

WHITECHAPEL *News*

Whitechapel moves forward

These are exciting times for users of workstations and Unix distributed environments. Hardware developments are proceeding at a dramatic pace, while the establishment of industry-wide hardware and software standards enables Unix users to think in terms of the flexibility of incorporating a variety of workstations and file servers in true heterogeneous networks.

Significant developments have taken place at Whitechapel over the last year to consolidate and strengthen the company. These along with our acknowledged product development expertise and unique European marketing perspective, ensure the company is now ideally placed to provide the Unix community with the optimum choice of technical computing solutions.

With this month's launch of the HITECH-10 Series of pioneering 10MIPS desktop workstations, we have returned to our committed position of technology and price/performance leaders. The strategic plans developed over the last year, and our adoption of RISC technology ensures we will retain this position for the foreseeable future.



New developments at Whitechapel

These exciting moves on the product development side have been complemented by several other important factors. A number of senior appointments have been made that bring a wealth of experience into the company on both the technical and marketing sides. In addition, great strides have taken place in the setting up of a network of European distributors and sales offices on the Continent. For the UK market there has also been a radical upgrading of the UK service support facilities.

New corporate colours

You'll soon notice a new look to Whitechapel. We now have a brand new corporate identity based on the Whitechapel name and the three coloured spheres as shown below.

To many, the Whitechapel name already signifies innovation. The new house-style continues to communicate this, while bringing a new clarity and additionally reflecting the exciting developments and new energy within the company. We are confident that the new logo will soon become synonymous with innovation in Unix computing.



The central letters HITECH have been strikingly depicted in line shading and form the basis of the naming system for our evolving range of RISC workstations.

We are expecting to make significant inroads into the European markets, where the MG Series is already well-known. The new logo will ensure we can continue to build a distinctive and powerful presence overseas.

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THE HITECH-10 – A WORLD BEATER

Whitechapel develop World first

Our newly launched HITECH-10 Series are the very first workstations in the new generation of RISC-based systems for the mid-price market. The HITECH-10 provides 10MIPS sustained performance in either desktop or desktide versions with 16" or 20" high resolution (1280x1024 pixels) colour monitors.

Using MIPS Computer Systems advanced R2000 RISC chip-sets, the HITECH-10 has been developed totally in-house by our leading team of hardware and software engineers. The numerous design innovations that make ten times the power of the VAX 11/780 available on a desktop for under £25,000 are outlined below.

The HITECH-10 range supports Ethernet (IEEE 802.3) and is available with Winchester storage options from 95MB to 1.1GB, with an MS-DOS compatible floppy disk drive. 8MB of RAM memory is standard with expansion to 40MB.



The HITECH-10 desktop workstation

A number of VARs and OEMs have already expressed keen interest in the HITECH-10, now they have the first real opportunity to make their sophisticated applications available to a far wider target market than before. Existing systems of this performance are currently available only in the £50,000-£100,000 price range. The HITECH-10 is ideally suited to 3D modelling, simulation, visualisation, CAE and AI applications and we are confident it will have a significant impact in each sector.

Versatile software environment



Desktide HITECH-10 with 1.1GB storage

The HITECH-10 is provided with the full Unix 4.3bsd environment with System V extensions and BRL SVID compatible library. Industry standard communications are assured via support for TCP/IP protocols used for remote login/copy, and the NFS protocols

for transparent network file access. In addition, a full implementation of X.25 Colour Books is available as an option for access over public wide area networks.

The HITECH-10 is the first colour workstation available that actually supports both industry standard distributed window management systems: X-Windows (V11) and NeWS, so giving access to a range of leading US applications. Whitechapel's own highly regarded Oriel windowing system has a wide following in the UK market and has also been ported, ensuring its own additional applications portfolio.

One factor contributing to the HITECH-10's outstanding performance is the use of 'optimising compilers' which significantly enhance CPU performance through analysis and rescheduling of instruction sequences to eliminate wasted cycles. Similarly, floating point performance is optimised through the scheduling of instructions in parallel with general-purpose instructions. Compilers are available for C, IEEE Pascal and Fortran 77, while ADA and LISP compilers will be available shortly.

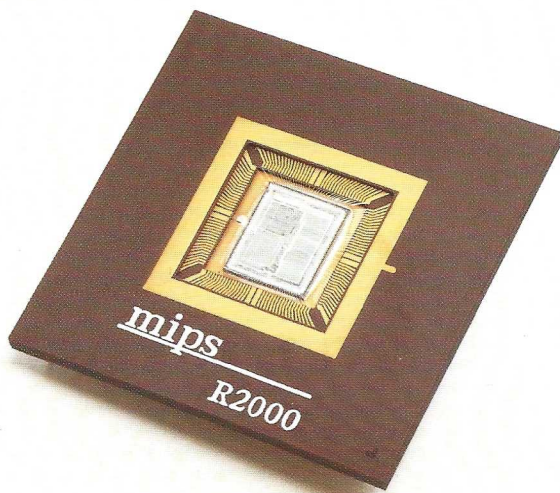
For software developers a sophisticated source-level debugger (enhanced dbx) is also standard. In addition, to aid developers with migrating software from the DEC VAX environment a VMS compatible FORTRAN compiler is standard, along with a DECnet access protocol as an option.

THE FIRST 10MIPS DESKTOP WORKSTATION

MIPS – leaders in RISC technology

Our work as leaders of a European RISC workstation project over 1985/1986 required us to evaluate in depth all the RISC processor chip-sets then available. One processor manufacturer stood far above the rest in terms of providing a fully field-tested implementation, having a highly innovative and credible long-term strategy, and most important, in providing the highest performance RISC chip-sets available. That company was MIPS Computer Systems Inc of California.

The decision to use MIPS chip-sets then, was a natural one for Whitechapel and a strong partnership has developed between the companies. Jamie Muir, MD of MIPS Europe comments: 'Both companies are young, highly ambitious with the expertise to remain innovation leaders. A strong synergy has developed between us and one that has provided important benefits for both sides.'



MIPS Computer Systems R2000 chip-set

The MIPS processor design includes a VLSI CMOS implementation, on-chip MMU, full custom CMOS Floating Point Accelerator, and the most advanced optimising compilers available. All this contributes to the leading performance specification shown in tabular format above. Just how powerful are the MIPS RISC processor chip-sets was demonstrated on August 24 1987 in a set of independent benchmarks run by DR Labs of California and published in the influential US Digital Review. The MIPS M/1000 processor was definitively shown to provide twice the performance of the recently launched Sun-4 RISC workstation.

PERFORMANCE

	HITECH - 10* (MIPS RISC)	VAX 8650 (VAX)	Intergraph 32C (Clipper)	Sun 4/260 (Sparc)	Sun3/260 (M68020)	IBM RT-PC (IBM RISC)
Dhrystone (Dhrys/Sec)	25,000	10,787	8,309	19,000	6,362	6,329
Whetstone Single Precision	11,600	6,900	2,980	—	1,250	1,600
Double Precision (Kwips)	8,900	4,000	1,740	—	1,230	1,400
Linpack Fortran Single Precision	1.78	1.30	.45	1.60	.86	—
Double Precision (Mflops)	1.16	.70	.29	1.10	.46	.30

* Interpolated Figures - R2000 Chipset (MIPS M/500) at 8MHz.

Fileservers extend HITECH range

As part of our commitment to distributed computing environments, we provide RISC-based file servers with similar enhanced hardware and software facilities to the HITECH workstation range. The HITECH-8S and HITECH-10S file servers, providing 8 and 10MIPS sustained performance respectively, can act as both central file servers and compute servers where the only conventional alternative would be a supermini or mainframe at five times the cost.

The compact units provide between 337MB and 2GB of storage, with 8MB RAM expandable to 80MB. A 60MB 1/4" cartridge streamer provides backup facilities with a 1/2" tape option available. External boards can be efficiently added via the 12-slot VMEbus cardcage. The units have 8 serial ports as standard, with optional expansion up to 32.

DESIGN INNOVATION WITH STANDARDS

The design philosophy behind the HITECH-10 Series ensures the highly innovative processor design is complemented by the use of standard well-established PC components where appropriate. For instance, the HITECH-10 has an on-board Cheapernet transceiver to enable it to be used in low-cost LANS as an alternative to costly thick-wire Ethernets. Additionally, an IBM PC AT expansion bus interface will allow VARs and system builders to cost-effectively incorporate a variety of standard add-on boards, such as modem cards, frame-grabbers, or A/D convertors.

THE MG SERIES AND NETWORKING

Cost effectiveness from the MG Series

For applications requiring a cost-effective Unix hardware platform with wide ranging facilities and high resolution displays, the MG Series continues to provide a most attractive option.

The MG Series has been extended with the launch in March 1987 of the powerful MG-200 Series to complement the pioneering MG-1 products. Both ranges are available in corresponding colour versions known as the CG-200 and CG-1 respectively. Not only will all monochrome applications run on the respective colour versions, but special attention has been paid to ensuring software compatibility between the two ranges. This has prompted Mr John Harris, Managing Director of leading software developers Program Products Ltd to remark: 'I am certainly impressed by the way that Whitechapel has maintained compatibility with the MG-1. Our software was installed completely troublefree on the MG-200 after recompiling, to the extent that the technical staff often did not notice the port had been done. In over 20 years in the business I have never observed such compatibility.'

Standard design features on the MG Series include use of a separate microprocessor for mouse tracking and cursor positioning. This provides for greatly enhanced on-line response in an interactive environment. Both the NS32016 and NS32332 processors used in the MG-1 and MG-200 Series

respectively include integral floating point unit and memory management unit providing a full demand-paged virtual memory system with 1KB page size.

The MG-1 Series provides a medium resolution display of 768x512 pixels, while the MG-200 Series provides a non-interlaced high resolution bit-mapped display, 1024x800 pixels and double buffering techniques for smooth animation.



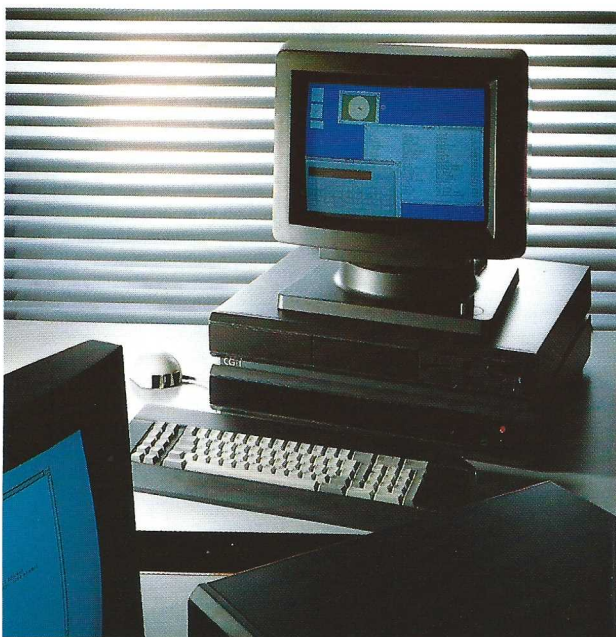
The MG-1 with advanced window manager

When the MG-1 monochrome workstation was introduced several years ago it was generally acknowledged to have provided a landmark increase in workstation price/performance throughout Europe. Even though the rest of the market has long caught up, the MG-1 and MG-200 Series continue to provide one of the keenest price/performance ratios in the business.

Complete networking strategy

Our networking strategy adheres to all the industry standards, so providing the means to integrate all our workstations into any heterogeneous Unix environment. In addition, our workstation ranges are complemented by a variety of equally flexible file-servers ranging from the cost-effective MG-200S to the RISC based HITECH-8S and HITECH-10S Series.

Our hardware makes full use of established standards such as Ethernet (IEEE 802.3), Unix 4.3bsd and networking protocols including the Network File System (NFS) and TCP/IP, the vendor independent transport level interface. Support of these standards enables other vendors' hardware to be easily integrated into any Whitechapel graphics network with NFS, in particular, providing transparent remote file access facilities between otherwise incompatible equipment.



The cost-effective CG-1 workstation

WHITECHAPEL AT WORK

Focus on QMC

Queen Mary College of London University has one of the most advanced teaching laboratories in the world following its decision to replace a DEC minicomputer with a network of workstations. The revamped Stern Hall laboratory started operation in the 1986/7 academic year and supports a population of 350 students on a networked range of 43 MG-1s. The increased facilities offer students in-depth experience of a windowing environment and the ability to use new programming environments such as ML or Modula-2 as well as artificial intelligence languages such as LISP and Prolog. 'The students gain substantial benefit from the ability to work in-depth with Unix, bit-map graphics and sophisticated windowing environments' said Mr Richard Bornat, Head of the Computer Science Department. 'When the far-sighted investment was made in 1984, the



City University also uses MG-1s in teaching laboratories

MG-1 was the only hardware platform available providing all the facilities at the right price.'

Orders, orders

Recent orders for the MG Series indicates the variety of applications now supported. RADAN COMPUTATIONAL LTD., the UK's leading developer of engineering software has just placed a further £200,000+ order for workstations. 'The MG-1 products continue to be the preferred choice for many of our principal customers,' said Tony Billett, Managing Director of Radan. Previous customers have included Avon Tyres, GEC Installation Equipment, National Engineering Laboratory and Loders & Nucoline of Unilever. Radan will be targetting the European market in earnest with the Whitechapel products. 'We will be working closely

with Whitechapel's European distributors to significantly increase our European sales,' says Tony. He also has high hopes for the MG-200 workstations. 'The MG-200 Series provides us with an additional range of cost-effective platforms and we will be selling our new 3-D geometric modeller package on the new range.' Another recent customer includes LOGIC OFFICE CONTRACTS who have signed a contract for CG-200s and MG-1s to develop sophisticated interior office design layouts using Radan's RadRaft software. The INSTITUTE OF EDUCATION, the professional graduate school of London University, has just ordered ten MG-1's in a contract for a distributed system running the NAG CLIM statistics package, the NAG Fortran library, and a LISP applications development environment.

Applications packages

There are over one hundred major applications packages running on the MG Series from many of the UK's leading software houses covering everything from CAE, mechanical engineering, mapping, and database applications to advanced graphics,

Artificial Intelligence, software development and desktop publishing. Take engineering as an example, complete suites of programs are available from Radan, Pafec, and Abacus. For software developers, compilers for Whitesmith C and Pascal, Modula-2, Fortran 77 and Prolog are available, with the GKS and Grape graphics environments from PA also supported. A sample of the latest additions include: SOFTQUAD from Unixsys UK, XOREN from Xoren Ltd, and MOSES from the National Engineering Laboratory. Please do telephone us for a full software catalogue by return of post.