



Two years on from his last Greenkeeper International series on computers and computing Ken Richardson catches up on the many developments in a fast moving and exciting industry.

A second byte

In the two years since my last series of articles on digital computers and their software, computer technology has continued to advance with more and more applications being developed, more hardware being provided for lower prices and operating systems becoming easier to use. Some golf clubs and some greenkeepers still seem to be reluctant to introduce this type of technology but from the feedback that I receive, it is clear that greenkeepers are beginning to see how computers can be used as useful tools in greenkeeping management. In this article, I will try to update some of the information that was written in 1997 and explain how changes in hardware and software have made computers cheaper, more flexible and easier to operate.

Computer Hardware

Computer hardware is all of the hard items that comprise a computer as opposed to Software which comprises the instructions that make the computer work. There are two main types of computer that can be used in the office. These are the PC clones and the Apple Mac. The popularity of the Apple Mac has waxed and waned but many offices, including BIGGA HQ, still use them. However, the lower cost computers are mainly PC clones and the majority of software, including golf course management software is designed to run on PCs. All digital computers are made

from four basic components; input devices, such as keyboards, mouse, microphone and joystick, output devices, such as monitor (screen, VDU), printers and loudspeakers, a central processing unit (CPU) and Memory (Storage).

Let's now look at each of the four components in more detail.

Input devices

Digital computers can use a number of input devices but I will only consider the Keyboard and mouse in this article

Keyboards

There are many types of keyboard, each with slightly different keys. However, all keyboards have keys that are common.

Most keyboard use the QWERTY layout for alphabetical and numeric keys, a series of function keys, cursor and screen control keys and a numeric keypad. There are some other 'special' keys that you may have to use. The use of these and other keys will become clear as you begin to use your computer.

To conform with the Heath and Safety at Work Act, keyboards should be height adjustable and be capable of movement around the desktop to ensure a comfortable working position and to minimise the risk of repetitive strain injury.

Mouse

There are several types of mouse that come in different shapes, however they all operate in the same way.

Externally, the mouse consists of

two buttons and a roller ball. Note, to prevent excessive wear and a build up of dirt and or static, it is always advisable to use a mouse mat. The mouse can be used to perform three operations. These are Point, Click and Drag.

Output Devices

Digital computers can use numerous output devices including monitors (screens, VDUs), loudspeakers and printers.

Monitors

Monitors come in different screen sizes, however, the usual office/home computer comes with minimum screen size of 14 inches and 17 inch screens are becoming the norm. Today's technology provides excellent quality with full colour and the option of a flat screen.

Printers

There are many types of printer but the usual types found in homes and offices are dot matrix, bubble (ink) jet and laser printers. Bubble jet printers can be used to print in black and white and colour and can give good quality results at a reasonable price. However, if you are considering printing a large amount of material then the cost of ink cartridges can be quite high. The fastest high quality print comes from laser printers but the cost can be high. Colour laser printers are very expensive for the average office or home.

Central Processing Unit

The Central Processing Unit (CPU) is the heart (or brain) of a digital computer. This unit contains the processor which is, usually, a Pentium, or equivalent, memory devices, control circuitry and devices to perform calculations and logical functions. Advances in technology mean that processors are much faster and can complete more operation in a given time.

Memory

There are several types of memory or storage devices. These are; random access memory (RAM) which is short term memory, Read only memory (ROM) which allows you only to read information ie take information out, it will not allow you, the user, to write (store, put in) information, compact disk ROM which is also preprogrammed by the manufacturer and can hold large amounts of data on interchangeable disks, floppy disks, used to "back up" work, and hard disks which are similar to floppy disks but hold much larger amounts of data.

Once the various components of a computer system are connected together and the power is switched on software is needed to make the computer perform its various tasks.

Software

Software is the name for the instructions that make a computer do what the operator wants. The two main types of software are Operating Systems and Applications.

Operating Systems

Operating systems tell the computer what to do and when to do it. A built in operating system (BIOS) starts to operate when power is applied and 'boots up' the computer, including launching the Operating System. The usual operating system for small offices and home use is Windows 98, although older computers may still run under Windows 3.1, Windows 3.11 or, even under DOS. Windows 98 supplied with most PC type computers and is an upgrade to Windows 95. Windows 95 simplified the method of operation and used an icon (picture) based system. This allows the operator to point the mouse pointer at a picture, click the mouse button and access a selection of "menus". Windows 98 has added several extra features. These are:

a. Faster performance and load times, improved plug and play

hardware detection and improved power management.

b. Configuration improvements such as display settings and Accessibility Wizard.

c. An improved Help system.

d. New Utilities such as the Maintenance Wizard and improvements to existing utilities.

e. New multimedia features.

f. New Internet and communication tools.

You can learn to handle Windows 98 by:

a. Trial and error, using Windows help.

b. By using an appropriate text book eg "Teach Yourself Windows 98" or the Idiots Guide to Windows 98" both available from the BIGGA Library.

c. Attending a BIGGA training course.

d. Attending a college computer course.

Applications software

There is a long list of applications software from games to education courses and office tools to software development tools. However, there are several software packages that are very useful office suites and other packages that can help in the management of the golf course. These include:

Microsoft Works

This is a simple package that contains word processing, spreadsheet and database software. Ideal for beginners, it lacks the sophistication and flexibility of other packages.

Microsoft Office

This package also contains word processing, spreadsheet and database software but also includes Powerpoint, a presentation package and can link to the Internet. Office is a very flexible package that includes a wide range of useful features and is becoming a standard package in many offices.

Claris Works

This package is similar to Microsoft Works but also includes a draw package and a paintbox package.

Lotus Smartsuite

This package is similar to Microsoft Office

TRIMS

TRIMS is a software package designed to help with the manage-

ment of golf courses. It comprises an interactive set of functions which cover machinery, staff records, budgets, fertiliser and pesticide records, weather, irrigation, spares etc. Produced in the USA, TRIMS has been available for approximately ten years and is available, through BIGGA.

Qquest

A similar package to TRIMS with slightly fewer facilities but at a lower price. Quest is available from Wessex Software Systems telephone 01798 831020, fax 01798 831381.

Turf Way

A very simple, but cheap option is produced in Canada and costs \$350 ie approximately £210. Full details on the software can be found on the Internet www.edm.shaw.ca/~pds and you can order a demo disk from Franz Hasenhundl at fhasenhu@trm.intrawest.com. Alternatively, you can obtain a demo disk and further details by faxing Precision Data Services on 001 403 4637176.

On Course

Produced in Sweden by Epani systems, this package sold well in Sweden, Holland and Germany. Epani are, currently considering a British version of their software and BIGGA are involved in this development.

I have tried to give an idea of how computer technology has advanced in the past two years. Rereading this article and those produced in 1997 show that progress has been rapid in terms of hardware and software and that prices have tumbled. However, computers are not easy to handle, they need you to understand a special language and to have an ability to type. Voice recognition is, already available on some systems and is being introduced into quality cars and aircraft. What the next two years brings is anybody's guess. If you know what the future holds then please let me know and we can both make our fortunes. For further advice on hardware, software and training please contact me at BIGGA HQ.

Next month Ken will advise on what to buy and where to buy it.