

# positivID Professional

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Version 4.0

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# Introduction and Getting Started

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positivID Professional™ version 4 is the latest release of one of the easiest and quickest identity card systems. When it first appeared in 1995 it was the first system to directly address the new digital cameras that were then appearing. Its simple-to-use graphic screen instantly appealed to both new and experienced users, and was practically language-independent. It was also the one of the first systems to directly create its own card database when the card layout was designed, simplifying the design process considerably. Since then its range of functions has grown with each release, and it continues to grow as customers feed back their requirements to our design team.

This latest release incorporates a completely new graphics interface as well as several new functions and, most importantly, full compatibility with Windows 7 32 bit and 64 bit operating systems.

## ***Before you start ...***

It is recommended that an Uninstall is performed on any Version 2 or 3 release of positivID prior to installing this new release, as Version 4 places files in different locations. User data will be preserved and will be still be accessible in its old location; however it will be necessary to re-establish links to the existing card designs, using the Import Cards procedure described in Section 2.5 of this manual.

## ***System Requirements***

positivID Professional™ will run under Windows 2000, XP, Vista and Windows 7 (32 or 64) bit on any modern IBM-compatible computer.

Images can be captured from any TWAIN compliant device, such as a digital video camera, video capture card, webcam or scanner. They can also be existing pictures on disk, previously downloaded from, for example, a digital camera. The Canon Powershot SX 110, SX 100, G9 and A640, and the EOS range of cameras can also be controlled direct from positivID, as can several TWAIN compliant cameras.

The system will work with all of the popular PVC card printers, whether single or double sided, using simple dye sublimation or indirect thermal retransfer technology. It will encode Hi-Co or Lo-Co magnetic stripes or smart cards to ISO standards, provided the printer is equipped with the appropriate encoding head. positivID Professional can also use any sheet-fed Windows printer, printing single or multiple images up to A4 size onto paper or card.

## ***Installation***

The installation CD should Autorun when inserted in the CD drive, or the installation can be started from Windows Explorer.

The system can be installed in the default directory, C:\PROGRAM FILES\POSITIVID, or in any preferred directory. The installation should be done under a Windows user account that has full administrator rights. The user should also ensure that full read and write permission is given to all the folders used by the system, and for any folders used for card designs. This is especially important for Windows 7 systems.

The program should be installed on the machine on which it will run and, if supplied, the hardware key (dongle) attached to that machine. Card databases are created automatically during the card design process, and can be placed on any mapped network drive. positivID card designs can also be mapped to existing SQL databases through ODBC links. Existing card designs from previous releases of positivID Professional, or from positivID Lite or Standard, can be linked into this system and upgraded to positivID Professional level simply by opening and saving them under the new release.

If they are not available from the manufacturers' CDs, the latest camera and printer drivers can usually be obtained from their web sites. Windows 7 users may find that older printers and cameras require mandatory downloads of completely updated drivers for compatibility.

### ***Uninstalling positivID Professional***

If you need to remove positivID Professional from your computer, use the Add/Remove Programs facility in the Windows Control Panel. Note that the Uninstall procedure does not remove databases or pictures, just the system files; the remaining files will need to be deleted manually.

### ***Using positivID Professional***

The positivID data capture screen has a simple button sequence to capture the picture, enter the text, print & save the card. The capture screen will allow the updating of previously entered records that are retrieved from the database.

The database screen will retrieve all or selected records for printing or updating. It also includes Excel export and import facilities, and an inbox/outbox combination for communicating with other positivID systems. The system's operating parameters are accessed through the Configuration icon (a tools icon) in the Options tab and the appropriate configuration option can then be selected.

Caution: you are advised to consider your obligations under the UK Data Protection Act, 1998, or similar legislation in other countries, when using this product as it is specifically designed to store and process personal information.

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# 1. Installation

The positivID Professional system is installed from the system CD, or from the positivID web site [www.posidsystems.net](http://www.posidsystems.net) by following the Downloads and Software tabs.

The system should be installed on the machine on which it will be run, although its card design databases may be placed on any mapped network drive. If large volumes of data are expected, or if multiple users will be working simultaneously across a network, then the user should consider running the system within a SQL or Oracle environment. The appropriate servers should be up and running, and Windows or SQL operator logins available, prior to the installation of positivID Professional. The SQL database, appropriate tables and an ODBC link should be set up and available for linking from the positivID card design (see Section 2.6 for guidance on these processes).

Note that any machine on which positivID is being installed should be in Administrator mode during this installation process and (especially for Windows 7) full permissions should be available for all the directories used.

If previous releases of positivID Professional are on the computer, the Windows Add/Remove programs feature should be run to remove the old installation. The user's card designs will not be removed by this process and can be imported into the new release once it is installed and activated.

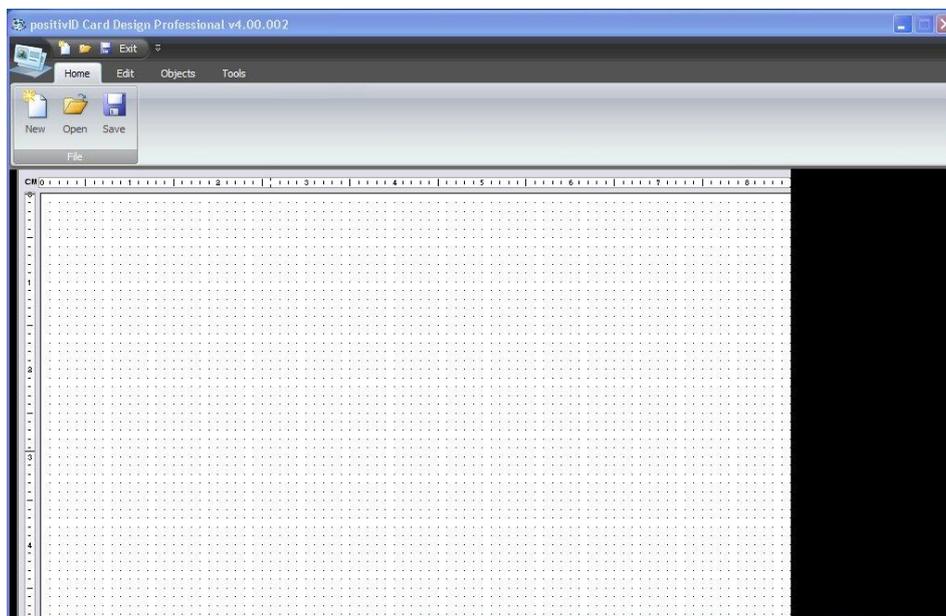
The system is activated by inserting a USB hardware key (Dongle) which will be supplied with the system. Prior to activation the system will run in demo mode, which will use the positivID Demo Card design only and will allow a maximum of 30 records on the database. It will also print the word **SAMPLE** across every card printed.

Hardware activation through the dongle is instant and the dongle should be inserted into a USB port before the system is started. Note that the dongle for this version 4 release is programmed differently to previous releases. Previously supplied dongles will not, therefore, activate the system and they must be reprogrammed. Contact your dealer or positivID support ([support@positivid.net](mailto:support@positivid.net)) for instructions.

## 2. The Card Design Program

The positivID Professional card design program is opened from the desktop. It is a separate program from the card production program, and the icon can therefore be removed from the desktop for security reasons if required.

The program opens on the Home tab of the workspace screen:



There are four tabs and the File Organiser functions at the top. The tabs are defined in more detail below, but briefly are:

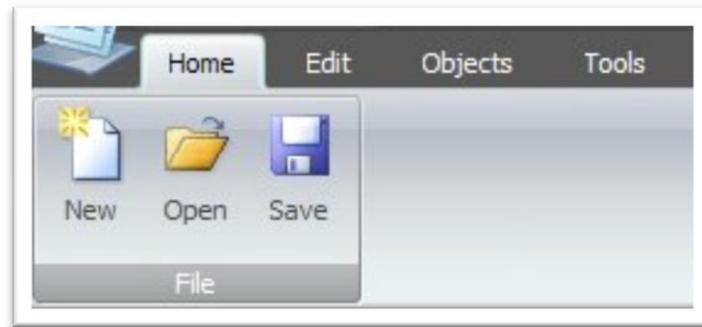
- Home:** starts a New design, Opens an existing design, or Saves a design.
- Edit:** has Clipboard functions, switches to the reverse of the card for a double sided design, and has a selection box for card size and orientation. There is a facility for the user to define a custom size card if required (up to A4).
- Objects:** All the objects that can be placed on the card are selected from this tab.
- Tools:** Grid and Ruler on/off, and Imperial or Metric measurements are defined here. It also has the facility to delete a card database from the system, and to import a card design that has previously been created outside of the system or is from a previous release.

### 2.1 Creating a Design

1. Check the required design Size and Orientation in the Edit tab. A standard identity card is usually CR80 size (85mm x 53mm) and can be landscape or portrait orientation. The 'Credit Card Landscape' and 'Credit Card Portrait' options offer a quick method of selecting the normal sizes.

2. Open the Objects tab and select the objects that you want on the card. Objects come in four main groups:
  - a. one or more pictures of the person
  - b. fixed, background objects such as graphic logos, coloured shapes, field labels, company names etc.
  - c. user entered variable text fields, such as the cardholder's name, job title, expiry date.
  - d. biometric data fields for scanning, such as a barcode, magnetic stripe, contact or contactless chip data.
3. Start with the photo as this is usually the largest data object, and drag out an approximate place for it on the card. Double click on the face icon to set the properties for size, border etc. as described below in 'Object Properties'. As with all objects, its position can be adjusted later, using the grid if required to ensure accurate ranging.
4. Add a one or more graphic image files such as a logo if required, or perhaps a solid graphic shape to provide an area of colour over part of the card. A full background graphic or shape option to cover the whole card is available in the object's Properties box. Note that graphic images or shapes may be placed behind other fields by right-clicking the mouse with the cursor over the image.
5. Add the Label fields, which are fixed text such as company name or strap line, return address or any other text common to every card. This will usually be in a prominent font and may be in a specific house colour.
6. Add the variable user text. These will be data fields that are specific to each cardholder. Space should be allowed for long names or job titles when dragging the object box, although the system can automatically reduce the font size to fit wherever possible. Multiple lines can be used, as described below in the 'Object Properties' section. Text fields can be concatenated, or joined together, to print as single fields if required in a Multiple Link – a typical example is where two fields such as forename and family name are to be printed as a single field to give the full name.
7. Add the biometric features, such as magnetic stripe or barcode objects. These will be dependent on one or more of the user text fields for their data so should be added last.
8. If any of the above text or graphic objects are required on the reverse of the card, you can the display the back panel with the 'Switch to Reverse' option in the Edit tab and add them in the normal way. Objects can be moved between the front and back of the card with the Cut and Paste functions in the Clipboard tab. Note that most of the objects on the front of the card can be duplicated automatically on the reverse when printing without having to redefine them, so space should be allowed for that on the reverse if required.
9. Save the card design using the icon in the File Organiser box or task bar. Give the card a unique name and identify the location where the card database and pictures are to be stored. This may be the default location (C:\PROGRAM FILES\POSITIVID\CARDS) or it may be a network drive that is regularly backed up. The default database format is Microsoft Access 97. Alternatively, a card database may be linked to an existing SQL database: if this is required, see section 2.6 of this manual, 'Linking to SQL'.
10. There is a History option available to track all card changes and print operations. If this is required for this design, tick the box in the Save panel, and use the '...' icon to list any change reasons that you may wish to track. These will appear in the production screen and can be selected to be recorded with the change details.

## 2.2 The Home Tab



### New

Clears the card face for a new design, after issuing a confirmation request message.

### Open

This opens the Card Select list which contains all the cards known to this system. If the Preview box is ticked, each card can be checked from the thumbnail images of the front and reverse. If you are opening a Microsoft Access-based card design that has already had records entered, you will see a warning message about records being overwritten, and also have the opportunity to take a security copy of the database (not the pictures) which is stored in the backup directory under the positivID program directory chosen at installation time. This backup can be copied back to the appropriate cards file and renamed card.mdb if the main database is corrupted for any reason during the design update process.

The Open button will not necessarily list any cards that have been manually copied onto this machine or are available across a network. To add previously designed cards that are new to this system, they must first be Imported. Details of this are in the Tools tab paragraph below.

### Save

After completing or amending a design, the card database must be saved. Selecting the Save button opens a Card Description box:

**Card Name:** give the card a meaningful, unique name.

**Card Details:** a free text area for entering any comments that can also be viewed in the card printing program

**Card Save Directory:** the default is as shown here, but many users save cards in a particular location for security, backup or just personal space allocation. Use the '...' icon to open a file browser to select a location.

**Database Format:** the default is Access 97, but the card can also be linked to an SQL database (see section 2.6)

**Disable SQL Update:** tick when the data is in an SQL database belonging to another system and must not be updated through this system.

 A screenshot of a dialog box titled 'Card description'. It contains several fields and options:
 

- Card name:** A text field containing 'positivID Demo Card' and a 'Set password' button to its right.
- Card details:** A large empty text area with scroll bars.
- Card Save Directory:** A text field showing 'C:\Program Files\positivID\Cards' and a '...' button to its right.
- Database format:** A dropdown menu currently set to 'Access 97'.
- Disable SQL Database Update:** An unchecked checkbox.
- History Audit Trail:** An unchecked checkbox with a '...' button to its right.
- At the bottom are 'OK' and 'Cancel' buttons.

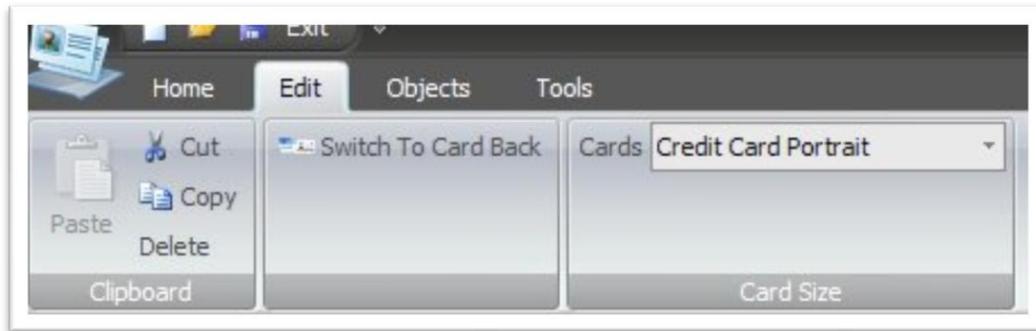
**Set Password:** a saved card can be protected with a password which must be provided when printing, reading, updating or deleting the card. Select this button to set or update the password.

**History Audit Trail:** tick to keep a record of all changes and print operations to this card database. Select the '...' icon to list all the reasons that you wish to record – these will appear as a drop down list in production.

The History data can be accessed from the print program database screen.

## 2.3 The Edit Tab

This contains extra functions that are useful when creating a card.



### Clipboard

Objects on the card can be cut, copied, pasted and deleted using the Clipboard in the normal way. An object can be moved from the front to the back of the card (and vice versa) by cutting it, switching to the reverse, and pasting it on the other side. Objects should be selected by a single click before any clipboard operations are attempted.

Objects that have been copied have their own properties which can be changed once the object has been pasted in its new location. A text object that has been copied will be pasted with a new name but will have the same text properties as the original, so multiple text fields of similar characteristics can be created by copying and pasting in succession.

Objects can also be copied and pasted using the Windows convention Ctrl-C and Ctrl-V keys and selected objects can also be deleted using the Delete button on the keyboard.

### Switch to Card Back/Front

This replaces the feature in previous positivID releases that allowed objects to be moved by dragging them over the 'back' or 'front' icon on the card work area.

Use this button to simply toggle between the front and back of the card.

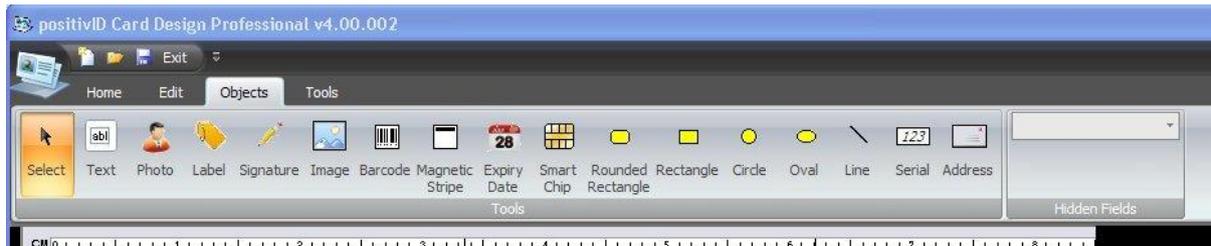
### Card Size

The majority of identity cards are credit card size - 85mm x 53mm (also known as CR80) - and the common use of this feature is to switch between portrait and landscape orientation for credit card sizes. However, applications do exist where visibility is paramount and which therefore require larger cards, and PVC card printers for these can go up to CR100 size. positivID Professional is also used for non-staff applications (e.g. to identify horses in a horse show or builders' equipment in a building site) and for these a large, laminated A5 sheet can be used. In fact, positivID can produce badges in any size up to A4 although these large designs will almost certainly be printed on paper or card on sheet feed printers and then hot or cold laminated.

Drop down the list of card sizes and select one of the pre-defined card sizes if known, or use the User Defined option to specify any width or depth up to A4 size.

## 2.4 The Object Tab

Select the required object from the Object tab, and drag it out on the card face. Double click over the object for its properties box. The properties box can be re-opened at any time by double clicking on the object. A single click will select the object for cutting or copying, or for deleting. Objects are usually printed visibly on the card, but can be made invisible by switching the Visible box off in the Properties box. The object disappears from the card face and is listed in the Hidden Fields list at the right hand end of the Objects menu. They can be made visible again by double clicking on the object name in the Hidden Fields list.



### Photos

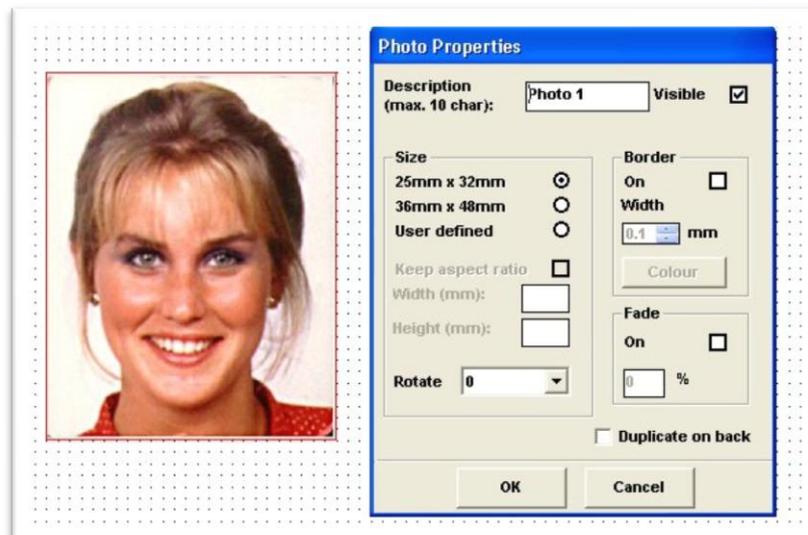
One or two photo objects may be added to the design. Each photo can be duplicated on the front or reverse if required.

**Size:** normal is either 25mm x 32 mm (1" x 1¼") or 36 by 48 mm. Use the larger photo where clarity is required, e.g. for elderly people to see easily.

**User defined:** specify photo size up to card size.

**Keep Aspect Ratio:** tick to maintain shape.

**Rotate:** rotates the photo



**Visible flag:** untick to prevent photo printing on card

**Border:** puts a border round the photo of required width and colour.

**Fade:** tick the box to fade photo. Usually used for second copy of photo behind text. Fade to about 35% to see text over it.

**Duplicate on back:** prints a copy of the photo in the same place on the card back.

### Graphic Image

One or more graphic images may be added to the card, and they can be overlaid on each other or on other objects by right-clicking the mouse buttons. A full edge-to-edge background graphic (or colour shape) can be obtained by ticking the box in the properties box.

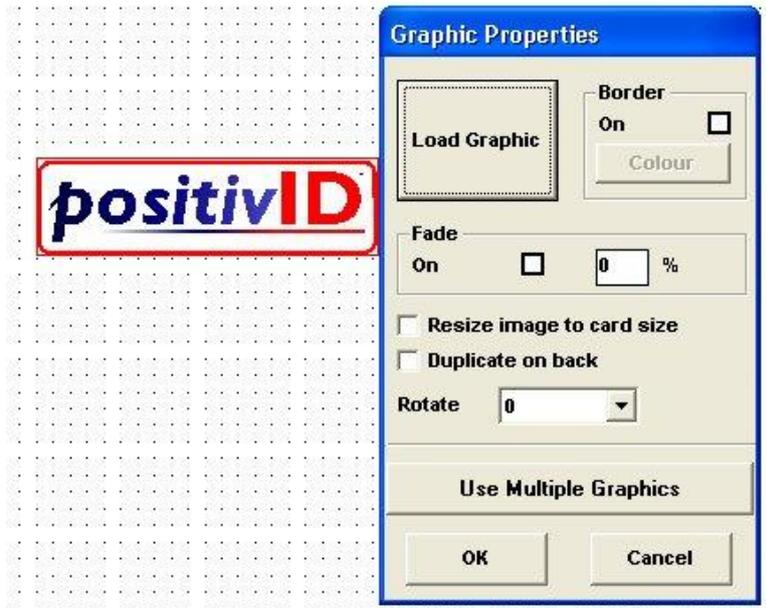
A key feature of positivID Professional is that a choice of which image to print can be made for each wearer's card at print time, dependent upon the contents of a linked data field. For example, for a badge design that covers a group of companies, the logo graphic printed can vary according to the contents of the company name field. The only restriction is that all the selectable graphics must be the same size and will occupy the same place on the card design.

**Load Graphic:** opens a file browser to locate the graphic file. First shows jpeg images by default.

**Fade:** tick to switch on, and use the % box to set fade so that other fields can be seen over it.

**Resize image to card size:** tick to stretch the image to the edges of the card to provide a full background.

**Duplicate on back:** tick to print a copy on card back.



**Border:** prints border of selected colour.

**Rotate:** rotate the graphic image through the degrees shown

**Use Multiple Graphics:** If required for the multiple graphic option. Open to select the data field to link to, then list all graphic files to be used as alternatives and the data field content that will trigger each graphic.

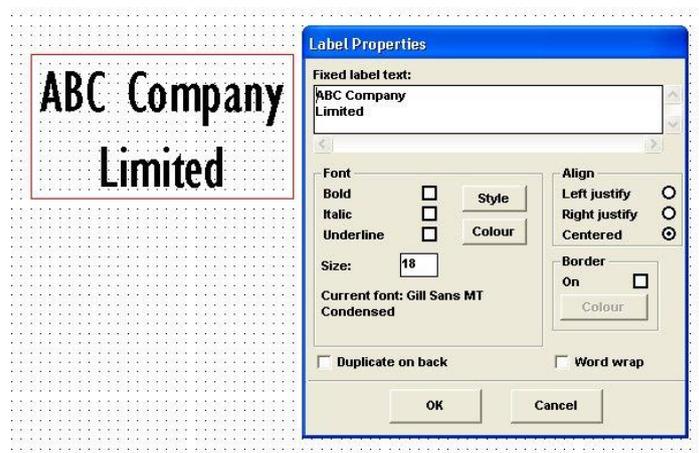
## Label

A Label field is fixed text that will appear on all cards. Text can be aligned manually or automatically.

**Fixed Label Text:** type the text to appear on the card.

**Font:** set the font characteristics.

**Duplicate on back:** tick to print a copy of this label on the reverse.



**Align:** set the justification

**Border:** prints a border of selected colour

**Word Wrap:** automatically wraps words to fit the object box dimensions.

## User Text

A User Text field is for data entered by the operator that is unique to each person. There are a wide range of options available for formatting and defining the text content.

**Description:** give the field a unique, meaningful name. This will appear in the production screen as a prompt for data entry.

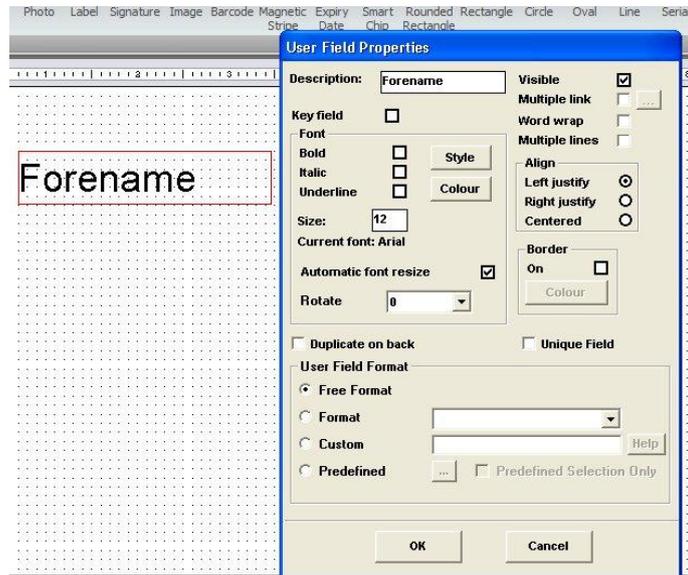
**Key Field:** tick this to make it mandatory to enter data in this field.

**Automatic font resize:** default is ticked. Allows font size reduction for long data entries. Limits can be defined in Configuration Options (section 4.1).

**Rotate:** rotates the field

**Duplicate on back:** prints a copy of this field on the reverse.

**User Field Format:** see below.



**Visible:** Untick to prevent printing of this field. The Field then appears in the Hidden Fields drop down list at top of the Object tab and can be clicked to bring up properties box.

**Multiple link:** see below

**Word Wrap:** allows text to flow to fit box dimensions

**Multiple lines:** allows multiple line input

**Align:** sets text justification in box

**Border:** prints border of selected colour

**Unique Field:** checks that this content is unique when entering data

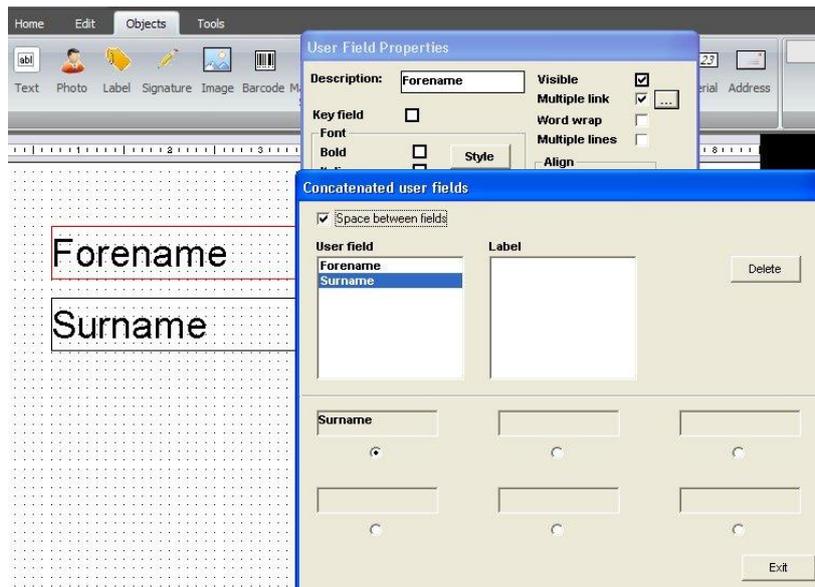
User text fields will appear in the data entry screen of the production program in the order in which they are created or updated. Once all fields are created, to adjust the order in which they appear, single-click on each field object (including Hidden fields) in the sequence required.

There are two special features in the User Text properties: Multiple Link and User Field Formatting.

### Multiple Link

Data such as a person's name is often held in separate fields: forename and family name (or surname). It is sometimes required to print these on separate lines on a card design, and in that case longer forenames or surnames can be accommodated without a problem, but it is also often required that they be joined together to form one field when printed. However, if they were to be printed alongside each other, there would be a problem in aligning the fields: long forenames would overlay the start of the surname, and short forenames would leave a gap before the start of the surname. There would also be a problem if one of the two name fields had a font reduction applied to it, leaving the other one at full size. The Multiple Link feature in positivID Professional caters for these conditions.

The feature is triggered in the properties box of the first field in the link. All fields to be concatenated need to be defined first, without the Multiple Link box being ticked. Then bring up the properties box for the first field again, in this example Forename, and then click the Multiple Link box and the '...' icon next to it. The following box appears, with a list of all the User text fields and Label text fields so far defined:



The first field does not need selecting again: to do so would cause it to be printed twice. Select the second field in the link, in this example Surname. To print the fields with a space in between (as you would in the case of a full name) tick the box at the top.

The ability to put Label fields in allows for punctuation or other fixed text (such as special barcode characters) to be added to the text string as well. If these extra fields are not to be printed elsewhere on the card, they can be hidden behind the photo or other graphic field.

Up to six fields can be concatenated in this way. The resultant character string will have the same properties (font, size, justification, font reduction etc.) as the first field. The object box for that first field must therefore be large enough to accommodate all the concatenated field data. Font reduction, if any, will be applied to the whole concatenated string. Once the link is set up, open the properties for the second and subsequent fields, and switch off visibility to prevent them printing in their original position as well as in the multiple link field.

### *User Field Format*

The default is Free Format: the user can enter any text characters into the data entry field. However, there are times when some restrictions need to be applied, or where the choice of text is limited to a known list and can therefore be selected without having to retype it every time. The formatting options in this box allow these options to be applied.

The following options are available in addition to Free Format:

- Format:** Select 'Upper Case' or 'Lower Case' to force text into the appropriate case.
- Custom:** Defines alphabetic and numeric formatting restrictions for the field entry, using placeholders to identify individual characters. Display the Help panel for the full list of options.
- Predefined:** Allows a list of pre-entered entries to be selected at production time. The list can be populated by clicking on the '...' icon and entering data into the panel. This list can also be cut and pasted from other sources, such as a department list. If the 'Predefined Selection Only' box is ticked, then the data entry will be restricted to one of the list entries, otherwise freeform text can be entered as well.

## Signature

Signatures appear in three ways on identity cards. The most common, as used on credit cards, is a writeable strip which is stuck to the card when it is manufactured, and on which the cardholder writes his or her name when the card is issued. The second type is where a graphic image of an authorising person's signature is printed on the card. This is just a graphic file and is added to the card design in the manner described in the Graphic Image section above.

The third way is for the cardholder to sign a touch-screen pad such as the SignatureGem. This will store an electronic version of the signature with the other personal data, and print it on the card. To add a signature, a Signature object should be placed on the card in the position at which the signature will be printed. The box should be dragged out to be large enough to allow for the flourishes of individual signatures – they are not all long and thin!

Double click on the Signature object once it is on the card face, and the properties box appears:

### Description:

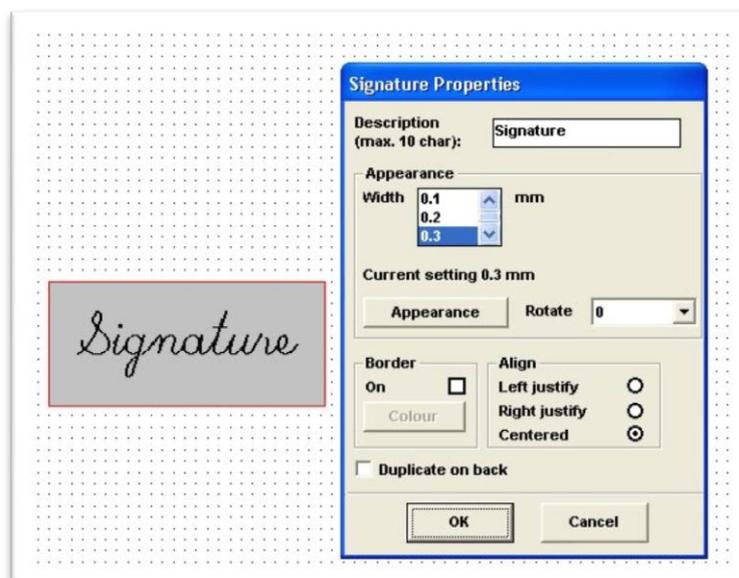
defaults to 'Signature' – does not need changing.

**Width:** sets the width of the writing in the printed signature. The default is 0.3 mm.

**Appearance:** determines the colour of the printed signature. The default is black.

**Border on:** tick the box to place a border around the object, and to set the border colour.

**Duplicate on back:** prints the signature on the reverse of the card as well.



**Rotate:** rotates the signature through 90 or 180 degrees.

**Align:** sets the justification of the writing in the box – the default is centred.

## Expiry Date

Card expiry is an important part of the security of any identity card system. Expiry is usually a fixed period after the date of issue, such as 1, 2 or 3 years; or it could be, for example, the 16<sup>th</sup> birthday of a scholar for a bus pass (in this case the Expiry Date is set 16 years and linked to user field Date of Birth). Alternatively, it may be a specific date, such as the end of term for a school pass.

Specific expiry dates are handled through normal user text field entry, and could, for instance, be in a drop down list in the Pre-defined format option, but positivID Professional has a special facility for automatically calculating fixed period expiry dates and printing them on the card.

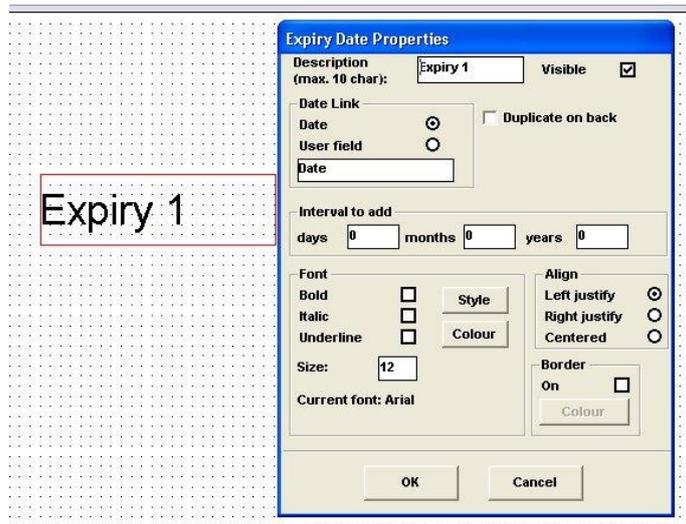
To add an automatically calculated Expiry Date object, select the icon and drag out a box large enough to print the date.

**Description:** defaults to 'Expiry 1' for first object, subsequently Expiry 2 etc.

**Date Link:** specifies which date is to be used as a base for the automatic calculation. The default is the system date on which the record is created, but it can be any user field containing a date. This will be restricted to date formatted entries.

**Interval to add:** the period before the card expires. Enter days, months or years.

**Font:** text characteristics of the printed date.



**Visible:** untick this to prevent the expiry date printing.

**Duplicate on back:** prints the date in the same position in the reverse.

**Align:** sets the justification of the printed date.

**Border:** tick the box to place a border around the object and set the colour.

## Graphic Shapes

A variety of different graphic shapes can be placed on a card and their size and colour adjusted as required. The shapes can be filled with colour or just be an outline, and they can have a border added. The width of the Outline can be increased by selecting a border of the same colour. A full edge-to-edge colour background over the whole card can be selected by ticking the appropriate item in the properties box.

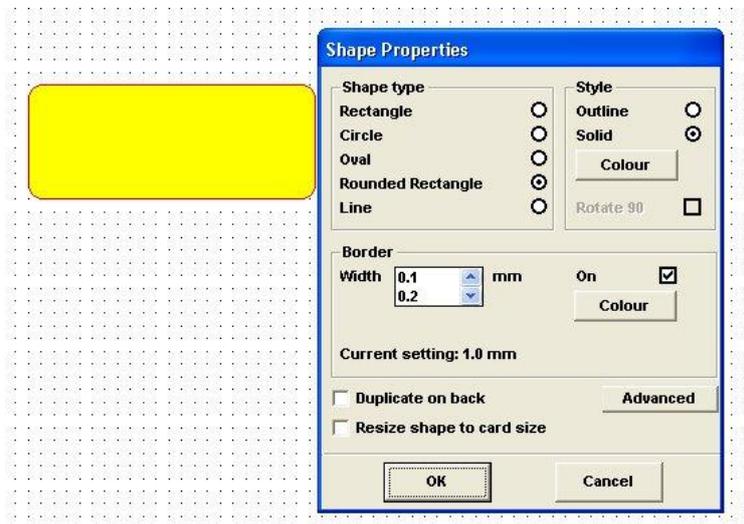
The shape properties are similar to a graphic file: the colour can be changed according to the content of a linked data field, thus allowing visible categorisation of the wearer by job type, department, academic year or any other classification.

**Shape Type:** the shape selected on the Objects bar will be shown selected.

**Border:** this can be selected and colour and width chosen. Note that for an Outline shape, the border will be more obvious than the outline.

**Duplicate on back:** puts a copy on the reverse of the card.

**Resize shape to card size:** stretches the shape to the card edges to provide a full background



**Style:** select for a solid or outline shape, and select the default colour.

**Advanced:** for the multiple colour option. This will open a second panel: tick Flash Object and select which data field will trigger the colour changes. Then Set Values, and enter the data field contents on the list. Click and select the matching colour. If the field text does not match a specified colour, the shape defaults to the style colour first selected.

## Line

A thin horizontal line can be drawn on the card in black. There are no other properties available for this object.

## Serial Number

Each record in the positivID database has a unique serial number which is used internally by the system when working with the record or linking to the appropriate picture. When the

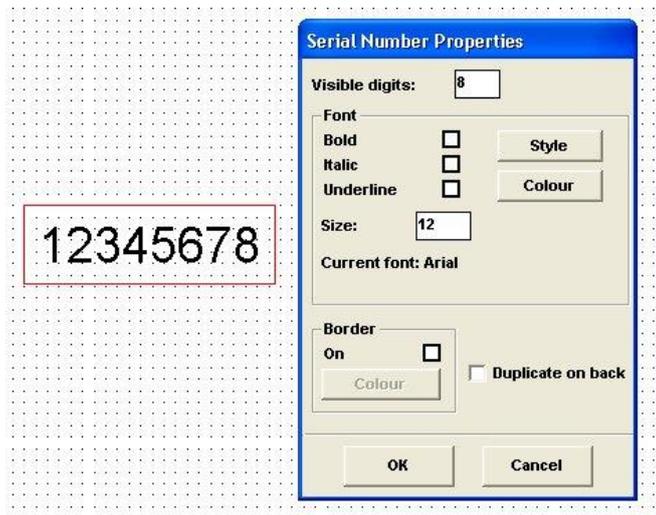
numbers are allocated in a new database, the default is to start the numbering at 000000001 and increment by 1, although it is possible to set the start number higher when importing records from other sources to avoid overwriting records that may already be in the database.

The serial number is therefore a unique identifier, and can be used in barcodes or magnetic stripes to identify the user externally. As it is always present it is like a hidden field, although not listed in the Hidden Fields list, but it can be displayed on the card if required by selecting it as an object and setting its properties.

**Visible digits:** The number of digits to be printed can be shown - e.g. for a database with only 1000 records select 4 and it will print 0001 to 1000 (or up to 9999).

**Font Style:** sets the font characteristics of the printed number.

**Border:** tick for a border around the object, and select the colour.



**Duplicate on back:** prints a copy of the number on the reverse.

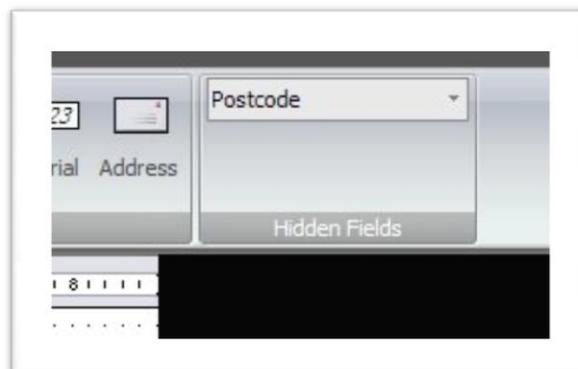
## Address

positivID Professional can be linked to one of the address systems that provide a full address in response to an entered post code or zip code. The positivID system is currently set up to work with UK postcodes and the 'Postcode' and 'Postcode Plus' systems from AFD Software, also the Experiens QAS system, but other similar systems can be accommodated by arrangement.

When the Address object is selected, the list of seven address fields appears in the Hidden Field list and the fields are added to the database. Each field has the properties of a user text field, so can be selected, made visible, and have all its text properties set as if it was a normal data field.

The system works by the operator entering the post code into the Postcode field at data entry time, after which the system completes the remaining address fields by linking to the postcode lookup system.

**Address:** select this object to populate the Hidden Fields list with the seven address fields.



**Hidden Fields list:** drop down the list to select any of the address fields. This will bring up the user text field properties box and the field can be made visible and properties set.

## Barcode

Although they are not as popular as they once were, barcodes are a cheap and easy way to identify the cardholder to other systems through automatic scanners and hand held readers. positivID Professional can print one or more barcodes on the card, with a choice of barcode symbologies or formats. Each barcode can be linked to one or more of the user text or label fields.

When the card is to be swiped through a reader, the industry standard size and position for the barcode is ½” high (13 mm) and its centre line should be ½” up from the bottom of the card.

Barcodes should normally be printed in pure black. On most systems, this will use the key black, or carbon, panel of the print ribbon which can be read by infra-red readers. For security purposes, the barcode can have an obscuration panel automatically printed over it in a non-black colour. This enables the infra-red scanner to read the key black code through the coloured panel, but prevents photocopying.

### Barcode Style:

Choose from the list. A common code is Code 39 or 3 of 9. A panel will display information and restrictions about each code when selected.

**Check Digit:** if this is required, tick the box.

**Text Visible:** If the text is to be printed underneath in small print, tick the box. Ensure the object box is deep enough to show this.

**Rotate:** rotates the barcode by 90 or 270 degrees.

**Duplicate on back:** tick to print on the reverse as well.

**Obscure barcode:** tick this to print a rectangle over the code in the selected colour (non-black)

**Barcode link:** Select one of the options for linking the code to a field. *User Field* enables a selection from fields defined so far; *Multiple link* brings up a panel so that up to three fields can be linked in one code.

**Font size:** default is the standard 36 point, or ½” high.

**Font Colour:** should be black unless another colour specifically required.

**Start and Stop characters:** required by some codes to complete the code.

## Magnetic Stripe

Up to three tracks can be encoded on an industry standard magnetic stripe, although in practice track 3 is rarely used. Track 1 is used where alphanumeric data, such as the cardholder’s name, is required. Track 2, which can only contain figures 0-9, is the most commonly used and can be for location codes, personnel numbers, pin numbers and other numeric data required for systems applications such as finance, access control or time and attendance.

Magnetic stripes have one of two densities: high coercivity or low coercivity. Hi-Co stripes are 4500 or sometimes 2750 Oersted (Oe) and are usually black, and Lo-Co are 300 Oe and are usually brown. Hi-Co are harder to erase, and are therefore used more often in domestic credit cards or corporate identity cards as they are more robust.

The Magnetic Stripe object in positivID Professional allows the operator to define what data goes into each of the stripes. It should be selected and an object dragged out on the card face in a conveniently free space. Where you put it does not matter: this object is just a placeholder to enable the properties to be accessed, and the object itself does not print on the card.

**Track No.** select this first. The system will confirm the type of data allowed on the track.

**Part No.** select this second. You can have up to six fields on each track.

**Track Details:** the contents of each track are displayed here as fields are added.

**Type:** Choose Hi-Co or Lo-Co depending on the type of card being encoded.

**Linked to:** select the data to go in this part of the track. *User field* drops down a list of fields defined so far. Labels such as / can be used as field separators.

**Serial Number Digits:** if the Serial No. is on the track, specify how many digits are to be encoded

## Smart Card Chip

positivID Professional can be used to encode the chips on contact or contactless smart cards. However, as each card has a special layout and the rules for access authorisation are defined by the application which will use it, it is necessary to add some customised code to the positivID program to suit each application. (There is one exception to this, which is where the chip number only is to be read and placed into the positivID database as an identifier. See below and section 4.6 for more details).

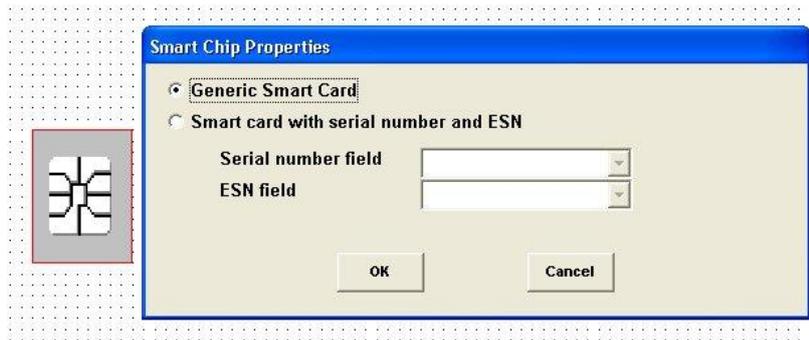
Potential users should therefore contact the positivID support team or the dealer who supplied the system and provide the details required for the extra smart card program. These details are: the type of card, the type of card encoder, the data to be added to the chip, the sector layout of the chip and the key fields that are to be used for read/write access. The positivID team will then prepare a program called `smartcard.exe` to be added to the positivID program directory, in place of the stub program that is released with the system. There will be a modest charge for this extra programming work.

During card production, the printer will feed the card into the encoder first and positivID will call the `smartcard.exe` program to encode the card. It will verify that the encoding has worked, and return the card to the print station to complete the printing.

To add a smart card object to a card design, the Smart Chip icon is selected and placed on the card face. As with the magnetic stripe icon, this object does not print, it is just used as a placeholder so that its properties can be accessed easily. It can therefore be placed anywhere convenient on the card face – it does not need to be in the traditional chip position.

As all the user-specific data requirements are incorporated into the `smartcard.exe` program, there is little that can be specified at card design time. However, one option is available and that is to read the unique chip number that all cards have, and this can be done using the stub version of `smartcard.exe` without any extra programming. positivID Professional can then insert the chip number and the electronic serial number into defined user text data fields and, if required, print the chip numbers onto the card.

**Generic Smart Card:** select this if the chip is to be encoded through a customised smartcard.exe program.



**Smart card with serial no and ESN:** select if only the chip serial number and/or Electronic Serial Number are to be read, then use drop down list to identify user text fields for data to go into.

## 2.5 The Tools Tab

The Tools tab controls the format of the card work panel, and also contains two important utilities: 'Delete a Card' and 'Import a Card'.



### Grid on/off

Switches the grid points on the card work panel on and off. When Grid is on, the objects placed on the card face will lock to a grid point at their top left corner when moved. If the object is right justified, it will lock at its top right corner to a grid point.

### Ruler on/off

Switches the ruler at the edge of the card work panel off and on. The units displayed in the ruler can be switched from Imperial (inches) to Metric (centimeters).

### Delete a Card

When a card design and database is no longer required, this button will remove all reference to it from the positivID system. Selecting the Delete button will bring up the list of cards on the system, and selecting a card and confirming the warning message will result in that card being removed. Note that all data will be lost: the design, the database and all pictures will be deleted and the reference to the card will be removed from the known cards list.

If the card is an imported card (see below), that is it was not created or does not exist on this system, then the database and pictures will not be physically deleted, but all reference to that card design and data will be removed from this system.

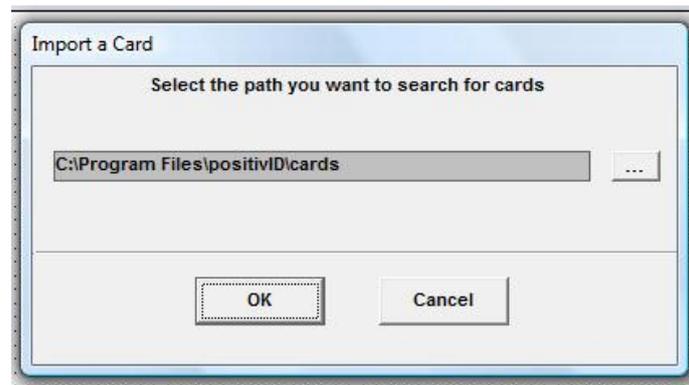
### Import a card

This operation should not be confused with importing data to an existing card database. Here we are talking about adding a fully designed and possibly populated card database to the

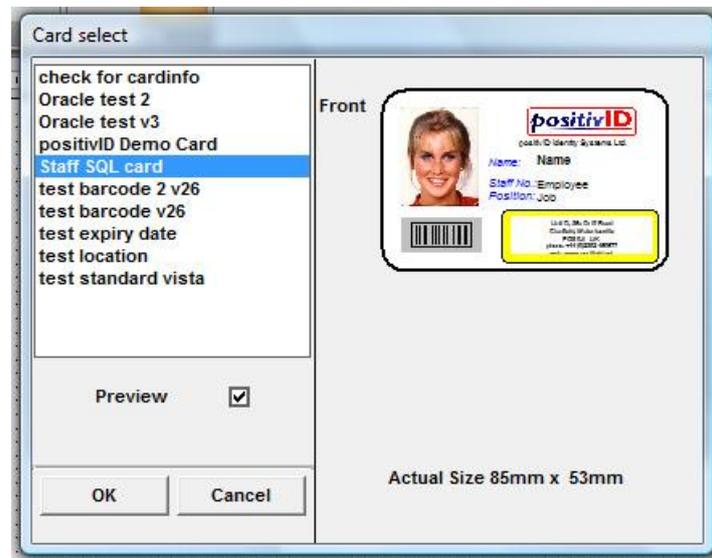
system from an outside source. The card could have come from an old release, have been copied over to this new installation from another machine, or it could be somewhere else on the network and needing linking to this copy of positivID Professional.

The process involves updating the internal card information file to make this installation aware of the new card, and to identify its location on the system or network.

Select the Import button to bring up a file browser box, and use this to browse for the directory containing the card design(s) to be imported. You can leave the search at a high level directory to search for several cards in sub-directories below it, but don't leave it at too high a level – the system will search every directory below the one you specify.



The search of the directory returns a list of all the cards found in that directory and its subordinates. If the Preview box is ticked, you can check each card by selecting it and reviewing the card thumbnail that is displayed. To import the card, select it and then the OK button at the bottom: this will build the link to the card. You can repeat for other cards in the list. When you have completed importing cards, you can exit the card list with the Cancel button.



## 2.6 Saving a card and Linking to a SQL database

Note: this section is not designed to be a course on SQL and its database management systems, nor on ODBC and other data linking features of Windows, as practices vary from one installation to another. It is assumed that the card designer has access to this information, either through their own knowledge or through a corporate IT department.

### ***Introduction***

The normal method of saving a card design to the default folders, or to a specific folder on the machine or network, is covered in section 2.2 under the Home Tab description.

As explained in sections 2.1 and 2.2, positivID Professional uses as its default database architecture Microsoft Access 97. This allows a medium sized database to be accessed by one or more operators with a reasonable response time, whilst maintaining data integrity. It also offers all the reporting and utility features associated with Microsoft Office products through data import and export functions. It has the user benefit of creating its database as the objects are defined: in fact, the database creation is transparent to the user.

However, it is recognized that this Access system will not suit all customers. This may be for performance or security reasons, or through corporate practice, or because of the pre-existence of a corporate personnel system containing all the required data. To provide for this alternative scenario, positivID Professional card designs can be linked to an existing SQL or Oracle database. The SQL system may have been set up with this application in mind, and just contain the positivID data, or it may be part of a large corporate HR system and the positivID card application is required to make use of the existing data.

### ***Process Overview***

If a corporate SQL system is not already available, it may be necessary to install a SQL server on the positivID machine. The positivID installation disk has Microsoft's SQL Server 2008 and SQL Management Studio Express on it and they can be installed from there or from the Microsoft Web Site. Alternatively, the Oracle Database Express Edition can be downloaded and installed.

Card design for a SQL database starts in exactly the same way as for an Access database. Consideration should be given, however, for the need in SQL for unique key fields, and for the Key field in the SQL Tables to be represented by a user data field on the card (preferably a key field – see section 2.4). Note also that, when saving the card, SQL card names have a maximum of 16 characters.

When the card is saved, the Database Format list is dropped down to select SQL. A list of the ODBC Data Sources will display, and the SQL database to be linked to can be selected. If the database has not yet been created, it can be set up using SQL database and table creation facilities, and then the ODBC connection made from the positivID card design afterwards.

The SQL table and key fields are then identified, and the individual data fields are then mapped between the card design and the SQL database. Finally, the location of the cardholders' photos is recorded.

## Process Steps

### ODBC link

**Card Name:** should be no more than 16 characters.

**Database Format:** set to SQL (in Card Description panel)

**Select database:** Here the Staff db has been selected in the ODBC list



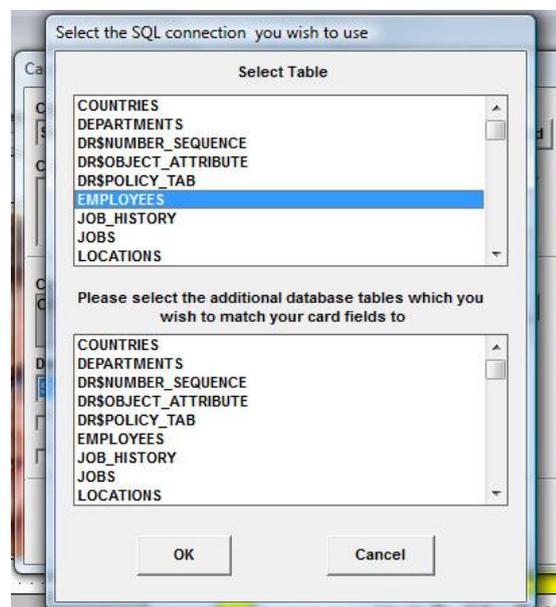
**Card design requires logon to save:** this is a security requirement applied in some corporate environments that ensures the user must login to SQL before working with the cards.

### Identify the key Table in the Database

#### Select Table

Select the table that holds the key data field.

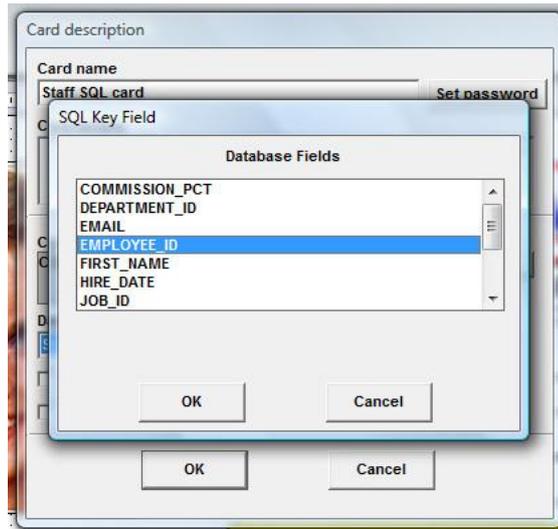
You can also identify in advance any other tables that contain data fields you wish to link to.



## Select the SQL Key Field

### Database Fields:

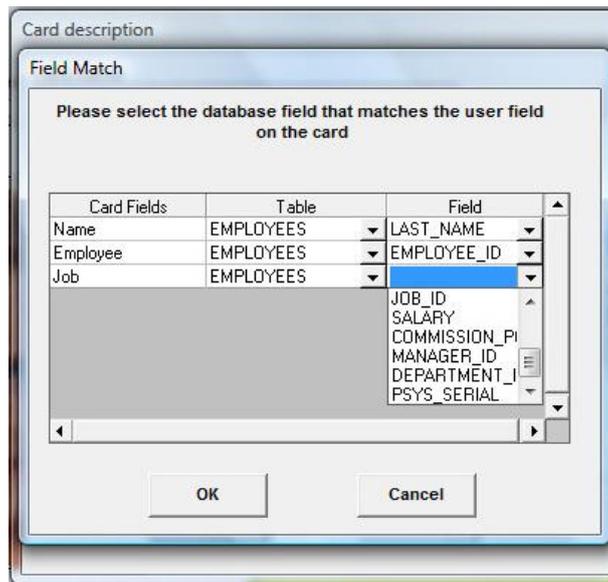
Select the unique Key field in the database that will be matched to the Key field in the card design.



## Match the Database and Card Design Fields

**Card Fields** will be pre-filled in when the panel opens.

**The Table column** should be dropped down for each card field to select the table in which the matching database field resides.



**The Field column** should be dropped down to select the matching field from the database table.

## Identify the Source of the Photos

**If the photos are stored** as binary objects in fields within the database, identify the table and field(s) that hold the photos.

The **Key field** for the table will be filled in by the system.

**If the photos can be changed** by positivID, tick this box

Click **Yes** to confirm the photos are saved in the database and to use the entries in the above settings.

Click **No** if the photos are stored as separate files, in the normal positivID manner.

**Photo Storage Location**

Are the photos stored in the database?

Please select which table and field the photo is stored in.

Select Table:

First Photo:

Second Photo:

Please select the database fields which relates to the primary table fields:

Key field:

Allow photos to be changed?

Photo Format:

Yes No Photo Save Path

### Photo format:

Drop down to select JPEG, BMP or OLE BMP.

### Photo Save Path:

Identify where the photos are. If the photos are saved on a central drive or under a master card design for this data, then browse to the photo directories.

## 3. The Card Production Program

The positivID Professional card production program is opened from the desktop icon or program list. The system has two main operating screens, and several control and utility panels. The system will attempt to open the last-used card design, but if this is not available then it will revert to the positivID default card design (the positivID Demo Card). It will also open with the default card design if the system license has not been activated: this means that the hardware key (dongle) has not been inserted into a USB socket. If an operator login has been specified for the card design then the operator will be prompted for access code and password before the system will proceed.

### 3.1 Screen overview

The two main operating screens are the Data Entry screen and the Database Management screen. The Configuration panels, which are accessed from the Options tab, govern card design selection, printing options, magnetic and chip encoding and other similar functions. The Export and Import utility functions are available from the appropriate tabs at the top of the database screen. There is an Image Manipulation screen for processing captured images.

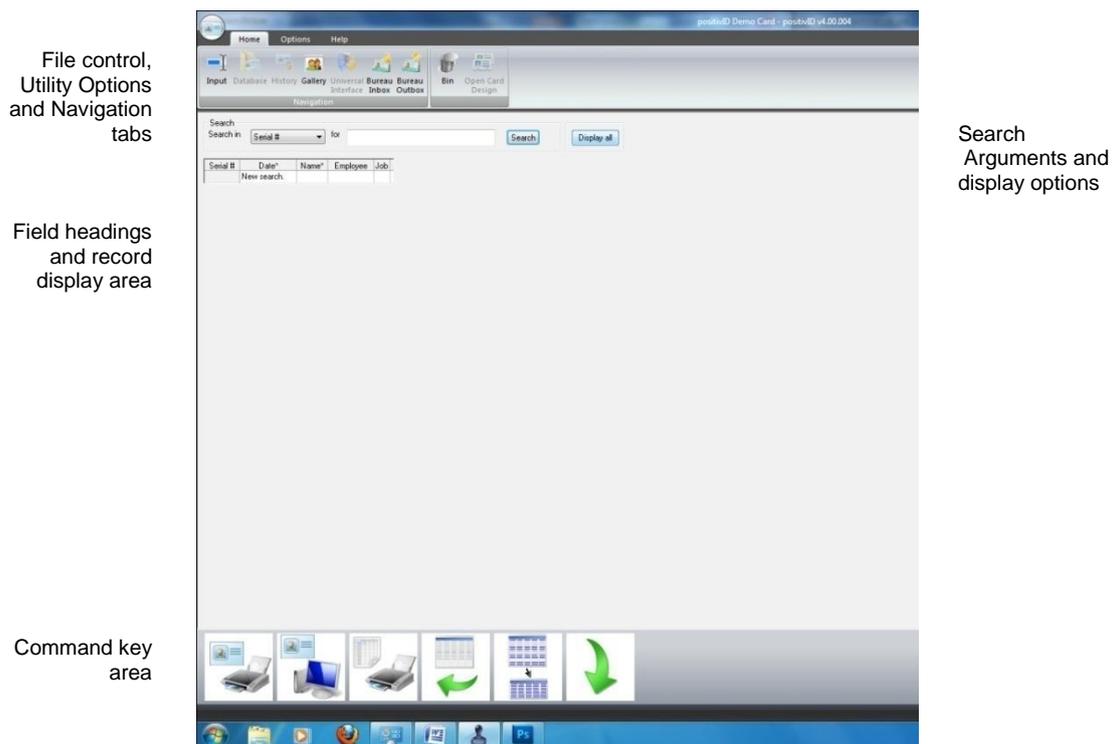
The main areas of the data entry screen are:

The screenshot shows the following components:

- File control and Navigation tabs:** Located at the top, including Home, Options, and Help.
- Picture display area:** A large rectangular area on the left side, currently showing a large 'X' indicating no image is loaded.
- Toggle button for second picture if present:** A small square button labeled 'Face Photo' located below the picture display area.
- Data entry area for text fields:** A form on the right side with fields for Serial # (00000004), Date\* (08 Dec 2011), Name\*, Employee, and Job. A 'Search for first' button is also present.
- Boxes to tick to freeze the contents of the field when the screen is cleared:** Small checkboxes next to the Name\*, Employee, and Job fields.
- Command keys for image capture, database screen access, data entry and printing:** A row of icons at the bottom of the window.

The essence of the system's data entry is that the user captures the photo from a camera or other device, or loads an existing image from file, and then adds the text fields. Once all data is entered, the other Command keys at the bottom of the screen are used to save and print the card. The Command keys also give access to the database screen, clear the work area for a new card, and bring up the signature capture interface if there is a signature object on the card.

The database management screen is made up of the following areas:



The Command keys on this screen work with the selection made in a database search. They refine the selection; cover batch printing or passing a batch of records to the data entry screen for updating.

Both of the screens will be described in detail below.

### 3.2 File Control, Navigation and Options tabs

There are three Navigation and Utility tabs at the top of the positivID Professional production program screens, each containing several icons. Some buttons are greyed out if not applicable to the current screen.

**Home:** **Navigates** between the Input, Database, History and Gallery functions. Also opens the transaction dialogs from the Universal Interface and the positivID Bureau Inbox and Outbox.

**Deletes** a card record in the database screen, and provides a direct link to the Configuration Badge Selection panel to open a new card design in the production screen.

**Options:** **Photo functions:** Copy and paste Photos, and open the Image Manipulation screen.

**Tools functions:** Select the printer, display the function key shortcuts, increase the data entry font size and access the Configuration panels.

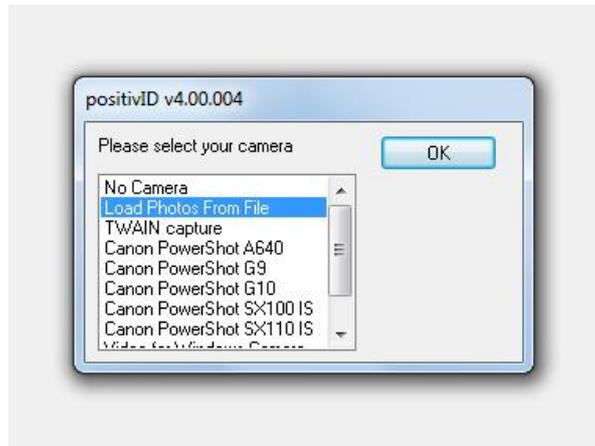
**Export functions:** Database screen utilities to export the positivID records in different formats.

**Import function:** Database screen utility to import data records from Microsoft Excel spreadsheets.

**Help:** Connects to the internet to open the [www.positivID.net](http://www.positivID.net) website. Options are to connect to the Home screen, to the positivID shop for the purchase of badge accessories, and to the support pages for this manual or for online help and communication to our support team.

### 3.3 Image Capture Selection

When the system opens, the operator is invited to select how the pictures will be captured. A panel with a list of all the options is presented in the middle of the screen:

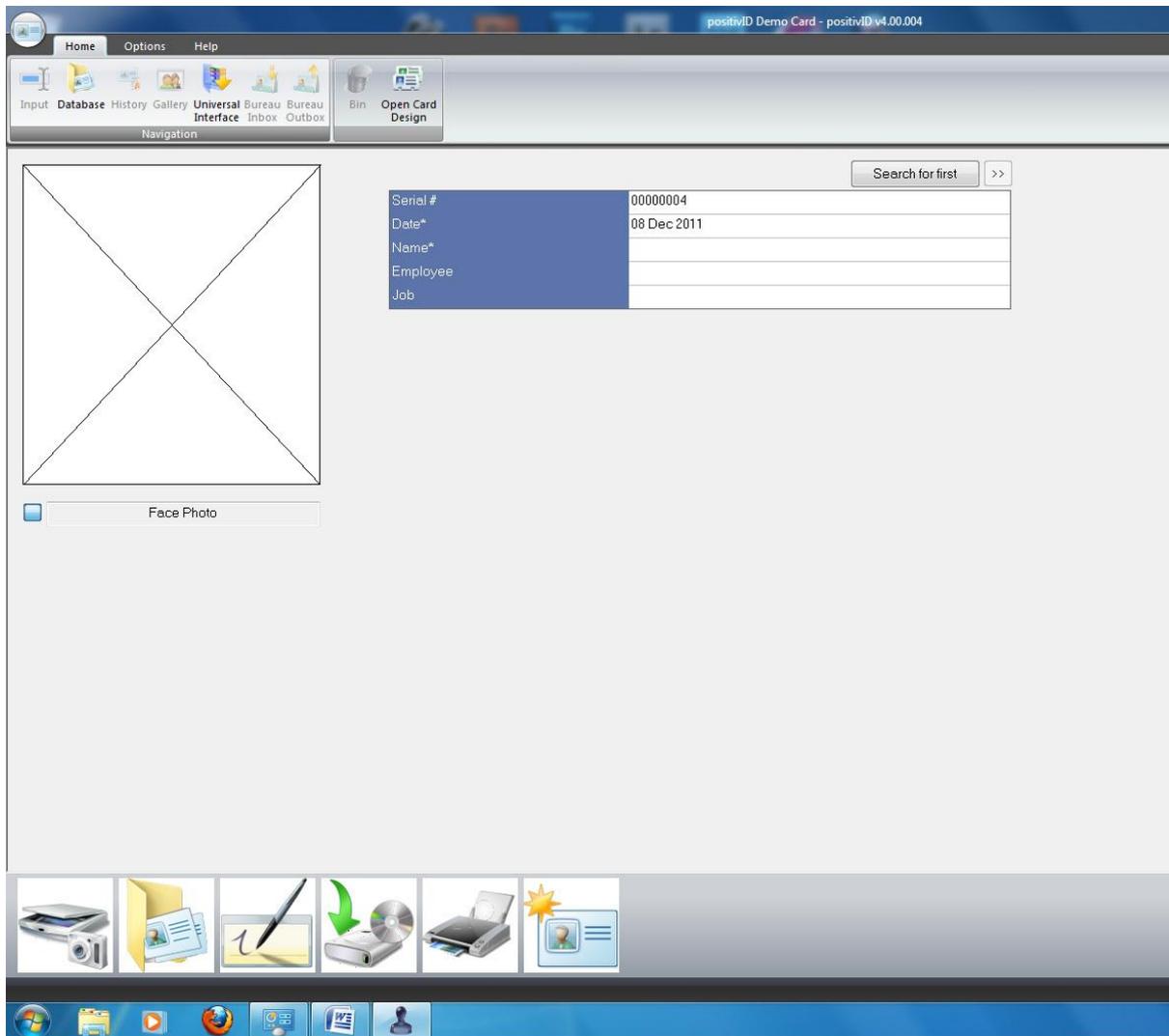


Options are:

- No Camera:** this card does not need a picture as there is no picture object on the card design.
- Load Photos from file:** the picture will be chosen from a disk file, using the browser.
- TWAIN capture:** the picture will be scanned or photographed through a device such as a scanner or webcam, which uses TWAIN interface technology to communicate with application software. The device's own software should be loaded first to provide its TWAIN modules. The choice of which TWAIN device to use is made when the first image is captured.
- Canon Camera list:** these cameras can be directly controlled from positivID Professional, operating in 'tethered' mode. It is essential that the camera's own software is loaded first in order to provide the hardware drivers required. The camera settings should be set to Av (aperture priority) for the interface to work correctly.
- Video for Windows device:** similar to TWAIN, this uses inbuilt Windows routines to access different hardware devices.
- Windows Clipboard:** the picture will be copied from another software system's interface or another positivID card design, and pasted into the positivID picture capture area.

Normally only one list would be displayed at start-up or card design change. A longer panel will be displayed with two selection lists for card designs where two separate pictures are specified. These lists are also available in the Camera Selection panel of the Configurations Options (see section 4.3), so that the user can change the method of input capture during a card production session.

### 3.4 Producing a card – the Data Entry screen



*(see section 3.1 for an overview of the screen's components)*

#### Navigation and control tabs applicable to the Data Entry screen

**Home:** In the **Navigation menu**, the **Database** icon switches to the Database screen (as does the Load Card command icon at the bottom of the screen).

The **Universal Interface** tab opens the input screen for real-time transactions coming from other systems, such as time and attendance systems, which add or update the card records directly. Details of the Universal Interface are in the Configuration Panels, section 4.10.

The **Open Card Design** brings up the list of card designs known to the system to allow a new card to be selected. This list is also in the Configuration Panels and can be selected from there. When a new card design is opened, the system confirms the current settings with an information panel.

**Options:** In the **Photo menu**, the photo (if displayed) can be **Pasted**, or **Copied** ready for **Pasting** into another record in this or a different card design.

The **Photo** icon opens the Image Manipulation screen and displays the current photo ready for adjustment. Double-clicking in the photo display area of the Data Entry screen also achieves this.

In the **Tools menu** the **Select Printer** icon brings up the printer driver panel and displays the usual Windows printer options.

The **Shortcuts** icon will display the list of function keys and show any text that has been assigned to them (see Text Entry section, below and section 4.5).

The **Large Fonts** icon will increase the size of the screen fonts in the text entry area.

The **Configuration** icon opens the Configuration panels for display and amendment to all the system's operating parameters. (See section 4)

### 3.41 Image Capture Operation

On the data entry screen, the image capture button is the first of the command buttons, on the left, identified by icon:

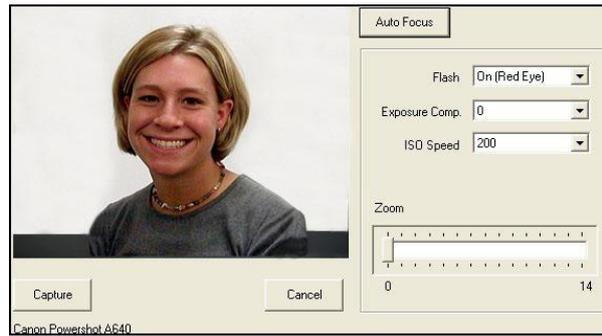


This will start one of a series of operations, dependent upon which image capture selection option was selected on start-up.

**Load Photos from file:** a file browser will open and the picture can be selected from a directory on the computer or network. Once a location is identified, subsequent capture operations will assume the same directory is required. Pictures can be in jpeg, bitmap (bmp) or other common image formats.

**TWAIN capture:** for the first image capture, a list is presented of all the TWAIN device drivers that are loaded onto the machine. The user should select which device, e.g. a webcam, is to be used. Subsequent picture captures in the same session will assume the same device, but it can be changed in the Camera Selection Configuration Panel (see section 4.3).

**Canon Camera list:** The Canon cameras have their own remote capture utility program, and positivID links to this to drive the camera's settings and capture operation. The view in the camera's viewfinder is transmitted to the positivID screen, and adjustments can be made to zoom, focus, aperture and shutter settings. The Powershot cameras do not have any settings to be made on the camera itself, but the EOS camera range is more restrictive and cameras have to be operated in Aperture Priority (Av) mode. The Canon utility panels vary from model to model - this is the panel for the Powershot A640 camera:



Video for Windows device: similar to TWAIN, this uses inbuilt Windows routines to access different hardware devices.

Windows Clipboard: the picture will be copied from another software system's interface, and pasted into the positivID picture capture area.

The image, once captured, will appear in the Image Manipulation screen, which opens automatically:

**Navigation bar**  
(greyed out)

**Picture area as captured,**  
overlaid with  
dotted crop lines.

**Command buttons:** revert to original, undo, redo and confirm OK

A screenshot of the 'positivID Demo Card' software interface. The window title is 'positivID Demo Card - positivID v4.00.007'. The interface has a menu bar with 'Home', 'Options', and 'Help'. Below the menu is a navigation bar with icons for 'Input', 'Database', 'History', 'Gallery', 'Universal', 'Business', 'Bureau', 'Interface', 'System', 'Custom', 'Bin', and 'Open Card Design'. The main area shows a photo of the same woman from the previous image, overlaid with a dotted crop box. To the right of the photo is a vertical column of 'Picture correction buttons' represented by icons: a person with a yellow highlight, a person with a green highlight, a person with a blue highlight, a person with a grey highlight, a person with a white highlight, and a person with a black and white dithered effect. At the bottom of the interface are four command buttons: a blue arrow pointing left, a grey arrow pointing left, a grey arrow pointing right, and a green checkmark.

**Picture correction buttons:** Colour, brightness and contrast, gamma, sharpen, soften, greyscale and dither. These buttons work directly on the picture or open up control panels with the adjustment parameters.

The image appears as captured, and can be adjusted using the enhancement tools on the right. The effects can be undone or redone using the arrow action buttons. The picture is overlaid with a crop box which conforms to the shape of the picture object on the card design. The box can be moved from side to side, or up and down, and corner handles can be grabbed to zoom in on the picture. When the 'Confirm OK' command button is pressed, the picture is cropped to the bounds of the crop box and the screen closes, posting the cropped picture into the main data entry screen.

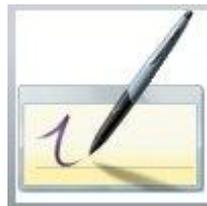
The picture can be recalled to the Image Manipulation screen for further adjustment by double clicking over the picture display area on the main screen, or by selecting the Photo icon in the Options tab.

If a second picture has been specified in the design, the toggle button below the picture display can be pressed to switch between the two pictures.

### 3.42 Entering user text data

The user text fields that were added to the card design in the design program appear at the top of the data entry screen, alongside the picture. Each field is preceded by a label which is the field name assigned during the design stage. If the field is a key field, it will have a star after the label. Fields appear in the sequence in which they were last accessed in the card design program. To adjust the sequence, open the card design and single-click on each field in turn, including hidden fields, in the required sequence.

When opening the screen, the cursor will usually be in the top data entry line, ready to start typing. If it is not, you can send it there with the text entry icon, the third of the command buttons:



The text entry icon is also used to bring up the signature interface panel, if a signature object is present on the card design (see below, section 3.43).

Data can be entered in the traditional ways, such as manual typing or copy and paste from another text source. However, there are also some extra facilities in positivID systems that can speed up text entry:

- **Function keys:** In the Configuration panels Session Options tab (see section 4.5), you can enter text that you will use frequently and assign it to one of the function keys f1>f9, Ctrl f1>Ctrl-f9, and Shift f1>Shift f9. This gives up to 27 pre-entered lines of text, and you can use them individually or combine them in a data entry line (e.g. enter 'Assistant' in f1 and 'Manager' in f2, then press f1 followed by [space] then f2 to get 'Assistant Manager' in the text line). The data assigned to the function keys can be displayed and checked in the production screen by selecting the Shortcuts icon in the Options Tools tab at the top of the screen. Note that f11 is pre-coded to enter the current date into a data line, and f12 will clear a text line and place the cursor at the beginning.
- **Upper or Lower case:** typed data can be forced into upper or lower case by selecting the Format option in the text field properties box in the Card Design program.
- **Specific formatting:** can be specified using the Custom option in the properties box, and using one of the place holder patterns available under the Help button.
- **Predefined:** This is a drop-down list of different text strings from which the entry can be selected. This could be, for instance, a list of departments or locations. The list is built in the design program using the Predefined option for this field in the properties box, as described in section 2.4. If the 'Predefined Selection Only' box is not ticked, freeform text can also be added.

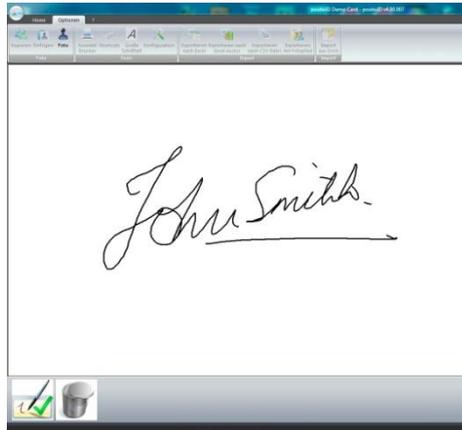
Records can also be added in bulk to the database by using the Excel Import facility in the Options Import tab (see section 3.64) or the positivID Import utility (section 5.1).

### 3.43 Adding Signatures

As explained in section 2.4, there are three types of signature commonly used on an identity card: a white signature stripe which the cardholder signs, as used in bank debit and credit cards; a graphic image of an authorising signature, which is treated like any other graphic in

the card design; and a dynamically entered signature which requires the cardholder to sign an electronic pad such as the SignatureGem 1x5. This signature is stored as a file with the record's picture.

If a signature object has been added to the card design, then pressing the Enter Text icon (shown above) will bring up the signature interface panel which will show the signature as it is being written on the pad. This allows it to be checked before confirming acceptance at the bottom of the panel, or rejecting it for the cardholder to try again.



### 3.44 Saving the record

Once the picture (or two pictures if specified) is captured and the text has been entered, the record can be saved and printed.

Saving the record is done with the Save icon:



A record can also be saved automatically following printing if the box is ticked in the Configuration Panels Session Options tab (see section 4.5). If the user tries to clear the screen without saving, then a warning message will appear with an option to save before clearing.

Records are saved to the database in sequential order. The pictures are stored as separate jpeg files under the card directory, keyed by the serial number of the record. With SQL databases, the pictures may be incorporated into the SQL record as binary fields.

### 3.45 Printing the card

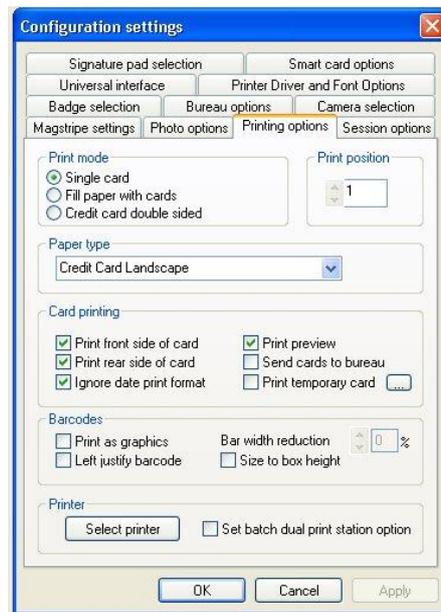
Once set up, the printing of the card is achieved by simply pressing the Print icon:



As with all Windows-based print operations, there are page formatting and printer driver settings to be considered at the start of each card production session. These are all accessible

through the Printing Options tab in the Configuration panels (see section 4.1 for a full description of the tab) and allow you to specify the answers to questions such as:

- Are you printing a single or double sided card?
- If it's a double sided card, are you printing the front, the reverse, or both?
- Are you printing on PVC cards, in either landscape or portrait aspect?
- Alternatively, are you filling a large sheet of paper with multiple cards which will be cut or pressed out of the sheet? (If you are batch printing these, set print time to 1 second (see section 3.52))
- Are you printing cards locally, or sending them to a positivID Bureau or another positivID system which has the printer attached?
- Which printer are you using, and what are the driver and ribbon settings?
- Do you want a print preview, to confirm the appearance of the card?



Once these settings are made, then they will stay in force throughout the session and, if not changed, for future sessions. If you have only one type of card to print, then the default Windows printer can be set to that card's requirements and that, too, will not need to be changed.

Cards may also be printed in batches from the Batch Print command icon in the database screen (see section 3.52).

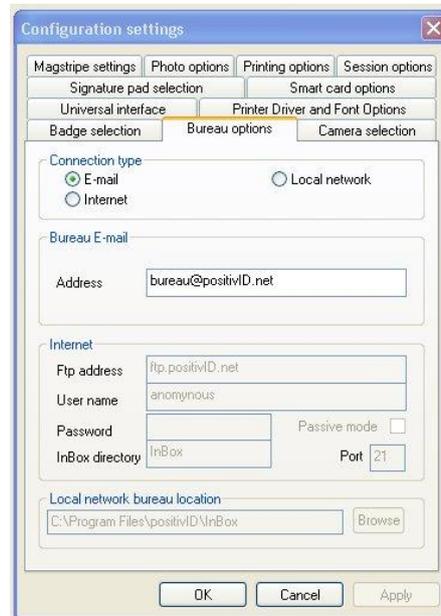
### **Sending the print record to another positivID system or Bureau**

positivID Professional systems are often used to collect employees' data in multi-site organisations where a printer in each site is neither required nor justified. In these cases the data is sent from the positivID systems in the remote locations to a central office where a single system and printer is situated. The printed cards are then returned by internal or external mail.

The Professional system can also be used as a data preparation system in conjunction with the positivID Bureau, which processes card batches on behalf of many organisations.

In both these cases, the system's data entry and picture capture process is the same as if the cards were being printed on site, but the print operation is changed to a transmit function. To use the data transmission facilities, tick the 'Send cards to Bureau' box in the Printing Options tab of the Control Panel (see above and section 4.1). This changes the print icon on

the data entry screen to include a globe symbol. The Bureau Options Panel controls the way in which the data records are transmitted.



The method used to transmit the data can be selected from the Bureau options tab in the Control Panels (see section 4.7): selecting 'E-mail' will link to the default e-mail system (MAPI client) on the machine, and use the e-mail address that you enter into the Bureau options; selecting 'Local network' will allow the destination folder location on the network server to be specified (for direct transmission, this would normally be the Inbox directory under the positivID program folder on the central system); and 'Internet' will allow a ftp site location and sign on to be identified.

The remote system stores the data record in its Outbox directory ready for transmission to the central office or to the positivID Bureau. The records from one session will build up to form a batch and can be reviewed in the Outbox by pressing the icon in the Navigation toolbar of the database screen. The Command buttons for the Outbox are (from left to right):



1. Transmits the batch of print records as a single, encrypted file, using the method specified in the Bureau Options panel. A panel appears and a password may be needed to gain access to the external world, otherwise the password field can be left blank. A batch identifier can also be specified if required – this is added to the batch file name. The identifier can be any alphanumeric characters, without blanks.
2. Prints a list of the records in the batch on a sheet feed printer, in spreadsheet format.
3. Returns to the database screen. Records still in the Outbox are preserved.

On the receiving system, the card records arrive and are decrypted in the Bureau Inbox.

## Print a temporary card

Having sent the main card print record to the central office or positivID Bureau, the system will allow the user to print a temporary card to a local sheet feed printer, so that the wearer will have some form of instant identification while awaiting the return of the PVC card. The box 'Print temporary card' in the Printing Options tab is ticked to activate this, and a background text string can be added to the temporary card by pressing the '...' icon next to the box.

### 3.46 Encoding a smart card

positivID Professional can write to a smart card chip as part of the print operation, or as a separate operation without printing. The options for this are available to select in the Smart Card Options tab of the Configuration Panels (section 4.6).

If the option to Encode Only is selected, then the Chip Encode icon appears between the Save and the Print icon in the Data Entry screen command area, and the Print icon is greyed out.



### 3.47 Clearing the screen

To clear the screen of picture and text data, press the New Card icon:



If the record has not been saved since changes were made, a warning message will be displayed with an option to Save the card.

When the screen is cleared, the sequence number at the top will increment, ready for the next record's input.

Where a card has fields that are repeated from one record to another, the contents of a field can be frozen and not cleared when the rest of the screen is cleared. To freeze a field's contents, tick the column alongside the data entry area for that field. This field will stay frozen until the box is ticked again to clear it, or the Clear All button is pressed at the top of the column.

### 3.48 Searching for records

The main interface for searching for records is the database screen, but if a limited number of records is required to be displayed, and the field contents are known, then a record can be retrieved quickly using the 'Search for first' button at the top of the data input area. To find a record, enter the contents of one field into its text line (you can use wildcard or abbreviated entries), and press the Search button. If there is more than one record with this field content, then you can use the arrow button to find the next entry. If the box 'Use Enter to Search for first' is ticked in the Session Options control panel (section 4.5) then pressing Enter will also initiate a search.

## Opening the database screen

The remaining command icon on the data entry screen is the Load Card button, which opens the database screen.



## 3.5 Retrieving, listing and updating records - the Database Screen

The primary function of the database screen is to allow the user to select and list database records, and then to carry out a variety of operations on them.

Serial #	Date*	Fire Assy	Company	First Aid	Fire Crew	Fork Lift	Emp Number	First Name	Surname	Address	DoB
00000001	06 May 2012		United Fruit Services	y		Y	1236	Arthur	Adams	39 James Street, Anytown	28/3/46
00000002	06 May 2012		United Fruit Distribution		Y		1234	Nelson	Andrews	32 High Street, Anytown	01/05/60
00000003	06 May 2012		United Fruit Retail	Y			2016	Harry	Anselm	28 Kings Road, Anytown	16/03/51
00000004	06 May 2012		United Fruit Distribution		Y		1279	Brian	Arlington	18, York Way, Anytown	26/05/64
00000005	06 May 2012		United Fruit Retail				1100	Cliff	Arlington	7, Ringway Road, Anytown	16/10/48
00000006	06 May 2012		United Fruit Services				2105	Mike	Arnold	34, South Lane, Anytown	02/08/69
00000007	06 May 2012		United Fruit Retail				1037	Peter	Altwood	3, Kestrel Close, Anytown	15/05/75
00000008	06 May 2012		United Fruit Distribution				1120	John	Barnard	8 Firs Avenue, Anytown	30/12/50
00000009	06 May 2012		United Fruit Retail	Y			1067	Ken	Barker	55 Gayton Road, Anytown	31/01/66
00000010	06 May 2012		United Fruit Services				1226	John	Bennett	12 John Street, Anytown	31/10/45
00000011	06 May 2012		United Fruit Retail				1030	Keith	Black	3, London Road, Anytown	01/03/42
00000012	06 May 2012		United Fruit Distribution	Y	Y		1112	Nick	Bonnar	78, Tremona Road, Anytown	23/07/73
00000013	06 May 2012		United Fruit Retail				1276	John	Boyle	29, Hill Rise, ANYtown	27/04/50
00000014	06 May 2012		United Fruit Distribution				1175	Nick	Boyle	14, High Street, Anytown	12/07/73
00000015	06 May 2012		United Fruit Retail	Y			1260	Clive	Brixton	51, King Street, Anytown	20/07/64
00000016	06 May 2012		United Fruit Retail		Y	Y	1261	Peter	Brown	32, Nightingale Woods, Anytown	12/12/55
00000017	06 May 2012		United Fruit Services		Y		1288	Ray	Burke	1, Davies Street, Anytown	07/11/54
00000018	06 May 2012		United Fruit Services				1184	Phil	Burrows	50, Courtyard Walk, ANYtown	01/05/61
00000019	06 May 2012		United Fruit Services			Y	2075	Kevin	Cluskey	67, St Mary's Road, Anytown	21/07/56
00000020	06 May 2012		United Fruit Retail				2065	Peter	Cook	143, St Mary's Road, Anytown	12/01/63
20 match(s).											

(see section 3.1 for an overview of the screen's components)

## Navigation and control tabs applicable to the Database screen

**Home:** In the **Navigation** menu, the **Input** icon switches to the Data Entry screen (as does the Return Arrow command icon at the bottom of the screen).

The **History** icon is active if the History option was selected when saving this card design (see section 2.2 for Save options). The History function displays a complete history of the updates and print operations for cards highlighted in the display list. See below (section 3.61) for full details.

The **Gallery** tab opens a small utility program which will display all, or selected, pictures from the database. See below (section 3.62).

The **Bureau Inbox** and **Bureau Outbox** icons open the equivalent of e-mail inbox and outbox functions. They are physically represented by directories with those names which are situated under the positivID program directory (default c:\program files\positivid). The Inbox receives and displays transactions sent from other positivID Professional or Workstation systems; the Outbox contains the transactions prepared in this system which are to be sent to a positivID Bureau or another positivID Professional system. See below (section 3.63) for the Bureau Inbox, and section 3.4 above for a description of the Bureau Outbox.

The **Bin** icon will delete highlighted card records from the display list, after issuing a confirmation request.

**Options:** In the **Export menu**, the **Export to Excel** icon will bring up a file dialog box to save an Excel spreadsheet containing all the records in the display list.

The **Export to Access** icon performs the same function as the Excel export, but will create an Access database, with a named table containing the records.

The **Export to CSV** icon exports the data records to a comma separated variable file. The first csv record contains the data field names.

The **Export with Photo** icon also creates a csv file, but this option also has the data path of the picture as the last field in each line.

In the **Import menu**, the **Import from Excel** opens a panel which allows a spreadsheet to be selected and columns to be identified and matched with card fields, and then imported to those fields. See below, section 3.64.

*A detailed description and screen images of those functions marked "See below" is given in section 3.6.*

### 3.51 Searching

At the top of the screen is the search area. To display all the records in the database, click on the 'Display all' button. To make a selection from the database, you can search the database by any of the field names on the card, including the date or serial number. To make a search, select the required field from the drop down list, or click in the column heading of the appropriate field's column. Enter a value in the 'for' box, and press the Search button.

The search argument can be the full field content, or it can be a partial entry (e.g. name = Smith, or name = sm). In the first case, only Smiths (or names starting with Smith) will be displayed. In the second case, any name starting with 'sm' will be shown. You can also include a wildcard (\* character) at the front of the field, in which case the search will bring up any record containing that character string anywhere in the data, e.g. name = \*smith will bring up 'Smith' and 'Johnson-Smith'. The query name = \*sm will also bring up 'Jasmine' and any other name in which the characters 'sm' appear.

You can perform nested searches by creating a second query on the results of the first search, and so on. For example, having found all the Smiths, you can then change the field to be searched to Job and search for all the Smiths who are in a particular job.

When you have finished searching, you can highlight records for individual or group attention, and use the command buttons at the bottom of the list to take actions against those records.

To clear the list, press the Reset query button in the command area. The list will also clear automatically, ready for a new query, if you end up with '0 records found' after a search operation.



Having retrieved a list of all or some of the database, individual or groups of records can be highlighted for further action. Double-clicking over a single record line will immediately bring that record up into the Data Entry screen for amendment or printing. Highlighting multiple records is done by dragging the cursor over the serial numbers of a sequential group, or using Windows conventions of Ctrl-click to pick up individual records or Shift-click at the top and bottom of a list to select all of a group.

The Action buttons in the Command area can now be used to process the highlighted records:

### 3.52 Batch print

The left hand icon is the Batch Print command which opens the Batch Print Options panel:



**Print options**

Print options

Print all cards  
 Print selected cards  
 Print cards between serial numbers  
 From:  To:   
 Print cards which match  
 match

Smart card options

Encode smart card only     Print smart card only

Approx print time per card

Typical print time (seconds)

Please time printing of one card and enter the time above before committing many cards

Pause printing every # cards

Delete card after printing

OK  
Cancel  
Select printer

The default option is to **Print the Selected cards** in the display list, but it is also possible to select all cards in the database, or use the search arguments to define which cards are to be printed, irrespective of those highlighted in the original list.

The **Smart Card** print option allows cards with chips in to be encoded only, or printed only.

The **Approximate Print Time** is set at 30 seconds as default, being the approximate time taken to print a single-sided card in colour with black text (YMCKO ribbon). This can be adjusted: for black text only (K ribbon) the time would be about 5 seconds; for a double sided card with black text on the reverse it would be about 45 seconds. The reason for this parameter is to allow positivID Professional to load up the print queue with print records steadily as printing proceeds, and not spend a long time at the start of the print job loading up the queue with, perhaps, hundreds of records. Note that if the time in this box is longer than the actual time taken to print the cards, then there will be a pause between each card printing. If you are batch printing multiple cards on a full sheet of paper, set the print time to 1 second.

**Pause print every # cards** is to allow the card hopper to be filled regularly without building up a long print queue. This figure can be changed to suit the capacity of the printer used: some printers hold 75 cards in their input hopper, or even less.

**Delete card after printing** – to be used with care! This is so that a temporary batch of cards which has been imported just for printing will then be deleted ready for the next batch.

The **Select Printer** button brings up the Windows Printer Dialog box so that the printer and its settings can be selected.

The **OK** button will commence the batch print operation.

### 3.53 Load the selected cards



The highlighted cards will be loaded into the data entry screen, one at a time, for updating and/or printing. The list of cards will form a batch, and as each card is saved and cleared, the system will offer the message “Retrieve next card in the batch?” to allow the operation to continue or be cancelled. After the last card, the message “Batch upload completed” will be shown.

*The next three icons work with the list that is displayed, rather than the actual card records.*

### 3.54 Print the current view



This button will print the displayed card record list onto a sheet printer, in the form of a spreadsheet. It will print the whole displayed list, not just the highlighted records.

### 3.55 Reset Query



This button will reset a search query ready for a new one, and clear the display list. The list will also be cleared when a search results in '0 records found'. If a nested search is required, i.e. a search on the results of a previous search, do not use this button until the final search has been completed.

### 3.56 View Selected



The displayed list of records will be reduced to just the highlighted ones with this button. This may be required for clarity, or so that the reduced list can be printed, and allows a smaller group to be worked on.

### 3.57 Return



The green arrow button will return the operator to the main data entry screen. If a list of records is still displayed on the database screen it will be preserved (although records will not remain highlighted), so that on re-entering the database screen work on the list can continue.

## 3.6 The Navigation bar functions

*Functions mentioned in section 3.5 are covered in more detail:*

### 3.61 The History function

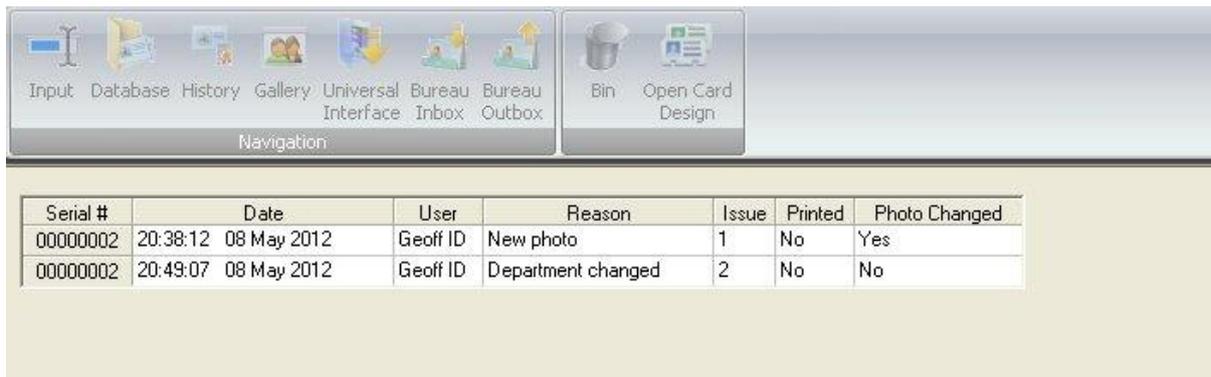
An audit trail can be kept for review and analysis, showing all operations against a particular card or group of card records. The review list can be printed, or exported to Excel for further corporate analysis by individual change reasons, dates, operator id etc., so that management reports can be produced and operational trends ascertained.

The History function is switched on for a card design when it is saved (see section 2.6). It can also be switched on at a later date by re-opening and re-saving the design, but of course no data will be collected prior to that date. When the History function is switched on, the reasons that a card might be updated or re-printed can be entered into a list, and those reasons

are then selected from a drop down list in the production program after the record has been updated or printed.

The amount of data that is collected varies according to the database technology used for the card design. For Microsoft Access databases, the serial number, date and time of change, the operator userid, the change reason and the issue number are recorded, together with indicators to show whether the card had its photo changed or was printed. For SQL databases, with their larger data capacity, the data listed above for Access databases is displayed together with all the fields in the card record. Analysis can therefore be done by any one of the card's user fields.

The data is displayed by highlighting a single record in the database screen, and selecting the History icon at the top. The History screen then opens with a list of the changes for that record.



The screenshot shows a software interface with a navigation bar at the top and a table below. The navigation bar includes icons for Input, Database, History, Gallery, Universal Interface, Bureau Inbox, Bureau Outbox, Bin, and Open Card Design. The table displays the following data:

Serial #	Date	User	Reason	Issue	Printed	Photo Changed
00000002	20:38:12 08 May 2012	Geoff ID	New photo	1	No	Yes
00000002	20:49:07 08 May 2012	Geoff ID	Department changed	2	No	No

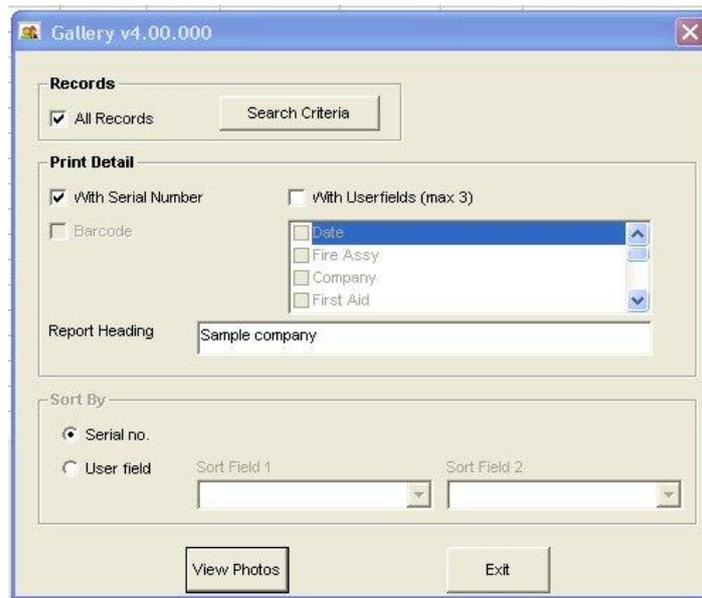
The history data can be exported into Excel for sorting and analysis reports. The icons in the Command area at the bottom of the screen print are, reading from left to right:



1. Print the history trail shown on the screen
2. Open the list up to show the history of all the cards in the database
3. Return to the main screen. The data shown in the History screen will be cleared.

### 3.62 The Gallery

Selecting the Gallery icon opens up a separate positivID utility program to display some or all of the pictures in the database.



Up to three text fields can be displayed under each picture. Simple or advanced selection criteria can be specified, and limited sorting is available. The photos can be viewed, and then printed to a sheet printer with a report heading text if required. This facility is ideal for printing, for instance, department or group photos, where the records can be selected by the appropriate group field.

### 3.63 The Bureau Inbox

The icon opens a data screen similar in layout to the main database screen. Incoming batches of print transactions from other positivID systems can be retrieved and displayed on this screen, and then stored on this system's database and printed. The pre-requisites for this operation are:

- that the incoming batch data file has been placed in the Inbox directory which is situated under the c:\program files\positivid program directory (or program directory selected at installation time to hold the system). This may be the result of an incoming e-mail attachment being saved to this directory, or that the Inbox directory was named as the 'Local area network' destination in the transmitting system, or that the batch has been copied manually into this directory from another source.
- that there is a card design on the central system of identical name and layout as the one in the remote system. This card design must be open in the central system in order to receive records into the Bureau Inbox for it.

Once the list of incoming cards has been displayed, individual or groups of card records can be highlighted to select them for actions by the command buttons at the bottom of the screen.

The command buttons for the Bureau Inbox are (reading from left to right):



1. Print the highlighted card(s) to the selected printer, without preview. The card record remains in the Inbox list
2. Preview each highlighted card and then print or close. The card remains in the Inbox list.

3. Save the highlighted card records to the database without printing.
4. Check the Bureau Inbox file for newly arriving card records.
5. Check external locations (ftp site etc.) for cards sent to the Bureau
6. Print the list of the cards that are in the Inbox
7. Return to the main database screen. Records still in the Inbox will be preserved.

### 3.64 Import from Excel

Populating a positivID database with existing data after installation can be a major job. There are utility programs available in the positivID suite to help with this task (see section 5), and there are conversion programs from other ID card systems' databases, but one of the most popular ways is to create an unload from another system in Excel spreadsheet format, and to import that into positivID.

The Excel Import function can also be used to add records to an existing database, or update records that exist.

The first row of the spreadsheet must contain the same field names as the card fields, so that the columns of data can be matched and are imported into the correct fields.

Pressing the 'Import from Excel' icon in the Options toolbar brings up a panel where the Excel spreadsheet can be identified.

**Open button** brings up file dialog box to select Excel file

**Column headings** in sheet must match positivID field names

Tick the **US Date Format** box if dates in the display are in MM/DD/YY and are required in DD/MM/YY

Set the **start number** after the current last record to add to the database

Tick **Overwrite** to update current records

**Select the Excel worksheet** from the list of sheets

**The display area** shows columns which match card fields in yellow

Tick '**Translate Excel date fields**' to store all-figure dates in DD Mmm YY format: 26 Jan 12

Set **serial number inc.** to increment records in 1 or more steps.

Press '**Start**' to import data.

Microsoft Excel holds its dates in an internal numeric format and the display of those dates in the country standard formats is governed by the local date settings in the Window installation parameters. As this Excel Import routine is bought into positivID, in the yellow display area dates may appear in the US format of MM/DD/YYYY. The positivID Excel Import utility therefore has two settings to help get dates into the required format: the US Date Format box will change dates displayed in that format to the European standard of DD/MM/YYYY, and the Translate Excel Date Fields box, if ticked, will take all-figure dates such as 01/05/1999 and turn it into the locally specified format (e.g. 01 May 1999) when storing the date in the positivID database fields.

## 4. The Configuration Panels

positivID Professional's operating parameters are in a set of panels that open when the Configuration icon is pressed in the Options tab Tools menu of the main data entry screen. Some of the functions that are set in these panels are also set by direct commands from the main screens – for instance, the Open Card icon in the Home menu will bring up the Badge Selection panel from the Configuration options.

Most of these options can be selected once when the system is installed and probably do not need to be changed very often. Some, such as the Badge selection or Printing Options, may be accessed frequently as different card designs are used. Each panel is selected by its tab, and that row of tabs then comes to the front of the panel display.

In order of likely usage, the panels are:

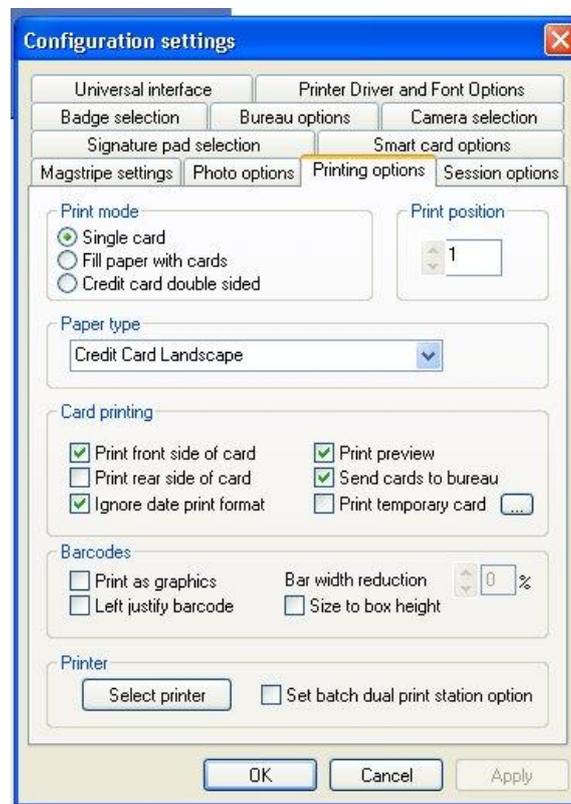
### 4.1 Printing Options

**Single card:** Single sided PVC card option  
**Fill Paper:** Full sheet option with multiple cards per page  
**Double card:** Double sided PVC card option

Tick to print **front of card**  
 Tick for **rear print** (double sided cards only)  
**Ignore date format** set in Windows

**Print as graphics:** Use graphic image of barcode rather than font  
**Left justify** the barcode in its object box

**Select Printer:**  
 Bring up the Windows printer driver dialog



**Print position:** Start position on full sheet of pressed out card labels

**Paper type:** Card type and aspect orientation. Custom option available

**Print Preview:** tick to set on  
**Send cards to bureau:** tick to divert print records to Bureau Outbox  
**Print temp card:** print a card to a sheet printer, with optional background text

**Barcode width reduction::** make the bars thinner to help clarity (graphic image only):  
**Size to box height:** fits the barcode to its object box  
**Dual print station:** for heritage printers which had two print stations to help productivity

There are many different sized cards available under the Paper Type drop down list. The most commonly used are the PVC Credit Card Landscape and Portrait options, but there are also a range of other PVC card sizes (CR50 to CR100) for specialist printers, and a range of Avery label sizes.

There is a custom option to set up all the printing parameters manually. This is mainly for full sheets of labels and covers the size of the card, position of the card on a page, number of cards on the page etc. This option is controlled by the Print Setup utility program in the positivID Start Menu list, and is described in section 5.3.

For single sided card printing, the 'Single Card' radio button in the Print Mode section should be set, **and** the 'Print Front Side of Card' box in the Card Printing section. For double sided cards, tick 'Credit Card Double Sided', **and** the 'Print Front' and 'Print Rear' boxes (unless,

of course, you only want to print the front **or** rear of a double sided card, which is why these boxes are there.)

The ‘Send Cards to Bureau’ and ‘Print Temporary Card’ options are explained in section 3.4 ‘Sending a card to another positivID system’.

Barcodes are normally True-type fonts, but can be displayed using a graphics feature which allows reduction of the thickness of the bars. This was originally put into the system for ink-based printers where the ink spread on the paper page.

The dual print station option is probably now obsolete, but there may be a few of the Eltron P600 printers still in use which had dual print stations to improve throughput.

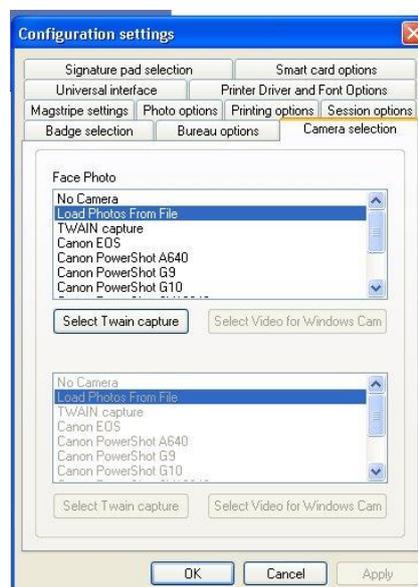
## 4.2 Badge Selection

If your installation only uses one badge design, then this option will seldom be used. However, many users are working with multiple designs and need to switch between them.



The current selection is highlighted. If the only card that can be selected is the positivID Demo Card, with all others greyed out, then the system has reverted to demo mode as its hardware key (dongle) or activation code is no longer valid

## 4.3 Camera Selection



This panel appears automatically when you start the system. The previous choice is highlighted and production can continue once the OK button is pressed. However, if the user wishes to change from, for instance, a live camera to downloading images taken previously, then the Camera Selection panel enables a new image source to be specified. Similarly, if you are switching from a badge design with one picture to one with two pictures, then the second half of the panel becomes active and you can select an image source for the second picture.

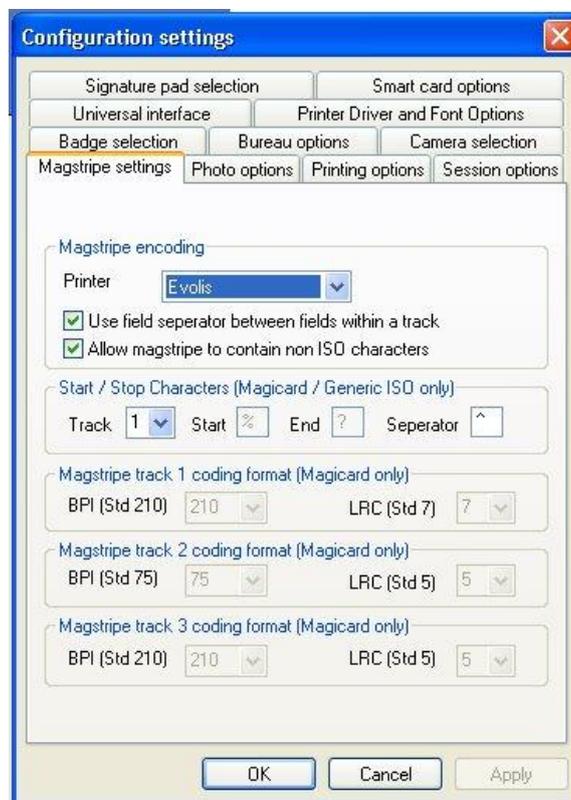
If a TWAIN source is selected for a webcam or scanner, then the particular TWAIN device can be identified from the list behind the 'Select Twain capture' button. The software that comes with that device and contains the TWAIN drivers must be loaded onto the machine before it can be used in positivID Professional.

If one of the Canon EOS cameras is being used in tethered mode (that is, the camera is being controlled and the picture viewed from within the positivID capture screen) then the camera's own software must be loaded in advance. Each EOS camera has a different software interface, so if the EOS model changes, then the software for the new model must be loaded over the top of the previous one.

#### 4.4 Magnetic Stripe settings

All of the common PVC printers can also encode magnetic stripes if the appropriate encoding head is fitted. Most work to the ISO standards for this media, but they do often require control characters in the data string that tells the printer driver that the data is to be encoded and not printed. For this reason, it is wise to specify the brand of printer that is being used as these control characters can differ from one brand to another.

This panel allows the brand of printer to be selected, and for some extra controls to be specified where the printer driver allows this.



The main control of interest to ordinary users is the brand of printer, and this can be selected from the drop down list. Other controls may be of interest in special circumstances which are dictated by the requirements of the system that will read the stripe.

## 4.5 Session Options

This is a collection of miscellaneous controls that the user may wish to use.

**Serial Number:** start new databases at this number.

**ZIP/Postcode:** select the third party Postcode software to be used for address look-up

**Function Keys:** enter text into the box for each of the function keys: f1-f9, Ctrl f1-f9, Shift f1-f9 for speed text entry. Contents of f-keys can be displayed with Shortcuts icon on data entry screen.

**Press Enter to search:** enables the Enter button to trigger a search as well as the 'Search for first' button in the data entry screen

**Intelli print:** allows records to be included in a batch print even if they don't have a photo added.

The screenshot shows the 'Configuration settings' dialog box with the 'Session options' tab selected. The dialog has a blue title bar and a close button (X) in the top right corner. The tabs at the top are: Signature pad selection, Smart card options, Universal interface, Printer Driver and Font Options, Badge selection, Bureau options, Camera selection, Magstripe settings, Photo options, Printing options, and Session options. The 'Session options' section contains the following controls:

- Serial numbers:** Two input fields labeled 'Serial start' and 'Increment', both containing the value '1'.
- ZIP/Postcode Integration:** A dropdown menu currently set to 'None'.
- Function keys:** A section with 'Modifiers' (checkboxes for Ctrl and Shift), a 'Function key' dropdown set to 'F1', and a text input field containing 'Assistant'.
- Advanced screen:** A checkbox labeled 'Press enter to search records' which is unchecked.
- Date saving option:** Two checkboxes: 'Leave date alone' (checked) and 'Update date to today's date' (unchecked).
- Intelli print:** A checkbox labeled 'Allow batch print black photo' which is checked.

At the bottom of the dialog are three buttons: 'OK', 'Cancel', and 'Apply'.

**Increment** database serial numbers by this amount.

**Function key:** drop down the list for each of the keys to be assigned. F10 is reserved for Windows, f11 is permanently assigned to the date, and f12 will clear a line of text to blanks.

**Date saving option:** choice of leaving the record date at the date it was first added to the database, or updating it every time the record is updated.

## 4.6 Smart Card Options

Most of the commands to program different sectors of a chip with data, and to read and write the authorisation keys to access those sectors, are contained within the SMARTCARD.EXE program that is produced specially for the individual customer's installation, as described in section 2.4.

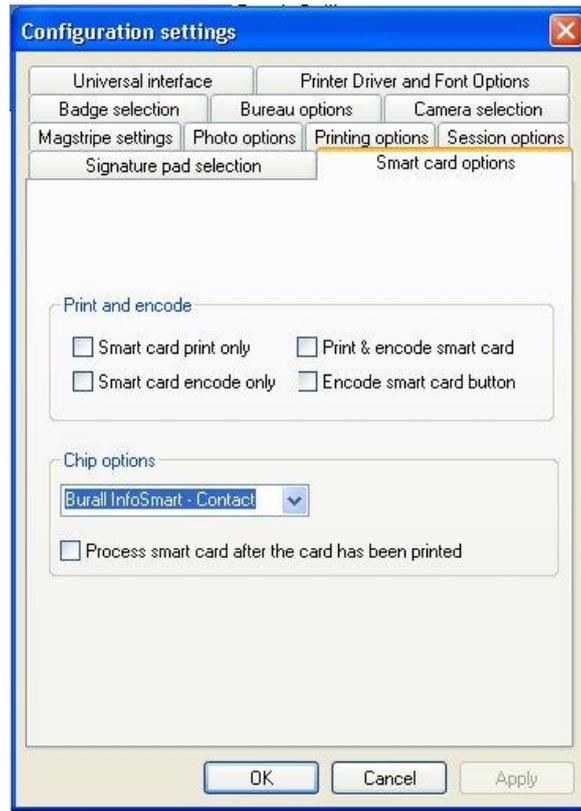
However, there are a few options that can be changed at operational level, and these are governed by this panel.

**Print only:** do not encode these cards, just print them

**Encode only:** do not print them, just encode

**Chip options:** drop down the list for the type of chip

**Process smart card after printing:** reverses the usual order of encoding then printing.



**Print and encode** the cards (the normal process)

**Encode button:** put a smart card encode button on the data entry screen so encoding can be done separately from printing.

## 4.7 Bureau Options

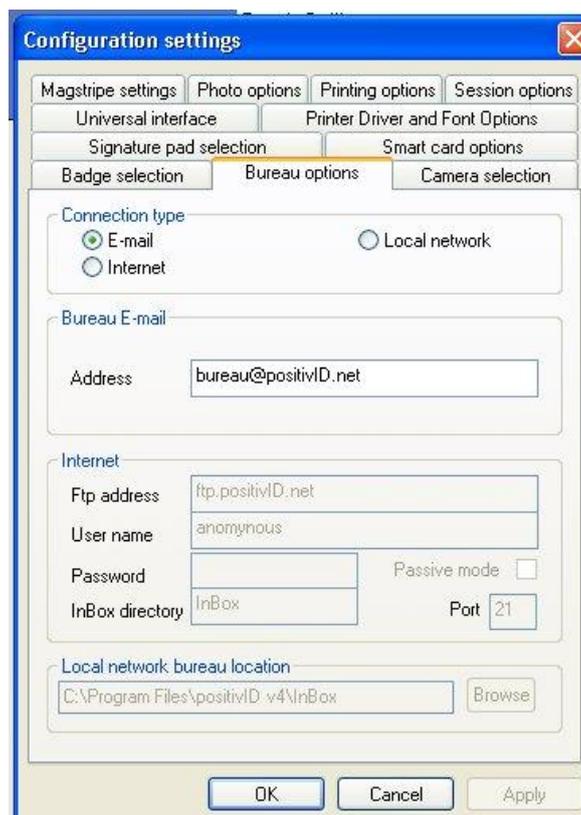
Section 3.45 describes the facility to transmit cards images to another copy of positivID or to the positivID Bureau for printing. This panel controls that operation. Once a Connection Type is established, the appropriate box becomes active for details to be entered.

**Connection type e-mail:** send the encrypted file as an attachment to an e-mail address, using the default MAPI client on this machine

**Connection type Internet:** upload the file to an ftp site, using the parameters in the box below

**Bureau E-mail:** address for the e-mail operation (above).

**Internet:** address of the ftp site, with login, password and destination directory for the upload operation (above)



**Connection type Local Network:**

Place the encrypted file in the Inbox file of the receiving system, or in another network destination from which it will be copied into the Inbox

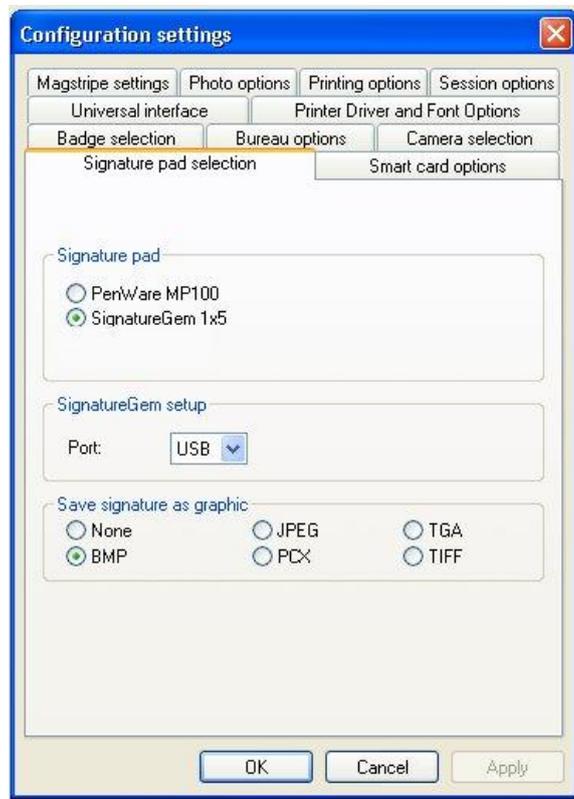
**Local network location:** Data path to the Inbox or other source for the LAN operation (above)

## 4.8 Signature Pad Selection

For signatures to be captured, a hardware device must be attached to the computer. This will be one of the signature pads that can be signed with an electronic pen by the cardholder.

**Signature pad:**  
Select one of the two hardware devices  
The SignatureGem series by Topaz systems is usually used.

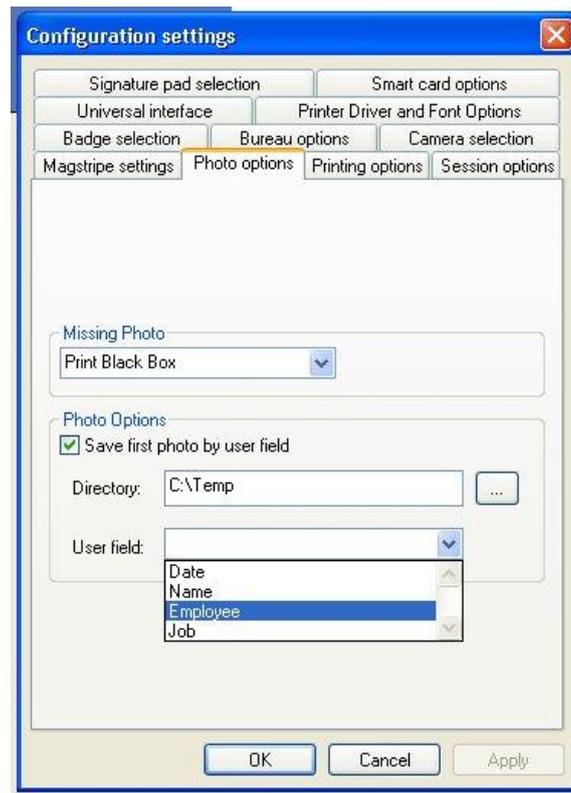
**Setup:** Identify how the hardware device will connect. USB is the default option, but COM 1-4 can also be specified.



**Save signature as a graphic:** by default, the signature file is stored with the picture. If the SignatureGem is used, it can also be saved separately in the format selected from this list.

## 4.9 Photo Options

Two settings are available in this panel. The first answers the question ‘What do I print if the photo is missing?’ and the second allows a copy of the first (or only) photo on the card to be saved back into a named directory, using a field name from the card design (such as employee number) as the file name. The field name should contain unique data, otherwise a photo would be overwritten by another one with the same name.



The Missing Photo options are to:

- Print a black box in place of the photo
- Print a white box
- Print an empty box
- Do not print the card

#### 4.10 Universal Interface

For many years positivID Professional has had a link to other systems, such as Time & Attendance or Access Control systems, that allow transactions to be written out from those systems and received into positivID. The transmitting system must obviously be capable of creating such transactions in the agreed format, but once set up the positivID system can then run as a slave to the T&A or Access Control system, receiving create and update transactions that automatically update the positivID database, ready for printing new ID cards without having to enter the data twice.

The input transactions are in csv format, and have a unique key field in the host system and the positivID database which is used to identify the record to create or update. Normally that would be an employee number, and it is the first data component of the csv record.

The transactions appear in a separate input screen, similar to the Bureau Inbox, and are brought into the database or printed direct. The system checks if there are transactions to process when it opens, and can also check at intervals determined by the control panel.

This facility can also return information to the host system via intermediate directories.

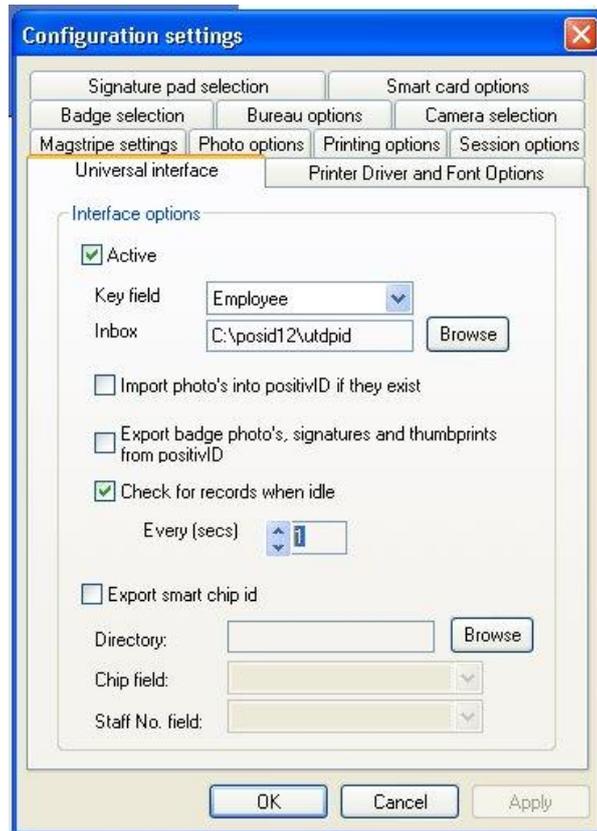
**Interface Options:**  
**Active:** switch the Interface on for this card design

**Inbox:** the directory into which the transactions (in a csv file) will be placed.

**Import photos** if the link is in the csv record

**Check for records:** poll the Inbox directory for new transactions

**Export smart chip id:** read the chip number from the card and return it to the host system via named directory



**Key Field:** unique field in each system which will identify the positivID record to update

**Export photos** etc. after update if required.

#### 4.11 Printer Driver and Font Options

The positivID System has a powerful feature which shrinks text sizes in user input fields to fit the object boxes drawn out in the card design program. Therefore fields such as Name or Job Title, which can vary considerably in length, can be given a large font to start with for clarity, but the system will reduce the font size if a long name or job title is entered.

The system uses an algorithm to determine how well a text field will fit into its box, and how much to reduce it by if it is too large. This algorithm can be fine tuned for each font if it is found that the threshold between font sizes is not quite right.

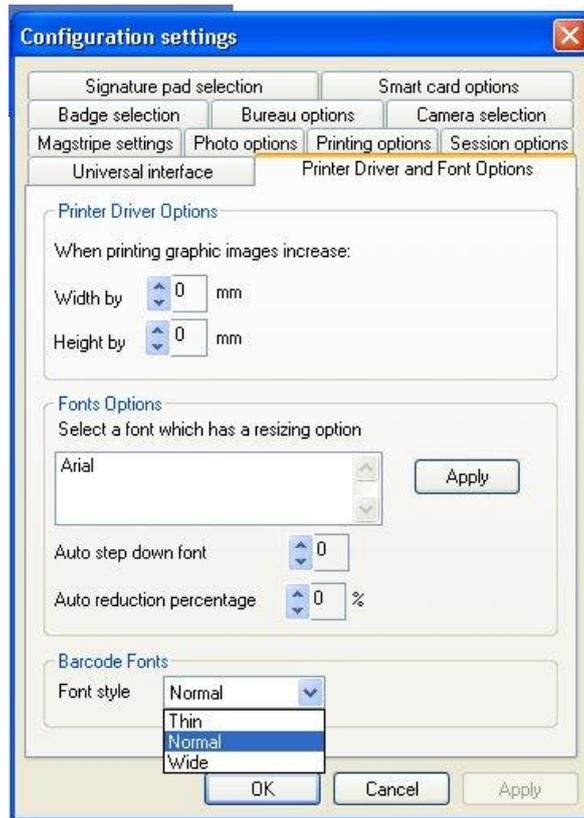
The panel also fine tunes graphic image sizes and barcode font thickness.

**Graphic Image Increased**  
by this amount to fine tune  
layout

**Font Options:** All fonts on  
the card are shown. To fine  
tune a font, select it

**Step down:** set the amount  
the font size reduces when  
box boundary reached

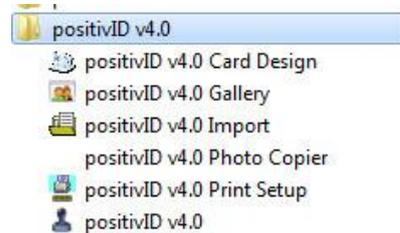
**Barcode Fonts:** vary font  
thickness for clarity. (See  
also Print Options panel)



**Reduction percentage:**  
reduce the threshold (%) so  
that the font changes size at  
the correct point. e.g. 10%  
will cause font to shrink at a  
box boundary 10% smaller  
than normal.

## 5. positivID Utility Programs

In addition to the Gallery, Export and Import utility programs that are part of the main system, there are three extra programs available in the positivID Start Menu list.

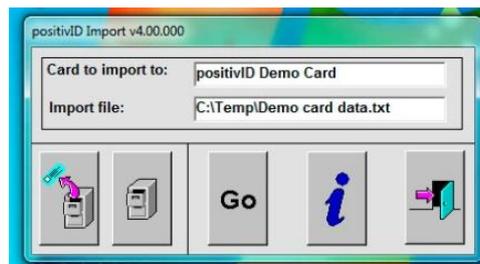


### 5.1 The positivID Import program

This is a simple little program which can be used as an alternative to the Excel import function that is available on the data entry screen of the production program. It has some advantages over the Excel utility:

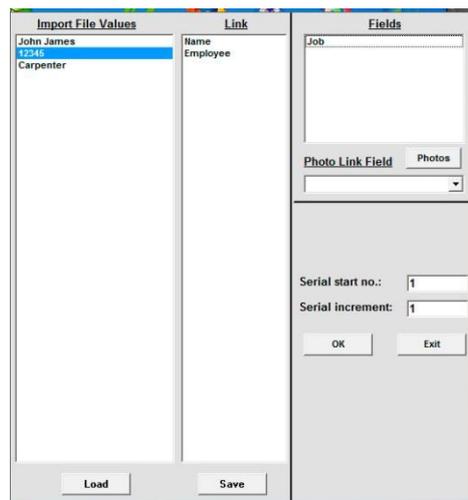
- it will read comma separated variable (.csv) files direct, without having to take them into Excel first
- it will import photos, provided that the photo file name is present in one of the database fields
- the mapping statements between the card database fields and the csv file elements can be saved and reloaded, so that the import can be repeated regularly with a minimum of retyping.

The program is opened from the start menu, or can have an icon placed on the desktop. The opening panel has two icons which invite the operator to enter the card name into which data is being imported, and then the text file which contains the csv data to be imported.



The program then invites the operator to identify the text delimiting character. This can be used to enclose multiple word data elements that include the comma separator character e.g. the field 'Address' might have the data element "123, High Street, Bristol, UK" assigned to it, where the " " are the delimiting characters and the commas are inside the text string as part of the data and are not a separator. The default delimiter is [none], and can be left at that if there are no separator characters within the text strings themselves. The operator can also confirm that the separator character is a comma, or alternatively it could be a blank space character.

The operator then presses the ‘Go’ button and a field mapping panel appears:



Each field on the card is in the column on the right, and the contents of the first line of the csv file are shown on the left, separated into their elements. The two are mapped together by clicking on the element and then on the field into which it goes. In the example above, the data element ‘12345’ has just been mapped to card field ‘Employee’. The element ‘Carpenter’ is about to be matched with field ‘Job’.

Photos can be imported provided one of the data fields contains the file name of each photo. In the above case, the field ‘Employee’ would have data ‘12345’ and the corresponding photo for this first record would therefore have to be 12345.jpg. Specifying the data path where all the photos are and naming the Photo Link Field can then be done by pressing the Photos button and dropping down the field list.

As with the other import utilities, data can be added to existing database contents by numbering the next record after the last one present, or the database can be refreshed by overwriting from serial number 1.

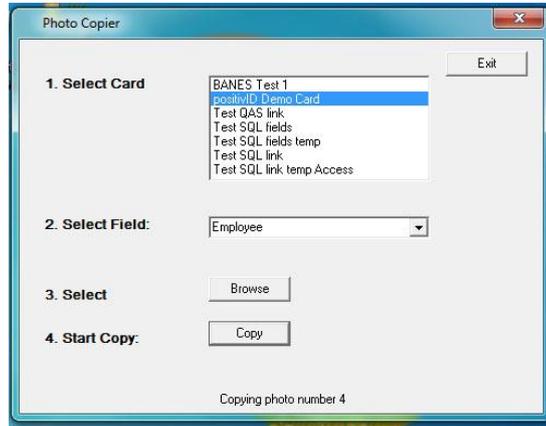
If this import exercise is likely to be repeated, then the all the input parameters can be saved into a text file and kept on disk, ready to be loaded again next time the operation is to be repeated.

Finally, the operator presses ‘OK’ once everything is set up, and the program reports on the number of records added or overwritten on the database.

## 5.2 The Photocopier program

The Gallery utility is capable of displaying and printing some or all the photos in the database, but does not copy them anywhere. This Photocopier utility will do that: it takes the contents of one field (e.g. 'Employee' in our example above) and uses that to name each photo as it copies it to a named location. It is important that the field contents are unique, otherwise the second photo with the same name will overwrite the first.

The program opens a single control panel:



The operator selects the card database from which photos will be copied, then selects the field which contains the photo name. A file browser enables the destination directory to be selected, and the Copy command copies all photos into that directory as [field contents].jpg.

## 5.3 The Print setup program, and setting the Custom print entry

The majority of positivID Professional installations are now printing single- or double-sided PVC cards, credit card sized. However, the positivID system was originally developed at a time when sheets of paper, card or Teslin (a plasticised material stronger than paper) were used to print multiple cards per A4 sheet, which were then pressed out and laminated to form a hard wearing badge. Cheaper and more reliable PVC printers producing tougher and more secure ID cards have now all but eliminated the sheet-fed products, except for small organisations where low volumes, cost and the convenience of having a laser or inkjet printer in the office outweigh the advantages of PVC cards. For those establishments, and for the occasional use in larger establishments for function tickets, envelope printing or other label-type jobs, positivID can still fill a sheet of paper with multiple card images and print them to a sheet feeder.

The measurements for all the print media are kept in one of the system ini files: positivID.ini, which is in the INI directory under the positivID program directory. The ini file has a list of all the print media options available, with the coordinates for printing on each one. When dropping down the list in the Printing Options panel, the operator is selecting one of the entries in the ini file and therefore identifying to positivID exactly where on the print media the card image is to be placed.

Each entry starts with the top left co-ordinate of the first card, specified in millimeters from the margins, then takes the size of the card and clearance from its neighbours to lay out the rest of the sheet. Double sided cards can be catered for by specifying a zero distance between two adjacent cards, thus allowing them to be folded over at the join line.

Any setting other than the pre-defined ones can be entered into the Custom entry, which is at the bottom of the Page Layout section of the ini file:

```

[PageLayout]
Index=0
CurrentLayout=0,0,0,0,85,54,1,1
Credit Card Landscape=0,0,0,0,85,54,1,1
Credit Card Portrait=0,0,0,0,54,85,1,1
MSC Cards=0,0,0,0,54,140,1,1
CR50=0,0,0,0,89,45,1,1
CR60=0,0,0,0,83,59,1,1
CR70=0,0,0,0,73,54,1,1
CR79=0,0,0,0,84,52,1,1
CR80=0,0,0,0,85,54,1,1
CR90=0,0,0,0,92,60,1,1
CR100=0,0,0,0,99,67,1,1
Seiko-Label=0,0,0,0,101,54,1,1
KiT-4=15,20,0,10,85,53,4,1
KiT-8=15,15,10,14,85,53,4,2
FotoFun=0,0,1,1,85,53,3,1
posID-4=15,20,0,10,85,53,4,1
posID-8=15,15,10,14,85,53,4,2
5095=18,15,10,4,86,59,4,2
RI=130,16,0,0,76,51,5,1
Custom=10,12,0,4,85,53,4,2

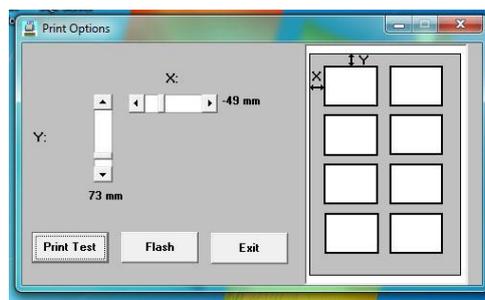
```

The settings can be adjusted manually and the ini file saved. The settings represent (using the above example of a Custom entry):

- the distance from the left margin of the paper for the first card (e.g. 10 mm)
- the distance from the top margin for the first card (e.g. 12 mm)
- the distance between two adjacent cards horizontally (e.g. 0 in this case, so they would be folded to make a double sided card)
- the distance between two adjacent cards vertically (e.g. 4 mm)
- the width of the card (e.g. 85 mm)
- the height of the card (e.g. 53 mm)
- the number of rows of cards (e.g. 4)
- the number of columns of cards (e.g.2)

This example would therefore create a sheet of 4 double-sided cards. If the third parameter had been greater than 0, for example 5, then the sheet would contain 8 single cards in 4 rows and 2 columns, separated by 5 mm horizontally and 4 mm vertically. To use this entry, the operator would select the Custom entry in the Paper Type drop down list in the Printing Options panel.

The Print setup program allows the operator to set the card printing locations on the screen and these are transferred into the Custom entry line.



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