, il faudra mettre du WD40 pour lubrifier le

servo qui commande la tête de lecture. Plus de détails ici :
https://forum.system-cfg.com/viewtopic.php?p=131973#p131973

Pour tout ce qui concerne la **remise en route d'une machine de ce type** (et pas d'un Pentium 4 OK?...), n'hésitez pas à rejoindre ce forum : https://forum.system-cfg.com/

Si vous voulez suivre les différentes étapes de la **remise en route de ce PC1640 en particulier**, c'est ici : https://forum.system-cfg.com/viewtopic.php?f=3&t=8938

<<< RETOUR

Sources :
- Le site Internet (1.0 :) de Cliff Lawson, un ancien développeur Amstrad, où vous trouverez une multitude d'information, les images des disquettes d'origine, des adresses, etc...
http://www.freetimeweb.nl/home/computer/alt/lawsons-amstrad-computer_site/web.ukonline.co.uk/cliff.lawson/index.htm

THE AMSTRAD PC1640™
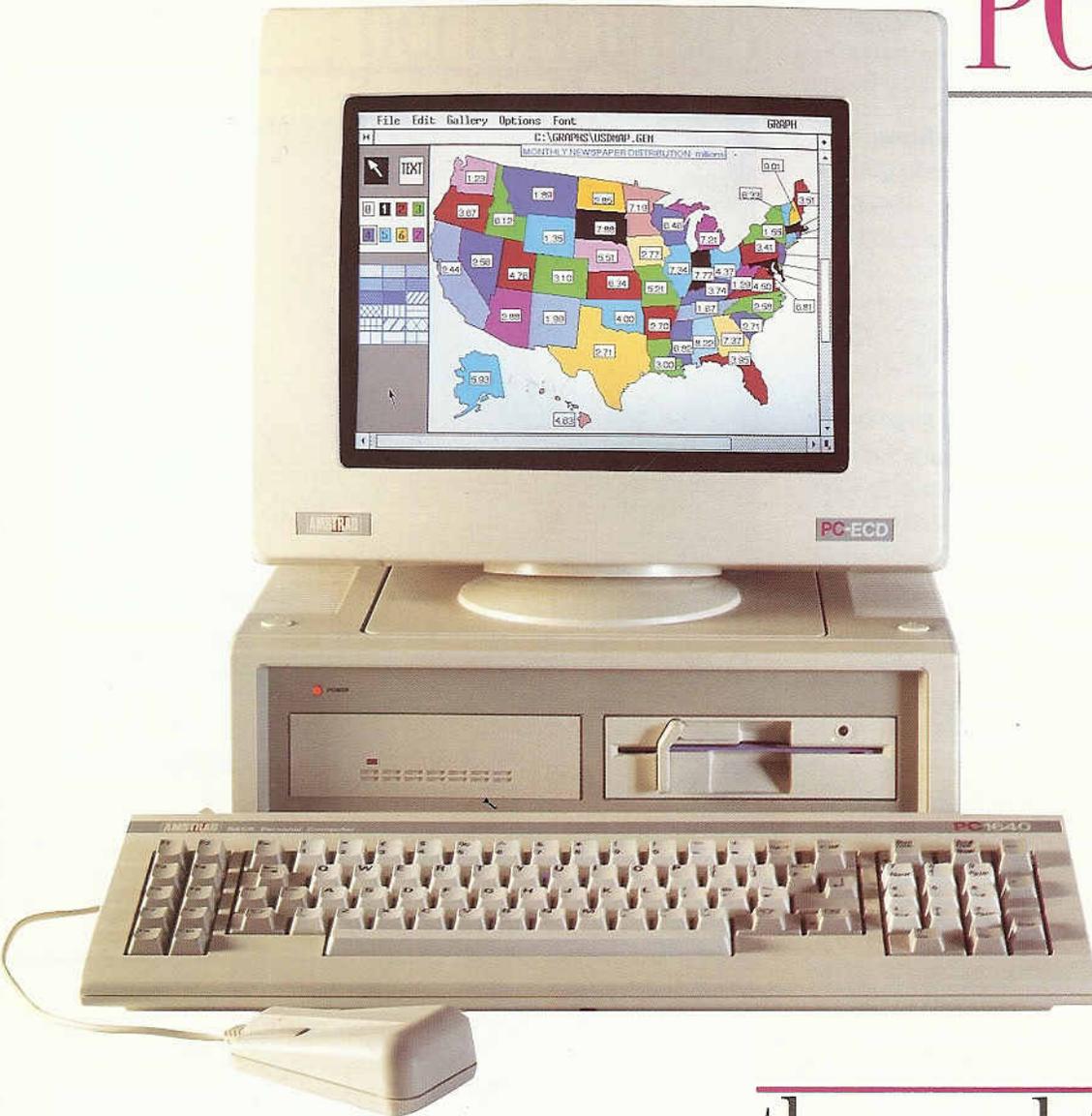
the complete solution

PC compatible with 640K memory
and choice of monochrome,
colour or extra-high resolution
graphics monitors.

AMSTRAD
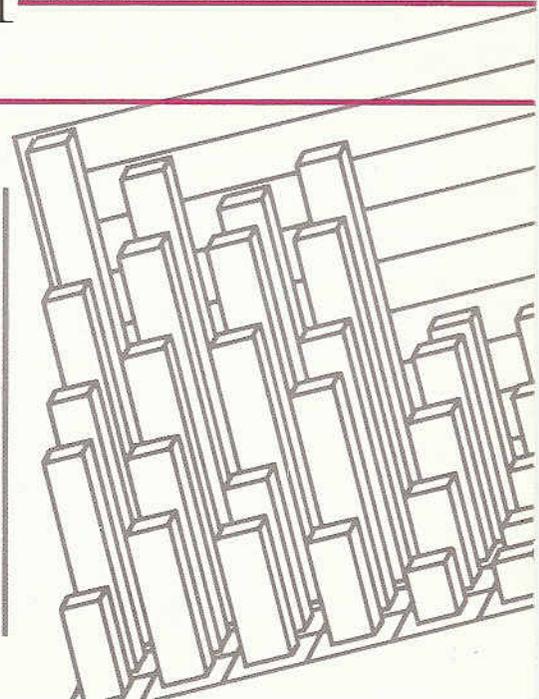
PC1640

the complete solution for

PC1640

There are nine variations of the PC1640 to choose from:

ECD
Single Drive Enhanced Display
Double Drive Enhanced Display
Hard Drive Enhanced Display

CD
Single Drive Colour Display
Double Drive Colour Display
Hard Drive Colour Display

MD
Single Drive Mono Display
Double Drive Mono Display
Hard Drive Mono Display

AMSTRAD

Computers have been used in business for many years and have proved to be a vital element in improving efficiency and productivity. But, with so many different tasks and skill levels in an organisation, choosing the right system has in the past been a question of compromise.

The Amstrad PC1640 is the complete solution for effective business computing. This powerful range of personal computers is capable of handling the ever-increasing demands of business professionals, and is backed by a whole industry of compatible software to cover all the important business functions.

It is simple to operate so that first time users quickly become productive, yet it has all the power and advanced performance experienced users demand. The PC1640 is available in a wide range of models to suit most requirements, and it has the communications and networking capability to support integrated corporate information systems.

The PC1640 is an advanced professional business computer range that offers outstanding value-for-money.

More power to the business professional

The Amstrad PC1640 puts computing power on the business professional's desktop. It provides them with all the facilities they need to do business planning and forecasting, correspondence, analysis, accounting and reporting, and it offers them the capability to run exciting new business solutions such as Desktop Publishing or Computer-Aided Design. The PC1640 has exceptional graphics capability to ensure effective presentation and communication, a large memory to deal with the most complex task, access to public and corporate databases†, and the capacity for expansion. It can be used as a powerful multi-tasking workstation or integrated into a corporate information system.

PC1640
advanced performance

Superb graphics: The PC1640 offers users outstanding graphics capability – charts, diagrams, drawings and graphs are sharp, clear and colourful for immediate comprehension and visual impact. High quality graphics help to improve the quality of information in an organisation and add a new dimension to personal computing.
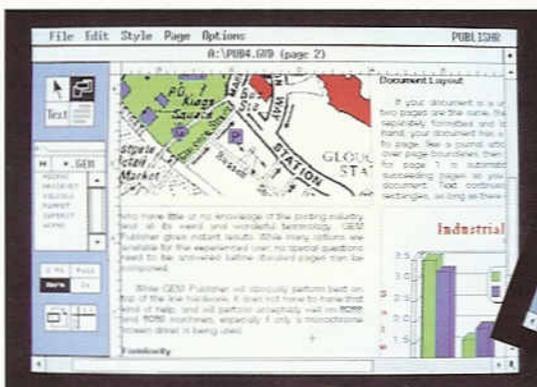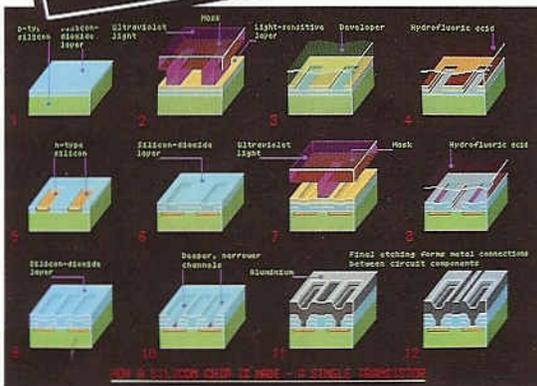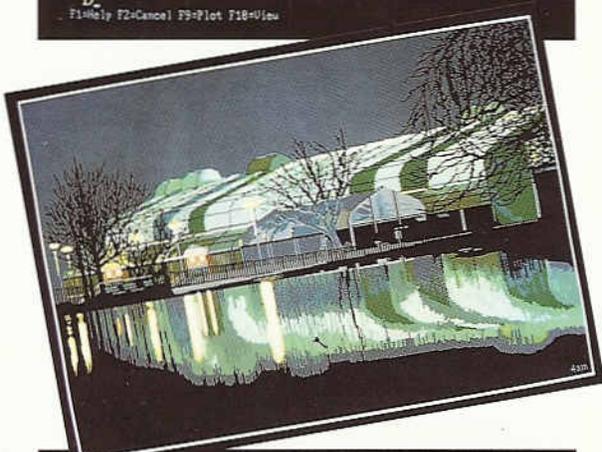
Fast productive computing: The PC1640 is fast. With its powerful processor, commands are executed quickly and programs can be run at up to twice the speed of some other personal computers. The 85-key keyboard is ideal for fast data entry and extended working and there is an ergonomically-designed mouse for rapid execution of commands and movement around the screen.

Clarity of display: The display is clear and comfortable on the eyes. The flicker-free high resolution (MD) screen has a display made up of 252,000 pixels to give clear, readable type, razor-sharp lines and clear graphics. Users can work for longer periods without fatigue or eye strain.

High capacity: The PC1640 is available in three system unit configurations to meet different operating requirements. The single 360K byte capacity floppy disc drive model is supported by the large 640K byte main memory, so that part of the memory can be configured to run programs, while the floppy disc stores data. The twin floppy disc storage system adds an extra 360K byte storage and makes disc copying easier. The 20 Megabyte hard disc version gives even greater storage capacity and operating flexibility, making it ideal for corporate use. Users have the capacity for storing up to three million words of text with room left over for a word processor, spreadsheet, or database and more.
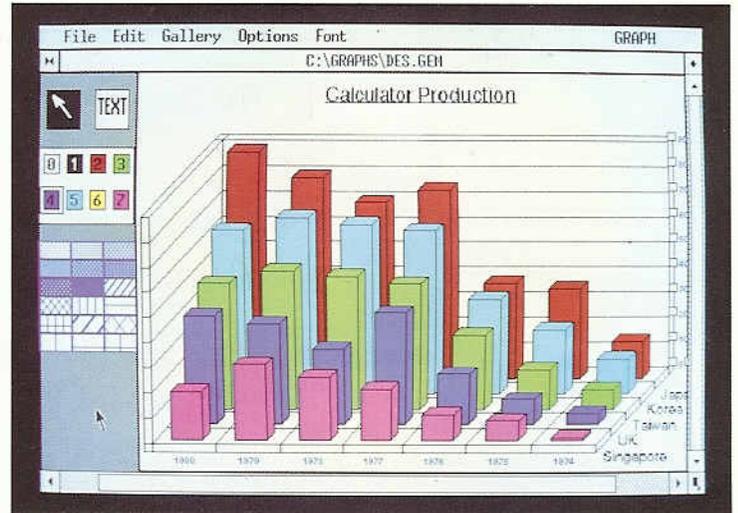
PC1640 ECD
enhanced colour display

The PC1640 Enhanced Colour Display (ECD) provides near-photographic quality with a level of colour quality and clarity that is truly outstanding. Sixteen colours can be used at any one time from a choice of sixty-four, and the amazing clarity of both words and graphics is achieved by an exceptionally high 640 × 350 lines resolution.

The Internal Graphics Adaptor is the key to the PC1640 ECD's incredible screen resolution; this special gate array allows the PC1640 ECD to provide Enhanced Graphics Adaptor (EGA) mode for handling extra-high resolution colour graphics of 350 lines compared with the standard 200 lines.

The PC1640 ECD gives even greater definition to text and numbers and it can handle advanced graphics in Computer-Aided Design applications. Desktop publishing and graphic slide presentations are given a healthy boost by the high resolution ECD monitor and many commonly used application packages allow up to 43 lines of text and data to be displayed in EGA mode compared to the 25 available on a standard PC.

AMSTRAD

PC1640 CD
colour display

The PC1640 Colour Display (CD) features the standard Amstrad colour monitor for users who do not need enhanced colour display. The PC1640 CD is an ideal colour monitor for popular business applications where its resolution of 200 scanned lines makes it ideal for displaying colour graphs and charts, and highlighting information on the screen.
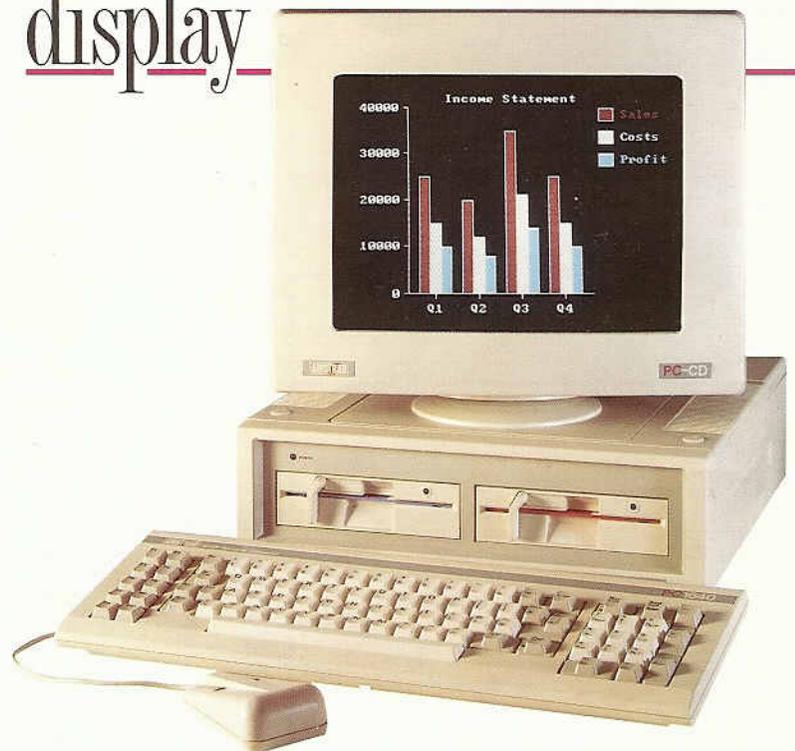
It can display text in up to 16 colours across 40 or 80 columns, and each character is defined within a matrix of 8 × 8 pixels.

In graphics mode, the PC1640 CD can generate medium resolution colour graphics of 320 × 200 lines (four colours) or high resolution colour graphics of 640 × 200 lines (16 colours).

The PC1640 CD can enhance the quality of reporting and information in an organisation. Statistics can be presented in a variety of clear, powerful formats for immediate comprehension and effective decision making.
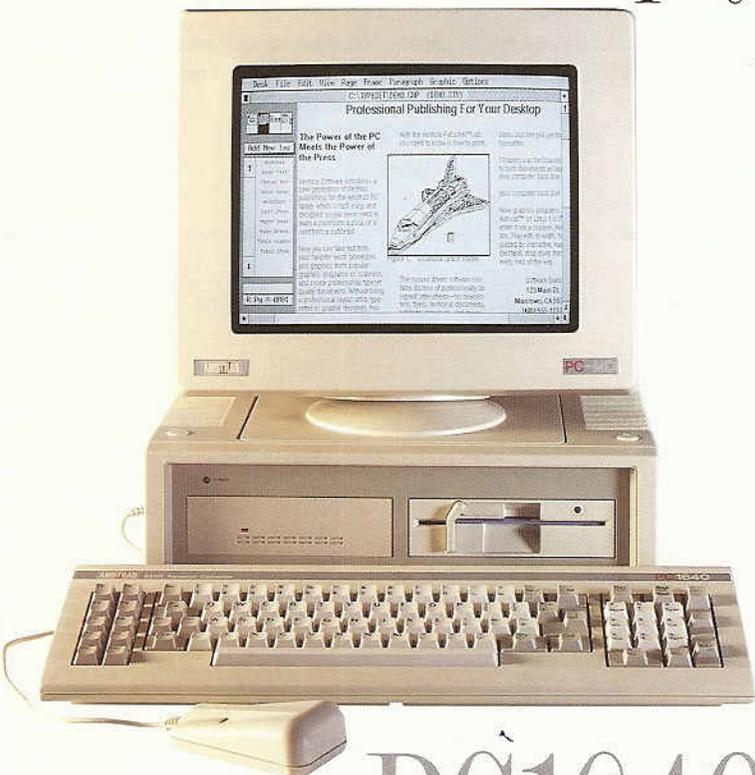
PC1640 MD
mono display

The Hercules-compatible PC1640 Mono Display (MD) sets new standards in sharpness and clarity for personal computer screen displays.

Its paper-white mono screen is ideal for applications which involve lengthy sessions working with words, numbers and drawings where colour is not vital. The benefits of working with the new PC1640 MD are immediately apparent to anyone who is sensitive to harsh glare and poor definition.

With its flicker-free high resolution screen, the PC1640 MD can be used for extensive periods without fatigue or eye strain. The 80-column display on the PC1640 MD is made of 252,000 pixels (720 × 350 lines) and that means better quality text and graphics that are comfortable on the eyes. Small typefaces become clear and readable, lines appear straight instead of ragged, and the edges of circles and boundaries are cleaner.

This also means the PC1640 MD can be used for working with the new generation of graphics-intensive Desktop Publishing and Computer-Aided Design applications. In addition, the PC1640 MD is perfectly suitable for use on a network in either a terminal or fileserver capacity‡.

PC1640
software

The PC1640 allows you to run a range of application programs that can be used to improve the overall efficiency of your business. You can run any of the leading IBM-compatible programs available or choose the high performance, value-for-money range of Amstrad Professional Software.

Wordstar* Express: One of the simplest, yet most sophisticated word processing packages available. It has a full range of editing facilities and features built-in spelling checker, mail merge and diary.

SuperCalc 3.21*: An advanced spreadsheet package with a vast matrix of 245,000 cells to produce complex 'what-if' projections for financial modelling and forecasting, as well as performing advanced mathematical calculations.

Amstrad InfoMaster:™ A database package that speeds up the efficient storage and retrieval of information. It allows the user to decide how the database is to be organised and how the information is to be presented. The program has built-in checks to ensure data is entered quickly and accurately.

Amstrad AccountsMaster:™ An integrated UK accounting package that streamlines accounting procedures for maximum efficiency. The package is designed as five easy-to-use modules covering Sales, Purchase and General Ledgers, together with Invoicing and Stock Control.

Amstrad PayMaster:™ A UK payroll package that simplifies the administration of payroll, tax, National Insurance, overtime, holidays and Statutory Sick Pay. Paymaster can handle up to 999 employees in 99 departments, with 16 special deductions per payroll.

Games programs: During the lunch break, or after work, settle down and enjoy one of Amstrad's on-screen games packages: Snooker, Chess, Golf, Pitstop, Summer and Winter Olympics.

PC1640
compatible printers

The Amstrad PC1640 has both serial and parallel printer ports so that it can be connected to almost any printer but, to get the most cost-effective printed results, choose from the range of high-quality dedicated Amstrad printers.

Amstrad DMP 4000:™ A solution to any printing requirement. It can produce 100 different typeface combinations and print at speeds up to 200 characters per second for drafts or up to 50 characters per second for near letter-quality printing. The 15-inch wide carriage handles a wide range of paper sizes from 2-15½ inches (50-395 mm).

Amstrad DMP 3250di:™ This fast versatile printer has a printing speed of up to 160 characters draft per second or up to 40 characters per second for near letter-quality standard. It handles cut sheet or continuous feed paper and has an ingenious flatbed design for easy paper insertion and alignment.

Amstrad LQ3500di:™ This letter-quality printer has a printing speed of up to 160 characters per second for drafts and a letter-quality speed of up to 54 characters per second. It can handle cut sheet or continuous paper and is designed specifically for easy paper insertion or alignment.

Amstrad LQ5000di:™ A high-performance, heavier-duty letter-quality printer to handle your most

DMP 4000

LQ 3500di

DMP 3250di
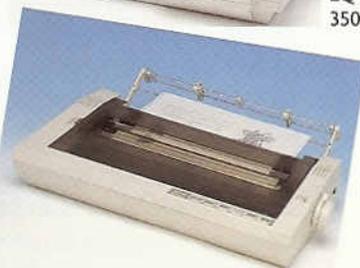
LQ 5000di

demanding printing requirements.
It produces drafts at up to 288 characters per second and ultra-sharp letter-quality print at up to 96 characters per second. There is an extremely wide choice of pitches and typefaces coupled with full ASCII, Epson and IBM PC-compatible graphics character sets, making it a complete office printing solution.

PC1640
communications modem

Amstrad MC2400 Modem Card
Versatile high-speed data communications

The new Amstrad MC2400 PC Modem Card is ideal for high-speed data communications. This quad standard unit has four operating speeds, including V22 bis capable of transmitting and receiving data at 2400 bits per second.

The MC2400 Modem Card simplifies data transfer and gives the PC1640 a gateway to a vast network of global communications. It facilitates access to telex, electronic mail services and commercial databases, all with the simplicity of a telephone call. The Modem Card provides comprehensive Prestel support, including character and graphics mode, text send, capture of dynamic frames or text-only files to disc file, and down-loading of software. Text that has previously been created can be sent to Prestel and other services, saving you connect-time charges.

It also provides accurate high-speed data transfer facilities for exchanging files with another computer with a compatible modem anywhere in the world. A wide variety of file transfer protocols are supported.

Many of the operating routines are automated to simplify and speed up access and transfer processes, and there are extensive help facilities on the system. There is a background answer-mode with password protection and automatic Script file control, together with learn mode for the automatic creation of auto-logon scripts.

AMSTRAD

business computing

Integrated personal computing

The PC1640 allows you to develop an integrated personal computing strategy for both new and experienced users. For the new user, it provides a friendly, easy-to-use system with tutorials, screen menus and clear documentation. The GEM* Desktop program, which is included as standard, is designed just like a conventional desktop, with files, documents and folders and many other functions such as a calculator and a calendar. New users quickly become familiar with the system.

For the experienced user the PC1640 offers an extraordinary breadth of function. It is fast – with 640K of memory to handle sophisticated software, and it can run programs at up to twice the speed of many of its competitors. Three expansion slots are provided (even with the hard disc version) which accept a wide range of standard cards for applications such as networking, modems and other utilities.

System design flexibility

Nine versions of the PC1640 give you complete flexibility to configure the right system for your organisation. There is a choice of colour, enhanced colour or monochrome displays, and single, double or hard disc versions for complete storage flexibility. The PC1640 is easily expanded with built-in expansion slots, and it has connectors for a wide range of printers, modems, graphics tablets, plotters and many other accessories.

Networking

The PC1640 is an ideal networking product: it can be linked to a mainframe‡, providing up to three extra network terminals for the price you could pay for one; and it can improve productivity dramatically. Data communications are simple: the PC1640 has been thoroughly proven on the industry standard Novell* and IBM Token Ring* Networks so you can set up a fully-integrated corporate network with a clear growth path for future expansion.

LOCAL AREA NETWORK

MAINFRAME COMPUTER OR FILE SERVING PC

COMMERCIAL DATABASES

GLOBAL COMMUNICATIONS
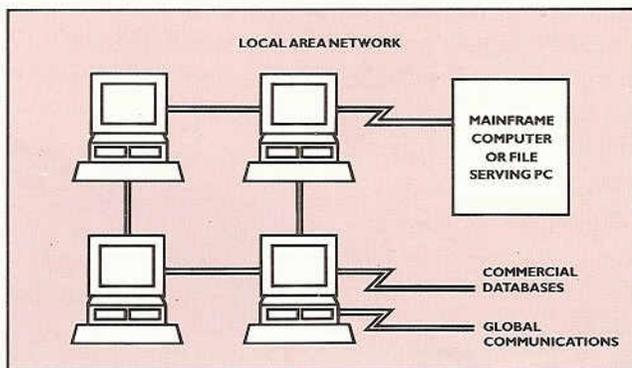
Comprehensive peripheral support

The range of Amstrad peripherals and software suitable for use with the PC1640 has recently been enhanced with an increased choice of dedicated printers, a new modem and advanced word processing software.
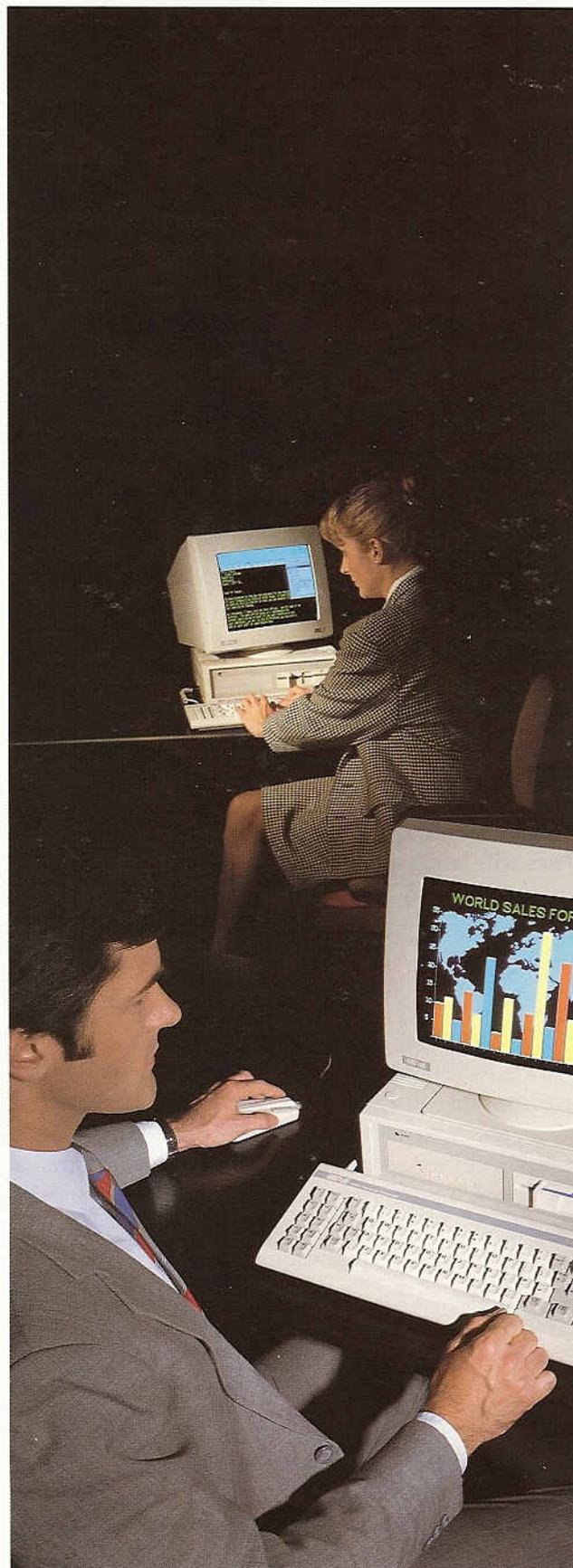
PC1640
specifications & features

Internal Graphics Adaptor fully compatible with Hercules, MDA, CGA, and EGA providing 40/80 column medium resolution, high resolution and extra high resolution mode with 16 colours

● **640K system unit with all circuitry on a single motherboard**

● **8MHz 8086 processor**

Three full-size compatible expansion slots (even with hard disk option)

Choice of one or two 360K 5¼" floppy disks or one floppy with a 20 Megabyte hard disk drive

Motherboard includes RS 232 serial and parallel interface with standard connectors

Loudspeaker with volume control

Battery back-up real time clock and configuration RAM

Socket for 8087 maths co-processor

Connector for light pen and/or joystick

● **Full-size keyboard**
Illuminated Numlock and Capslock
Keyboard joystick port
Extra Del and ENTER keys
Adjustable legs

● **Two-button mouse with dedicated port on system unit**
Microsoft-compatible MOUSE.COM plus special text operation

● **Extensive Operating Software including four diskettes**
Compatible ROM BIOS
Microsoft MS DOS* 3.2 Operating System
Compatible device drivers with RAMdrive and enhanced media flexibility
Wide range of compatible utilities
Special utility to support display interchangeability
Networking and hard disk support
Digital Research GEM* (Graphics Environment Manager) plus GEM Desktop
Digital Research GEM Paint
GEM based Locomotive BASIC 2*
Switch-selectable International character sets

● **Choice of one of three displays (paper-white mono, colour, enhanced colour) with standard video connector**
ECD monitor has 0·31 mm pitch shadow mask
CD monitor has 0·42 mm pitch shadow mask

Internal Graphics Adaptor provides:

Mono (MD):
80 column high resolution text with 9 × 14 dot characters
Hercules compatible graphics 720 × 350 lines
EGA compatible Monochrome graphics 640 × 350 lines
Colour (CD):
(for use with CGA and 200-line EGA software)
40/80 column text with 8 × 8 dot characters in 16 colours
Medium resolution graphics 320 × 200 lines in 4 colours
High resolution colour graphics 640 × 200 lines in 2 or 16 colours
Enhanced colour (ECD):
40/80 column text with 8 × 14 or 8 × 8 dot characters in 16 colours
Medium resolution graphics 320 × 200 lines in 4 colours
High resolution colour graphics 640 × 200 lines in 2 or 16 colours
Extra-high resolution graphics 640 × 350 lines in 16 out of 64 colours

● **Manuals:**
A comprehensive 550 page manual is supplied with the PC1640.
Two further manuals are available:
BASIC 2 User Guide
Amstrad PC1640 Technical Reference Manual

Dimensions (approx): Monitors (Unboxed)	WIDTH	HEIGHT	DEPTH
PC-MD	350mm	315mm	300mm
PC-CD	370mm	320mm	360mm
PC-ECD	370mm	320mm	360mm
System Unit	370mm	135mm	384mm

Gross Weights (approx):		
Monitors	(Boxed)	(Unboxed)
PC-MD	9.0kg	8.0kg
PC-CD	13.5kg	11.5kg
PC-ECD	13.5kg	11.5kg
System unit	(Boxed)	(Unboxed)
PC-SD	8.9kg	5.0kg
PC-DD	10.5kg	5.8kg
PC-HD	11.0kg	6.0kg
Keyboard	(Boxed with System Unit)	1.2kg

† **Optional modem required.**   ‡ **Cards and software may be necessary.**

05/88