

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

Part two

What to buy

If you are considering buying a computer, for home or office use then the first question to ask is; 'What sort of computer should I buy?'. This is a very difficult question to answer as it depends on several things, eg. what do you want the computer to do and how much money do you have to spend. There is a wide range of dealers hoping to sell both hardware and software and they will try to sell you what they think you need. Therefore, before setting off to your local computer shop or picking up a computer magazine, you need to decide what tasks you want to perform using a computer. This is not easy to decide as you can only begin to see what computers are capable of, when you become familiar with them. However, with some thought, you may be able to formulate a plan. The most critical factor is cost ie how much are you or your golf club willing to pay, although you could convince your club to spend a little more money if you made a good enough case. Let's look at some of the points to consider.

Which applications do I want to run?

All applications state their minimum requirements of processor, memory, hard disk and monitor specifications on their packaging. You must decide which and/or how many applications you wish to run. Remember that the operating system selected ie Windows or Windows 95/98 also determines processor, memory and hard disk requirements.

Price

You don't have to buy the most expensive system on the market to get a good deal. For example, a reasonable 'middle of the road' system based on a 300/333 Mhz Pentium or AMD K6-2 processor can be bought for around £600 plus VAT. If you are thinking of multi media operations then go for a 350 Mhz or faster Pentium or K6-2.

Memory

Insist on at least 32Mb of RAM and consider a minimum of 64 Mb if running Windows 98. A hard drive of 4 Gb to 6.5 Gb is the norm. If you need to back up large amounts of data then consider a Zip, Jaz or LS-120 removable storage option.

Graphics

Your graphics accelerator should include 3D acceleration and at least 4 Mb of display memory.

Peripheral Devices

When considering applications, you must also consider peripheral devices such as printers, plotters, compact disks and sound systems and 'add ons' such as modems and Internet

Printers and Plotters

Most computer packages sold today include a simple, bubble-jet printer. This type of printer is suitable for most home and basic office printing. However, if you anticipate that you will need to print large amounts of data then you would need to include a higher quality printer.

Compact Disk Drives

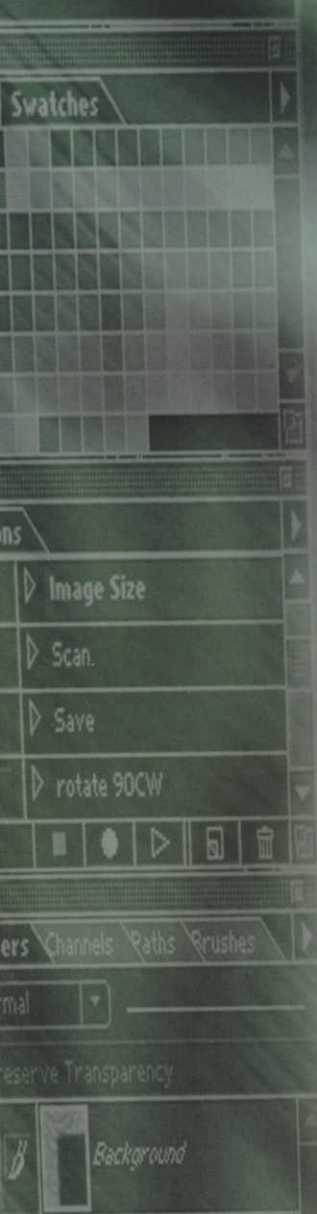
Compact disk (CD) drives are now available on most new computers. Many software titles are available on CD, especially those needing large amounts of data eg encyclopaedia. Reference data for turf science and turf management eg identification of pests and diseases is becoming available and the number of titles will increase with demand. You should look for a 12-speed or faster CD Rom drive.

Sound Systems

Most computers sold today include sound cards, loudspeakers and associated software. These computers can play back music from CD, provide a wide range of built in sounds and, with the inclusion of a tuner card, play television programmes.

Modems and Internet

If you are contemplating becoming a user of the Internet, you will need a modem and appropriate software. Modems allow computers to communicate with other computers via a telephone line. The Internet is an inter connected network. This means that you can connect your computer to a range of other computers, around the world. Moreover, as this connection is through a local computer, you pay telephone charges only at local rates. For example, you could access the pages for the Golf Course Superintendents of America from the computer in your office by telephoning the computer in the office of your Internet supplier which may only be



10 miles away. You can also send and receive E-mail, using the Internet. E-mail is electronic mail and allows you to type messages into your computer and send them to any part of the world for the price of a local telephone call. Modems are available that operate on different speeds eg 33600 bits per second (bps), 56000 bps.

Screen

Screens are available in a range of sizes but you should aim for a minimum screen size of 15 inches. A 17 inch screen is ideal for most users but consider a 19 inch screen if you are considering working with graphics.

Desktop or Laptop

If you really need your computer to be portable then you should opt for a laptop (notebook) system. However, you will pay more for a laptop than for a desk top of the same standard.

Once you have considered what applications you want to run you can then begin to look at purchase options. You should look to buy the highest specification computer that meets your budget. The next step is to decide where to buy and even whether to buy new, buy second hand or even use a computer from another part of the golf course. You may decide to lease rather than buy but I will consider the purchase option only

Where to buy

As I suggested above, the cheapest way of obtaining a computer is to inherit a system from an office which is buying a new system. This has many disadvantages, however. Eg. The software applications may not be what you want, the processor may be old and slow, the system may not be able to be upgraded, spares may be impossible to find and maintenance difficult to arrange. Therefore, if you have made a case for using a computer in your office then it should not be difficult to make a case to your club for buying the computer that is needed.

Computers can be purchased second hand. Indeed many companies sell out dated ie lower specification than current computers that have had little or no use. However, unless you are very knowledgeable and/or have a good relationship with a computer hardware technician then you could be buying trouble. If, however, money is limited and appropriate guarantees can be sought from the supplier then you might consider this option.

Buying a new computer can be even more daunting than buying second hand. There is a bewildering range of computers, a vast range of prices and many different outlets. You could visit your local high street electrical store, a computer warehouse, visit a computer specialist, purchase direct from a manufacturer or use direct mail. Before making a decision on where to buy, you should draw up a short list of companies that supply the system that you want. You should then contact at least three companies to obtain a formal quotation asking them to include:

Product name, model number and version of any software

Date of the quote

Extra items included eg printer, software, delivery, maintenance.

Method of payment including credit options

Availability of hardware and software support

Suppliers of computers include: High Street Stores

There are several High Street stores that sell or rent computer hardware, software and peripherals. The advantages of these stores is that you can see what is for sale, you can calculate the price of a system, you can see how the system operates and you can discuss your requirements face to face with the salesperson. The main disadvantage is price. High Street stores prices tend to be higher than warehouse prices or direct mail. Warranty can usually be arranged with servicing being done in the home, but check that this is included in the price.

Computer Warehouse

Most large towns and cities have at least one computer warehouse which sells the whole range of computers, software, peripherals, up grades, books and stationery. Prices tend to be lower than at High Street stores and you can view and try a wide range of systems. It can be a bewildering experience, however, if you do not have a very good idea of what you want before entering the warehouse.

Computer Specialists

Many towns and cities have at least one specialist computer supplier. These can be local suppliers of top brand name computers or small inde-

pendent suppliers, many of whom make up computer systems to order. Top brand names can be expensive but they can give you peace of mind. Small independent suppliers can give excellent service and good value for money. However, you need to be sure that they will remain in business, at least for the duration of your warranty.

Direct Mail

Computer magazines seem to contain more advertising than editorial and most adverts are for computer hardware and software. You can buy from a major manufacturer, from a direct mail supplier or from a small independent. The main disadvantage of buying by direct mail is that you cannot see what you are buying. However, prices are very competitive and you can compare a number of suppliers.

Practical Considerations

Let us suppose that your club has agreed to the purchase of a computer for your office and that you have decided what software applications you want to run. How do you compare what the different companies have on offer, when each company gives differing descriptions, supplies different software and has different prices for peripherals such as printers? Firstly, write down your needs: Eg.

Processor	Pentium 333 Mhz
Memory	32 Mb RAM
Monitor	SVGA colour 17 inch
Hard Drive	5 Gb
Floppy	3.5 inch
CD ROM	32 times
Soundcard	Soundblaster

Built in Modem
Windows 98
MS Office
Internet
E-mail

Colour bubble jet printer

Basic requirements

Secondly, determine the cost of the basic system (without software) from your chosen supplier or suppliers. You may also be given a great deal of other information which can be confusing, however, try not to let it confuse you too much. Once you have got your list of suppliers down to three or four, you can then start to see what else you get for your money eg Windows already fitted, MS Works already fitted, a range of software supplied 'free', extended warranty, at home or return

to manufacturer, is the system expandable, how many expansion ports has it got, does it have cache memory, does it have a graphics extension card etc.

Examples

Examples of specifications and prices are:

Computer warehouse

Pentium 333 Mhz Pentium processor - with MMX technology
32 Mb RAM
15 inch SVGA Monitor
32 times CD ROM
16 bit Stereo sound card and speakers
4Mb PCI 3D Graphics card
56000 bps Modem
Windows 98
MS Office
Bubble jet printer

£999 inc VAT

Specialist Computer Store

Pentium 333 MHz Processor
16 Mb RAM
5 Gb Hard Disk
32 times CD ROM
Sound Card
Windows 98
Colour Bubble jet Printer
Modem

£999 inc VAT

Small specialist store

Pentium 333 MHz Processor
32 Mb RAM
5 Gb Hard Disk
15 inch SVGA Monitor
32 times CD ROM
Sound Card
Speakers
Windows 98
MS Office
Bubble jet printer

£899 inc VAT

Mail Order

Intel Celeron 400 Mhz Processor
64 Mb RAM
8.6 Gb Hard Disk
15" SVGA Monitor
32 x CD ROM
8 Mb 3D graphics card
Hi Fi Sound
Speakers
Windows 98
56000 bps Modem
Lotus SmartSuite, IBM
Worldbook, FIFA 99

£880 inc VAT

As you can see from the prices on the left, there are a wide range of computers available from a number of suppliers.

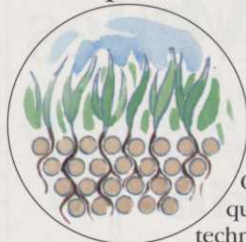
I have tried to give an idea of how computer technology has advanced in the past two years. Rereading this article and those produced in 1997 show that progress has been rapid in terms of hardware and software and that prices have tumbled. However, computers are not easy to handle, they need you to understand 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 may bring is any body'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 Ken Richardson at BIGGA HQ.



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