

RANGER

COMPUTERS LTD

News from Ranger

Many portable computers are used as part of a system for information transfer, either to the field or for data capture from field back to base. The Z88 is no exception, being used in many such applications. This edition of "News from Ranger" includes details of some important new developments that help Z88 capture data and integrate into larger computer systems.

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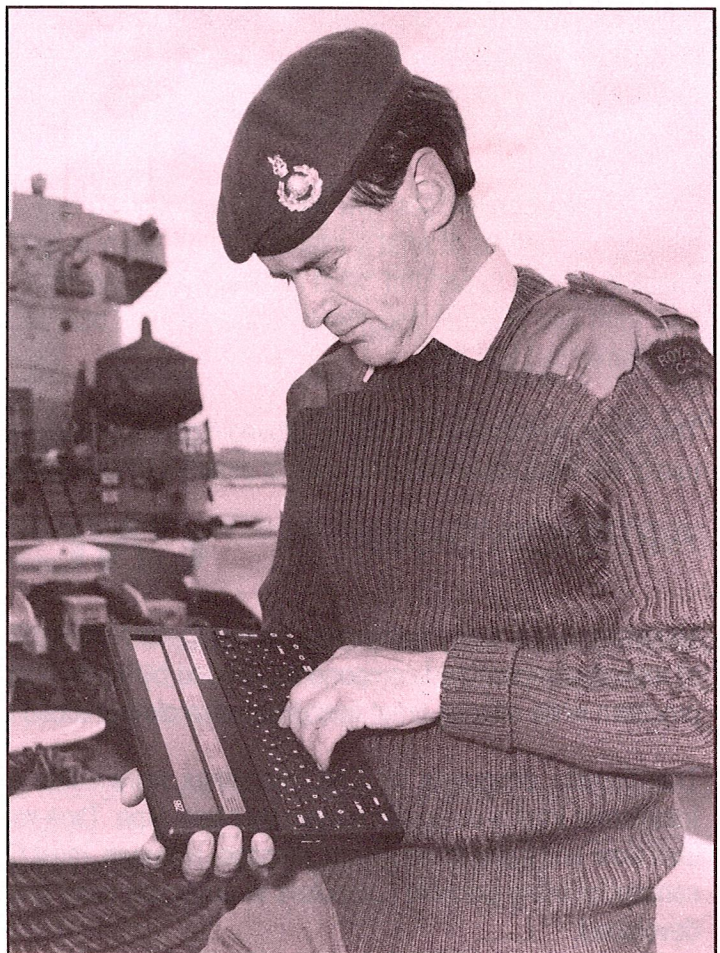
APPLICATION:

The Royal Marines Mobilize Z88

The officers and men of the Royal Marines are famous for their ability to travel great distance on foot carrying absurdly heavy packs of equipment and supplies - an image justly reinforced by their exploits in the Falklands war.

However, when it comes to the executive use of portable computers for the preparation of reports and correspondence, Marine officers have no intention of "yomping" across London or through crowded airports carrying heavy and inefficient PC-compatible "laptop" computers. Instead, they have selected the diminutive Ranger Z88 notebook, a full-function portable computer weighing only 2 lbs and capable of fitting in the smallest of executive briefcases.

The requirement, to equip staff officers at the Royal Marines HQ Commando Forces, was for a portable system offering word processing and modest spreadsheet facilities in the field,



but in a form which officers would take with them on every trip. The object of the project is to replace conventional note-taking with direct entry to electronic media, eliminating transcription errors and greatly improving efficiency. However, these goals could only be achieved by making the computer available to the user **wherever he may be**, in the field, travelling, at home or in the office.

This requirement immediately ruled out PC-compatible laptop computers, which the Marines found invariably end up consigned to office, home or car and only travel with the user in exceptional circumstances. In addition, the very high cost of laptops meant that equipment would have to be shared, another discouragement to effective use.

Another factor was that most of the intended users had limited computer experience, and would be likely to find the complexities of DOS-based systems a further hurdle in making effective use of the systems. Data transfer directly to desk-top PC's running the Royal Marines standard LEX word processor was also an essential feature, so that documents could be finished off by clerical staff prior to distribution.

After extensive evaluation, the Z88 notebook computer was selected for the application and a batch was ordered from Ranger, who had already supplied the Royal Marines with a number of Z88's for the initial evaluation. Ranger was selected because they are corporate distributor for the Z88, which is manufactured in the UK by Cambridge Computer Ltd.

In addition to its small size and light weight, the Marines also liked Z88's full-size keyboard, which they found fast and responsive. The keyboard is also silent in operation - a significant benefit in meetings. The Z88's built-in Pipedream wordprocessor has also proved popular, especially since users with little computer experience found it very easy to learn.

As part of the order, Ranger developed "LEXLINK", a high-performance Z88 to PC communication package that converts file formats between Z88 and LEX so that documents can be transferred either way and be used on either system. LEXLINK makes extensive use of menu selections and is extremely easy to use, as well as providing much faster and more reliable data transfer than was possible using earlier Z88 to PC packages.

A typical Royal Marine application for Z88 is in compiling a "Trip Report", perhaps during a visit to another NATO country to plan a military exercise. This might include the preparation of draft agreements, as well as meeting minutes and memoranda. All of this material can be printed on location using any standard printer directly from the Z88, as well as being brought back to HQ for transfer to LEX and immediate distribution.

The planning of exercises now requires that officers have considerable awareness of the financial, as well as military, implications of what is intended. Z88's ability to hold and process spreadsheets is invaluable in this area, enabling officers to perform "what if?" analysis during the course of planning meetings. These spreadsheets can later form part of larger documents running under Lotus 123 or similar programs on desk-top PC's, having been transferred by LEXLINK.

This initial deployment of Z88 has proved highly successful, with the Royal marines now planning to expand their use of the equipment and a number of other MOD users are considering similar implementations.

APPLICATION: *CNC Tx*

Manufacturing industry today relies on Computer Numerically Controlled (CNC) machine tools for the production of repetitively machined components. Guided by digital programming, these machines work quickly to very high precision while offering great flexibility, unlike old-fashioned fixed tooling.

Traditionally, programs for CNC machines were either entered manually at a keypad on the machine or transferred from a computer system by paper tape. Tape was reliable and easy for operators to understand, but also slow and liable to accidental damage. However, most CNC machines also have an RS-232 port, and so the concept of using portable computers to physically carry programs from computer to machine has recently been developed.

Z88, with its large memory and excellent communication facilities, is ideal for this type of application. When leading manufacturer of artificial limbs, 3M ORTHOTEC, who use many CNC machines to produce high precision documents, approached Ranger with the idea of using Z88, an agreement was quickly made to develop a special application program to simplify the process. This Z88 application, now called CNC Tx, is available to other CNC users directly from Ranger. CNC Tx overcomes the common problem of incompatibility between different CNC machines by allowing the user to specify the header and trailer strings that surround CNC data files, and also individual lines of data.

The program also provides an easy to understand user interface, allowing the selection of data files without requiring a knowledge of the Z88 itself. CNC Tx is supplied as a Z88 application on an EPROM cartridge and is suitable for use with any Z88 having at least 32K of Ram expansion. Z88's built in text editor, Pipedream, is a further benefit in this application because it allows data files to be modified or updated off-line, and then loaded onto the CNC machine.

CNC Tx is now employed in a variety of industries. Could yours be next ?

NEW PRODUCT: *RangerScan*

Stock control systems using barcode data for smaller organisations are notoriously hard to find, and even harder to install. Now, thanks to the versatility of the Z88 barcode system, all that has changed. Ranger have collaborated with neighbouring software house Paradise Computing to produce a flexible, powerful and efficient barcode stock control system for the smaller business:- RangerScan.



RangerScan is fully PC-compatible and uses any standard PC to act as host to one or more Z88's that collect data on stock issues and receipts, reading barcode labels on individual stock items or packages and allowing the operator to enter quantities and, if required, account codes or other data. When the barcode is read in the Z88 responds with a description to confirm that the correct item has been found and displays the quantity in stock, together with the re-order level for the item.

Ranger's new hand held laser barcode scanner for the Z88 (see elsewhere in this issue) forms an ideal compliment to RangerScan, allowing barcodes on stock items to be read at a distance. Codes can be placed on the items themselves, or on shelves or racking as required. The laser reader's very high read rate guarantees simple and trouble free operation, even with poor quality or faded labels.

For clarity, the Z88 screen operates in a large character mode. An audible signal is given for each code read in, while keyboard entry is also available for uncoded items.

Collected data is transferred automatically to the host PC using RangerLink protocol (see elsewhere in this issue), the operator only needing to connect the Z88 to the PC cable. The transfer is entirely automatic, the PC importing the stock data and sending updated descriptions and stock levels to the Z88 in reply.

On the PC, the operator can display individual stock records at will using advanced searching techniques that locate the item by code, description or supplier instantly, as the information is entered. Records or supplier details can be updated and reports prepared on re-order requirements, stock levels and valuations.

The Ranger Scan package consists of:

- *RangerScan, a PC software package suitable for use with any PC compatible with a hard disk and at least 500 k of disk space available.*
- *RangerLink Z88 to PC communications package, including connecting cable.*
- *Ranger Z88-2 computer with 128 k of RAM memory expansion and battery pack.*
- *CodeCount Z88 Barcode software on EPROM memory pack.*
- *Z88 Laser Barcode wand (heavy duty pen wand is also available).*

NEW PRODUCT:

Laser Bar Code Wand

Ranger can now offer a high-performance hand-held laser reader as an alternative to the standard wand reader. The laser wand, which requires the Ranger Z88 battery pack to be used with the Z88, projects a visible red line onto the code as a guide and can read at distances up to 6 inches from the target. The laser offers superb first-time read rate and is compatible with a wide variety of bar code symbologies, including code 39, 2 of 5, EAN/UPC and Codabar.



The entire reader weighs only 400g, including cable, and connects directly to the Z88 serial port. Power is supplied from the Ranger rechargeable battery pack, via the Z88, and is sufficient to operate the wand for at least 5 hours' typical use.

NEW PRODUCT:

RangerLog-High Precision Data Logging with Z88

RangerLog combines the large screen, massive memory and low power consumption of the Z88 computer with the unique Ranger ADAM A/D converter to provide a sophisticated and flexible data logging package that is ideal for Scientific, Engineering and Technical users.

RangerLog has the ability, thought to be unique amongst low-power data loggers, of displaying input data in graphical form on the Z88 computer's large LCD screen. This facility allows the user a "quick look" at the data being recorded in real time while still in the field, avoiding errors caused by incorrect connections and set-ups. RangerLog also features very low power operation, allowing data recording over long periods, and memory capacity up to 512K using Z88's memory expansion cartridges.

The Z88's powerful filing system allows user data to be recorded in IBM-PC compatible format for direct use with Spreadsheets like Lotus 123 or databases like dBase. This means that data can be transferred immediately into these applications for calculations, report generation and presentation. Data can be transferred to Host PC's by direct serial connection using the RangerLink communication package or indirectly using the RangerDisk 3.5" PC-compatible floppy disk drive.

RangerLog uses the Ranger ADAM Advanced Data Acquisition Module, a battery operated pocket 8 - channel analogue to digital converter, connected directly to the Z88. ADAM is also available separately and is suitable for

a wide range of applications including scientific data collection, quality measurement and environmental inspection. The A/D converter uses a standard RS-232 serial connection and is especially suitable for use with laptop PC's, as well as specialised products like Husky Hunter and Psion Organiser.



ADAM AS-459 Specification:

Input:	+/- 2v DC
Resolution:	1 part in 20,000
Channels:	8 analogue, 1 low speed digital counter
Conversion rate:	12.5 channels/second
Size:	120mm x 65mm x 41mm
Weight:	330g

Adam draws its power from the Z88 and requires a minor modification to the computer for this reason.

NEW PRODUCT : *Hardcase*

The Ranger Hardcase is a new weatherproof enclosure that ruggedises the Z88 notebook computer, allowing it to be used for field data collection and general-purpose portable computing applications in extreme environments.

In addition to housing the Z88 computer, the Hardcase provides space for additional equipment such as the RangerDisk 3.5-inch IBM - PC compatible disk drive, a sealed lead-acid battery, or a custom interface adapter. The Hardcase can accept any standard Z88, with no modification to the computer being necessary.



The Hardcase is made from rigid, reinforced plastic which provides resistance to seawater or corrosive atmospheres, and is fully sealed when closed by an integral 'O' ring. The case is in two halves, the top or lid portion retaining the Z88 computer and the bottom or base section the disk drive or other accessories.

Positive closure and sealing are ensured by two snap-action catches, while the case also has an integral moulded carrying handle. All the metal components are resistant to salt-water corrosion.

When in the Hardcase, the Z88 keyboard is protected by a durable but compliant membrane which fully protects the computer against rain, hosing-down and even temporary immersion, while preserving the excellent response and tactility of the Z88.

The computer can be easily removed from the Hardcase for replacement of batteries or exchange of battery modules. Interface and power connections are provided for use with internal accessories like the RangerDisk disk drive, or for connection to the outside world through a sealed connector installed in a recess in the back of the case.

The Hardcase can be hand-carried, and is supplied complete with an adjustable shoulder strap. For fixed applications - on ships and vehicles, for example - it can be permanently fixed to a mounting bracket using fixtures on the side of the unit.

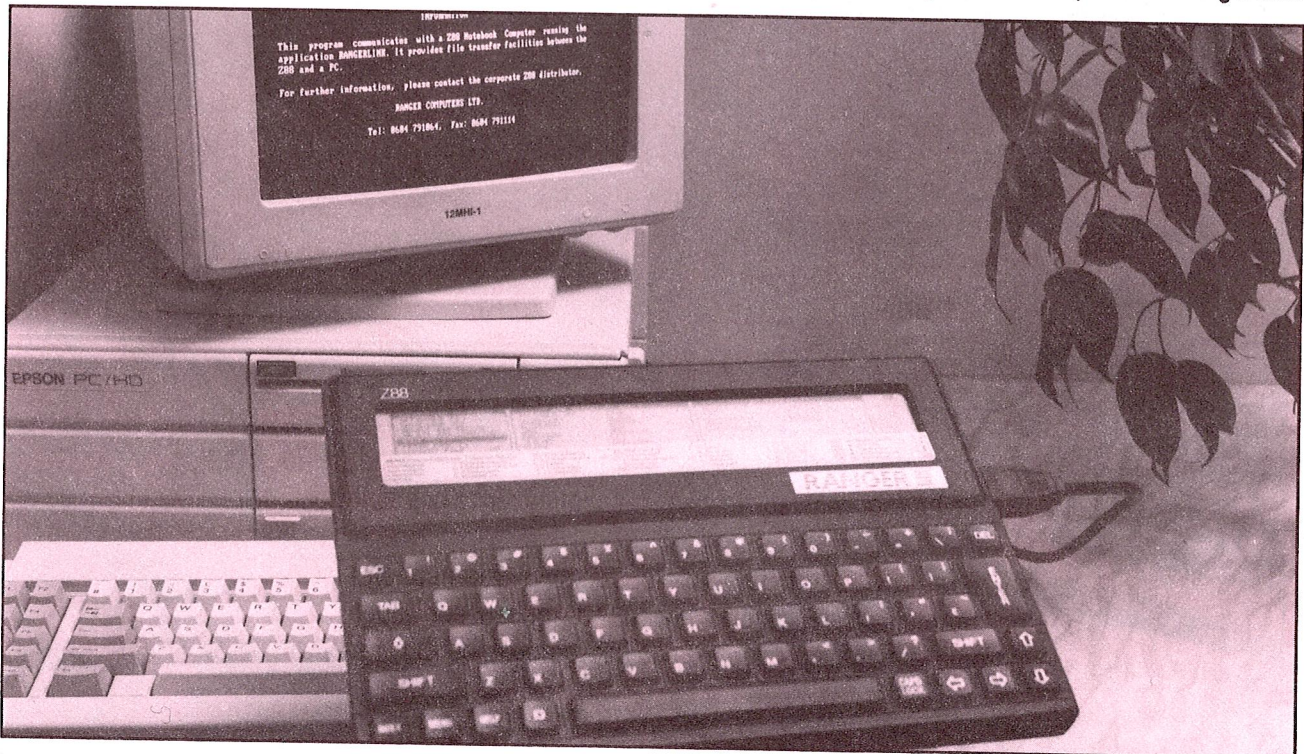
The case measures 340 x 310 x 150 mm (13.5 x 12 x 6 inches), and weighs 3.4 kg (7.5 lb) including the Z88 computer.

NEW PRODUCT: *RangerLink*

The Z88 computer is often used as an extension of desk-top PC systems, allowing users to take data into the field and to bring back reports, notes and correspondence written "on the move". When used in this way, Z88 offers by far the best combination of size, weight and capability for the needs of typical portable computer users, especially when compared with bulky and expensive "laptop" computers.

Data is usually transferred between PC and Z88 by serial connection, using software on each computer to control the transfer. However, existing transfer packages suffer from slow data rates, can only handle one file at a time and lack data transparency.

Z88 users can now benefit from reliable, high speed communications with any PC or compatible. RangerLink



allows file transfer between any drive or directory in the PC and any device or directory in the Z88, using simple menu commands to select the files for transfer, either singly or in batches.

RangerLink is a high performance PC to Z88 file transfer package featuring throughput at up to four times the speed of PC Link II, multiple file transfers and true data transparency. The new package addresses these issues by providing a wide range of new facilities, including the ability to mark multiple files or the contents of entire directories for transfer in either direction.

RangerLink consists of an application EPROM for the Z88, together with a program disk (please specify whether 3.5" or 5.25" disk required) and a connecting cable. The application is driven from the Z88, which displays "windows" showing the current PC and Z88 directories, together with a command menu. Commands can be selected from either the menu or from "shorthand" functions, while a full list of all available functions is always available from the "MENU" key. RangerLink allows selection of device and directory on both PC and Z88, while new directories can be created and files copied, renamed or erased.

The communication protocol used to communicate between the computers continuously checks for the connection, so that it is not necessary to start the programs in any order. If the RangerLink program is interrupted, for instance in order to use a different application in either PC or Z88, communication is automatically re-established when RangerLink is re-invoked. When file transfer is in progress, the Z88 screen shows a display of the file name currently being transferred, the file size, the progress of the transfer (in real time), and the number of files waiting in the queue. Filenames appear in the destination device window as they are transferred. A useful feature of RangerLink is "VIEW", which allows a quick look at the contents of any file on the Z88 screen.

For compatibility with earlier systems, like the popular Ranger "Zback" backup utility, the RangerLink pack also includes the original PC Link II software on both PC disk and EPROM.

UPDATE: *Vision-100 Version 2*

Vision-100 has become established as the smallest and lightest industry-standard computer terminal available anywhere. Vision-100's ability to connect to virtually any mainframe computer system (and many other types of equipment as well) is now further enhanced in the latest version, Vision-100 version 2, which provides VT102, VT220 and VT320 emulation as well as VT100.

The new features greatly expand the range of systems and applications to which Vision-100 can be connected and are expected to be of particular interest to Digital Equipment Corporation VAX users. Formerly, it has been difficult to purchase a lightweight portable terminal capable of satisfactorily operating advanced full screen applications like the Access Technology 20/20 spreadsheet.

The new Vision-100 package, which is based on the Z88 computer, provides users of such systems with a personal terminal that fits easily into the smallest of briefcases, can be taken anywhere and can be used off-line to prepare and edit documents, as well as on-line direct to host systems. The connection can be made directly to a host port at line speeds up to 38,400 baud, via a dial-up pocket modem or even a cellular telephone. (Pocket modem and cell-phone adapter are available separately).

Vision-100 is finding user acceptance in a wide range of applications, from service engineering to electronic news gathering. Computer maintenance technicians find it far easier to carry the 2lb Vision-100 than the conventional CRT terminal previously required to interrogate equipment under test and to retrieve fault data. Scientists working in one of ICI's largest chemical plants benefit from the ability to call up the company mainframe from wherever they are and inspect process parameters, while an international marketing group in British Gas are able to send reports directly to the head office main frame regardless of the time of day or night.

All these applications benefit from Vision-100's compatibility with existing terminals and mainframes: unlike other portable terminals, no complex and expensive re-programming is needed to install Vision-100 users on the system. As far as the host computer is concerned, Vision-100 is just another industry-standard terminal.

UPDATE:

RangerDisk

When RangerDisk was launched last year, it was aimed primarily at business users with large data volumes, where data transfer to corporate PC systems would be an important consideration. Many such users, like Burmah Castrol and ICI for instance, now use RangerDisk. However, Ranger have been delighted with the number of private customers who have also acquired the system.

As one private customer recently told Ranger: "RangerDisk solved an awkward dilemma about the future of my Z88 - the availability of virtually unlimited storage and fast file transfer avoided the need to move up to a PC. RangerDisk allows me to go on enjoying the benefits of true portability in the Z88 with the confidence and security of disk storage and backup at home."

By kind agreement of the Z88 Users Club, Ranger have been able to arrange for the entire* Z88 program library to be included on two 3.5" disks ENTIRELY FREE with each Ranger Disk purchased. This facility is available to Z88 User Club members ONLY - please quote your membership number when ordering. Ranger is now shipping RangerDisk Version 2, which fully supports sub-directories and is compatible with PC DOS 3.3 and up.

In a separate development, Ranger can now supply a PC driver package that allows RangerDisk to become an external 3.5" floppy drive for any PC or compatible, connecting via the serial port..

* some programs cannot be included because they are not compatible with PC format.

UPDATE:

Z88 Battery Pack



Also shipping is a new model of the popular Ranger Z88 rechargeable battery pack. The new model is fully sealed, like it's predecessor, but the safety fuse is now accessible for the user. This fuse can be easily replaced if the pack is accidentally shorted for any reason and protects the user from the very high currents that nickel cadmium cells can generate.

Well, that's all for now. We hope that you will have found something of interest in the above. Whatever your application needs, Ranger will be delighted to discuss your interest in Z88. Please call.

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