

Buying a handheld mobile computer

– *what you need to know*



The following factors should be considered when selecting a handheld mobile computer:

Design

Ergonomic design is important. Will the terminal be used for single or dual-handed operation? Is a pistol grip required? How long will the operator be using the device?

Size

Does the mobile computer need to be a pocket size “consumer” PDA or a more substantial device? For many organisations, the loss of information from a damaged or broken consumer PDA would cost more than the increase in price for a ruggedised terminal.

Performance

The performance of the mobile computer can vary considerably, so it is important to select a device which has the power and specifications to meet your

specific requirements. For example, the right operating system and processor are important factors.

Durability and ruggedness

Do you need a terminal which will be used in harsh environments and capable of withstanding being dropped? Does the mobile computer need to be sealed and IP-rated? Ruggedised hand-held mobile computers are available with IP ratings starting from IP54 (sealed against wind blown rain and dust). Many mobile computers use a laser barcode scanner which has a moving part. Imager bar-code scanners are ‘solid-state’ with no moving parts; hence they are more durable.

Operating system

Options include Windows® CE and Windows Mobile (Pocket PC).

“Windows Mobile” is the brand name Microsoft uses with the

operating system and software applications it has developed for handheld computers. These devices are often branded as “Pocket PC”. Microsoft’s Windows Mobile contains a suite of productivity and multimedia applications built-in and ready to use, such as Pocket Word, Pocket Excel.

Rugged mobile computers and PDAs often run a Windows Mobile operating system. Windows Mobile also enables the rugged mobile computer or rugged PDA to send data over a WWAN (e.g. GPRS) network or as a phone. Bluetooth headsets can easily be connected to the devices.

A Windows CE.NET operating system is also available on many rugged mobile computers. CE.NET often appears on devices with different screen sizes (such as the Gotive H4x product family). Windows CE.NET shares many of the Windows Mobile features but does not include the Pocket applications.





Processor

Most hand-held computers do not have the processing power of a PC, but they are becoming more powerful. Mobile computers with high speed processors are now available. Your required application functionality will help determine whether you need a mobile computer with a powerful processor.

Memory size

Memory requirements can vary from one application to the next. Entry level mobile computers generally start with 32MB RAM and 32MB ROM and can be expanded to giga-byte levels.

Barcode scanner

Is an integrated barcode scanner needed? If so, what specification is required? For example, if your process uses 2D matrix barcodes, then an imaging scanner may be ideal.

Global Positioning System (GPS)

A number of rugged mobile computers and rugged PDA devices now include an integrated GPS receiver. This can be used with satellite navigation software (such as iDrive or TomTom) or for tracking purposes (when used with a WWAN (e.g. GPRS) network).

Colour Camera

A colour camera now features in many rugged mobile computers and rugged PDAs. Some can take high resolution images and have a flash light to take pictures at night.

Colour cameras can add value to many applications by providing additional information relating to an event. For example, in a proof of delivery application the camera can be used to take a picture of the damaged box, or a picture of a vehicle in a vehicle inspection application, or useful data when used in a quality control application.

Keyboard size and type

The selection of keyboard size and type will depend on the application. Ensure that the operator can input data accurately. For example, will the operator be using gloves? If most of the keyboard entry data is numeric, there are numeric keyboards available which will reduce data input times. There are also alpha/numeric keyboards for mixed data input.

LCD display

This should be large enough to give meaningful prompts to the operator. There should be adequate room for data which needs to be validated. It may need to be back-lit for poor lighting conditions. Will PDF documents need to be read?



Screen

Should the screen be pen-stylus or touch-screen? Pen stylus allows you to hand-write characters on the screen. Alternatively, touch-screen entry may be required. Consider whether signature capture is necessary or useful.



Battery life and power management

How long does the battery need to last in the application? Battery life can vary from one product to the next. Li-ion batteries are now standard in mobile computers and have increased battery life. In general batteries should be replaced every 18 months, although regular re-conditioning of batteries is recommended during the life-time of the battery.

Peripherals required

What peripherals do you need? For example, holsters are available to hold the mobile computer securely, when not in use. Is mobile printing, magnetic strip or smartcard reading required?

Mounting Options

Most mobile computers have a range of mounting options, which can charge the device as well as securely holding it.

Open systems environment

This is needed for flexibility and the ability to change or build your application – without compatibility concerns. You should always

select hardware which can freely communicate with most host systems and which can interface with wireless network providers. This should be at both the application level and at the business level. Avoid being locked into proprietary software.

Batch data communications

How will you transfer the data from the mobile computer to another system? Batch data communication means that the data is transferred through a direct connect method using an RS232 serial link or USB connection. An alternative is to use a modem connected to a telephone line. This can be useful for remote sites – where a computer network is limited. For those sites that do have a network, many mobile computers now have Ethernet cradle options. This allows batch data to be immediately transferred over the network, without the need for a PC in between the mobile computer and the network.

Radio Frequency data communication

Do you need data transfer to be instantaneous and seamless? RF networks now operate at 11MB/sec and faster networks are now also available. RF communication also minimises the likelihood of data being lost. Security is a significant factor and it is essential that you consider this for your RF network.

Operating environment

Do you need the device to work in hazardous environments or cold stores (i.e. at temperatures down to -20°C)?

Software

What software is required? Is it possible to buy basic packages for standard applications? Is customisation or a bespoke application required?

Middleware

This may be required to interface the application with the company's enterprise system.

Maintenance

What maintenance is required? If a mobile computer fails, how soon must it be back in action again? Is same-day replacement needed, to avoid down-time?



Spirit is a vendor independent mobile computing and data capture house. We specialise in delivering innovative and cost effective solutions across many industries. If you would like further advice call 0845 337 3243.

Have you seen our free technology guides?

All about barcoding symbologies

Technology trends forecast – mobile computing and data capture

Guide to wireless communication

and more....

Subscribe to our free newsletter for innovative ideas by email to help you improve profitability, accuracy and customer service



Vale House, Aston Lane North,
Preston Brook, Cheshire WA7 3PD
t: 0845 337 3243 **f:** 0870 762 2824
email: info@spiritdatacapture.co.uk
www.spiritdatacapture.co.uk



CERTIFICATE NO. 5726