OBJ INKdraw ***CB*** Manual

OBJ INKdraw ***CB*** is the software used to control HSAjet printers with the CB. (A PCI-based controller board). Some features are different from software used with previous hardware – this documentation will only describe what is valid for the CB board.

OBJ INKdraw CB user's manual.

If you translate this manual to your language, we kindly ask you to send us a copy.

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Table of Contents

Section 1 Introduction

1: Welcome to OBJ INKdraw

2: Installation

Welcome to OBJ INKdraw 1

Welcome to OBJ INKdraw, the advanced drawing program for HS Automatic ApS printers and equipment. With OBJ INKdraw, you can create messages, import data to print from databases, and control the way the print is done.

OBJ INKdraw is free software. You can download and test the software from our web page, http://www.hsautomatic.com, and create messages already before you purchase our printing equipment.

What is the purpose of this manual?

OBJ INKdraw user's manual will help you understand and use the many different functions available in the software. It will also explain the way OBJ INKdraw is related to the hardware of the printers, to help you to learn how to do advanced configurations.

What is contained in this manual?

This manual contains different sections, each describing a part of the software. At the end of the section, you will find a quick resume of the content.

What you need to know

It is assumed that you are familiar with the basic concepts of inkjet technology. Furthermore, this manual assumes that you know how to operate and use a standard Windows system.

Conventions used in this manual

When you see this	..it means..
[File|Save as..]	Select the menu "File" then the item "Save as". You can use Alt and underlined letters, or the mouse to select from the menus.
F10	A key on your keyboard
Alt+F10	Keys pressed simultaniously. Press and hold **Alt** then press **F10.**
	A tip that will help you as you work with the program
	A note. Something to be aware of.

About HS Automatic ApS

HS Automatic is the manufacturer of high-quality equipment for coding and marking. Key words for the products are flexibility, design and a very competitive pricing. Products are based on the Xaar® Piezo Technology and Hewlett Packard® Inkjet Technology

The software is undergoing continuos development as new features are added.

Key features in OBJ INKdraw

OBJ INKdraw offers many advanced features. Some of the key elements are listed here:

Object orientation

All objects are freely moveable. Once placed, you can change the properties of all objects at any time.

Unlimited numbers of every object

You can create an unlimited number of any type of object. In other words, 50 counters and 75 dates are no problem in a single drawing. And all objects have live update every second.

Windows truetype fonts

You are not bound by a pre-defined number or type of fonts. OBJ INKdraw is based on Windows and is able to use any font you have installed, in any font size. Some objects are even freely stretchable.

Communication

The program is not stand-alone, but enables you to accept input from outside. Use a PC network, a serial connection or input from the user through prompts or a touch screen.

Many barcodes with advanced features

OBJ INKdraw supports many barcodes, among these the EAN128 and CODE128. You can insert objects into barcodes, change the human-readable font, an stretch the bar code as you please. Also 2D barcodes are available, such as PDF-417 and Data Matrix.

Multi-language interface

Use any language you wish through the user-configurable language files. Switch language on the run. You can even use other character sets such as Japanese, Chinese or Thai.

Connection to databases

OBJ INKdraw can import and use data from delimited text files, Microsoft Access®, Microsoft Excel® and several professional SQL servers.

Different interfaces: touch screen and edit mode

OBJ INKdraw now allows you to “remove” the edit screen, and work solely from a touch screen interface. This effectively allows you to design your own nice industrial environment.

Full remote control

If you prefer to write your own front end, the open and documented protocol allows you to fully control OBJ INKdraw from outside by ethernet or RS232.

Speaks your language

OBJ INKdraw has been made to fit into the Windows operating system. If you are using a non-western version of Windows, OBJ INKdraw will speak your language. Menus can be changed to your language, and you can type in the fonts you normally use - for example cyrillic, hebrew or kata-kana.

Installation of OBJ INKdraw 2

Obtaining OBJ INKdraw

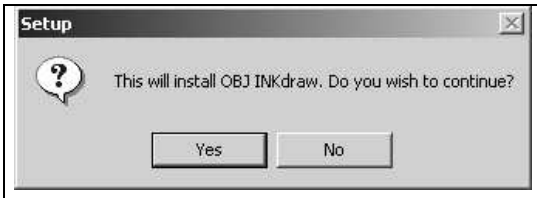
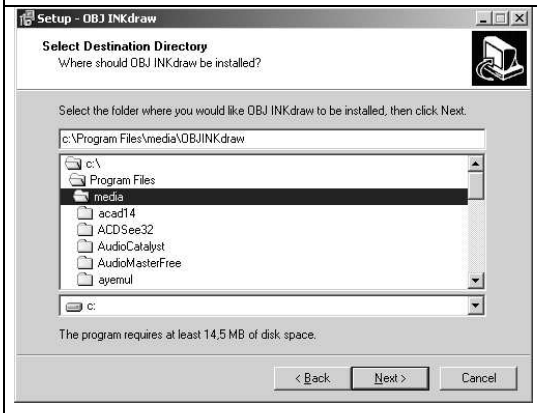
OBJ INKdraw is free software. It is available for download at HS Automatic's home page, http://www.hsautomatic.com or available on a CD with purchases of a controller board.

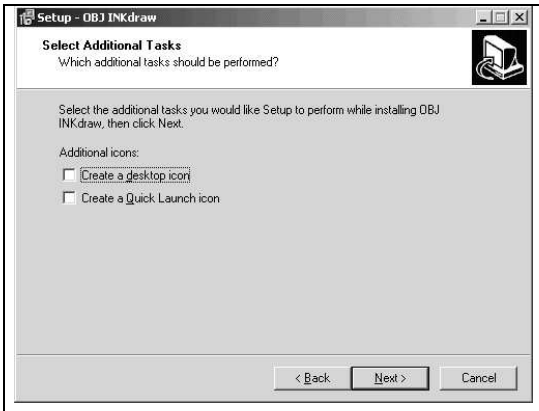
The installation comes in different files that have a maximum size of 1.4 Mb (so that they each fit on floppy discs). There is an installation file (**`setup.exe`**) and typically 3-4 **`setup-x.bin`** files (x being a number).

Typically the installation files will be packed in a .zip archive to keep them together. Unzip the files using common tools such as ***Winzip*** or similar.

Installing the software

To install OBJ INKdraw, place the file unzipped files in a folder on the computer you wish to install onto. Or simply install from floppy discs.

	When you run **setup.exe** you will see this screen, asking you if you wish to install OBJ INKdraw. Click "Yes" to continue
	Next you will see the setup welcome screen. Here, you see the version of OBJ INKdraw you are installing. Click "Next" to continue.
	You can specify where you wish to install OBJ INKdraw. By default, you will be suggested C:\{program directory}\OBJ INKdraw where {program directory} depends on your Windows language. In US Windows, this is **Program Files**. You can specify any location you wish, if you are not happy with the default location.

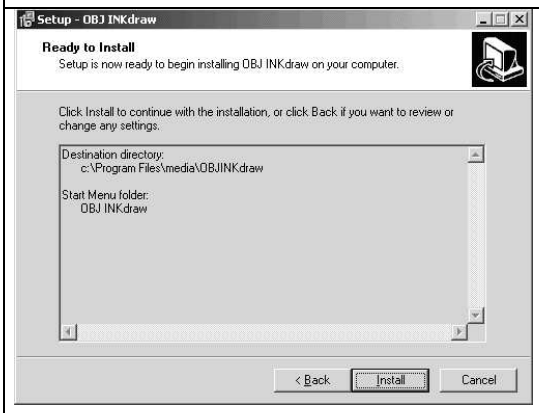


You also specify if you wish to create shortcut icons for OBJ INKdraw.

Desktop Icons are placed on your windows desktop.

Quick Launch Icons are placed to the right of the “Start” button.

Click Next to continue



The final setup before installation is a presentation of where your files will be placed, and the start menu folder that will be created.

To enable automatic start of OBJ INKdraw when you start windows, place a shortcut in the ***startup*** folder of Windows.
Notice: the automatic setting of this is no longer possible since it did not work on all Windows installations.

Section 2
The Canvas

3: Parts of the screen

4: Creating and printing messages

5: Working with objects

6: Modifying object properties

Parts of the screen 3

OBJ INKdraw contains different areas of the screen that are important to know about, as their names will be used many times in this manual. The following figure identifies the different areas:

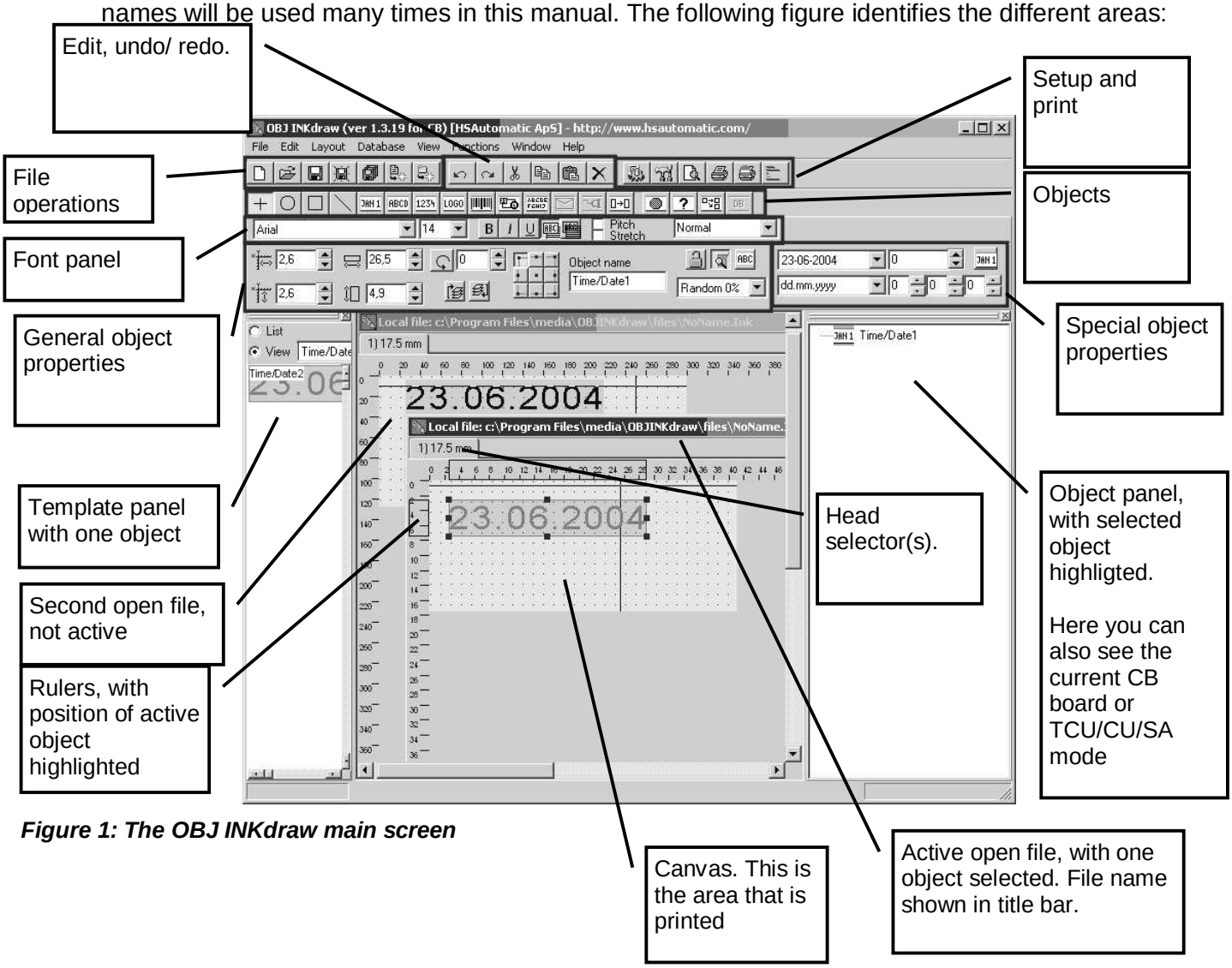


Figure 1: The OBJ INKdraw main screen

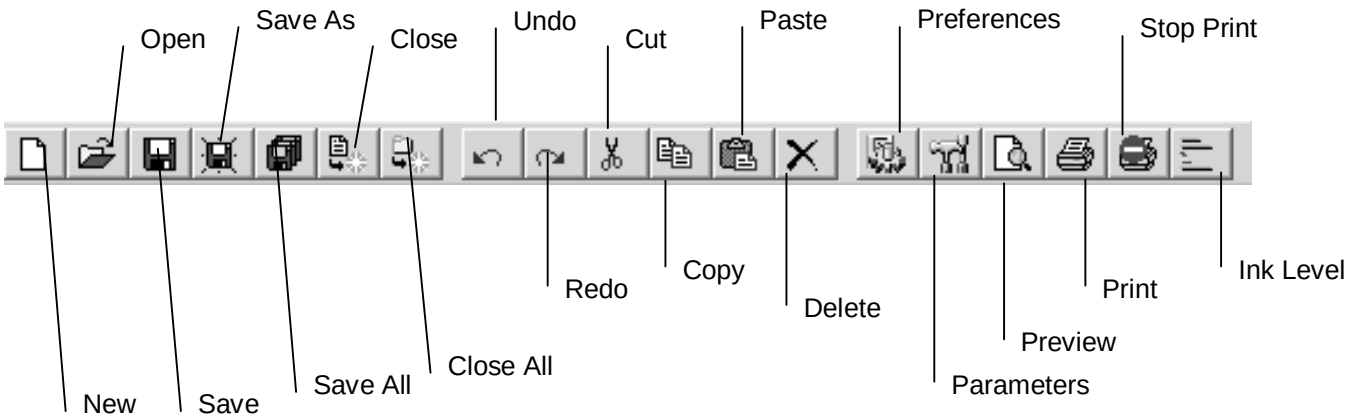
Description of the screen items

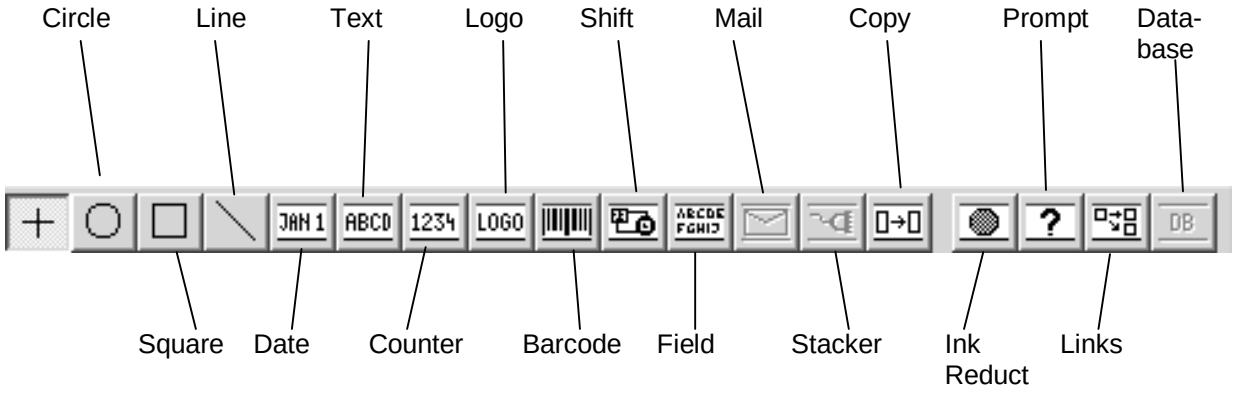
- **Title bar**: Contains the name of the current file, plus information about the size of the file written as [Width, Height] in pixel.
- **Menu line**: Click a word on this line to select from the menu
- **Icon bar**: This is where most of the functions in the daily use of the program are selected.
- **Object Properties**: Use these 2 bars to adjust the look and function of objects you have created
- **Head Selectors**: This line shows the different heads in the current message. Can contain any number from 1 to 16 heads. At the same time, the size of the heads (in mm.) is also shown.
- **Rulers**: Tells you where you are in the current drawing. Uses the selected unit.
- **Information panel**: Gives information about the current position, zoom and current date/time.
- **Object panel**: All objects created are present here. This bar can be used to rename objects.
- **Drawing Canvas**: This is where the printed message is edited.
- **Split line**: visual way to separate heads. Is not printed.
- **Objects**: Example of two objects (Text and Barcode).
- **Template panel**: can be used to create multiple copies of the same object, with identical properties.

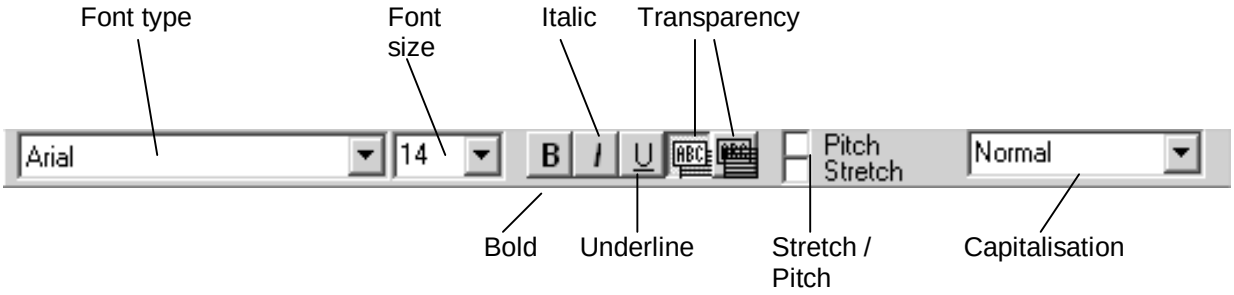
When you click around with the mouse, that clicked part of the screen takes “focus”. Some actions are only possible when the canvas is in focus – if you experience that something seems impossible to do, maybe it's because the focus is somewhere else.

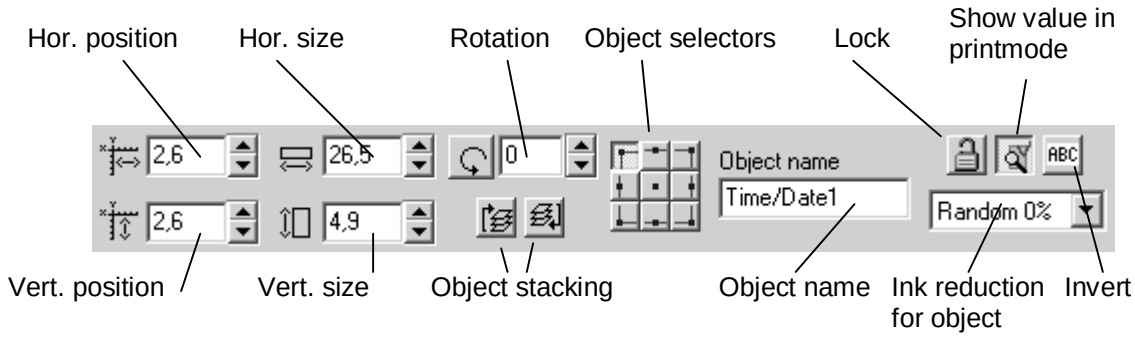
Short description of the menu bars

The following will give an overview of the icons and what they do. A more detailed description will follow later in the document.









Look and feel

OBJ INKdraw offers you different ways to influence the look of the screen. What options you prefer to have on or off is up to you; remember that your printed image stays the same. Most of these functions are located under the ***layout*** section in preferences (**Alt+p**)

Enable / disable menu bars

You can remove the menu bars on the screen, to create a more"clean" interface by pressing the following keys

Tool bar	Shift+Ctrl+1
Object bar	Shift+Ctrl+2
Font panel	Shift+Ctrl+3
Design bar	Shift+Ctrl+4
Object Panel	Ctrl+Alt+O
Template Panel	Ctrl+T
Print Head Panel	Ctrl+H
Rulers	Ctrl+R

Zoom

Use this feature to see more or less detail of your drawing canvas.

The zoom default size is 100%, however the sizing begins at 10% and moves up to 2000%.

Using this function has an effect on the screen only and **not** when the final print is made.

You can activate a shortcut by using the **+** or **–** button (**numeric keypad**, when drawing canvas has focus), or from the menu ***[Layout|Zoom|xxx%].*** It is also possible to zoom in and out with the mouse scroll wheel. The current zoom is shown on the information panel. In all cases, the zoom will be centered around the position of the cursor.

Units

This is the measurement you work in on the drawing canvas. Select units from the preferences menu, or when you create a new picture. Notice that you get the same result on the printer no matter what unit you prefer to work in.

- Pix, for pixels, which is measured by dots on the final printout.
- Mm, which is the metric system.
- Inc for inches
- points (A typographic unit of measure. Usually 72 points to an Inch).

Cursor

This changes the shape of the cursor. Change along with the units in preferences.

- **Crosshair** is visualized by a horizontal and a vertical line which goes though the entire drawing.
- **Hand Point** is when the cursor is a pointing finger with a small cross at the end.
- **Cross** is when the cursor is pictured as a cross.

Grid

The grid is the rows and lines of small dots shown in the message. They will not be printed, but help you to align the objects with each other. When the grid snap is on, you can not draw outside the grid points. This is helpful to guarantee absolute precision when drawing.

To set grid properties, use the parameter menu. Grid visibility can be turned on/off by **`Ctrl+G`** or ***`[View|Grid]`***, but the grid will continue to snap.

Rulers

The rulers show where you are in the drawing. **`Ctrl+R`** or ***`[View->Rulers]`*** turns the rulers on and off.

Object Panel

The object panel allows you to see the objects in the current message. You can turn the panel on and off with **`Ctrl+Alt+O`** or ***`[View->Object Panel]`***

- You can use the mouse to adjust the width of the object panel by dragging the vertical bar between the canvas and the object panel.
- You can also turn off the object panel by clicking the “X” in the top right corner.
- And, you can collapse the panel by clicking the ">>" in the top left corner.

Template panel

The template panels allows you to quickly re-create many objects with the same properties and content. By default it is placed opposite to the object panel, in the left-hand side of the screen. Turn the panel on and off with **`Ctrl+T`** or ***`[View->Template]`***.

The panel can be closed, adjusted in width and collapsed in the same way as the object panel.

The template panel is divided into different sections, by object type. Each object will automatically appear in the section corresponding to it's type.

Adding objects to the panel

- Click to select the object you wish to add.
- Use the right-click menu and choose ***Copy object to template***.

Using objects from the panel

- Select the object type you wish to add
- Drag the object from the panel with the left button onto the canvas

Arranging objects in the panel

- You can arrange objects in the panel by dragging with the right mouse button
- You can also zoom in and out on the panel by using **numeric+** and **numeric-** keys.

Deleting objects in the panel

- Select the object with the left mouse button. It will become red.
- Press **del**.

Font Panel

The font panel shows the current font family, size and style. It can be turned on/off by **Ctrl+F** or ***[View|Font Panel]***.

Printer head panel

If activated this shows all the printer heads in use in this file. You can turn the panel on/off with **Ctrl+H** or ***[View|Printer Head Panel].***

Click on the print head to jump to that head in the drawing. You will notice that the background color for that head changes to gray.

Split Lines

The split lines function represents the dividing lines between each printer head. You can turn these lines on/ off with ***[View|Split Lines]***

- Split lines will not show the divide between each print engine, only between heads. Thus, if you have configured your message for a one-head, 4-engine

printer, no lines will show.

Canvas color

If another color is preferred as background on the canvas, you can choose a different color in the preference menu. The color of the canvas has no effect of the print. Notice that the active head will still be shown in gray.

Creating / Printing messages 4

This chapter will tell you how to create and print a message– the basic commands of OBJ INKdraw.

Working with files

The file type of OBJ INKdraw is **.ink**

You will notice that ink files are text files in a special format, and therefore take up almost no space. Typically an .ink file is less than 10 kb.

OBJ INKdraw allows you to work with multiple files at once. This allows you edit one file while another file is printing. If you wish to limit the number of files, you can set this in the preferences.

When you first start the program, the open file will depend on the settings in the preferences. You can choose between the following options:

- Open the last file edited.
- Open a new file called "NoName.ink"
- Open a user-defined message.

- If the file you try to load does not exist, an empty file called "NoName.ink" with 1 XaarJet 128 engine, 1000 pixel wide, will be created.
- It is ***not*** recommended to use NoName.ink to store information you need, as this file is overwritten without warning.

Creating a new file

You can create a new file in any of the following ways: ***[File|New]***, by using **Ctrl+N** or by using the icon for new file 

You will see a dialog box as indicated by the following figure.

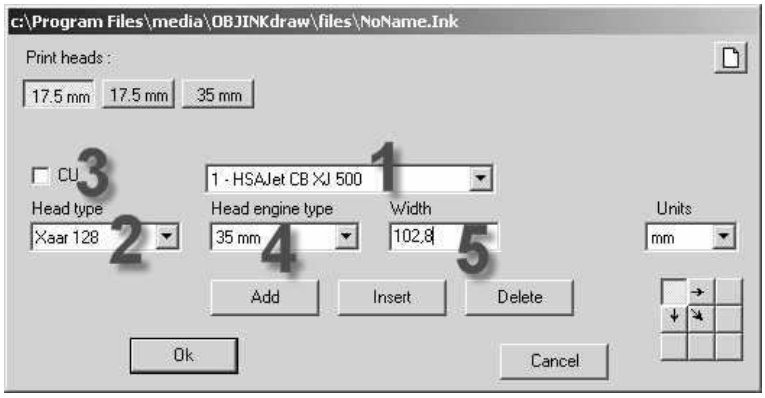


Figure 2: Setting the size of the new message

1: Select the CB card that will print your message. If you have no card in your computer, simply ignore this.

2: Select the type of head you will be using

3: If you wish to create CU / TCU / SA messages, check the box.

4: Add, insert or delete heads to fit your needs. You can also change the size of added heads.

5: Finally, choose the lenght of the message and the units you wish to initially use.

- You select the size for the ***active*** head (marked as a “pressed down” button)
- New heads that are inserted or added will also have this size.

When all these values have been entered, presses OK and the message window will resize itself to the values you have entered.

If more than one head has been selected, the message window will display each head separated by a split line, and the selected head marked in gray.

Opening a file

You can open an existing file by using ***[File|Open]***, pressing **Ctrl+O** or by using the icon for open file:

If changes have been made to the current file since last save, you are prompted if you want to save. Answer this with Y(es), N(o) or C(ancel).

- You can modify the behavior of the save routine in the preferences.
- Choose between normal (if modified), always, or never.

Next, you will see the open file dialog box:

The open file dialog box is based on standard windows components. Thus, it will appear in the language of the Windows installation.

Figure 3: The open file dialog box

Saving a file

To save a file, click the icon , select ***[File|Save]*** or press **Ctrl+s**.

- Even if the initial file name “NoName.ink” is not a file you created, it is still a valid file name. If you create objects and save, changes will be saved to this file.
- **But next time a new file is created, the name NoName.ink is used again**.
- In other words, always make sure to give your files a new name, or they will be overwritten.

Save as a new file

To save an open file under a new name without making changes to the previous name. It can be saved as an .ink file. You will be promted for a file name to use.

Exit the program

To exit OBJ INKdraw use ***[File|Exit]***or press **Alt+x.**

Object Basics

A message (what is written on the canvas) can contain one or more objects. Examples of objects are bar codes, lines, squares, texts or counters. Basic operations such as creating, moving and deleting is the same for all objects. This section will give a brief introduction to working with objects.

Creating new objects

To create a new object, follow this procedure:

- Click the icon for the object you want to create. (these will be explained later).
- Place the mouse cursor in desired starting position.
- Click and hold the left mouse button and drag open the shape.

Deleting objects

To delete an object, select the object with the mouse, and press the **`Delete`** key.

- If the object is transparent, it does not become selected until you hit something "solid" with the mouse. For objects with thin lines, this can be hard at times.
- A good idea is to use the object panel or zoom function to help select objects.
- Notice also that the cursor will change to the name of the object type when you have the pointer over an object.

Changing object properties

Any object has properties – information about size, look, function, etc. Not all properties apply to all objects, for example a line does not have any font. You change the property of an object by selecting it with the mouse, then changing the property.

You can also select the object in the object panel.

- In dialog boxes in the properties area, you often need to press **`enter`** to change the value.

Copy, Paste

OBJ INKdraw has copy and paste functions much like any other windows program. To use this function, select the object/ objects, use copy, then use paste. You find these functions in the menu ***`[Edit]`***, or by using the keys **`Ctrl+C`** (Copy) or **`Ctrl+V`** (Paste). OBJ INKdraw will automatically create unique names for the new objects.

- You can also paste from the standard Windows® Clipboard. Use this to insert text from other documents
- If the pasted text has more than one line, a field object will be created. Use this to quickly create a field object.

Working with multiple objects

Many functions can be done on several objects at a time. This is especially useful if you want to move objects that belong together, or apply the same style to all objects.

You select multiple objects in different ways:

- Dragging a box around the objects to select. Only objects that are ***completely*** within the boundaries of this box will be selected.
- You can also select multiple objects by holding the **`Ctrl`** key and selecting objects on the object panel.
- Holding the **`Ctrl`** key and clicking on individual objects

Right-click menu

For each object, there is a right-click menu when the object is selected.

From here, you have different options:

- Add to template: Will add a copy of this object to the template panel
- Copy, cut, paste, delete: same as the menu functions.

You do not have the "Add to template" if you have selected more than one object.

Printing your finished message

Once your message is finished, you activate the print mode by pressing **`F10`** or by using the print icon  . The window will change and display the value of objects with "watch option" enabled.

If you are running OBJ INKdraw on a computer that does not have the printing hardware installed, you will see the text “Could not find controller board!”.

Previewing your work

To see how your print is actually going to look when printed, there is a built-in "preview" mode.

Activating preview

To activate the preview mode, press **`Shift+F10`** or press the preview-print icon . You will notice that the canvas now appears in black and white and that you now have a preview panel.

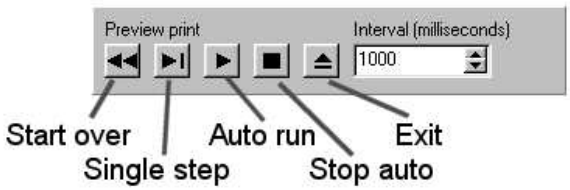


Figure 4: Preview toolbar

Use the "play" buttons if your picture changes with every print, e.g. if you have a counter or use a database. You can use either single step or auto run (at intervals from 100 ms and up.

The “Rewind” button functions as an undo button. Use this to “play it again”.

Use "Stop" when in auto run.

- Like print preview in other programs, the “real print” is not affected.
- Thus, OBJ INKdraw returns to it’s old state after you exit print preview.
- In short, you will ***not*** have moved counters, databases, etc after print preview.

- The print preview is not 100% true to the output from the printers, it's only meant to give you an idea about how the finished print will look.
- For example, you can not see ink reduction and copy objects

Object Types 5

OBJ INKdraw has different object types that you can use to create your message. This chapter will describe these objects. Notice that the object properties are all described in the next chapter. The objects are grouped into 2 groups: geometric and variable objects. The difference is the fact that "variable" objects are able to do more than the geometric objects. They contain information, instead of just representing a shape.

- All objects have a name, by which they are identified. Per default, this name is made by the object type plus a number, e.g. "Ellipse1" or "Barcode23"
- You can rename all objects as you please, the program will still function in the same way. If you have many objects, or if you work with databases, renaming objects might be easier for you – it is easier to remember the function of object names such as "Address1" instead of "Text1".
- You can not have two objects with the same name. OBJ INKdraw will refuse you this.

Geometric Objects

Ellipse / Circle

Click the circle icon ○

Rectangle / Square

Click the square icon □

Line

Click the line icon ＼

- To ensure that a geometric object – or any other object for that matter – is horizontal or vertical, or round or square, use the grid. See ***Grid Setup.. page 12***

Variable objects

The variable object contains information that can be changed during printout. This can happen automatically (for example for date/ time), or by user input, as described later. Some objects can also contain other objects, which will be described later.

Objects are the **key** element of this software, hence the name OBJ INKdraw.

- Most objects are created with the properties you last used.
- You can change the properties before you create the object, or after.

Date object

Click the icon  to create the object.

This object is updated live on the canvas.

There are different ways of displaying the date, which is highly flexible. Please refer to the chapter on object properties for more information.

- Dates are always relative to the system clock in the computer.
- Dates contain the same date ***no matter how the date format is***. This means that you can link two date objects and have the same date / time shown in different ways.

Text object

Click the icon  to create the object.

By default, text is created with the word “Text Line”. This can, however, be changed in the language file. Please see ***Localization***.

Counter object

Click the icon  to create the object.

The counter is highly flexible, and will allow you to count in 4 different number bases, up and down, in variable steps etc. More information is available in the chapter on object parameters.

Barcode object

The barcode object has many options, and can even contain other objects (this will be described separately).

Click the icon  to create the object.

Logo object

The logo object can contain graphic files in the Windows Bitmap (BMP) or JPEG (JPG) formats. Only 2 colors are shown, if the picture contains more, it is converted to two colors.

Click the icon  to create the object.

By default, the logo is the HS Automatic company logo. If this logo file does not exist in the “Logo” directory, it will be created.

Field object

The field object is more an “object container” than an object. It allows you to group other textual objects (text, date, counter) in one block. This is especially useful if your data in the fields varies, and you don’t want to have texts that either overlap or are too far apart.

Click the icon  to create the object.

The field object is empty by default, click the properties buttons to add objects.

Schedule Object

The schedule (or shift) object is a text object where you can set the content to vary with the current time and/or date. This is useful to print for example the name of the current shift at work.

Click the icon  to create the object.

When created, the schedule object will show the text “Empty”. Click the properties icon to add content.

Copy Object

This object is a little special, as it does not have any content in itself. Instead, it is used to copy a part of the screen to one or more other parts. This can be done for a smaller area or an entire head at a time.

Click the icon  to insert the object.

Stacker object

Like the mail object, a stacker object is only available when a database is loaded. This object is used to give a signal when a certain record of a database is reached, typically to trigger a certain action. Commonly used in newspaper presses to stack the papers, hence the name.

Click the icon  to create the object.

Line name object

This is a "system variable" object, where you can put the name of the conveyor line that prints this message. This is done in preferences. If you load the same file on a different computer, this object content will change accordingly.

Click the icon  to create the object.

Object Properties 6

This chapter will provide a guide to the many options that are available for different objects. First, the general properties and concepts will be described, then the properties that are special to each individual object type.

General object properties

Snap point

Any object created has ***snap points***, small handles that are used to define the object's exact location. If you click on an object, the snap points will be visible as blue sqares along the edges of the object.

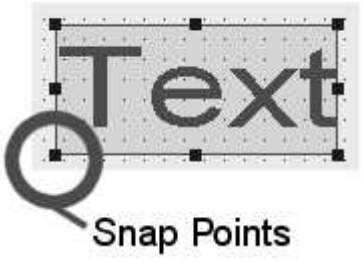


Figure 5 : Snap points

Picture of snap points. There are 9 different snap points: along the edges and in the center of the object (not shown when object is selected).

- 4 corner-points. By dragging these with the mouse, you can change object width and height
- 4 middle-points. By dragging these, you can only change either height or width.
- 1 center-point, selectable through the snap-point-selector. If you drag one of the other 8 snap points, and the center point is selected, the object will stretch around the center

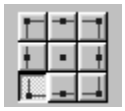


Figure 6: Object snap panel

Which snap point you work with is selected on the snap point selector. When changing snap point, the **rotation point** and the **coordinate display** will change. Also, the object will be **pin-pointed** to the selected snap point when stretched.

The snap point selected also has another importance except stretching: the current position for the object is always shown for the selected snap point.

- Line objects are an exception. As they don't have any "height" and "width", they don't have 9 snap points, only 2: beginning and end.
- When a line object is selected, the coordinates display is different, and the snap

panel disappears.

Canvas orientation – placement and size

The canvas in OBJ INKdraw is a like a big chalkboard where you can place letters, circles etc. There is a coordinate system related to the canvas, in the following way:

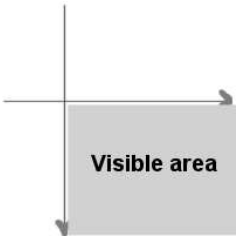


Figure 7: The OBJ INKdraw coordinate system

The arrow lines illustrate the x and y axis. The gray area is the visible canvas. Everything outside the gray area is where objects with negative coordinates are placed.
You can place part of or the entire object outside the visible area, but only the visible parts are printed.

You work with the placement on the canvas through the coordinates parameters. These are placed at the left of the parameter area.

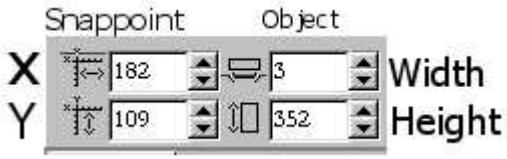


Figure 8: Coordinates and size display

For any object selected, the coordinates of the selected snap point and the size of the object is shown here.

This object's snap point is located at 182,109.
The size of the object is 3 by 352

- Barcode objects will, instead of the "Width", show the module size that shows the number of multiplications relative to the minimum width of the barcode.

As previously mentioned, the line object is a little different. When the line object is selected, the coordinate panel will look like this:

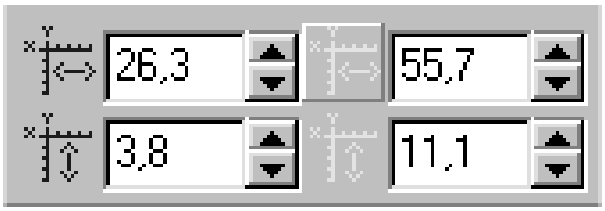


Figure 9: Line end points

Notice that the width and height icons are gone, and replaced by a second set of coordinates, indicating start and end points. The line itself will show one end in blue, the other in yellow for easy reference.

Apart from reading out the value of the coordinate, you can also ***set*** the coordinate. To do this, follow this procedure:

- Select one or more objects
- Change the value you would like to set
- Press **`enter`**.

- Setting the coordinate for more objects at a time is a good idea to align object along the same edge.
- Even with multiple objects selected, you can see the properties of each individual object, by clicking on it. Notice, however, that no snap points will appear with multiple objects selected.
- Click on a blank part of the canvas to deselect all objects.

Locking objects in place

Many times it is undesired to move an object once it has been placed in the right position. Because it is quite easy to move objects on selection, the lock will help to make objects stay in place.

To use this property, simple select one or more objects and click the lock symbol 

To remove the coordinate lock, click the icon again.

- The lock button **only** protects from movement with the mouse. If you want, you can still use the coordinate box to change object coordinates.
- Likewise, the lock button does **not** protect from content alteration of the locked object.

Stacked objects

The objects are placed on the canvas like papers on a desk: they lie on top of eachother. You can change the way the objects are stacked by using the ***Stack up, Stack down*** icons:

 Stack up: moves the selected object / selected objects upwards in the stack.

 Stack down: moves the selected object /selected objects downwards in the stack .

- The object panel is always sorted like the objects are stacked: The object on top is at the top of the object panel. Use this as a handy reference.

Object name

As previously mentioned, all objects have a name. This property can only be changed for one object at a time. There are two ways of changing an object's name:

1) Select the object, type a new name in the box and press **enter**

2) Click two times slowly on the object name in the object panel. Now, you can also edit the name here.

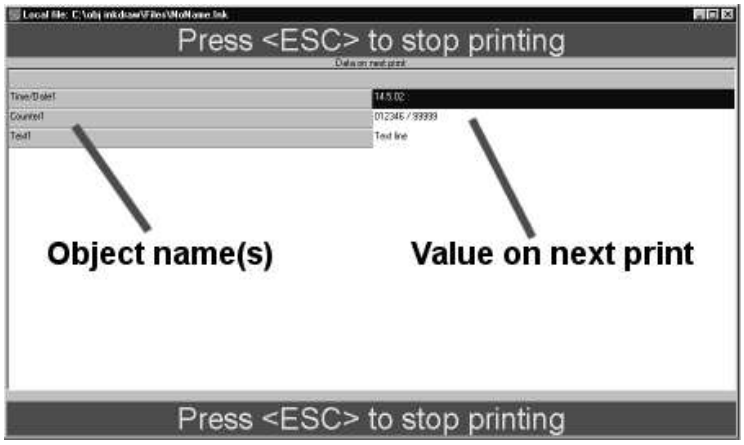
Object rotation

Almost any object can be rotated, except the line object (since it only has 1 dimension). To rotate an object, use the rotate icon on one or more objects. At this moment, objects can only be rotated in 90º intervals: 0,90,180,270; the rotation is always counter-clockwise.

- The object is rotated around the selected snap point.
- On more objects, each object is rotated around it's own snap point, not a common point.

Monitoring the content of the object during print

To keep an eye on the next value of objects being printed, activate the print monitor for that object. The print monitor is symbolized by a magnification glass: . Once the print starts, the value(s) will be displayed in the print window.



The print monitor has been activated for some objects

You see the name of the object and next to that, the value of the next print.

Figure 10: print monitor showing next value

Print in reverse

All objects that are not geometric objects can be reversed. Reversed objects will print like this. To activate reverse print, click the ABC button to the right of the magnification glass.

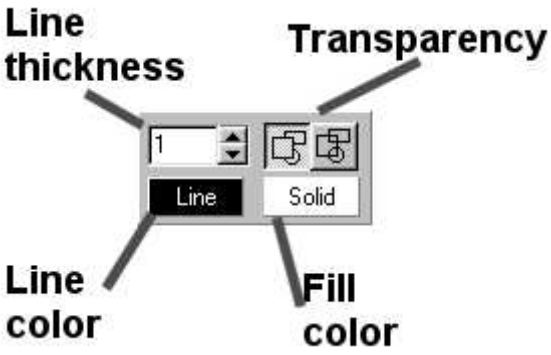
The reverse button has no affect on geometric objects, as these have their own property bar for color (background / foreground).

Individual object properties

This part will describe properties that are only available for one object, or a small group of objects. All possible values will be described.

Lines, Ellipses and Rectangles

The geometric shapes all have a set of properties that they share.



For all geometric shapes, line thickness, transparency and color can be set.

Color can be black or white.

For lines, notice that transparency and fill color are not present.

Line thickness is measured in the currently selected units

Figure 11: Properties for geometric objects

A note about fonts and text

Some (or in fact most) of the objects in OBJ INKdraw contain text. Although the objects are created with a standard font, it is possible to set any available font and font size –fonts are based on the fonts from Windows. This means that you can get fonts from elsewhere, install these in Windows, and use them in OBJ INKdraw.

The font bar is placed right under the menu bar:

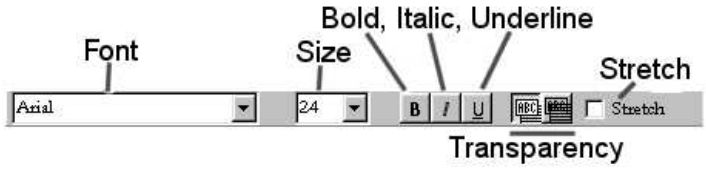


Figure 12: Font panel

The font, font size and font appearances work just like any other office program.

Stretch applies to only date and text objects, plus counters when space is lead-in character, and causes the text to always fit inside the frame, no matter how long it is.

- Transparency does not apply to the bar code object. If you want to put some text close to the bar codes, change stacking and make the text objects transparent instead of the bar code.

- When you stretch an object using the snap points, the height/width relation no longer matches the font size. Pressing **enter** in the font size field will reset the relationship between height and width.
- If you need to input character sets other than the latin, you might need to select the appropriate character set under preferences.

Capital Letters

Sometimes it is desirable to print any text as upper case. This is simple to do with the ***Text case*** selector. This is located in the font panel.

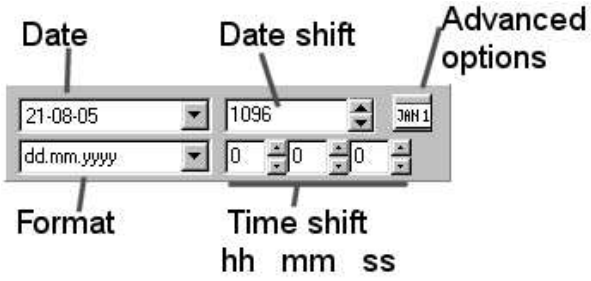
Choose between the following:

Normal	The red fox
Capitalize	The Red Fox
lower case	the red fox
upper case	THE RED FOX

- You can use this to create dates with mixed capitalization. Since the date code for "August" [Mmm] does not exist, simply choose "august" [mmm] and select "Capitalize".

Date objects

The date object is able to show date and time in almost any format. The basis of the date is the internal clock in the PC, so make sure that one is set correctly to the local time.



The basis of the date properties is the date properties bar. When you change the properties, the next date object will default to the same format.

Figure 13: The date property area

Setting date shift

The date shift is the difference between ***the current system date*** and the date in the date object. This is very useful for expire dates when either the length of the period or the exact date of expiration is known. The value can be either positive or negative, 0 is for no difference (today's date).

The value can be set in two different ways:

Input a number and press **`enter`** in the ***Date shift*** fields (day, hour, minute, second), or

select a date in the ***Current Date*** field:

When you select today's date, you are prompted with a box similar to this. The current day is marked in a ***red circle***, the selected date in a ***blue spot***.

You can select months with the gray arrows on top.

Figure 14: selecting a date

Date shift by year, month, day

Normal operation is to set the difference in days only. But in preferences, you can select an option to set the difference in Year, Month, Days. In that case you will have 3 separate boxes where you normally have the days input.

Time offset in months follow this logical rule: ***Take the same date in the following / previous month and add as many days as needed to make the date legal***.

In other words: OBJ INKdraw does ***not*** take "the last day" of next month if the date can't be legal.

As example:

30 jan 2005	plus one month	2 march 2005 (28 feb + 2 days)
30 jan 2005	plus two months	30 march 2005
30 mar 2005	minus one month	2 march 2005 (28 feb + 2 days)
28 feb 2005	plus one month	28 march 2005

- When selecting a date, the ***Current date*** and the ***Date shift*** will overwrite each other, as it is really the same setting you change.
- The box shown above will appear in the language of the Windows you have installed. The strings that change are “Today is” and month names.
- Of course, you can also directly enter a date and not use the drop-down menu.
- By using links on dates, the destination offset will be based on the source date. This is useful in prompts.

Setting time shift

As you set date shift, you can also set time shift. This is useful if you want for example the midnight change of date to be different.

You have 3 fields that equal to **hh:mm:ss**. Select any of these, and use the arrows up/down, or enter a number with the keypad. Changes will not take effect until you press **`enter.`**

You can use any number as the difference from the current date, minutes and seconds will perhaps be converted to entire hours.

The date format

The date format is a string of characters, where some characters are interpreted as placeholders and format string for the following elements in a time/date – for example : ***second, minute, hour, day, month, year, weekday***.

If a character does not interpret as a placeholder, it is simply written in the date object as it is.

- Date formats depend on the settings in the local Windows® installation. It is quite likely that some strings below are different in different versions of Windows.
- Date “words” (day and month names) will ***always*** be written in the language of the Windows installations. To change this language, change the regional settings (sometimes labeled “International”) in your Windows® control panel.

The following list gives all the options for the date. You can either choose from the pre-defined formats, or compose your own by writing in the box.

If you want to use letters from below in a string, use quotes. Example: “Date is “ yy-mm-dd will output Date is 01-09-01 for the example below. You can combine several strings and codes like this:

“Date is “ yyyy-mm-dd “ and time is “ hh:nn:dd

Many places, upper case strings will return upper case output. Example:

mmm = aug

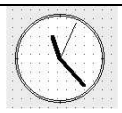
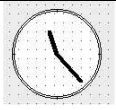
MMM = AUG

(but they can't be combined. Mmm returns "808" since it's interpreted as 2 times month numbers, one without zero in front). In that case, use capitalized as option for the object.

Some of the codes are not standard windows, but unique to OBJ INKdraw. These should always be put in “” like this: “#J”

Examples will be shown for the date Saturday, September 1, 2001 05:02:03:008

Standard date codes (Windows)

Format element	Meaning	Example
d	day as a number with the needed figures only.	1
dd	day as a number with two figures always.	01
ddd	day as a string in short format, Example:mo-so	Sa
dddd	day as a string,	Saturday
ddddd	date, month and year as figures:	01-09-01
dddddd	date, month and year.	1
m	month as a number with the needed figures only.	9
mm	month as a number with two figures always.	09
mmm	month as a string in short format:	Sep
mmmm	month as a string.	September
yy	year as a number with two figures only.	01
yyyy	year with four figures.	2001
h	hours with needed figures only.	5
hh	hours with two figures always.	05
n	minutes with needed figures only.	2
nn	minutes with two figures always.	02
s	seconds with needed figures only.	3
ss	seconds with two figures always.	03
t	time as a clock with hours and minutes.	05:02
tt	time as a clock with hours, minutes and seconds.	05:02:03
z	1/1000 seconds with needed figures only	8
zzz	1/1000 seconds with 3 figures	008
a/p	time as am/pm using one letter only. Capital letters will give capital letter in output.	a
am/pm	time as am/pm using two letters Capital letters will give capital letter in output.	Am
ANSEC	animated clock with seconds. This is a unique feature of OBJ INKdraw, and is not related to Windows.	 Clock at 11:23:04
ANMIN	animated clock with minutes This is a unique feature of OBJ INKdraw, and is not related to Windows.	 Clock at 11:23:04

Special Date Codes (OBJ INKdraw)

The codes below are not standard windows, but unique to OBJ INKdraw. They allow you to show dates in ways that is not standardized, for example to encode the date in a unique way.

These codes should always be put in “” like this: **“#J”**

The special codes are **case sensitive**

Code	Meaning	Example for Saturday, September 1, 2001 05:02:03:008
“#j”	day number in the current year, ***without*** leading zero (75 will show as “75”). Remember the “ “	258
“#J”	day number in the current year, ***with*** leading zero. (75 will show as “075”) Remember the “ “	258
“#w”	Week number, without leading zero (1-9)	35
“#W”	Week number, ***with*** leading zero (01-09)	35
“#d1”	Week day number, start Monday without leading 0	6
“#D1”	Week day number, start Monday ***with*** leading 0	06
“#d0”	Week day number, start Sunday ***without*** leading 0	7
“#D0”	Week day number, start Sunday ***with*** leading 0	07
“#G”	Week day letter. (Monday = A.. Sunday = G)	F
“#WN”	Week day name, specified per object. **Please see below**	F (default)
“#MN”	Month name, specified per object. **Please see below**	
“#Y”	Year using 1 digit (last). 200**1**	1
“#F”	Use specified date file **Please see below**	(no default)

Advanced date options – per object

Select the "Advanced" button to change less used options for the dates. Notice that these options are **per object**, so if you wish to remember your settings, copy the object or add it to the template panel.

Firure 15: keep the date for a week

Week Change
Allows you to keep the same date for a week. Enter the relative number of weeks to the current week, and what day the date should change This option follows this simple rule: "**Take the date of the next coming [week day change] relative to the number of weeks selected**". In other words: if the day selected is passed in this week, use the next week, otherwise use this week, then add or subtract the number of weeks.
Example: if today is ***Wednesday 10***, selecting "0" and "Tuesday" would give ***Tuesday 16*** (next week since Tuesday has been passed) while "Wednesday" would give today's date.

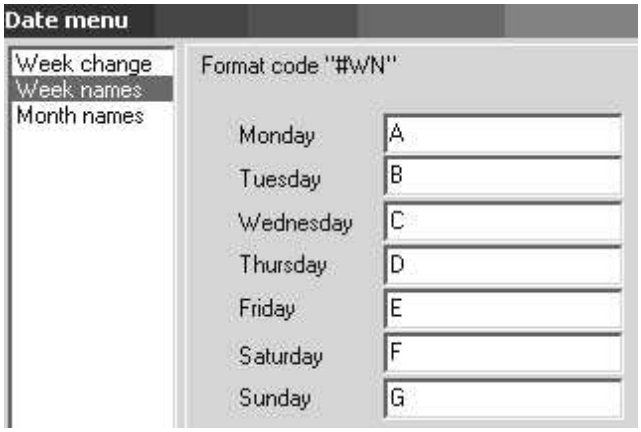


Figure 16: Weekday Names

Week Names
With this option you can change the names of the days. Simply enter a string next to the day name and press OK.
This setting is per-object, so other date objects may have different names for weekdays.

Use format code **"#WN"** to use this.

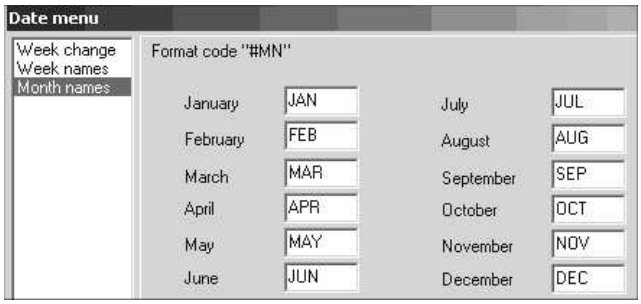


Figure 17: Month Names

Month Names
Similar to week names, you can also rename the months. By default, they are 3-letter codes used in English.

Use format code **"#MN"** to use this.

```
Aakusta
Aaren
Aarika
Aaron
```

A date file has ***exactly*** 366 lines, 1 for each day including Feb 29.

Useful for special codes, day names, etc.

Date File
If you wish to define completely different ways of how they dates should display, for example to print Name Days, you can use a ***Date File***. This is a text file with 1 line for each day – including Feb 29. So exactly 366 lines.

Go to preferences, special functions and mark [x] Use Date File. Then select your date file with the […] browse button. OBJ INKdraw will tell you if the file has less than 366 lines.

Use format code **"#F"** to read from the date file.

Tip: It is easy to make the list with a spread sheet program like Excel, then export to a text file.

Text object

The text object is quite simple, and only has one special property to modify: content.

Figure 18: Text object content

Located right of the lock icon, the text content appears.

Enter any new text and press **enter** to change.

If you wish to enter information in a different (i.e. non-western) character set, you should select this character set under preferences. This allows you to enter text in f.ex. hebrew or cyrillic letters.

Counter object

The counter object is a number that is changed every time a print has been made. The change happens ***before*** the print sensor is activated.

The properties for the counter object has two leves: simple and advanced.

Simple setup for counters

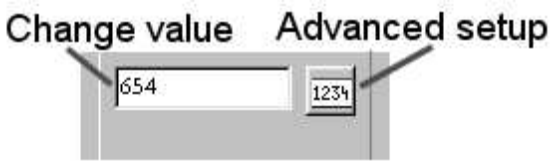


Figure 19: Simple counter setup

The simple setup appears to the right of the lock icon. You can change the currently set value of the counter.

Enter the new number and press **`enter`**.

To the right of the value box is the button for advanced setup.

Advanced setup for counters

The advanced setup for counters allows you to set the look and behaviour of the counter.

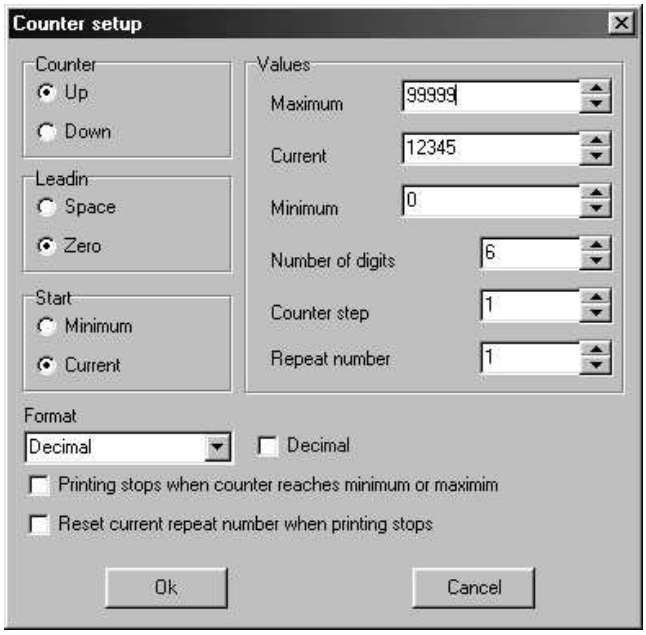


Figure 20: Advanced setup for counter

Options are grouped by their behavious, as follows:
Counter selects direction

Leadin selects what happens if the value does not fill the number of digits. If space is selected, ***stretch*** can be used to fill the box.

Start chooses the initial setting on print

Values chooses the content of the counter, the look and the behavior.
Counter step is the in/decrease of the counter. Always a positive integer.
Repeat number is the number of times the same counter value should be printed before changing.

Format is the number base to use. Four different bases are available:
Decimal, Binary, Hexadecimal and Octal.

Stop on maximum / minimum

Reset repeat on print stop

- By default, **all** input boxes follow the selected number base. Thus, a maximum of “15” turns into a maximum of “F” if the hexadecimal base is selected.
- Checking the "Decimal" next to the format box can change this behavior.

Barcode objects

Barcode objects can operate in two different ways.

- In a ***simple*** way is as a normal object, with a value.
- Or, in an ***advanced*** way is as a **container** for other objects.

The objects contained in a bar code **must produce textual output**, and can only be ***text, counter*** or ***date/time.*** There is no limit on the objects contained in a barcode, as long as the total value for the barcode is still legal.

An example will help to illustrate the idea and the difference:

A standard EAN-13 containing the value
010812333344
with the checksum 6 automatically added.

Figure 21: Simple barcode

An EAN-13 containing 3 objects: 1 date and 2 counters.

Date1:	010812
Counter1:	3333
Counter2:	44

.. which still results in 010812333344 like before.
When any of the objects are changed, the barcode will change.

Figure 22: Advanced barcode

Although the two barcodes shown are identical, the content certainly is not.

Sometimes contained objects can produce output that makes the barcodes invalid. This is typically the case with date objects, where you have separators. Some bar codes allow these, others do not.
It is your own responsibility to make sure this does not happen.

Changing properties for simple barcodes

The properties for changing barcodes in the simple way are located to the right of the lock symbol.

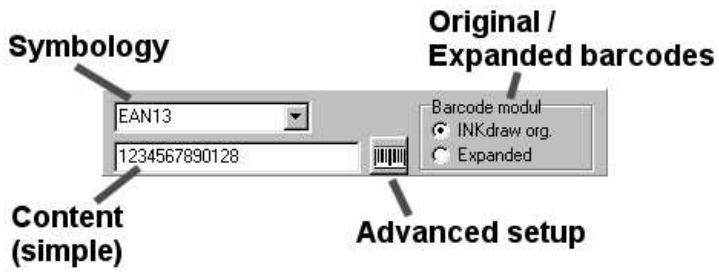


Figure 23: Properties for barcodes

Type: You can choose between many different kinds of barcode symbologies.

Content: After changing the value, press **enter** to update. This field becomes read-only if the barcode contains other objects.

Advanced setup: Use this button to enter the advanced setup.

Original / expanded barcodes: see note below

- The module type for the barcode is an option between two types of barcode modules:
- The orinial INKdraw module
- A module that allows stretchable barcodes plus 2D codes.

- OBJ INKdraw gives you many options with the barcodes. Some of these may cause the bar codes to be outside the specifications when printed.
- **You are responsible** for the proper creation and validation of the barcodes.
- Where the standard barcodes will compensate for content out of the specification, the extended barcodes will display an error message, for example "Wrong number of characters".

The following tables show the different bar code types in the two modules

Symbologies in the standard INKdraw module

Name on list	Information
BCD	
CODABAR	
CODE39	Code 39. Can contain letters
CODE128	
COMPRESSED	
DATALOGIC	
EAN8	
EAN13	

EAN128	
FEMBAR	
INDU	
ITF	Interleaved 2 of 5
MATRIX	
UPC	
JAN (EAN)	Japanese Article Number, OCR-affixed standard version.
NW7	

Symbologies in the Expanded module

Name on list	Bar Code Name	Print Ratio Default (see description below)
Code11	Code 11	1:2.24:3.48:1:2.24
2OF5	Code 2 of 5 (Standard)	1:3:4.5:1:3
2OF5IL	Interleaved 2 of 5 Standard	1:3:1:3
2OF5IATA	Code 2 of 5 IATA	1:3:1
2OF5M	Code 2 of 5 Matrix	1:3:4.5:1:3
2OF5DL	Code 2 of 5 Data Logic	1:3:1:3
2OF5IND	Code 2 of 5 Industrial	1:3:1
3OF9	Code 3 of 9 (Code 39)	1:3:1:3
3OF9A	Code 3 of 9 (Code 39) Ascii	1:3:1:3
EAN8	EAN8	1:2:3:4:1:2:3:4
EAN8P2	EAN8 - 2 digits add on	1:2:3:4:1:2:3:4
EAN8P5	EAN8 - 5 digits add on	1:2:3:4:1:2:3:4
EAN13	EAN13	1:2:3:4:1:2:3:4
EAN13P2	EAN13 - 2 digits add on	1:2:3:4:1:2:3:4
EAN13P5	EAN13 - 5 digits add on	1:2:3:4:1:2:3:4
EAN128	EAN128	1:2:3:4:1:2:3:4
UPC12	UPC 12 Digits	1:2:3:4:1:2:3:4
CodaBar2	CodaBar (2 width)	1:3:1:3
Code128	Code128	1:2:3:4:1:2:3:4
DPLeit	Deutsche Post Leitcode	1:3:1:3
DPIdent	Deutsche Post Identcode	1:3:1:3
9OF3	Code 93	1:2:3:4:1:2:3:4
UPCA	UPC A	1:2:3:4:1:2:3:4
UPCAP2	UPC A – 2 digit add on	1:2:3:4:1:2:3:4
UPCAP5	UPC A – 5 digit add on	1:2:3:4:1:2:3:4
UPCE	UPC E	1:2:3:4:1:2:3:4
UPCEP2	UPC E – 2 digit add on	1:2:3:4:1:2:3:4
UPCEP5	UPC E – 5 digit add on	1:2:3:4:1:2:3:4
PostNet5	PostNet ZIP (5d.)	1:1
PostNet6	PostNet ZIP (5d.+CD)	1:1
PostNet8	PostNet ZIP (8d.)	1:1
PostNet10	PostNet ZIP+4 (5d.+4d.+CD)	1:1
PostNet11	PostNet DPBC (5d.+4d.+2d.)	1:1
PostNet12	PostNet DPBC (5d.+4d.+2d.+CD)	1:1
Plessey	Plessey Code	1:2:1:2
MSI	MSI Code	1:2:1:2
LOGMARS	LOGMARS	1:3:1:3
PDF417	PDF417 … 2D Barcode	1:2:3:4:5:6:7:8:
PDF417Trunc	PDF417 Truncated … 2D Barcode	1:2:3:4:5:6:7:8:

MAXICODE	MaxiCode … 2D-Barcode	-------
QRCODE	QR-Code	-------
Code128A	Code128 (CharSet A)	1:2:3:4:1:2:3:4
Code128B	Code128 (CharSet B)	1:2:3:4:1:2:3:4
Code128C	Code128 (CharSet C)	1:2:3:4:1:2:3:4
9OF3A	Code 93 Ascii	1:2:3:4:1:2:3:4
AusPostCustom	Australian Post Standard Customer	1:1
AusPostCustom2	Australian Post Customer 2	1:1
AusPostCustom3	Australian Post Customer 3	1:1
AusPostReplyPaid	Australian Post Reply Paid	1:1
AusPostRouting	Australian Post Routing	1:1
AusPostRedirect	Australian Post Redirection	1:1
ISBN	ISBN Code (=EAN13P5)	1:2:3:4:1:2:3:4
RM4SCC	Royal Mail 4 State (RM4SCC)	1:1
DataMatrix	Data Matrix	-------

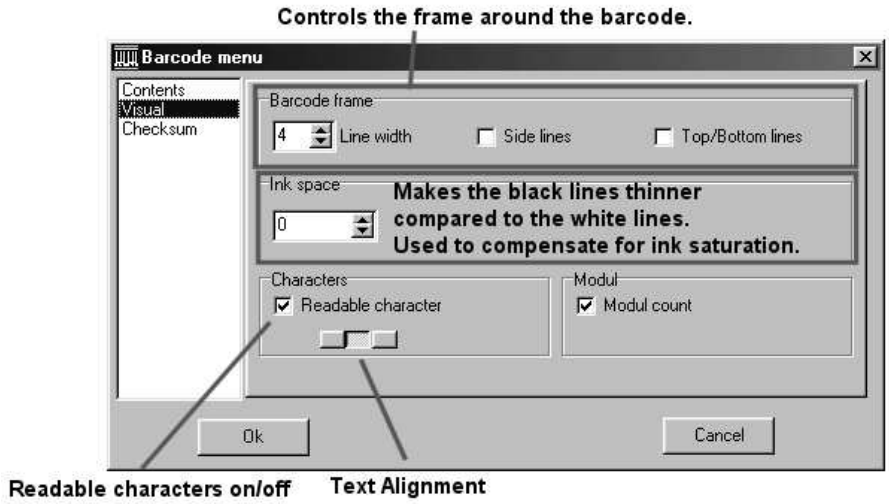
Ink space / print ratio

When printing on porous surfaces, a saturation of the ink might occur which makes it difficult to read the barcode. This can be compensated for using the following

- For the standard barcodes: ***Ink Space***. This reduces the width of the black bars compared to the white bars
- For the extended barcodes: ***Print Ratio***. Using this, you can define the "weight" of the bars and the spaces compared to each other.
  - Example: ***1:1*** (Bar:space) is default. 2:1 will now make the bar double width of the space.
  - Example2: 1:3:1:3 (Bar:triple bar:space:triple space) is default. 1:3:2:3 will now make the single space double width.

Advanced setup of barcodes

By pressing the button for advanced setup on barcodes, you are presented with a pop-up menu, for further preferences of the barcode. Below, each part of the advanced settings will be described:



Change frame on the top / sides

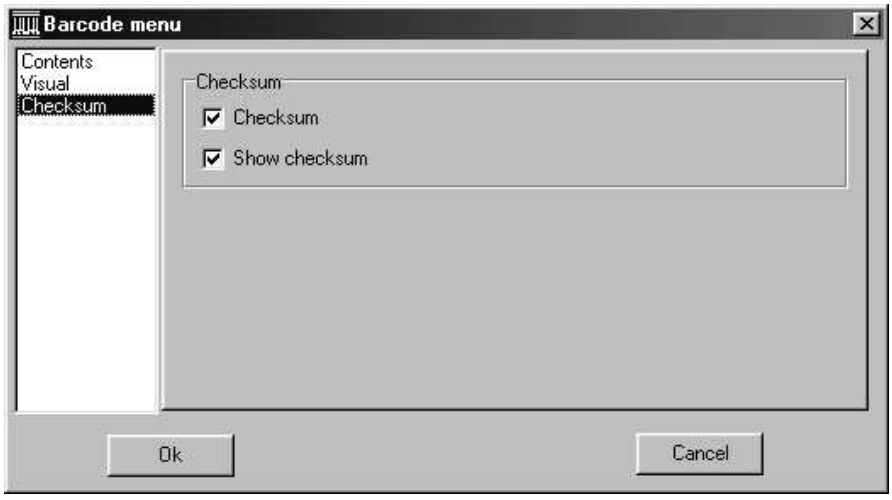
Compensate for ink saturation

Toggle readable characters

Module count: reserved for scaleable barcodes to lock them to integer sizes

Figure 24: Visual settings of barcode

- When the human-readable text is on, you can change the font as with the text object. On some bar code formats, you can also change the font size.
- The font size will not change if you stretch the barcode.



The checksum dialog for a barcode.

Only barcodes with optional checksums allow these values to be changed. Otherwise, they will be grayed out.

Figure 25: Checksum settings for barcode

The EAN 128 is able to do even more than described here, which will be explained separately.

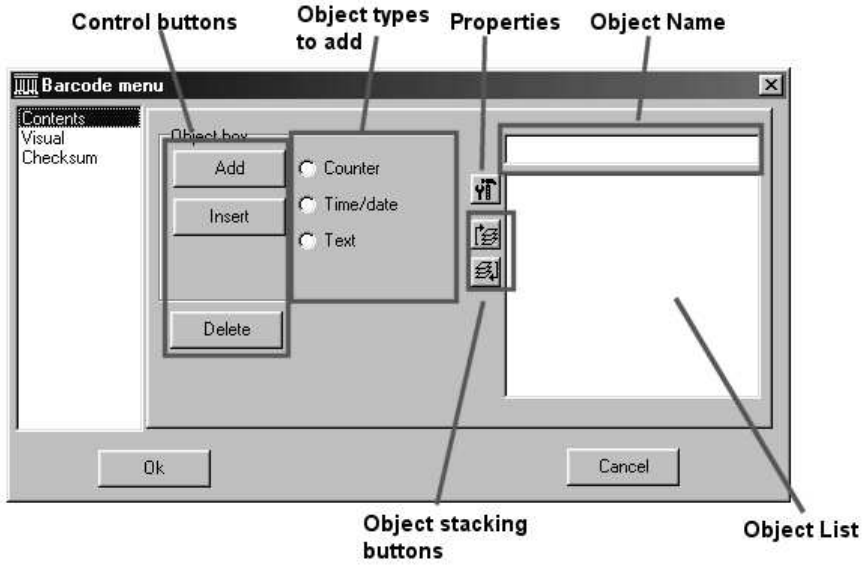


Figure 26: Barcode content setup

The advanced setup for barcodes work in quite a similar way to the object panel:
Select an object type or an object

Then use add, insert or delete to modify the list

The barcode will be built up from left to right with the objects from top to bottom.

You can rename objects using the “object name” box. Remember to press **`enter`**.

You can also change the order of object using the stacking buttons.

Once objects have been added, you must add value to the objects. This happens by double-clicking the object name. A small box will appear with the default options for that object type (please refer to previous description earlier in this chapter).

- You will notice that barcodes that contain objects appear as a fold-out-list on the object panel. You can rename objects within the barcode from here also
- Example: showing an unfolded barcode object (EAN128).

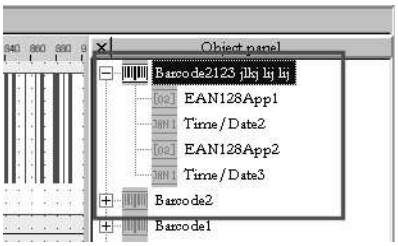
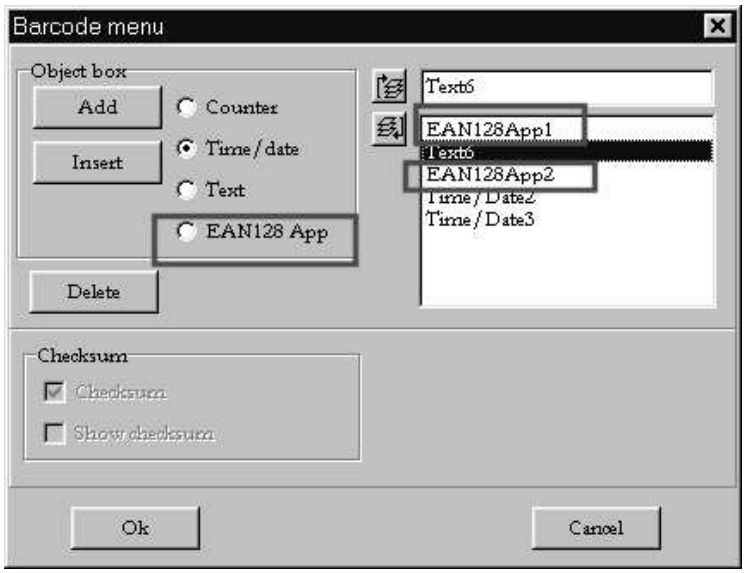


Figure 27: Object list showing Barcode Object

EAN 128

The EAN128 barcode is special because it contains **Application Identifiers**. This is a special object you must add to the barcode that divides the barcode into several sub-sections. The identifier decides about the properties of the next section.

- It is **MANDATORY** to use the application identifiers. The barcode will not show output without them. Also, any object must always be ***below*** an identifier.



Properties for an EAN 128, with the Application Identifier object marked.

Notice the order: [identifier][object(s)]… or ligned up:

App1
Text6
App2
Time/Date2
Time/Date3

Figure 28: Advanced properties for EAN128

The way to change the application identifier is the same as to add content to the object: double click on the names. A small window will appear where you can choose the identifier, and at the same time see it's properties:

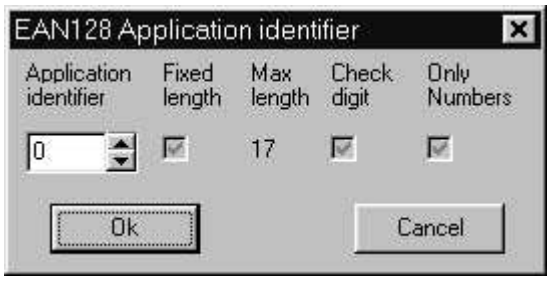


Figure 29: Application Identifier for EAN128

Selecting an EAN128 identifier.
You can use the arrows, or enter the number if you know it.
At the same time, you can see the properties:
Fixed length: this part of the barcode will always have the same length

Max length: the length of this part of the barcode

Check digit: Is a check number calculated for this part of the bar code.

Only numbers: If on, alpha-numeric input is not accepted.

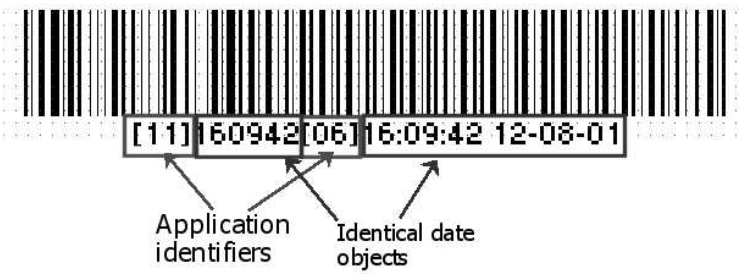


Figure 30: EAN128 with two identifiers

The application identifiers are shown as two-digit numbers inside [ ] in the readable text of the barcode. Here, the identifiers are marked with red, the data fields with blue.
This example shows an EAN128 with two identifiers, each having the same date/time object. The difference between identifier [11] and [06] is clear.

If you need to alter the allowed content within each application identifier, OBJ INKdraw allows you to do so.

In the preferences, there's an options which allows you to select built-in or external definitions of application identifiers.

LOGO Objects

The logo object is external, and can not really be modified from within the OBJ INKdraw program. The options for the logo object are located to the right of the lock icon:

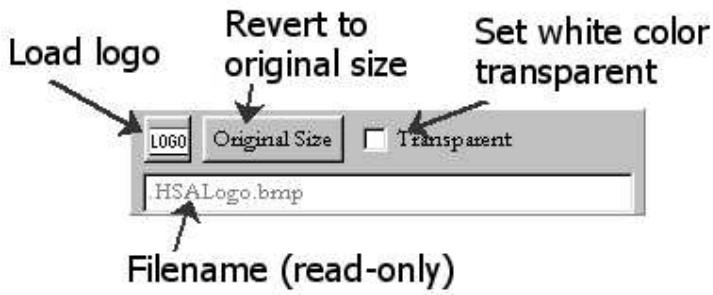
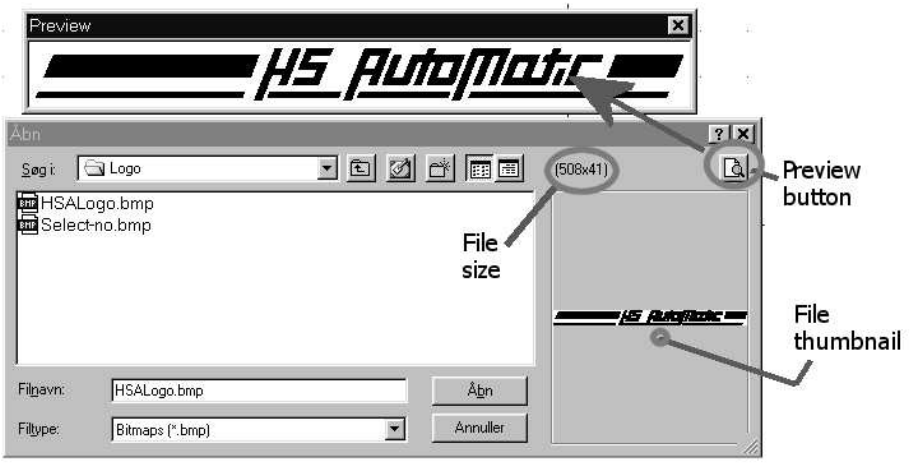


Figure 31: Logo properties

By default, the HS Automatic logo is used (the file is created if necessary).
To get another picture, use “Load Logo”. To resize the picture to the correct size, use “Original size”.
Finally, you can choose to enable transparency for the white color.

When loading a new logo, the file open dialog offers you a preview of the picture, both as thumbnail and in full size:



The open logo dialog box.

Here, the full preview has been selected. The full preview is adjusted to the size of the bitmap.

The size of the picture is also shown.

Figure 32: Opening a logo file

- You can use files in the Windows Bitmap (BMP) or JPG format. If your picture is in more than 2 colors, it will be converted to a 2-color picture.
- You might benefit from a conversion by a real graphics program that will dither and convert the picture – such as Adobe PhotoShop® or JASC PaintShop Pro®.

- Logos are not embedded into the .ink file. Instead, there is a ***link*** to the logo placed in the ink file. This means that if you move the ink file**, the logo must be placed in the same relative position**

- The shortcut "▪filename.bmp" (notice the dot) is for the OBJ INKdraw "logo" directory.

Field objects

Field objects are used to group the objects that can contain text (text, date, counter), so that you don't have problems with variations in field lenght. This is especially useful for database connections. An example will help to allustrate the difference:

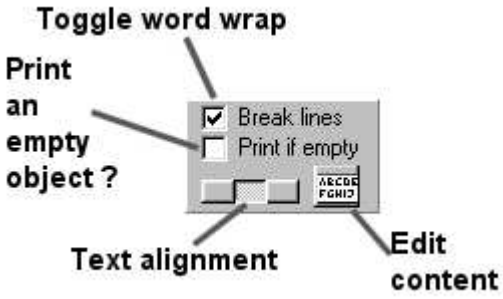
Without field object

ABCD Sep/20/2000	***Text field is too short***
ABCDEFTERJEKJRKJERKJ /20/2000	***Text field is too long***

With field object

ABCD Sep/20/2000	***Neatly ligned up…***
ABCDEFTERJEKJRKJERKJ Sep/20/2000	..***regardsless of lenght***

The properties of the Field Object are located to the right of the lock icon:



Properties for the field object.

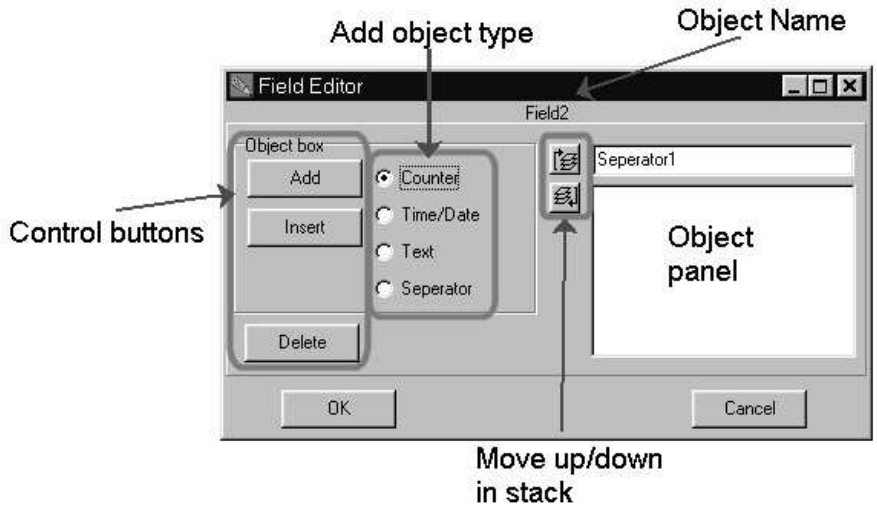
The text align function works on the entire field; individual adjustment of content is not possible.

Figure 33 : Field object properties

When created the field object is empty; it will show the text "Empty" (this text will be printed if the option "Print if empty" is ON).

Editing the field object content

To edit the field object, press the "Edit Content" button, as show above. A menu very similar to the barcode content menu will be shown:



To edit the content of the field, select the object type and use Add or Insert.

Inserted object appear on the object panel.

You can move objects or delete objects at any time.

To fill content into the inserted objects, double-click on the object name.

Figure 34: Field Object content

Content is placed in the field object from the top, from left to right.

There is one difference from a bar code object: the "**Separator**". A separator consists of one or more spaces (when double-clicking, you can select the number of spaces). It is used between the objects, to separate their content.

A separator can be set to ***allow*** carriage returns, and to ***force*** carriage return. In the last case, the objects on either side of the separator will never be on the same line.

- When word wrap is on, two objects are split only when
  - 1) There is a separator between them
  - 2) Allow Carriage Return" has been selected for this separator
- Font size, Font style and text alignment functions on the entire object.
- If word wrap is off, two object ***never*** split, even if forced return is on.

Schedule Objects

Schedule objects are used to vary the content of a text box based on the date / time. Rules are set up with the date/ time and the content, and when the criteria is met, the content will change.

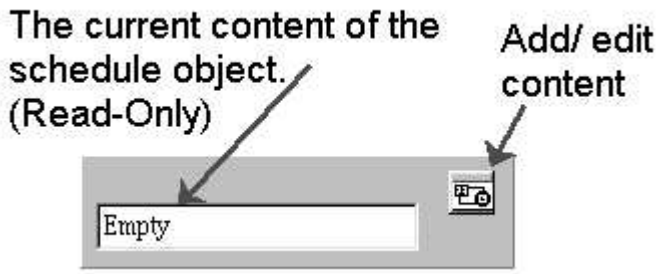
The rules are strictly logical: the entire list of rules is evalutated before the content changes. If any rules overwrite other rules, the last defined rule is given priority.

Example:

Sunday	7:00 am	“Sunday morning”
Sunday	1:00 pm	“Sunday Noon”
All days	7:00 am	“Morning”

Sunday at 8:00 the result of the above rules would be “Morning” because ***All Days*** overrules the ***Sunday***. However, Sunday at 1:00 pm the text would change to “Sunday Noon”. In other words: **The order of the rules is important**.

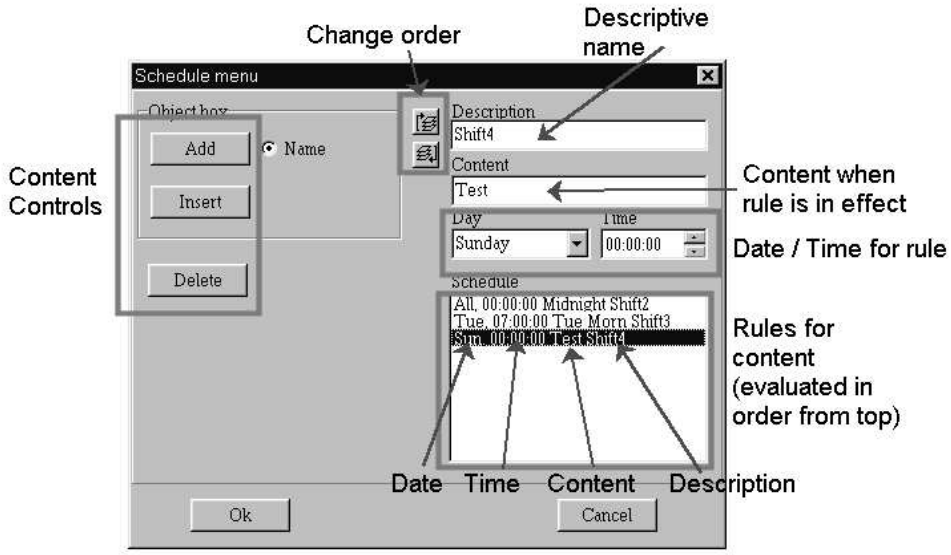
When created, the object is displaying the word “Empty”. To add rules, use the properties bar :



The properties for the schedule object.

You can not enter the current value directly – only through the “edit content” button.

Figure 35 : Schedule Object properties



To enter the rulesets of the schedule object, first add as many rules as you need (one for each time your content changes)

Then click on each rule and define the date/ time. If you don't specify a day, you can use "All".

Figure 36: Editing Schedule object rulesets

- When created, each rule will have a description of "Shift" and a number, and the content "None". Both can be changed.
- It is what you write in Content that is shown on the canvas. The description is not important.
- Remember to press **`enter`** when you change a field. Otherwise, your entry will not be stored.

Copy object

The copy object is special because it does not have any content by itself. Instead, it can be seen as a window that gets its content from what is below. This content appears in the ***copy***. The copy object is an easy way to create content and make sure the exact same information is printed elsewhere on your canvas. Any number of copies can be made, and you can have multiple copy objects.

A copy object always consists of minimum 1 ***source*** and 1 ***copy***. The handles will always be on the source, and the size of the copy will always be the same as the source.

The idea behind the copy object is illustrated below:

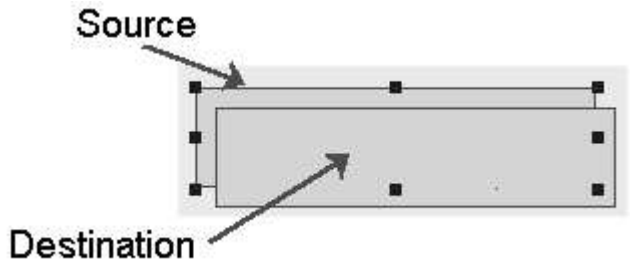
Here, there is one source (over the full barcode) and one copy.

The red frames are for illustration only.

Figure 37: idea behind copy object

The copy object works directly with the canvas bitmap. That way, the copy object can include any part of the screen – entire objects or part of them only. You can even use the result of one copy object as the source for another, if that is what you want.

To create a copy object, use the icon  . When created, the copy object looks as follows:

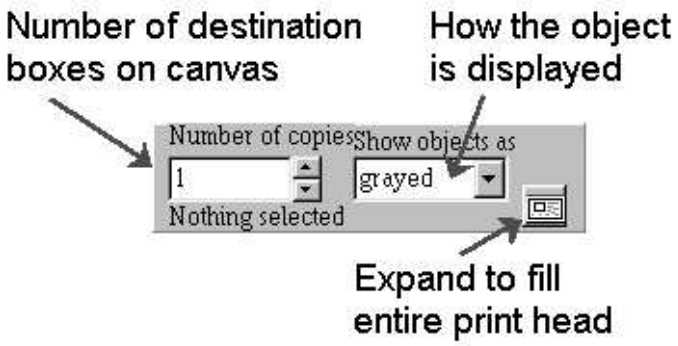


The copy object just created. The handles are on the source object, the copy / destination is on top. Source / Destination will be written on each.

Figure 38: Copy object after creation

- You can only move the destination / Copy if you click outside the handles.

The properties for the copy object allows you to adjust the number of copies, how the object is displayed and allows you to expand the object to fill an entire head:



To adjust the properties of the copy object, click the object and make adjustments.

Notice that if you make the object transparent, you can't select it from the canvas, only from the object bar.

Figure 39: Properties for copy object

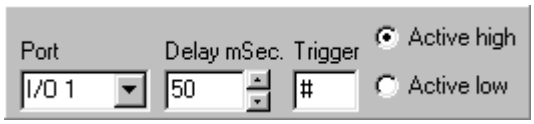
There are 5 different ways to display the copy object. These will only affect the look on the canvas as you are working. The output from the copy object is not affected.

Show as...	**Note**
Don't show	Completely invisible. You have to select the object from the object bar. In this mode, the object can not be dragged around.
Clear	Show as a thin red frame. In this mode, the object can not be dragged around.
Grayed	Show as a gray box. This is the default.
From/To	Will show as a gray box, but will write **Source** and **Destination** on the source/copy. **This is the default behavior**.
Full copy	Show a live update of what will be copied. NOTICE: This will significantly slow down your work with the canvas and objects.

The stacker object

This object is used to give an external signal based on a certain character (user-defined) in the database. Like the mail object, this object will not work without a database connection.

After creation, you will see the property bar



The stacker object properties.

Figure 40: Stacker object

For pinout and connections, please refer to the hardware manual.

Section 2

summary

- OBJ INKdraw is based on a chalk-board-like screen called the ***Canvas***. On this, you can place any number of the different objects.
- All objects are freely editable after you have placed them on the canvas. You can move, stretch, stack, edit and delete objects as you please.
- All objects are referred to by a name. You can change the default name as you please, but two objects can not have the same name.
- To create objects, select the object type, then click with the mouse button and drag the shape of the object.
- All objects have properties that decide the way the objects look or behave. Some of these properties are common (like rotation or font), some are unique to each object.
- Some objects (for example, barcodes and fields) can contain other objects. To edit the content of the contained objects, double-click on their names in the object list of the properties window for the container object.

Section 3 *Advanced topics*

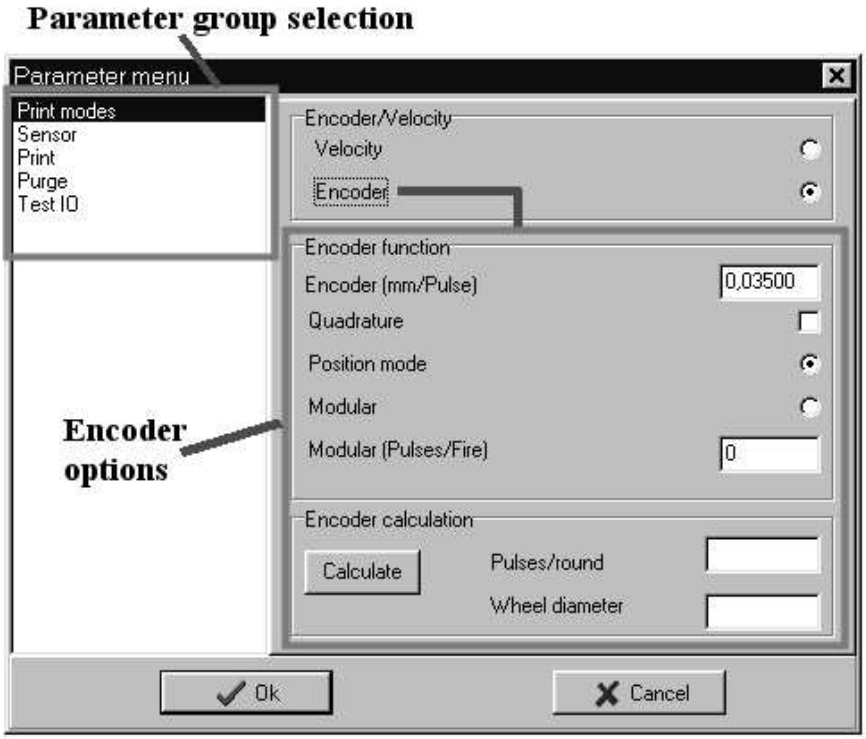
The parameter menu 7

When loading OBJ INKdraw, the settings will be default settings that probably won't match your hardware. To get a correct printout, an important part is setting the parameters correctly. Some parameters are quite easy to understand, others involve a bit of math and knowledge about the equipment that will be connected to the printer – typically start sensor and encoder.

These settings all take place in the OBJ INKdraw "***Command Center***", the parameter menu.

To open this menu, use ***[Functions|Parameters]***, **F9** or the icon  . You will see a menu with different pages. In the following, each of these "pages" will be described. It might be wise to refer to the chapter on the relation between hardware and OBJ INKdraw, and to the general hardware guides.

Print modes



The folder in setup for printmodes.

Notice the parameter group selection ("page"). (in the following screen shots, the page headers are not included).

Choose between velocity or encoder, and adjust the function parameters accordingly.

This screen shows the encoder options.

Figure 41: Setting the print mode

- Default values of encoder and velocity settings can be set in the preferences. When you switch from one to the other, default setting will be applied.

Velocity

Velocity mode is a print mode that functions without measurement of the exact speed of the feeder. To avoid a printed picture that is either stretched (speed too fast), or compressed (speed too slow) it is important to keep a precise control of the feeder speed.

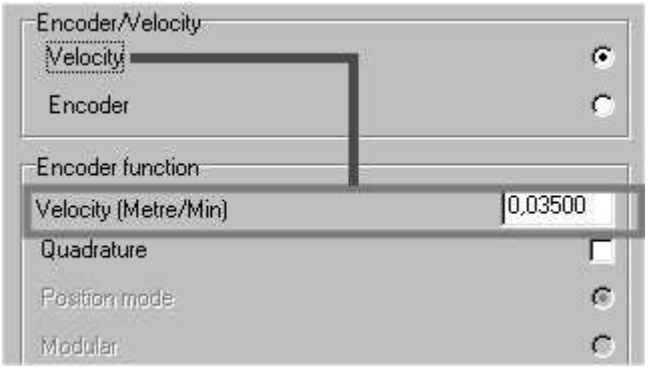


Figure 42: Velocity Options

When velocity is selected, the encoder option changes into a velocity option.

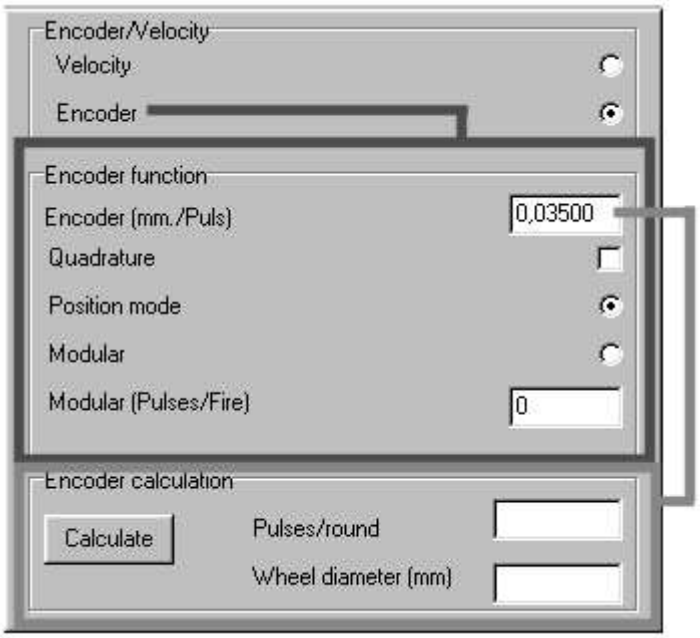
Input the speed of the feeder. This is always in **meter/ minute**.

1 m/min = 0.05468 ft/sec

Encoder

An encoder is an instrument that gives impulses by the rotation of a small wheel. When mounted on the feeder, OBJ INKdraw can be adjusted to follow the pulses, thus giving a very precise print, even if the speed of the feeder varies, or even stops at times.

This manual will briefly describe the settings of the encoder and the difference between them. For a more technical explanation of the encoder settings and the background behind them, please refer to the hardware manual.



Settings of the encoder.

You can enter the mm/pulse factor or calculate it if you know the diameter and number of pulses.

Choose between position mode and modular mode - select quadrature (briefly explained below) if you need it.

Figure 43: Encoder settings

A few words on the encoder

The job of the encoder is to accurately measure the speed of the conveyor. Light from an LED or other light source is passed through a stationary patterned mask onto a rotating code disk that contains code patterns. The disk is the heart of the device. Photodetectors scan the disk and an electronic circuit processes the information into digital form as output to counters and controllers.

Some encoders have more than one disk - this if referred to as a "multi-channel" encoder.

When setting the parameters, it is important to know two different numbers, in order for you to calculate the mm/pulse number, which is how far the feeder moves for every pulse

- The number of pulses in one full revolution of the wheel.
- The diameter or the circumference of the wheel

By default, the encoder "triggers" once on each signal. You can improve the resolution by using a second channel and by using quadrature. The figure below will illustrate:

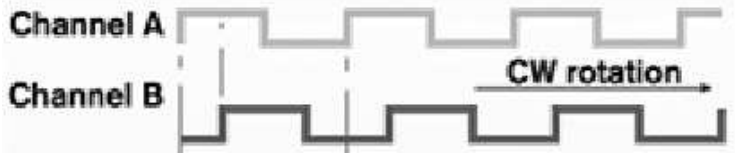


Figure 44: Encoders, picture of 2 channels

By default, the encoder triggers once in channel A per cycle.

You can also use channel B which is offset 90 degrees, and you can use quadrature, where you also get a signal on the "back side" - thereby you get 4 times the pulses.

- The standard encoder supplied by HS Automatic ApS has 5000 pulses / revolution. **With a wheel of 200 mm circumference, you have 0,04 mm/pulse**.

Position mode

In position mode, the time of the fire is calculated based on the position. Each time a signal comes from the encoder, that number is added to a counter. A fire signal is given every time a certain distance has been met.

- HS Automatic ApS recommends that the "mm / pulse" is less than 0,03 to get the best result.
- Using the standard encoder supplied from HS Automatic ApS, the recommended settings are ***position mode*** and ***Quadrature ON***. This will give you 0,01 mm/pulse.

Modular mode

Compared to position mode, the modular mode ***counts*** the number of pulses from the encoder and fires every time a certain number of pulses has been met. The "module" (pulses / fire) refers to the number of pulses that must be met before a fire.

If you want to mention the same resolution of the printers your mm/pulse must be a certain number of a fraction of it. For your reference please find the table below:

Print head type	Resolution	Distance mm/pulse
XaarJet 128	185 DPI	0,13714 mm.
XaarJet 500	180 DPI	0,141 mm.

Table 1: Print heads and resolution

Sensor

The sensor is what gives the signal to start the print. It is not possible to start the print without the sensor. There are many different kinds of sensors, which one you use is not important, as long as the signals that come from the sensor are compatible with the controller.

The settings for the sensor are shown in the second part of the setup parameters:

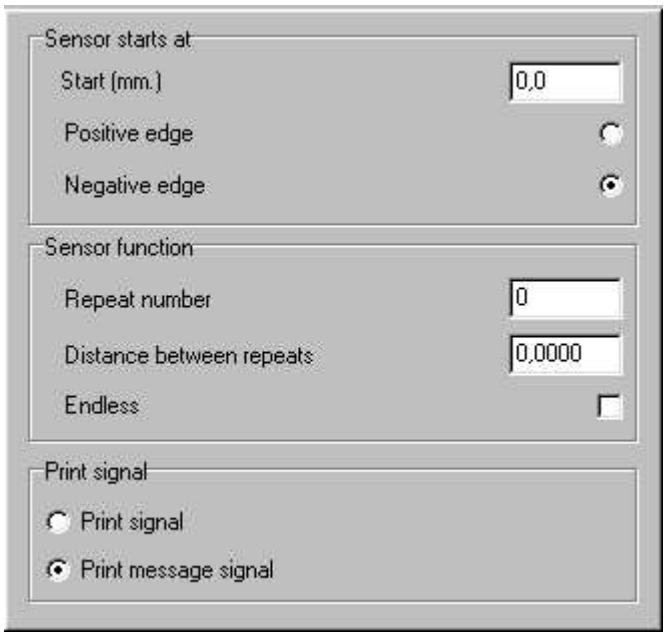


Figure 45: Sensor settings

Start (mm) : The distance from the sensor to the start of the print.

Positive / Negative edge: If the sensor goes from high to low on activation, or vice versa.

Repeat number: Repeat the printout this many times for each activation

Distance between repeat: From end on one print to the next

Endless: Print continues as long as the sensor is activated.

Print signal: An external signal for "print mode active" or "printing a message".

- Find out which type of sensor you have. If you select “Test I/O” (the last part of the parameters), you can see the status of your sensor.

Print

The “print” part of the parameters is where you decide the look of your printout. For this to be successful, you first need to have the correct setting of your speed/ encoder. For the adjustment of the print engines, it is strongly advised to use an encoder.

The following settings can, and should be, done for each head that prints:

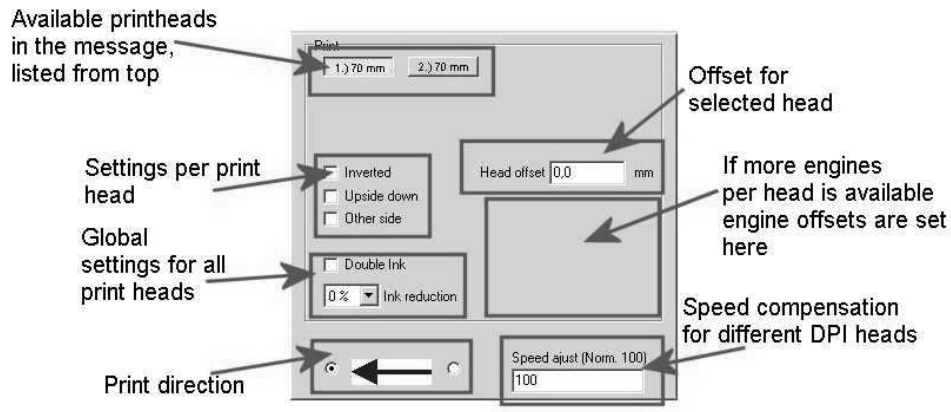


Figure 46: Print parameters, for each head

Settings for each head:
Invert text on/off

Orientation

Head shift

Relative adjustment of engines

Global settings:
Use double ink on/off

Direction of feeder

Global ink reduction

Speed adjust

Inverted text

For this print head, everything will be printed with a black background in white.

Orientation

Each printhead can be adjusted to match the orientation of the printed matter. Printed messages can be turned in two different ways:

- **Upside-down**, where the text is mirrored horizontally
- **Other side**, where the text is printed in reverse. This is especially useful for printing on both sides of a box, to make sure the text is readable on both sides.

Double ink

Will make the output more black by using the double amount of ink

Ink reduction

Like the per-object setting on ink reduction, but applied globally for the whole canvas. This will enable barcodes ink reduction.

Feeder direction

This is relative to the head. Imagine looking at the feeder from ***behind*** the head. Then select here the direction of the feeder.

Adjustment of the head

In order to adjust the heads, it is important to understand the concept of the print heads. Please refer to the section on the concept.

For now, it is enough to understand that there is an imaginary "fix point" from which all heads are adjusted accordingly. Within each head, the engines are adjusted according to ***engine 1***.

The figure below will help to illustrate:

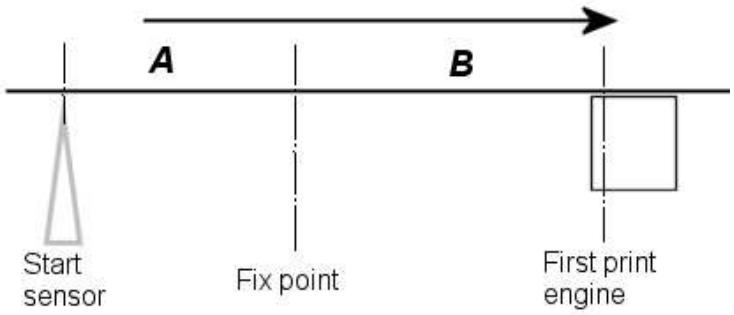


Figure 47: distances in setup

INKdraw operates with 2 distances:
A is the distance from the sensor to a fix point. This value is adjusted under the "Sensor" section.

B is the distance from the fix point to ***each*** print head. This value is adjusted under "**Head shift**" for each print head.

Distance "B" may be 0.

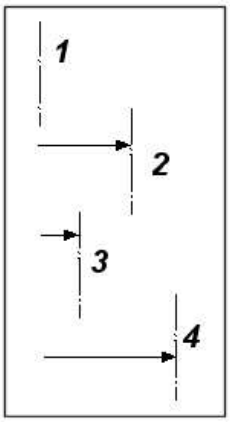


Figure 48: Adjustment of print engines

Engine adjust:
If the head has more than 1 print engine, you need to adjust the distance beween the engines.

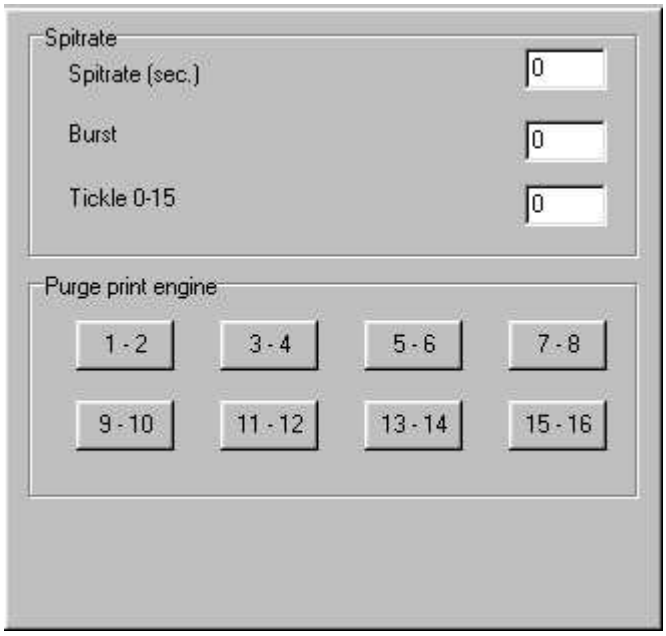
The distances are **relative to engine 1**, as indicated here.

- When you change the print direction of a head with more than one engine, you will notice that the "numbering" of the engines change direction.
- This is due to the fact that the "first engine" in term of distances is the first engine ***in the print direction***.

Purge

A ***purge*** is when all the nozzles of a print engine shoots continously. It is useful for testing the engine for missing nozzles – this is noticed as white lines in the black area. A purge is also useful

to prevent the ink from drying out. OBJ INKdraw can be set up to automatically make purges, if you use solvent-based ink, for example.



Settings for the purge function.

The spitrate section on top allows settings for time, burst and tickle.

The buttons at the bottom makes the printer purge, two engines at a time.

Figure 49: Purge parameters

- When purging, a lot of ink comes out of the printer. The small drops will be carried by air, and can color things quite far away. Make sure that the printer is not constantly purging.
- It might be harmful to your health to breathe the fumes of a printer that purges. Make sure you have good ventilation.
- This menu is ***not*** available if you don't have a controller board.

Spitrate

The spitrate settings is used to make the printer shoot every ***n*** seconds, to prevent the ink from drying out. This will not happen during a print. The **burst** value is the number of times the printer shoots every time. Each burst is about 0,13 mm wide.

Tickle

If the automatic spitting is undesired, the ***tickle*** function can be activated. This makes the printer “vibrate” when it is not printing, but not enough to actually make a shot. This is, however, quite hard on the printer and will decrease the engine lifetime.

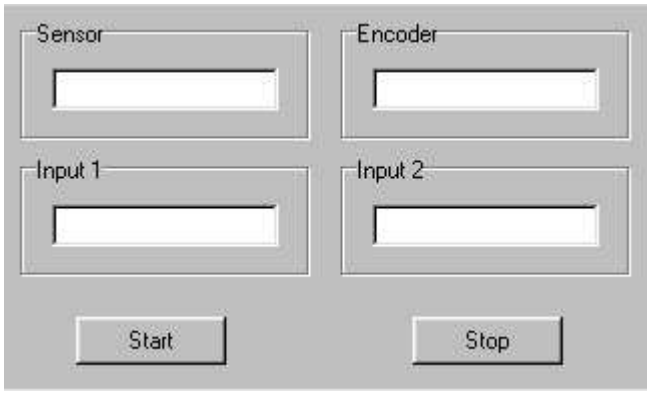
Purge print engines

Each of the buttons at the bottom will activate the purge function on two print engines as long as they are pressed. This will make the engines shoot at full capacity – a good way to test for missing nozzles in the print.

Test I/O

On the Test I/O tab, you can find out if the externally connected sensor and encoder are functioning as they should.

This menu is not available without a controller board.



To test the I/O functions, press the “Start” button. On activation of the sensor and the encoder, you can see the corresponding field flash in black and white.

Figure 50: Testing I/O

Firmware

The system information section in the parameters setup is not a parameter as such, as it is read-only. Here you can see information about which controller board you have and information about the eprom. Use this information when reporting errors to help us identify your hardware.

This menu is not available without a controller board.

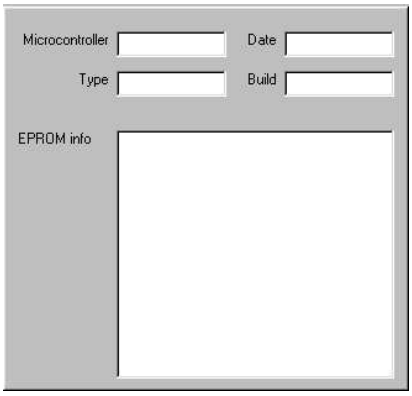


Figure 51: system information

System information.

(these boxes will be filled on computers with an controller)

Ink Reduction 8

Ink reduction is a way to save on ink use by removing a percentage of the drops in the message. Use this feature to save costs for prints, or to compensate for inks flowing out in porous materials.

OBJ INKdraw allows you to set ink reduction completely individually for either all objects, groups of objects, or single objects. Alternatively, you can set ***global*** ink reduction, as described in previous chapter.

Activation of ink reduction can happen in two different ways. For individual objects, you can use the drop-down menu placed just below the “lock” icon, or use the dialog box to select ink reduction for groups of objects.

Selecting a method of ink reduction

There are two different methods of ink reduction available: **Masked** and **random**.

- **Masked** arranges the remaining dots in nice rows and columns, and the messages end being built like a newspaper picture.
- **Random** removes dots at random, creating a spray-paint like picture.

For each of the methods, there are 5 different levels of reduction to choose from. From 0% (no reduction), to 100% (nothing is printed).

Using the drop-down menu

The drop-down menu provides a quick way of applying ink reduction to either selected objects or groups of objects.

Figure 52 : Ink reduction drop-down

Choose one or more objects

Select one of the available styles of ink reduction

- The objects that have ink reduction applied to them (anything else than “0%”) will show a little icon in the corner:

Figure 53: Ink reduction indicator

- This tells you that ink reduction is activated for that object, and what style it is
- This icon will not be printed, it is only visible on the monitor.

The ink reduction object panel

Another way to use ink reduction is to use the icon  in the icon bar. This will bring up a dialog box as follows:

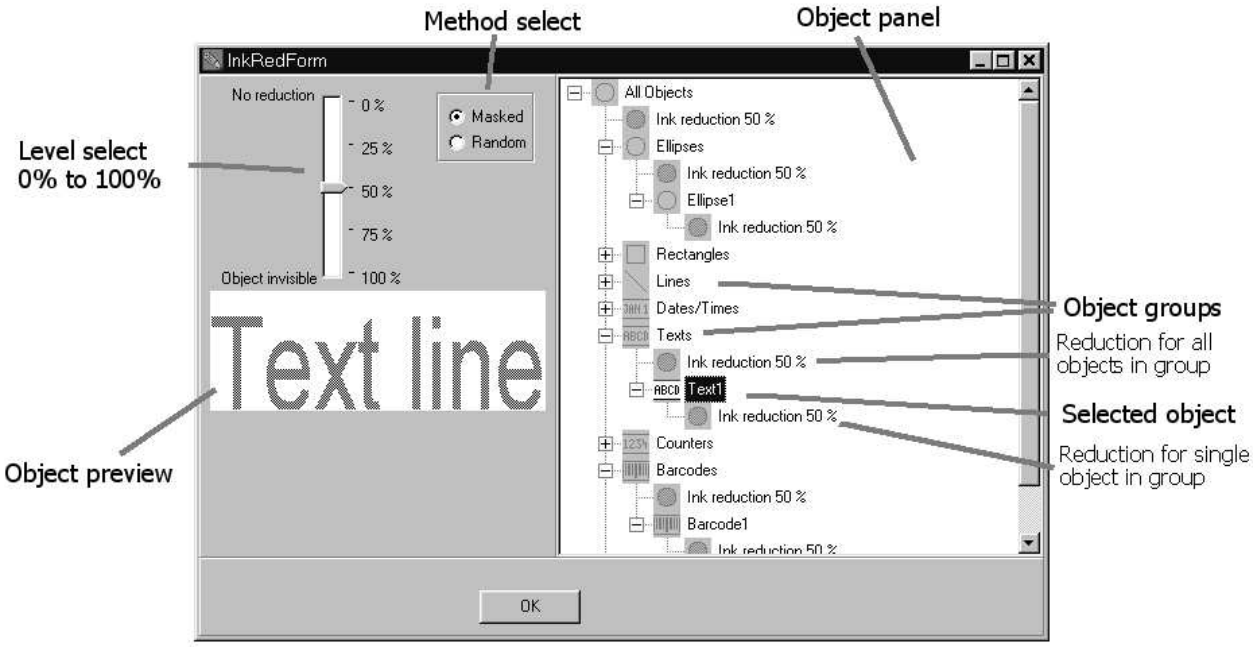


Figure 54: Ink Reduction.

The selection of which objects that have ink reduction takes place through the object panel. You can choose the ink reduction on different levels:

- All objects (the entire message)
- All objects of a certain type
- Individual objects

To adjust the reduction, simply select either a group or an object, choose the method and set the level slider. To “open” the tree, use the small “+” symbol next to the group name.

- **Always** adjust the levels from the top down.
- If you adjust a group, ***every setting*** in that group will be the same, and you will lose any previous settings.
- This, of course, can be used to completely turn off ink reduction.
- You should not use ink reduction on barcodes, especially the “masked” type. This will make the barcode non-approvable, as an entire line might be deleted.

Working with databases 9

When printing, it is often desireable to be able to print variable information for each product. As we will see later, this can be done in several different ways. One way is to extract the data from a database.

OBJ INKdraw is able to read data from Microsoft Access databases and Microsoft Excel files, text files and directly from SQL servers.

At this moment, OBJ INKdraw can only talk directly with mySQL (© mySQL AB) and MS SQL (© Microsoft Corp.) database servers. At a later point, more servers will be added.

For more information on mySQL, see http://www.mysql.com

For more information on MS SQL, see http://www.microsoft.com

- You can only have one database open at any time.
- If a database is already open and you try to open another, you will be prompted to close the current database or cancel the operation.

Some important terms

As this chapter deals with databases, it is important to know the concept of databases. A database is an organized collection of information. Think of it as a box of little cards with information.

Each database can have one or more ***tables***, that each has one or more ***fields***. A collection of different fields in a table form a ***row***. This is also referred to as a ***record***.

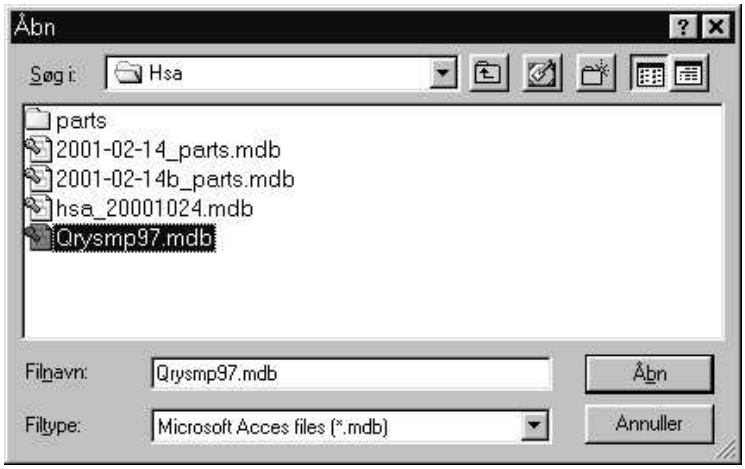
A ***query*** in the database is a part of one or more tables, based on a question. For example, for a table of addresses, a query could show only addresses with one specific postal code. Related to queries is the term ***SQL, Structured Query Language***. OBJ INKdraw supports direct input of SQL code to select certain records from a database.

Microsoft Access® / Microsoft Excel® databases

Setting up a database connection

Before you are able to extract data from a database, you have to make a connection to that database. Connections to databases are always made to a ***table*** or a ***query***.

From OBJ INKdraw, this happens by choosing ***[Database|load database]*** You will be prompted for a filename:



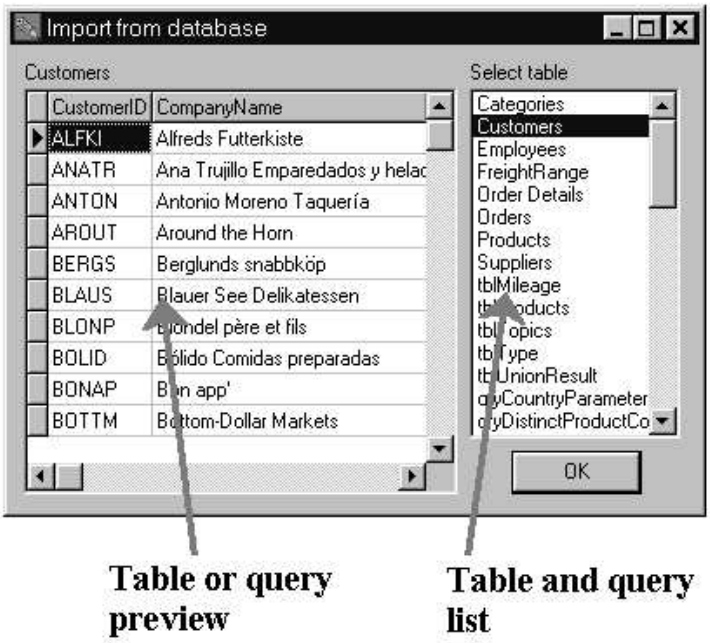
Selecting the database you want to connect to. For now, it is possible to connect to Access and Excel files. Select file type according to your needs.

Figure 55: Selecting a database to open

- You are probably prompted for a username and a password. This is a thing that is built into the database reader.
- Unless you have set a password on your database, simply press **`enter`** here and leave the fields empty.
- You can set OBJ INKdraw to not prompt when you open a database, do this in the preferences menu **`(Alt+P).`**

- If you get an error about drivers when trying to open the database, it might be because you don't have the correct version of Microsofts JET drivers.
- Download the latest version of MDAC (Microsoft Data Access Components) from the website **http://www.microsoft.com/data/**

If the connection to the database is succesful, you now have to select a table or query you want to work with.



Select the table or query in the right-hand part of the dialog box and see the preview of the data to the left.

Notice that you can scroll the preview field for more data.

In **EXCEL** you see the ***sheets*** instead of tables, but from there the idea is the same.

Figure 56: Selecting table to use

- If a query does not return any records (what is called ***an empty set***), you will get an error. Select a table or query that returns data.
- Even if OBJ INKdraw does not let you connect fields, this can be done in a query.
- The data access in OBJ INKdraw is read-only. You cannot alter any data.

When you press OK, the database will be imported into memory. If you are using a very large database, this process will take a while.

Once your connection is set up, the database button DB becomes active in the menu line.

When using Microsoft Access® it is a very good idea to always keep your records indexed. Simply create an index field and put a primary key on it. This will speed up the load time considerably.

Text file databases

A text file database is also called a flat-file database. It is a text file that can be created automatically or with a simple editor – where the data is structured in a certain way.

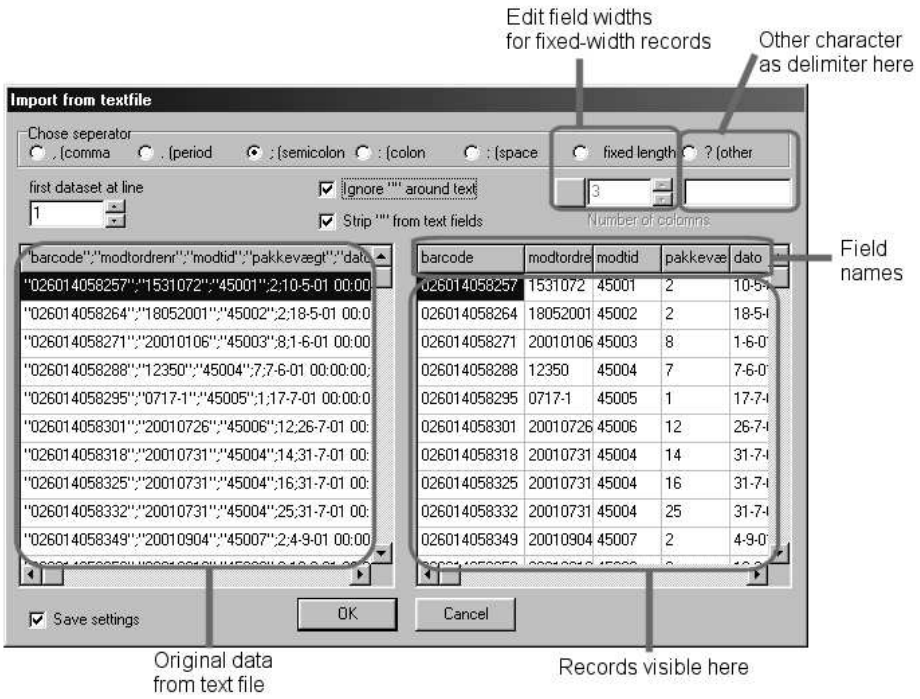
The text file must have 1 record per line, and must match **one** of the following conditions:

- Each field delimited by a destinct character; you can specify which character you want to use or choose between the most common delimiters: comma [,], period [.], semicolon [;], colon[:] or space [ ].

  or

- Each field has a fixed length

- OBJ INKdraw can import text files in both DOS formats and UNIX formats (CR/LF versus only CR).
- Notice though that the data are ***not*** converted in any way, but is shown as it appears in the file. In other words: make sure the data appears in the printout.



This screen allows you to set the correct delimiter for your text file import.

You can choose from one of the pre-defined delimiters, enter your own (for example the “pipe” symbol [|]), or set up fixed-width lines.

You can view the result of your settings in the window to the right.

Figure 57 : setting delimiters for text files

SQL servers

OBJ INKdraw also allows you to retrieve data from SQL servers. Using the SQL query language, you can create very advanced queries to select exactly the data you want to print.

- The SQL language also allows you to modify and delete in the database server.
- Preferably you should set the rights on the database server to not allow the print controller do use these functions
- OBJ INKdraw contains a default "Ban list" of dangerous command. This list can also be extended by creating a text file called **sqlblock.txt** in the OBJ INKdraw database directory with the commands listed. Without this file, the following commands are allowed and can destroy your data

DELETE INSERT ALTER UPDATE DROP CREATE REPLACE USE DESCRIBE LOCK COMMIT ROLLBACK

At the moment, OBJ INKdraw supports two of the most popular SQL servers: MySQL, which is an open-source product, and MS SQL from Microsoft®.

- When talking about SQL database servers, it is important not to confuse the terms:
- The database ***server*** is the ***machine*** you connect to
- The ***database*** is one of the several possible collections of data on this machine.
- Each ***database*** may contain several ***tables***.

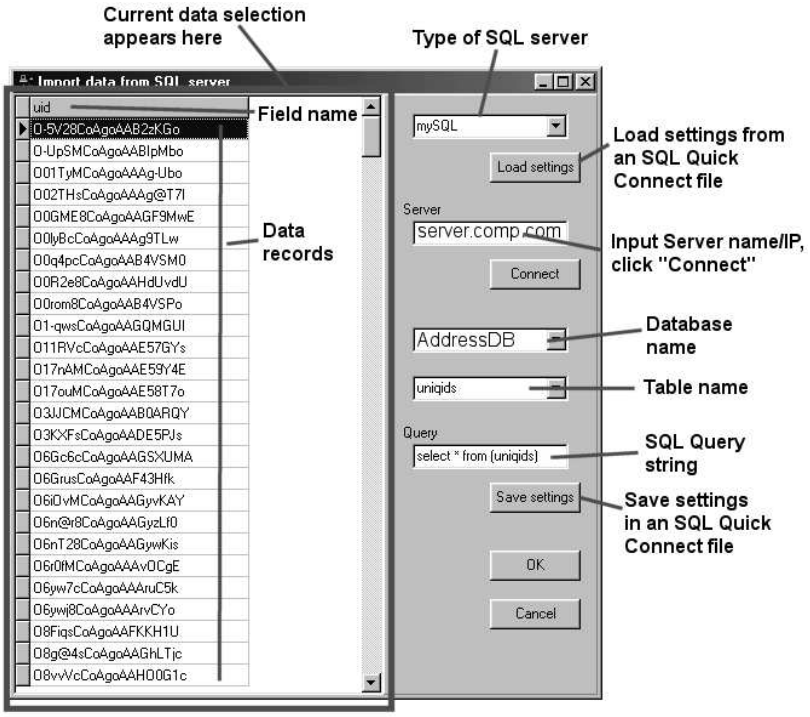
Connecting to an SQL server

The process of connecting to an SQL server consists of 4 steps:

- Select a server type to connect to.
- Input the server name - this is an ethernet name either as a machine name or an IP number (example: databaseserver.mycompany.com or 192.168.4.99)
- Input the database name on the server
- Input the table from the database

Once these items have been selected, you can save them as an "SQL Quick Connect File" to allow simpler access next time.

To connect to an SQL server, use ***[Database->Connect to SQL server]*** or **Alt+L**.



Importing from SQL servers.

The steps in connecting are:

select server type

input server name, click connect

once connected, select database name

select table

if needed, modify the default query

save settings if you want

Figure 58: Importing from SQL servers

The SQL server import is extremely flexible, as you can enter SQL SELECT statements directly and dynamically return different data.

To go into the details of the SQL language would be beyond the scope of this manual. There are lots of resources online for more information about the language. Use for example http://www.sqlcourse.com/ that has a live demo database for demonstration.

Quicker access to SQL data

You can save the settings you have set under the connections to the SQL server. The settings are stored in a simple text file with the extension ***sqs.***

The file looks as follows: (example)

```
[SQL Settings]
Server=mySQL
Host=servername.company.dk
Database=CompanyProductList
Table=products
Query string=select * from (products)
```

Notice that the username and password are not stored for security reasons.

To use an SQL Quick Connect File select ***[Database->SQL QuickConnect]*** or **Alt+Q**.

- You can save multiple copies of these files to quickly select different subsets of your data - by modifying the Query String.
- You can avoid the prompts for login/ password if you store these in the

preferences. Uncheck the "prompt for username.." checkbox and fill in the values, and you will connect instantly.

Using databases after import

Connecting data fields with objects

Your next step is to connect the data fields with the objects in OBJ INKdraw. You can only connect data fields to objects that are variable.

You should have objects on the canvas before opening the database management, otherwise you have nothing to drag the fields onto.

To start the definition, press the DB button. You see a dialogue showing the selected table/ query with a list of the fields:

Database management window.

Consists of 3 main parts:

loop options
row content
field list

You also have the option of destroying the connection to this database.

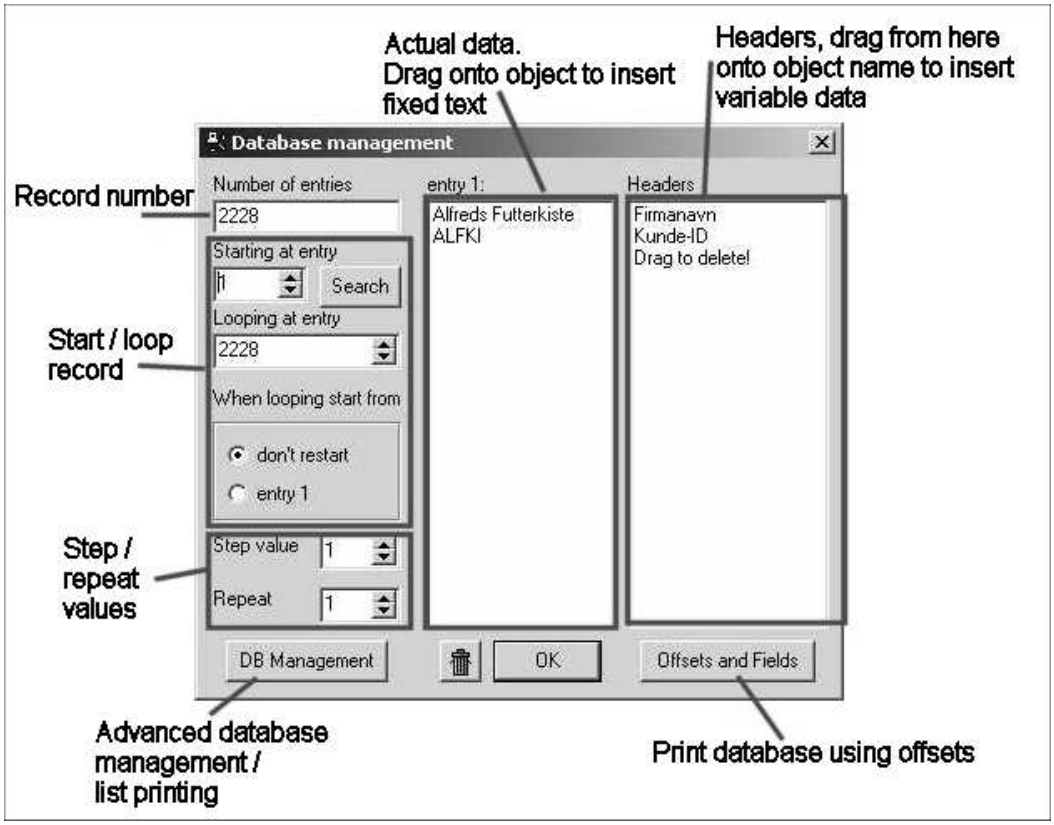


Figure 59 : Database Management

In order to connect a database field to an object, you must ***drag*** the field onto the object in the object panel. Do this by clicking and holding the mouse over the field name, then move the mouse over to the object name, until it turns blue.

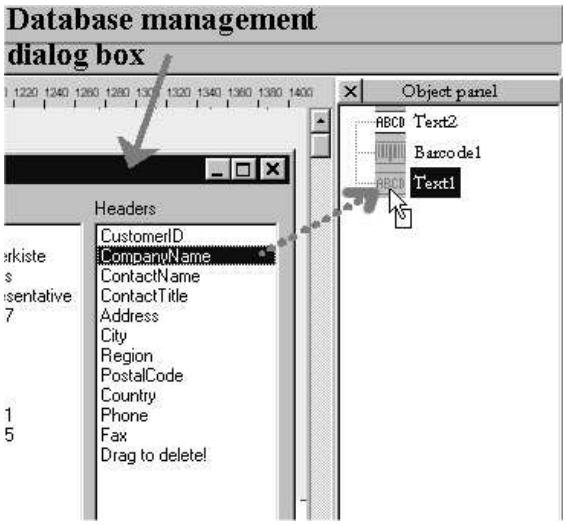


Figure 60: Dragging a field to an object

Illustration of assigning a field to an object.

In this example, the field name "CompanyName" is assigned to the object "Text1".
Text1 will now change to **Text1 <CompanyName>** to show the connection.

Notice the way the cursor changes from a "blocked" sign to a square. This is a sign that you have selected an object that accepts field input.

Notice the special "Drag to delete!" field name used to delete references.

- It is also possible to drag directly onto the canvas from the header list. A text object linked to the field is automatically created.

- Notice the difference between dragging from the ***left*** column (where the field content is) and the ***right*** column (where the field name is). If you drag from the left column, you will assign the object ***that specific value***. So, the object will not change with every print.
- You can disable this possibility in the preferences menu.

Removing the connection to a field

If you chose that one of your objects should no longer be connected to a field, use the special field name **Drag to delete!** to delete all references to that object.

OBJ INKdraw offers you full control of what happens when, sooner or later, you reach the end of your dataset. This feature is called ***looping***. Looping is controlled at the left side of the database management dialog box.

Loop / Don't loop

If you select ***Don't restart***, OBJ INKdraw will go through the data, and will stop the printing when the end is reached.

Otherwise, select an entry to start from.

Start / loop at entry

The row numbers for start and loop (end). If a start entry higher than 1 (one) is selected, the entry where the looping starts from can be either 1 (one) or the selected start entry. For example, you can set the start to 5, the end to 10 and the loop start to 1. This will print

5, 6, 7, 8, 9, 10, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 1….

and is useful if you need to start in the middle of a production.

You can search the first field of the database for a value, to quickly find the start entry.

Step

Set the number of rows / entries that OBJ INKdraw should jump with each print. For example, to print only every second or third row, set this number to 2 or 3.

- If you wish to select your file content from a database, but wish to print the same information all the time, simply choose a step value of 0

Offsets

Sometimes, it is necessary to print more than one dataset per message. For example, this is the case when printing labels, tickets etc, where there are two or more columns per row.An illustration of this is below:

Figure 61: example of 3 datasets

This shows an example of 3 datasets printed in the same message – the boxes could illustrate for example labels or tickets. The left-most is database record number 7, the middle number 8 and the right-most number 9.

OBJ INKdraw has the ability to use ***offsets*** on objects that contain a field. The field with offset will get the data from the ***current record number plus the offset***.

As an example, here's how to do the example illustrated above:

- you would create 3 text objects for “Name”, 3 text objects for “Address” and 3 text objects for “City”.
- In the database management window (see above), drag the same data field to different object. Here, you’d drag the “Name” data field to all text objects for the “Name” data.
- Click the button “Offsets and Fields” in the lower right corner
- Fill in the necessary object offsets; typically like this. Notice how the offset is based on “0”.
- To avoid the same data printing multiple times, choose a step value equal to the number of identical fields. In this example, 3.
- Press OK.

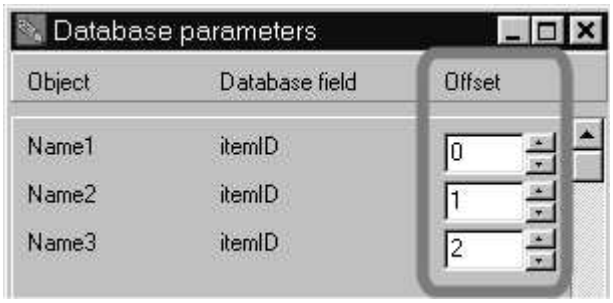


Figure 62: Database offset

Working with the advanced database module (list print)

If you wish to have more fine control of the records that should be printed, you can use the DB Management window. Basically this will allow you to select / deselect records from being printed, based on different criteria.

You can do the following:

General	Add / remove all from the list
Search	Add to or remove from list based on search criteria
Sort	Sort the data that has been added to the list
Delete	Delete all / individual items
Print	Select which records from the list to print. **Remember to select "x" use list for print**
Dublets	Check for dublets on the list. Very useful for mailing applications
Assign	Here you can also assign fields to objects. This works in the same way as with the normal database window

Using direct access into a table

The ***Direct access*** function is a mode that allows you to have direct access to records by using serial commands (RS232). (**please refer to the section on RS/232**). Before you can use this function, you must set up the fields and the offsets.

The important parts in the direct access are:

- You don't have to read the table sequentially, but you can read it randomly
- The text objects with the same ***offset*** will print the same record number, but can of course print from different fields.
- You send the record numbers (starts at 1) through RS/232 commands, the printer will print these record numbers until new numbers are given.
- You can send up to 10 record numbers for every print. (For example, up to 10 random addresses from a database with every print).

Example:

Text1 →Field 1, offset 0
Text2 → Field 2, offset 0
Text3 → Field 3, offset 0

Text4 → Field 1, offset 1
Text5 → Field 4, offset 1

	Field 1	Field 2	Field 3	Field 4	Field 5
Record 1	AA	EE	II	MM	QQ
Record 2	BB	FF	JJ	NN	RR
Record 3	CC	GG	KK	OO	SS
Record 4	DD	HH	LL	PP	TT

If the command <ESC>A2;4#<EOT> is sent, then the 5 text objects above will print

Text1	Text2	Text3	Text4	Text5
BB	FF	JJ	CC	OO

This will be printed until another command is sent.

The record number can be changed about **2 times every second.**

Removing the database connection

When you are done with this database, or wish to select another database / table / query, you must first discard the current connection. Do this by using the “trash can” icon in the database management dialog.

Notice that nothing is actually deleted or removed; remember that your connection is read-only.

If you try to open a new database with another database open, you will be warned that you have a connection, and will be asked if you want to discard it.

Object Links 10

Object links allows you to copy the content from one object to one or more other objects. This way, and by the help of prompts, you can enter information in more than one place at the same time, for example in a barcode ***and*** in a readable string separate from the barcode.

- In relation with object links, it is important to know that ***content*** and ***display*** are two different things.
- In dates, two objects that are linked will have the same content, even if one displays for example DD-MM-YYYY and the other HH:MM:SS.
  Example: All 3 dates below have the same ***content*** but are displayed differently.

Date1	Date2	Date3
20 Dec 2005	05-12-20 05:43	20-12-05 05:43:22

- Likewise, in counters, two objects that are linked will have the same content even they are in different number bases. For example, one could display ***1000*** (decimal) while the other would display ***3F8*** (hex).

The idea of links

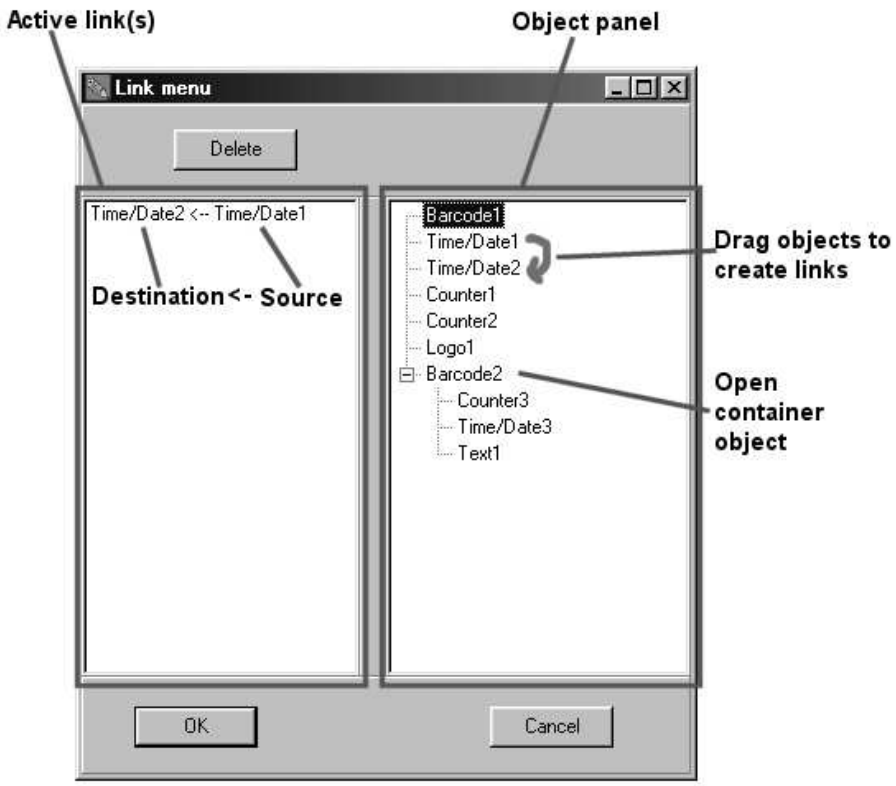
The links will copy the ***content*** of an object to one other object, or several other objects. **You can only link to/from things that makes sense, in other words: The receiving object ("target") must be able to contain the source type of content.** For example, linking a picture to a date or vice-versa does not make sense, since the content types are not compatible.

Other link types are only one-way: you can link a date to a text field, but not a text field to a date. (again, it would not make sense).

Links work in and out of object containers also, with no problems - although some object containers will only allow you to link one way.

Creating / editing links

To create or edit links in your picture, click on the link icon in the icon bar. You will see a menu with the different objects represented.



The link menu. On the left are the active links - delete them with **del** key or the delete button.

On the right the current objects. Drag one object onto another to create a link

If you try to create a link that is not allowed, the mouse cursor displays a "forbidden" icon: .

Figure 63: Editing links

Hint about links

A common thing to do with links is to use them in connection with a bar code, to display the date in one format inside the bar code, and another format outside the barcode. This is how to do it:

- Create a bar code with a date inside, select the format for this date
- Create a date outside the bar code, select the appropriate format.
- Link to two dates together. Which direction is indifferent.

As a result, you will have the following:

The date (12 March 2002) is linked into the barcode. If the date is changed, the barcode changes accordingly.

Figure 64: Linking into a barcode

- You can of course extend this to several bar codes, or even several times inside the ***same*** barcode if you need that.
- It is very useful to combine this with ***prompts*** to input the first date.

- It is ***not*** possible for two date fields to have a different time shift if they are linked. You can change the time shift value of the source object, which will work as expected. If you change the time shift of the target object, it will still display the content of the source object.

Section 3

summary

- The ***Parameter Menu*** is where you control the output of your message, and the physical surroundings of your software. This is where you can adjust individual print engines to eachother, and set options for encoder, speed, resolutions etc.

- If your ink is spreading out into your material, you can reduce the effect by activating the ***ink reduction*** function. This can be done one a global or object-based level, in 5 steps from black to white. Two different mathematical models are available: random and masked.

- For variable information, you can open databases and connect data fields to individual objects. OBJ INKdraw can move through a database table either in it's entirety or a block of entries in the table.

- You can connect to a variety of different data sources: Microsoft Access® and Excel®, plain text files and SQL servers.

- With SQL servers you have the power of the flexible SQL query language. Commands that are not allowed can be blocked by the software.

- Most objects can link their content into other objects, where this would make sense. Where an object can be shown with different formats, for example dates, the source and destination object will always have the same content, but can have different formats.

Section 4
User Interaction

11: Prompts

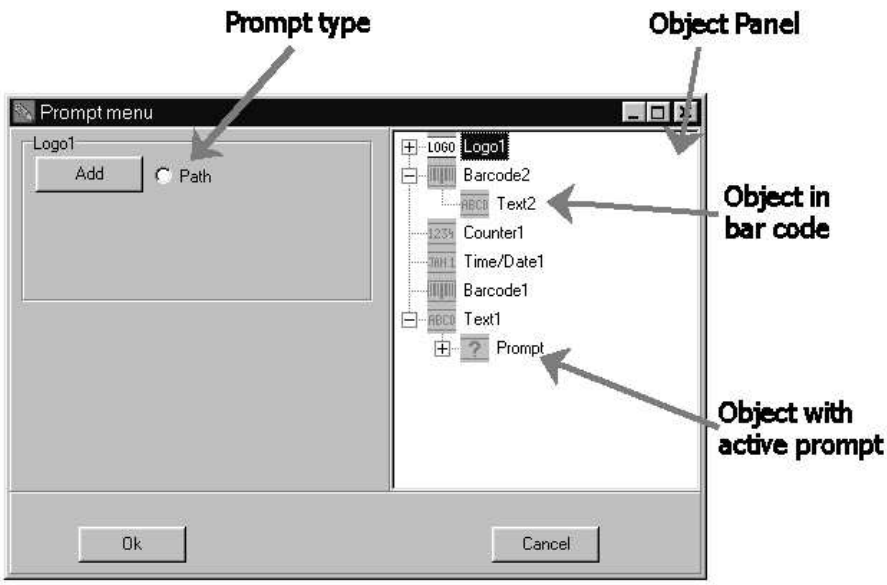
12: Touch Screen

Prompts 11

Prompts are questions of the content of objects asked to the user when the printing starts. This is useful, if the content of the object is not known when the message is designed – for example, if the content depends on a human decision.

Activating prompts

Prompts are activated from the icon panel with the question mark icon  . This will cause the prompt menu to appear.



Prompt menu with different objects.

One of the objects (Text1) already has a prompt.

Figure 65 : Prompt menu

Setting a prompt for an object

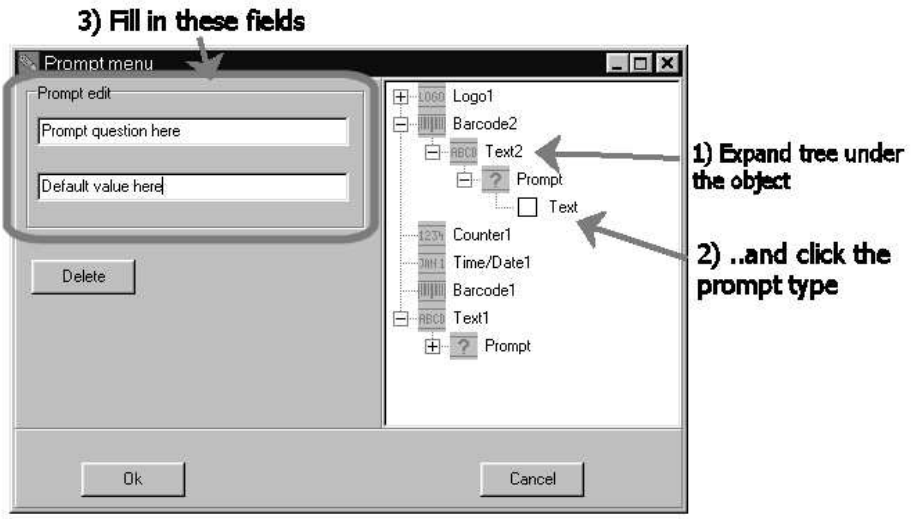
To be prompted for input before print, follow these steps:

- Select the object you want to set prompt for
- Select a prompt type
- Use the “Add” button
- Expand the tree under the object, including the branch under the question mark
- Click on the type of prompt .
- Input the prompt text and the default value

Prompt text and default value

The prompt text is the text that is used to ask for the input. For example, the prompt text could be “***Enter type of fruit***”. If a default value is entered, it will be there when the question is asked.

The input of prompt text and default happen in the two boxes that appear after ***Add*** is pressed:



Setting the prompt text and default value.

There can be more than one prompt under the question mark -–and thus, more questions for one object.

Figure 66: prompt and default value

- You will still get prompted even if the prompt field and/ or the default is empty

Deleting a prompt for an object

You can delete the prompt(s) for an object in two different ways: individually or all.

- To delete individual prompts, click on the promp type under the object, and press the ***delete*** button (as seen above)
- To delete ***all*** prompts for the current object, click the question mark just below the object, and use the delete button.

In both cases, the prompt will be deleted without confirmation or warning.

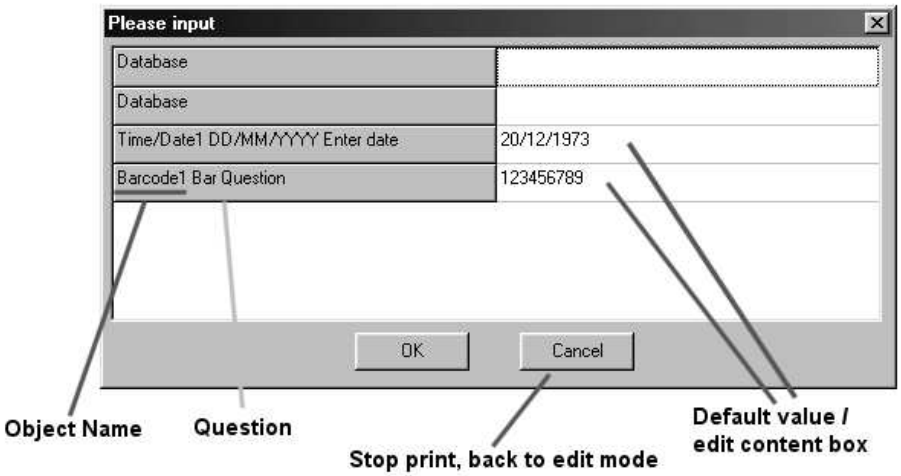
Different objects have different prompts

As the different objects have different properties, they also have different prompt types. This is a list of the different prompt types:

Object type	Prompt type	Notes
Date/Time	(Date format)	Absolute dates, entered in a user-definable format. You can select (and change) this format any time in the preferences menu
	Expire Date (Number)	Add/ Subtract this number of days to the date
	Date Format	Same strings as the date format described earlier
Text	Text	The content of the text object. No limitations
Counter	Maximum	A number, the maximum of the counter
	Current	A number, start value
	Minimum	A number, minimum value
	Format	The number format of the counter. Any of the values “Dec”, “Bin”, “Hex”, “Oct”. NOTICE: Case sensitive.
Bar Code	Bar Text	The text of the plain bar code.
Database	LOCK	Will search for a record number and lock to that record for every print
	START	Will start from that record and move on
	LOOP	Will loop at that record
	FIND	Will ***search*** the ***first field*** of the database and start printing from there. The search is CaSe SeNsItVe.
Logo	Path	The path/filename of the logo file. Can either be a complete path, a network path, or simpler written .\filename.bmp (notice the [dot][slash] in front !) if the file is located in the “logo” folder of OBJ INKdraw.

Using the prompt before print

When the print is started, the prompt menu appears if one or more objects have prompts.



The prompt menu that appears before print.

Notice that the prompt question appears behind the object name, the two separated by a space.

Figure 67: Prompted for input

To change a default value or, if there is no default, to enter a value, follow these steps:

- Use the arrows up/down to change between the fields
- Enter content as needed
- When done, press OK to print or Cancel to stop.

Touch Screen interface 12

The touch screen interface in OBJ INKdraw allows you to set up a number of predefined buttons and fields, and "hide" the standard screen during use of the software. This way, you can install the controller with a nice industrial-looking touch screen and don't have to worry about the keyboard/ monitor solution. An administrator function is still available so you can create and edit messages.

The touch screen function is split into two parts: an editor where you define, based on 5 different screens, which parts are active and how they look.

Once defined, the touch screen interface can be activated on start-up of OBJ INKdraw. This function is activated in the preferences.

Touch screen editor

To activate the editor, use ***[functions->Special->Touch Screen->Setup]*** or **Ctrl-F12**. You will see the screen change to the touch screen interface with the edit controls visible at the bottom:

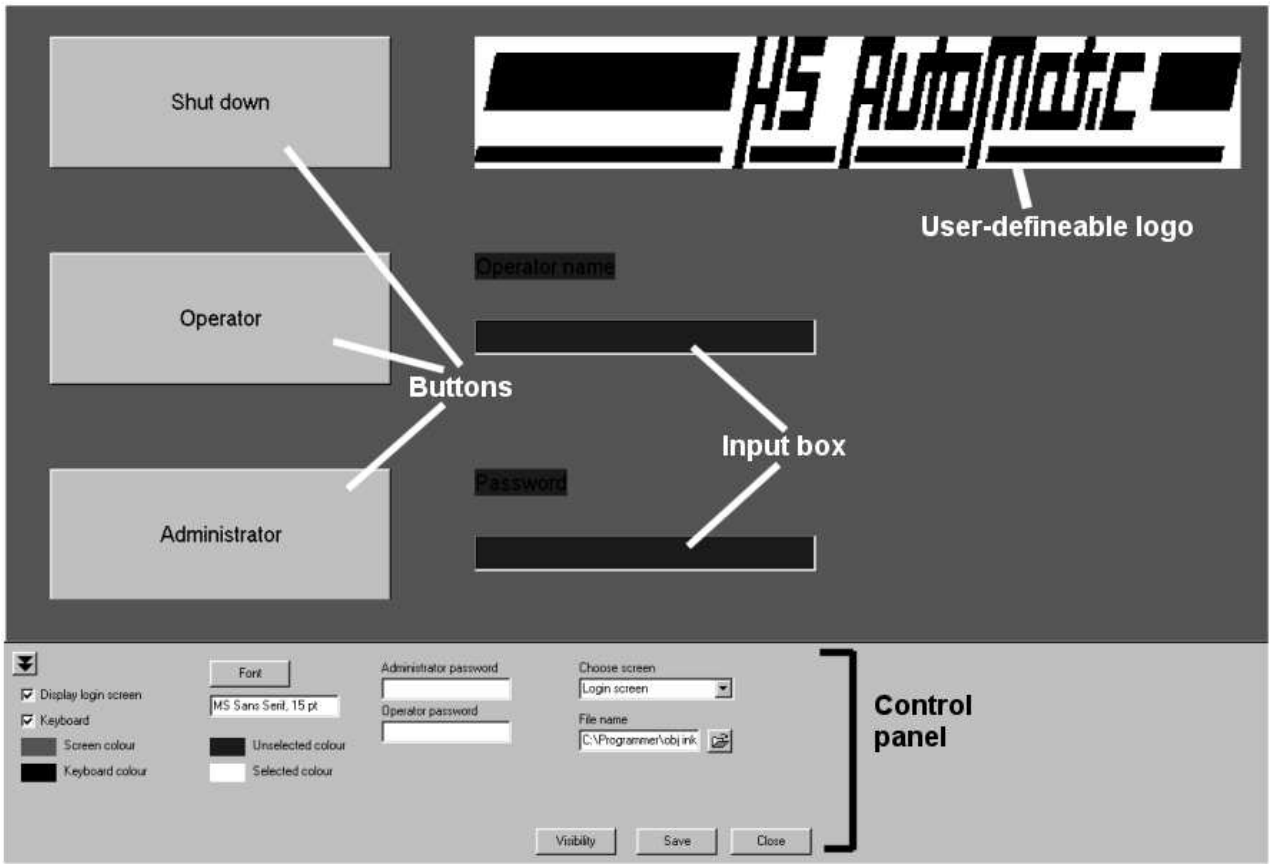


Figure 68 : Touch screen editor

The elements of the touch screen interface

The touch screen interface has 5 different screens. The following will briefly describe these screens and the components available on each.

Within each screen, the components can be activated/ deactivated and placed freely. You can also change the text on buttons and labels plus the color of the screen.

Use the ***Visibility*** button to switch objects on/ off, and use **`right-click`** to change the properties on objects and load logos. You can also drag objects directly around on the screen.

Login screen

This is the screen where the operator / administrator identify themselves. It is optional to show this screen on activation of the touch screen.

Administrator button	Click this to go back to the edit function of OBJ INKdraw.
Administrator input	Allows for input of the optional password for the administrator
Administrator label	Label that by default shows "Password"
Logo	User-defineable logo, BMP format.
Operator button	Click this to start using the other touch screen functions
Operator input	Allows for input of the optional password for the operator
Operator label	Label that by default shows "operator name"
Shutdown button	Click this to shutdown the machine. Prompts before shutting down to confirm.

Main screen

This is the main screen that allows to load messages and databases and to start print.

Print button	Use this to start print. Activates the prompt screen.
Log out button	Click to go back to the login screen
Load message button	Click to load a message. Activates the load file screen
Logo	User-defineable logo
Shutdown button	Click this to shutdown the machine. Prompts before shutting down to confirm.
Load database button	Used to load a database with the same structure as the current database. Use to renew the data printed.
Database label	Label above the database view
Database view	The data in the current database
Database next button	Go to next record
Database prev. button	Go to previous record
Goto record button	Go to a certain record given in the input box
Seach database btn	Search the first field of the database for a record value
Input box	Place to input things to search for and record number.

Prompt screen

This screen is displayed then the order the start print has been given. If there are any objects with prompts in the message, you can input values on this screen.

Confirm button	Click to accept all values and start print

Cancel button	Don't start print, go back to main screen
Logo	User-defineable logo
Prompts display	The box where the promts appear. Can be hidden if there are no prompts.

Print screen

The print screen is active during the print process.

Stop button	Stops the print
Logo	User-definable logo
Print data	Displays the list of objects with a "watch".
Print data label	Label for the print data window
Database list	Shows the data for the current loaded database.
Record number label	The label above the database list

Load screen

This screen is displayed when the load file function is activated.

Browse button	Displays the standard Windows® file open dialogue.
Confirm button	Opens the selected file
Cancel button	Do not load a file
File list	A list of files in the "Files" directory where OBJ INKdraw is installed.
File name	The selected file name
File name label	The label next to the file name
Logo	User-defineable logo
Preview	A small preview of the message

The touch screen controls

The touch screen controls are used for all screens.

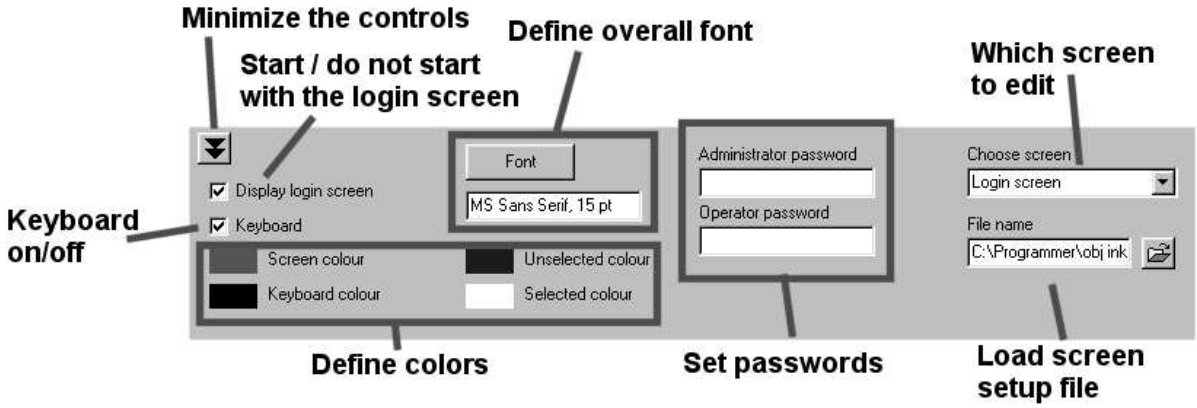


Figure 69 : Touch screen controls

The controls let you choose between each of the different screens. After editing that screen, you can save the changes by pressing the ***save*** button below the controls. Each screen is stored in it's own .ini file which you can also edit by a text editor. The ini files are by default located in the

```
[obj inkdraw installation]/touchscreen/
```

directory.

The fonts, passwords and colors are global settings that affect all screens. You can not use individual fonts for the buttons.

The controls can be minimized to allow you to place buttons where the controls are. Click the "up arrow" symbol to bring it back.

The touch screen keyboard

For inputs the touch screen has a small keyboard. It contains 48 standard keys that each have up to 3 symbols (standard, shift and alt), plus some special keys like enter, space and back space.

The keyboard can be configured to use up to 5 different languages, giving you a total of 720 different symbols available for input. Each key has exactly 1 character.

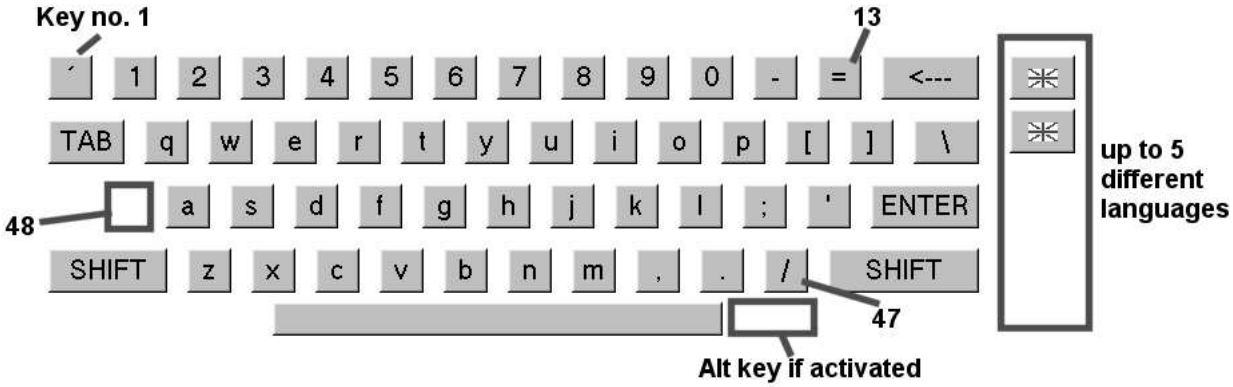


Figure 70: touch screen keyboard

Numbering of the keys

The standard keys are numbered from top left to bottom right. One key, number 48, is not visible by default - when activated it's located next to the "a" key.

- The shift key and the (optional) AltGr key are only active once.
- To get a string like f.ex.ABC you need to press shift-A-shift-B-shift-C.
- Of course, you can define the "inverse" keyboard to use upper case all the time if that is what you need.

Defining the keyboard languages

To change the definition of the keyboard, you need to manually modify the text files in the "Touchscreen" directory under the OBJ INKdraw installation directory.

The main file to edit is called ***keyboard.ini*** and defines the different language buttons. As always, do not change the section names in [ ].

```
[Languages]
1=english.ini
2=dansk.ini
```

Define up to 5 different languages, identified by a number. After the equal sign, put a file name where that keyboard is defined.

```
[Language buttons]
1=0
2=0
```

For each of the numbers defined in the [Languages] section, define here if they are active or not. Put "=1" to activate, "=0" to deactivate.

```
[Flags]
1=uk.bmp
2=dk.bmp
```

For each of the up to 5 languages, you can assign a little flag to the button. Notice that the file must exist. No check for file size is done.

Defining the keyboard layout

This will explain how you define your own keyboard layout.

- Each key will only display one character. Even if you put a longer string, only the first character will be displayed.

For each of the 5 languages you defines, create an .ini file as follows:

```
[Extra keys]
48=1
alt=1
```

The [extra keys] section defines if the 48th key and / or the AltGr key should be visible. If they are not visible, definitions in that section has no importance.

```
[Unshifted]
1=
2=
...
48=
```

Unshifted is used to define the standard meaning of the key. Write the symbol behind the equal sign.

```
[Shifted]
1=
2=
...
48=
```

Shifted is activated when the "SHIFT" button is pressed.

```
[Alternated]
1=
2=
...
48=
```

Alternated symbols are activated when the AltGr key is pressed.

Touch screen user interface

To use the touch screen interface, use ***[Functions->Special->Touch screen->Touchscreen]*** or **F12.** It is also possible to activate the touch screen interface when OBJ INKdraw starts. You will see either the main screen or the login screen, depending on the setting in the touch screen control panel.

If the password fields were filled in, you will need to enter a password for either operator or administrator.

- If the "Administrator" button has been deactivated, you can not exit the touch screen mode.
- In an emergency case, connect the keyboard and kill the INKdraw process. Then edit the login.ini file and change the
  [Administrator button]
  section, to have the parameter "Visible=1".

Section *4*

summary

- Prompts are used to ask the user for input of content of an object before the print starts.
- The entered values can be empty if desired. Illegal values, for example for dates, will be ignored.
- For each prompt, you can enter a prompt text and a default value
- The way dates are entered is user-defined and can be changed on the run
- You can also use the prompts to search for database content.
- There is a touch screen function in the software, where you can define the layout of each screen.
- In the touch screen, the keyboard for input is completely user-defineable, allowing up to 5 languages with each 144 symbols.

Section 5 *Remote Control*

13: Ethernet / RS232

14: Running update

Ethernet / RS232 **13**

Through the use of a normal PC network, or an RS232 connection, it is possible to remote control OBJ INKdraw. The principle and the protocol is described in the following. HS Automatic has developed sample applications that demonstrate this communication, you can download these from our home page.

Although the protocol (language) is practically the same, there are some small differences between the two methods of communicating. These will be introduced, followed by the complete language specification.

TCP/IP (Ethernet)

From the server, you can connect arbituary many computers in a PC network, and address each one through either an IP address or a DNS name. Each of the printer controllers has from 1 to 16 print heads connected to it. These must be of the same type per controller, but can be of a different type in the same network. (i.e. below, ipc1 and ipc2 can have different head types)

In order to issue commands for objects, you must be connected to a ***message***, which is defined as ***an open file in OBJ INKdraw.***

You can address all open messages, even the non-active messages.

ALL communication must end with ”#” (pound sign), or a different used-defined character. But you must use the same all the time.

Example: To update content of text object ***T1*** you send:

OBJECT:T1;TEX;This is the new text#

Allowing the communication

Before you can communicate to OBJ INKdraw, you must allow the communication. Do this for each PC under ***File->Preferences->Network***; select a port and "Allow connection".

The connection to the IPC happens by TCP/IP on a user-defined port, using either the IP number or the DNS address to reach the machine. You can change the parameters for the connection for each IPC, the possible settings are:

- Port to connect to (**default is port 2000**)
- Password for connection (default blank)

Connecting to OBJ and a message

As mentioned, it is vital that you connect to a message after connecting to OBJ INKdraw, otherwise you can't send commands. Below is a complete example of a communication, which enables you start updating objects.

SERVER	OBJ INKdraw answer
(connection to ipc1.abc.net)	
	TEXT:OBJ INKdraw 2.00# TEXT:by HS Automatic ApS# TEXT:http://www.hsautomatic.com# **REQUEST:password#**
*********# (transmits the password), terminated by #	
	RESULT:Password OK (10)#
REQUEST:messages#	
	DATA:c:\x.ink# RESULT:Transmission OK (0)#
REQUEST:connect;c:\x.ink#	
	RESULT:Transmission OK (0)#
REQUEST:object list#	
	DATA:Text;Text1# RESULT:Transmission OK (0)#

RS232 Serial connection

In serial communication, you are addressing the message that is designed for the board you connect to. (Board is selected in ”canvas size” or ”new” menu). If two open messages are designed for the same board, you address the active message (i.e. the message on top). Files are loaded in the active window.

ALL communication must start with <ESC> (ASCII 27) and end with #<EOT> (ASCII 04)

(The # can be defined to a different character. But you must use the same all the time.)

Example: To update content of text object ***T1*** you send:

```
<ESC>OBJ:T1;TEX;This is the new text#<EOT>
```

OBJ INKdraw will respond with ACK or NAK before the data

It is possible to concatenate several commands, like

```
<ESC>OBJ:T1;TEX;This is the new text#OBJ:T2;TEX;This
is the other text#<EOT>
```

Notice that there are some commands that do not apply to the serial communication, especially those that deal with multiple messages

Language / Protocol introduction

Before the introduction to the language, a few words on the syntax used in this documentation:

- Everything in < > symbolizes a placeholder… for example <username> means that you should replace everything including the brackets with a username.
- Everything in () is optional, and often depends on the preceeding command.
- You shuold include **:** and **;** in the command line. There is no ; before #.
- You must terminal ***all*** commands by ”#”, likewise OBJ INKdraw will terminate ***all*** replies with the "#" character.
- Line feeds are ***not*** used, they are only shown in this guide for visualization and readability.

The communication works by sending a string to OBJ INKdraw, which is then interpreted and replied to. You have a number of different basic statements you can send to the IPC:

Type of statement	**DESCRIPTION**
`COMMAND:<string>#`	Basic commands for the IPC, for example for stopping, starting, loading a message, and shutting down the machine
`OBJECT:<object name>;<command>;<data>#`	Manipulation of an object on the canvas.
`REQUEST:<variable>(;<other data>)#`	Makes OBJ INKdraw return information to you
`PARAMETER:<type>;<value>#`	Change parameters in OBJ INKdraw.

Answers and results returned by OBJ INKdraw

When you have sent a command to OBJ INKdraw, you will get a result back. In order for you to correctly interpret the answer from OBJ INKdraw, these answers always follow a set of rules.

General rules for the answers

- All answers are proceeded by a word, and a colon [:]
- All answers are terminated by the hash symbol [#]
- All actions are terminated by a result with a result code.

Types of answers from OBJ INKdraw

There are 4 types of reply from OBJ INKdraw. The table below shows an overview of the possibilities; with the text to scan for marked in **bold**:

Reply from OBJ	Description
TEXT:`text text text text#`	Text information that is not directly data from the program, for example the start-up message with the HS Automatic ApS company name and program version.
REQUEST:`type of request#`	OBJ INKdraw is asking you to enter Information, terminated by the # character, for example a password.
DATA:`value of data#` ***OR*** **DATA:**`field;value#`	OBJ INKdraw is returning data to you. More DATA replies may follow each other, for example in case of a file listing. Each DATA reply will have one value. For items that return more than one piece of data, there is a descriptive name before the value
RESULT:`Result description (code)#`	The result of the command**. This will always be the last reply**, to indicate that OBJ INKdraw is ready for new commands. The result text is also followed by a code for easy identification.

Language Reference

Commands

CMD is accepted instead of COMMAND

Stop print

```
COMMAND:S#
COMMAND:stop#
```

The stop print command stops the printer. If a layout is currently printing, the current print will finish.

Start print

```
COMMAND:R#
COMMAND:start#
```

Works on: Both versions, only in editmode. The command starts the printer.

Disconnect

```
COMMAND:D#
COMMAND:disconnect#
```

Works on: Both versions Disconnects the client program from Obj INKDraw. Does not work on seriel

Shutdown

```
COMMAND:Q#
COMMAND:shut down#
```

Works on: Both versions Shuts down the entire computer immedeately.

Load file

```
COMMAND:F;<file name>#
COMMAND:load file;<file name>#
```

Works on: Both versions. In multitask Inkdraw this command will work if connected to an open layout, else only if less than two layouts are currently open.

Loads the file specified by <file name>. If no path is given Inkdraw will load the file from the (inkdraw)\files folder, and the .ink extension is optional.

Goto record

```
COMMAND:G;<record number>#
COMMAND:goto;<record number>#
```

Works on: Both versions, but only in layouts where a database is loaded. The command points the database to the specified record.

Print go

```
COMMAND:P#
COMMAND:print#
COMMAND:go#
```

Works on: Both versions, only in printmode, and only with the fast load option activated. The print go command loads one print to the printhead. Use this command with the user-managed buffer.

Direct access of database

```
COMMAND:A;<record 1>[;<record 2>;<record 3>…]#
```

Works on: Both versions, but only if the direct access feature is enabled and a database loaded. The command loads the record numbers used for the direct access feature.

Requests

REQ is accepted instead of REQUEST

Connect to message

```
REQUEST:connect;<message name>#
```

Works on: Multitask Inkdraw only. Connects to the specified message. File type (.ink) is mandatory. If just file name is given, file is loaded from ”files directory”. Does not work on seriel.

List of open layouts

```
REQUEST:messages#
REQUEST:file list#
```

Works on: Multitask Inkdraw only. Returns a list of open layouts. Format is DATA:<layout name>#. Does not work on seriel.

Request list of objects

```
REQUEST:object list#
```

Works on: Both versions, in multitask Inkdraw you need to be connected to a layout

Inkdraw returns a list of objects from the current layout all having the format DATA:<object type>;<object name>#

Contents of files directory

```
REQUEST:dir#
REQUEST:directory#
```

Works on: Both versions

Inkdraw returns a list of .ink files found in the (inkdraw)\files folder with the format DATA:<filename>#

Request data of an object

```
REQUEST:object data;<object name>#
```

Works on: Both versions. Inkdraw returns all data available for the object. The format of these data is DATA:<field>;<value>#

Request parameter data

```
REQUEST:parameters#
```

Works on: Both versions

Inkdraw returns all available parameters. The format is DATA:<field>;<value>#

Printer status

```
REQUEST:status#
```

Works on: Both versions

Inkdraw returns status of the printer (online/offline/printing) as well as hardware status (fuses, inklow). Return format is DATA:<field>;<value>#

Available fonts

```
REQUEST:font list#
```

Works on: Both versions

Inkdraw returns a list of all available fonts. Format is DATA:<font name>#

Object commands

OBJ will be accepted instead of OBJECT

Create object

```
OBJECT:<object name>;create;<object type>#
```

Works on: Both versions. The object name must not be equal to an existing object

Creates a new object with the specified name and type.

Valid object types are:

```
OTText (text object)
OTCounter (counter object)
OTBarcode (barcode)
OTDateTime (date/time object)
OTLogo (logo)( not able to create at the moment )
OTField (field)
OTMail (mail field)
OTLine (line)
OTRectangle (rectangle)
OTEllipse (ellipse)
```

Delete object

```
OBJECT:<object name>;delete#
```

Works on: Both versions

Deletes the specified object and all sub-objects it might contain.

Rename object

```
OBJECT:<object name>;rename;<new object name>#
```

Works on: Both versions

Renames the object.

Monitoring

```
OBJECT:<object name>;monitor;<+/->#
```

Works on: Both versions

Adds (”+”) or removes (”-”) an object from the monitor list.

Transperancy

```
OBJECT:<object name>;trans;<+/->#
```

Works on: Both versions

Turns object transparency on (”+”) or off (”-”).

Invert

```
OBJECT:<object name>;invert;<+/->#
```

Works on: Both versions

Inverts the object (”+”) or returns the object to normal (”-”).

Color

```
OBJECT:<object name>;COL;<color 1>[<color 2>]#
```

Works on: Both versions. The object must be either a rectangle, line or ellipse

Changes color on the specified object. If the object is a line there can be no <color 2>. Formats for colors are ”w”, ”W”, or ”-” for white and ”b”, ”B”, ”+” for black.

Font

```
OBJECT:<object name>;FON;<font name>[;<font
size>;<font style>]#
```

Works on: Both versions. All objects containing a font (fields, schedules, barcodes, texts, counters, and dates)

Changes the font for the specified object. Font size and font style does not need to be present. Font style values are: 1=bold, 2=italic, 4=underline, 8=strikeout (cummulative).

Position

```
OBJECT:<object name>;POS;<x>;<y>#
```

Works on: Both versions. All objects except lines

Changes the position of the object. Positions are measured as the upper left corner.

Rotation

```
OBJECT:<object name>;ROT;<rotation>#
```

Works on: Both versions. All objects except lines

Rotates the object. Valid values for <rotation> are 0, 90, 180, or 270 (degrees).

Size

```
OBJECT:<object name>;SIZ;<width>;<height>#
```

Works on: Both versions. All objects except lines

Changes the size of the object. Any font will be automatically resized to fit in the new size.

Line position

```
OBJECT:<object name>;X-1;<start x>#
OBJECT:<object name>;X-2;<end x>#
OBJECT:<object name>;Y-1;<start y>#
OBJECT:<object name>;Y-2;<end y>#
```

Works on: Both versions, only line objects

Changes the position/size of the line. The start point of the line is (<start x>, <start y>) and the end point is (<end x>, <end y>).

Line width

```
OBJECT:<object name>;WID;<width>#
```

Works on: Both versions, only graphic objects (lines, rectangles and ellipses) Changes the line width.

Text

```
OBJECT:<object name>;TEX;<new text>#
```

Works on: Both versions, text objects only

Writes a new text in the object. The object will be automatically resized to fit the size of the new text.

Counter values

```
OBJECT:<object name>;MIN;<minimum value>#
OBJECT:<object name>;CUR;<current value>#
OBJECT:<object name>;MAX;<maximum value>#
OBJECT:<object name>;DIG;<number of digits>#
OBJECT:<object name>;DIR;<+/->#
OBJECT:<object name>;LDN;<lead in>#
OBJECT:<object name>;REP;<repeat number>#
```

Works on: Both versions, counters only

Changes the minimum, maximum, or current (displayed) values of the counter.

DIG sets the number of digits in the counter.

DIR sets the direction of the counter, ”+” for counting up, ”-” for counting down.

<lead in> is either space (” ”, ”space”), zero (”0”, ”zero”), or none (”none”).

REP sets the repeat number of the counter.

Expiry date/set date

```
OBJECT:<object name>;EXP;<expiry date>#
OBJECT:<object name>;DAT;<date>#
```

Works on: Both versions, date/time objects only

Sets the date of a date/time object. If sending a date it has to be of the format year/month/day (2003/3/19). Note that the DAT command is different from the DAT command used with fields.

Date format

```
OBJECT:<object name>;FOR;<format>#
```

Works on: Both versions, date/time objects only

Sets the format for the date objects. Available formats are all Windows formats as well as all special Inkdraw date format features.

Load logo

```
OBJECT:<object name>;PAT;<path to new logo>#
```

Works on: Both versions, logos only

Loads a new logo specified by the name and path given.

Barcode contents

```
OBJECT:<object name>;CON;<contents>#
```

Works on: Both versions, barcode only

Changes the contents of a barcode. This will only work if no objects have been inserted into the barcode.

Barcode type

```
OBJECT:<object name>;TYP;<barcode type>#
```

Works on: Both versions, barcodes only

Sets the type of the barcode (EAN13, Codabar, etc). The type must be equal to the type given in Obj INKDraw (EAN13 will work, EAN-13 will not).

Barcode module

```
OBJECT:<object name>;MOD;<module>#
```

Works on: Both versions, barcodes only

Selects between the original Obj INKDraw barcodes and the expanded (Tec-It) barcodes. Allowed values for <module> are ”Tec-It”, ”expanded” or ”1” for the expanded module (everything else will set the original module). It is important to resend the barcode type after changing modules.

Number of field lines

```
OBJECT:<object name>;LIN;<amount of lines>#
```

Works on: Both versions, empty fields only (in Obj INKdraw 2.02 this command also works on mail objects)

Sets the number of lines in the field object. The command will not work unless the field is empty.

Alignment

```
OBJECT:<object name>;ALN;<alignment>#
```

Works on: Both versions, field objects only (in Obj INKdraw 2.02 this command also works on mail objects)

Changes the alignment of the field object. Allowed values are ”left”, ”center”, or ”right”.

Field data

```
OBJECT:<object name>;DAT;<line 1>;[<line 2>;<line
3>;…;]#
```

Works on: Both versions, field objects only (in Obj INKdraw 2.02 this command also works on mail objects)

The command enters data to multiple (text only) lines in a field object. Note that the DAT command is different from the DAT command used with date/times.

Parameters

PAR will be accepted instead of PARAMETER

Start distance

```
PARAMETER:start;<start distance>#
```

Works on: Both versions

The command changes the ”start mm” parameter. The given value must be in mms. If using the 20_XJxxx EPROMs or later it will change during printmode, else it will change only in edit mode.

Set edge

```
PARAMETER:edge;<edge>#
```

Works on: Both versions, edit mode only

The command will change the sensor trigger to either positive (”pos”, ”positive”, or ”+”) edge, or negative (”neg”, ”negative”, ”-”) edge. The command will be accepted in print mode, but the change will not work before exiting and re-entering print mode.

Print signal

```
PARAMETER:signal;<type>#
```

Works on: Both versions

The command will set the signal type to either print signal (”print”, or ”+”) or message signal (”message”, or ”-”).

Endless

```
PARAMETER:endless;+#
PARAMETER;endless;-#
```

Works on: Both versions, edit mode only

The command will turn on/off endless mode. It will be accepted in print mode, but will not change before exiting printmode.

Print mode

```
PARAMETER;mode;<print mode>#
```

Works on: Both versions, edit mode only

Changes between position encoder (”pos”, ”position”, or ”P”), modular encoder (”mod”, ”modular”, or ”M”), and velocity (”vel”, ”velocity”, ”V”) modes. Changes will be accepted in print mode, but will not take effect before exiting print mode.

Print speed

```
PARAMETER:encoder;<value>#
PARAMETER:velocity;<value>#
```

Works on: Both versions

Changes the encoder/velocity parameter. With EPROMs version 20_XJxxx and on this change will take immidiate effect in print mode. With older EPROMs exiting printmode is needed.

Return data from OBJ INkdraw

All objects

```
DATA:sub;<true/false>#
DATA:rotation;<rotation>#
DATA:transparent;<+/->#
DATA:invert;<+/->#
DATA:monitor;<+/->#
```

Result from: Both versions when requesting data on any object

This is always the first line sent from Inkdraw when requesting object data. If sub sends ”true” the object is stored inside another object (barcode/field) and will have less properties,

<rotation> is the rotation of the object (in degrees). Other data describe if the object is transparent, inverted and monitored during print.

Lines

```
DATA:x1;<start x>#
DATA:x2;<end x>#
DATA:y1;<start y>#
DATA:y2;<end y>#
DATA;size;<line width>#
DATA:color;<color>#
```

Result from: Both versions when requesting data from a line

The format for <color> is ”+” (black) or ”-” (white).

Rectangles/ellipses

```
DATA:x;<x position>#
DATA:y;<y position>#
DATA:width;<width>#
DATA:height;<height>#
DATA:size;<line width>#
DATA:color;<color 1>;<color 2>#
```

Result from: Both versions when requesting data from a rectangle or an ellipse

The format for <color 1> and <color 2> is ”+” (black) or ”-” (white). Color 1 is the lineout and color 2 is the body of the object.

Text objects

```
DATA:text;<text>#
[DATA:x;<x position>#]
[DATA:y;<y position>#]
[DATA:width;<width>#]
[DATA:height;<height>#]
DATA:font;<font name>#
```

Result from: Both versions when requesting data from a text object

<text> is the contents of the object. Font, position and size are not send with texts inside barcodes or fields.

Logos

```
DATA:path;<path to logo>#
```

```
DATA:x;<x position>#
DATA:y;<y position>#
DATA:width;<width>#
DATA:height;<height>#
```

Result from: Both versions when requesting data from a logo

<path to logo> will be the full path, except if the logo is stored in the (inkdraw)\logos folder, then it will be .<filename> (notice the dot).

Counters

```
DATA:minimum;<minimum value>#
DATA:current;<current value>#
DATA:maximum;<maximum value>#
[DATA:x;<x position>#]
[DATA:y;<y position>#]
[DATA:width;<width>#]
[DATA:height;<height>#]
DATA:direction;<+/->#
DATA:leadin;<lead in>#
```

Result from: Both versions when requesting data of a counter.

Note that the current value might change quite fast during print. Position and size are not send with counters inside barcodes or fields.

<lead in> is either ” ” (space), ”0” (zero), or ”-” (none).

Barcodes

```
DATA:contents;<contents>#
DATA:x;<x position>#
DATA:y;<y position>#
DATA:width;<width>#
DATA:height;<height>#
DATA:module;<module>#
DATA:type;<barcode type>#
```

Result from: Both versions when requesting data from a barcode

<module> will be either ”HSA” (original module) or ”Tec-It” (expanded module).

Fields

```
DATA:x;<x position>#
DATA:y;<y position>#
DATA:width;<width>#
DATA:height;<height>#
DATA:data;<line 1>#
[DATA:data;<line 2>#]
…
```

Result from: Both versions when requesting data of a field object

The number of data lines will equal the number of text objects in the field.

Schedules

```
DATA:x;<x position>#
DATA:y;<y position>#
DATA:width;<width>#
DATA:height;<height>#
```

Result from: Both versions when requesting data of a schedule.

Dates

```
DATA:date;<expiry date>#
DATA:format;<date format>#
[DATA:x;<x position>#]
[DATA:y;<y position>#]
[DATA:width;<width>#]
[DATA:height;<height>#]
```

Result from: Both versions when requesting data from a date/time.

Note that it sends the expiry date – not the current date. Position and size are not send with dates inside barcodes or fields.

Parameters

```
DATA:start;<start distance>#
DATA:edge;<+/->#
DATA:signal;<+/->#
DATA:endless;<+/->#
DATA:mode;<print mode>
```

Result from: both versions when requesting parameters

<print mode> is ”M” (modular), ”P” (position), or ”V” (velocity).

Status

```
DATA:printmode;<+/->#
DATA:printing;<+/->#
DATA:status;<status>#
```

Result from: Both versions when requesting printer status

<status> will be a text describing errors on the system, for example ”[5V fuse burned, low ink]”.

All replies

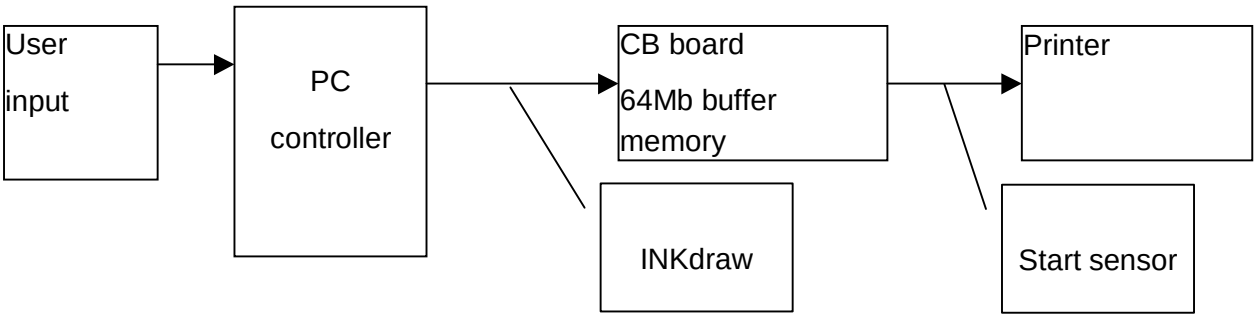
```
RESULT:<error code>
```

Returns from: Both versions after all commands send

This will always be the last command send from Inkdraw and indicates the end of transmission.

User-managed buffer mode

When you are using the CB board, the normal process of printing is as follows:



Notice that OBJ INKdraw is controlling when messages (prints) are stored on the CB board in the 64 Mb buffer memory.

This way is normally preferred when you print, as the internal buffer enables you to have a constant high print speed.

But sometimes it is necessary to control the buffering manually. Typically this is when you use updates by RS232 or ethernet, and want to make sure that your updated information is actually what is printed next time.

To manage the buffer yourself, do the following:

- Activate "User-managed buffer" in preferences
- Each time you wish to buffer a picture, send
  CMD:P# by ethernet
  or <esc>CMD:P#<eot> by RS232
- Next time the start sensor is triggered the buffered picture is printed

You can buffer multiple pictures if you wish, until the 64Mb memory is used.

Notice that if you print and there is no picture buffered, the printer will print whatever is in memory. This can look like "noise", or be leftovers from other pictures.

Running update 14

Running update allows you to change a logo during print, without doing any programming. This happens through special directory "Update", for example c:\Program Files\OBJ INKdraw\update\

Commonly, you would use ***shared network drives*** to copy files directly from one (windows) computer to another, but the function works just as well by using for example an ftp server (not included with OBJ INKdraw).

The important factor is the object name of the logo. If a BMP file is copied to the update directory with the same name as the logo object name, the new BMP file will be used.

Example: Your logo is called ***pallet***. (object name). Now, if you copy a BMP file to ***pallet.bmp*** in the update directory, this file will be loaded instead.

Update logo function works similarly to the "buffer picture" function.

- Notice that OBJ INKdraw **does not scale the logo** based on the file. Instead, the object dimensions are used. All logos used this way should be same size (x,y)

Ideas for "Update function"

- Generate things from other programs that OBJ INKdraw can't do - example: special barcodes, special text (like mirror, special fonts, non-western text,…)
- Import from other programs such as acrobat, Codesoft, etc.
- Scanning applications - where you "load" a strip of an image with every print.

Section 5

summary

- You can control the printer remotely by RS/232 either from another PC or from a PLC (Programmable Logic Controller).
- This happens by sending a string of commands with possible parameters
- Another way to remotely control the printer is by utilizing the “update” directory. This allows you to change a picture, while in print mode.
- Remote connection allows you to fully control OBJ INKdraw - for example if you wish to write your own front end.
  Example programs are available for free.

Section 6
Localization

15: Changing the INKdraw language

Changing the INKdraw language 15

OBJ INKdraw is easy to configure for different languages. This chapter will explain how to change the language of the main program, and how to create / change your own language files, in case you don't like the way some things have been translated.

All language definitions are stored in a normal plain text-file. All you need to change the translation of the menus is a text editor.

The language files are stored in a subdirectory called "Language" under the installation directory of OBJ INKdraw. They must have the extension ***.lan***.

Selecting a pre-defined language

OBJ INKdraw comes with different languages when installed. If you did a translation and would like to donate it for OBJ INKdraw, we will be happy to include your file as well.

To select a language that has been defined, use the preferences menu. You will be presented with a file dialog showing the available files. Select one and press OK. You will see that the language changes immediately.

What is translated ?

In the language files, everything on the monitor (main OBJ INKdraw program) is translated: menus, dialog boxes, buttons,...

Defining your own language file

Chances are that you speak a different language than the ones installed with OBJ INKdraw. In that case, you can create a language file to suit you. Using the imaginary language "Narnian", the steps to create a language are:

- Copy the file ***english.lan*** to someting different; here ***narnian.lan***.
- Edit the content of the newly copied file ***narnian.lan***.
- When done, select the file ***narnian.lan*** as described above.

The structure of the language file

It is important to follow a few simple rules when editing the language file. The structure of the language file is as follows:

- There is a number of different sections, identified by [ ]. These should not be touched in any way.
- Under each section, the original text is written, then an equal sign, and the translation. In the English file, both sides are in most cases identical.
  You should translate the Right-hand side from the equal sign only !
- The menus have an amphersand (&) in the translation. If you use the amphersand in front of a character, this character can be used with the Alt key to activate that menu.

If you do something wrong...

.. it is not really a big problem. If you change anything that you should not change (a section name, or anything to the left of the equal sign), the OBJ INKdraw program will simply ignore any change to that section or line.

Example of a language file:

Below is the start of the result of a correctly changed language file. All parts have were “translated” have been prefixed and suffixed with ***xxxx***.

```
[Status panel]
Origin= xxxx Origin: xxxx
Current= xxxx Current: xxxx
View= xxxx View: xxxx
Absolutte= xxxx A:. xxxx
Realtive= xxxx R:. xxxx

[Main menu]
File= xxxx &File xxxx
File->New= xxxx &New... xxxx
File->Open= xxxx &Open... xxxx
File->Save= xxxx &Save xxxx
File->Save as= xxxx Save &as... xxxx
File->Exit= xxxx E&xit xxxx
```

What you do as OBJ INKdraw evolves...

As OBJ INKdraw evolves, new functions are added, others are changed. This of course affects the language file. But there is no need for you to rewrite everything from scratch. OBJ INKdraw can look through the current language file for you and insert all new lines, optionally marking them with a tag you define.

Upgrading your language file:

- Install the new OBJ INKdraw
- Copy your translated language file to the ***language*** subdirectory of the installation directory.
- Select that language
- Use the preferences to update the language.
- Enter a tag if you want. What you enter is not important, the tag will be inserted next to the new text in your language file – but a good idea is to enter something that is easy to find. You can use your own name, for example.
- If your file is already up-to-date you will be told that there is no need to update the file. Otherwise, the new lines will be added for translation.

Section 6

summary

- OBJ INKdraw offers you total freedom regarding the language you and your customers will see on the screen. Any text string in the menus, dialog boxes and the buttons can be translated to what you want.
- Or, if you just don't like the way the translations are currently done, you can simply change them to something different.
- You have to follow certain rules when editing the language files. You can't destroy anything, but if you change the wrong parts, the program will ignore your changes.

Section 7
Reference

16: Hardware configuration

17: The preferences menu

The Hardware Configuration 16

This chapter will briefly summarize the hardware concept and how to connect it in order to get a print. For a more detailed description, please refer to the hardware manual.

Understanding the hardware concept

In order to work effectively with OBJ INKdraw, it is important to understand the concept of the system.

The printers are built around either the XaarJet 128, XaarJet 500 print engines - or HP.

You can use one type of printer only on one controller, but both types have in common that you can combine the different types of print heads to a maximum of 280 mm print height (Xaar) or 50.8 mm print height (HP) - **per controller**

The configurations of the print heads is as follows:

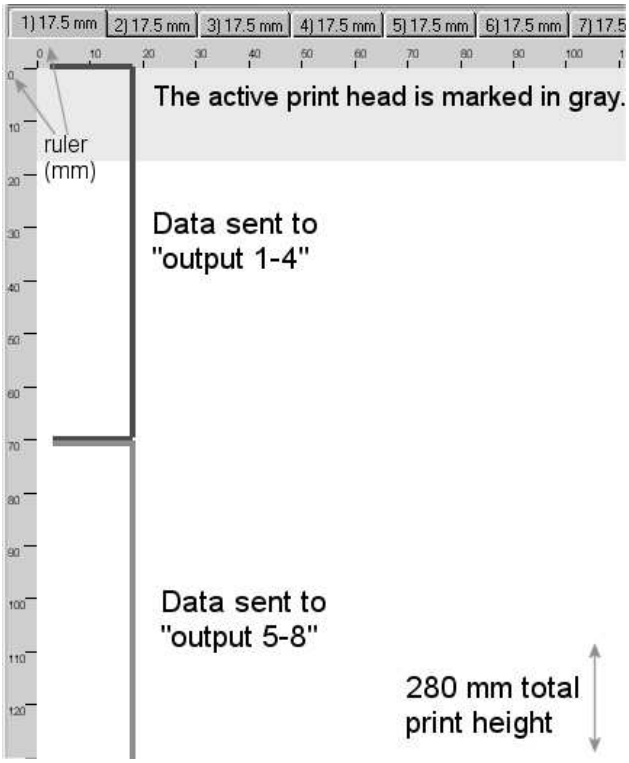
Print engine type	**Print height in each head**
XaarJet 128	17.5 mm (1 engine) 35 mm (2 engines) 52.5 mm (3 engines) 70 mm (4 engines)
XaarJet 500 XaarJet 500CM	70 mm (1 engine)
HP	12.7 mm 25.4 mm (2 pens) 38.1 mm (3 pens) 50.8 mm (4 pens)

If you follow the general rule about a maximum of 280 mm print height, you can combine the heads as you please, for example one on each side and one on top of a box… or two on one side and one on the other side…

Physical print heads related to OBJ INKdraw.

On the controller for the printers, there are 2 or 4 plugs for data. Each of these can run either 1 to 4 XaarJet 128 engines or 1 XaarJet 500 engine. In other words, each of these plugs have ***70 mm (or 4 times 17.5 mm) print data***. ***Each of the 17.5 mm lines is also referred to as a band.***

This concept is used in OBJ INKdraw. Take a look at the canvas again, where the different data areas are indicated.



The top left part of the canvas.

Notice how the different sections of 70 mm has been marked, as they go to different outputs. This pattern of course continues to output 9-12 and output "13-16". (numbers indicating the number of total heads)

The active print head, marked in gray, indicates one band.

Figure 71: Canvas with rulers

From above part of the canvas, you can see that ***if you know where a print head is connected, you will know where to put data for that head***.

- As OBJ INKdraw allows drawing anywhere on the canvas, there is no problem in using several different heads to draw your objects - in other words, you don't have to respect the "limits of one head / output"

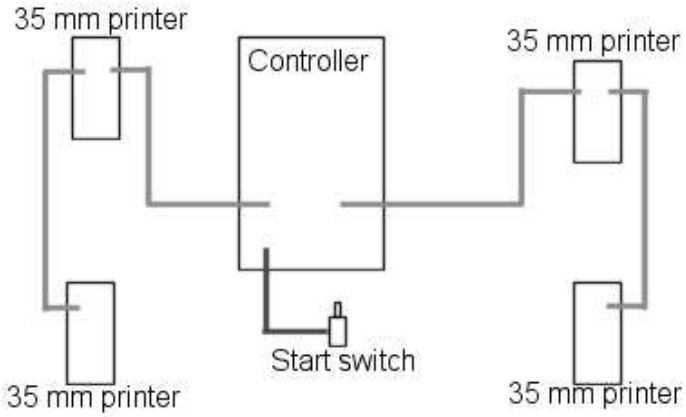
Connecting things

In order to connect the printer and the controller, this chapter will briefly describe how to connect the parts to get the system going.

Connectors on the print controller, printer

The printers are connected to the controller with 25-pin cables. You can daisy-chain the printers that receive data from the same output, as long as you remember that the total maximum print height per output is 70 mm.

A simple drawing will illustrate the idea:



In this example, 4 x 35 mm printers are connected to the controller.

There will be two printers per output, and the printers have been daisy-chained, two on each output.

Finally, a start switch is connected to activate the print.

Figure 72 : connecting the printers

- The order in which you daisy-chain the printer is indifferent, as the printer internally has configured which data lines it will print. (please see the hardware manual for more on this).

Other options

Apart from the printers and the controller, you can connect other things to your system: Please ask or consult the hardware documentation for more information about these options.

- Encoder, to accurately measure the speed of your conveyor
- External signal for print active
- External signal for low ink level

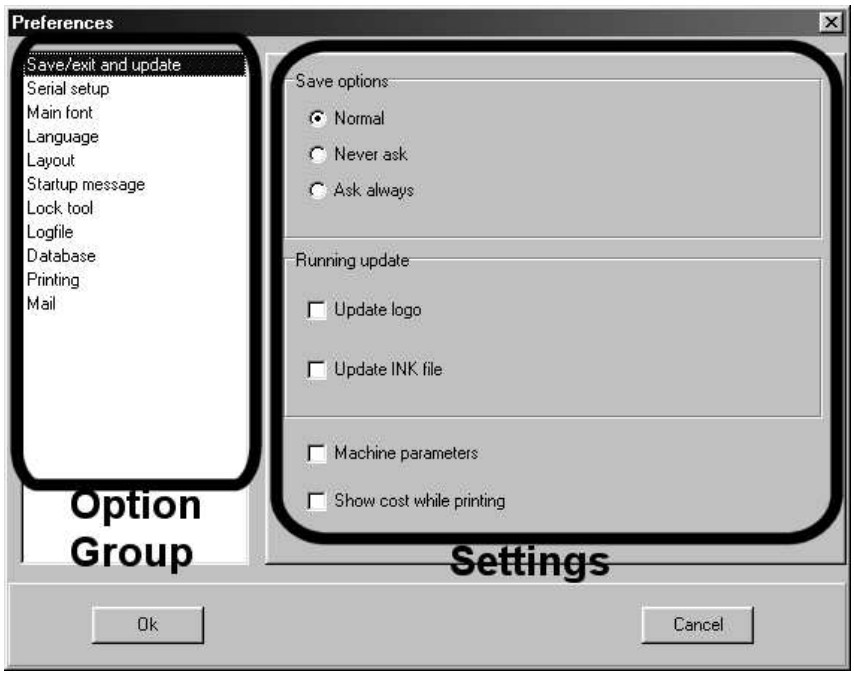
The Preferences menu 17

The ***preferences menu*** is where a number of options affecting the behavior of OBJ INKdraw can be set. This chapter will describe all the different options and what they do.

Entering the preferences menu

To enter the preferences menu, use ***[File->Preferences]*** or press **Alt+p**.

You will see a screen similar to this:



Preferences Window

The window has two panes:

The option group, where the options for a certain part of the program are selected, and the settings, where the actual changes are made.

Figure 73: Preferences Window

To change something, select the group, make the changes and press “OK”.

Description of the preferences

Save/Exit and update

Save Options

How OBJ INKdraw should behave when you close a file.

Normal is to ask if the file should be saved if it is modified

Never ask and ***Ask Always*** will overrule this behavior.

Automatic save after print will save the message when you stop printing. This can be useful if you wish to save the status of counters and databases, when you change files automatically.

- A document (your ***.ink file***) is sometimes modified even if you do not personally change anything
- For example, simply selecting an object on the drawing canvas will make your file appear changed to OBJ INKdraw.

Machine Parameters

Causes OBJ INKdraw to ignore parameters (hardware settings) in the files that are loaded.

Show cost while printing

When in print mode, the object view window will appear with a cost meter showing at the bottom. The cost is calculated from the price of ink entered under ***Cost Calculation***.

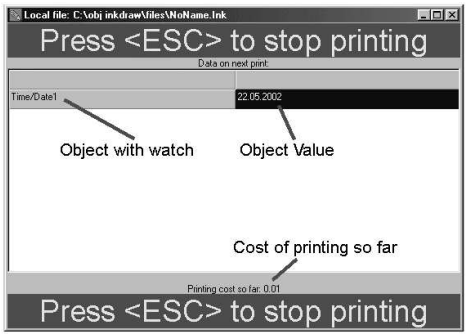


Figure 74: print monitor showing costs

The print monitor showing costs, based on the value entered in the Cost Calculation menu. The cost is in no special currency.

If the ***serial connection*** is enabled you will see the data transfered below the print costs.

Regional settings

The regional settings is where you modify OBJ INKdraw to work under your local settings. The two main aspects of this adjustment are font and date input format.

Main Font

The font to use for menus in OBJ INKdraw. This is mostly useful in cases where a different font is needed, typically where the latin fonts are not used (asia, middle east…). In line with the font, you must also choose a character set, to be able to display international characters properly.

Main character set

Change your character set here if you operate OBJ INKdraw in a non-English windows.

Language

Select new language

The settings panel will show a list of available language files. To change the language, simply select one of the files and click OK.

Update a language

To make sure that the language file is up-to-date, use the “update language” button. This allows you to re-create the language file, and optionally insert a marker string where new items are added. That way, you can easily find the new strings when you later edit the language file.

Layout

The layout section affects the look of your canvas. Notice that the changes you make here will only have cosmetic effects. The changes will not affect the final print.

Global settings

Apply global settings to the measurements / grid setup. If on, they will not change even after a new message is loaded.

Grid

Change settings for the grid.

X / Y Interval determine how close the grid points should be.

X / Y offset Shifts the grid this number of units from (0,0)

Visual Should the grid be visible or not

Snap to grid Only move on grid points ?

Units

Change the units used in OBJ INKdraw

Pix Pixels, the smallest number of dots available with the printer hardware

Cm Centimeters, based on the metric system

Inc Inches, based on the US system

Point Points, based on font sizes.

Cursors

Crosshair Use a big cross as cursor

Hand Use a small hand with a pointing finger as cursor

Cross Use a small cross as cursor

Keep objects inside message

With this option on, you can not move any object outside the boundaries of the canvas. With this option off, objects can be placed anywhere, even in not visible areas of the canvas.

Allow canvas resizing from editor window

Setting that will allow you to drag the length of the canvas directly from within the editor.

Automatic popup of object menus

When you create objects inside object, select this to automatically open the properties menu when you add counters, dates or texts inside other objects. If off, you need to double click the object to edit.

Startup Message

Startup message

OBJ INKdraw must always have a message loaded. This option chooses what message is active when the program is loaded:

Last edited message The file you last had open

Default INKdraw message The ***NoName.ink*** message

User-defined message Always open a certain file, defineable through the file selector in the same window.

Start up mode

Use this option to define how OBJ INKdraw starts. You can choose between normal mode (edit) touch screen mode or print mode. The last is beneficial if you wish to use the software unattended as a print controller only.

- Do not forget to include an "Administrator" button in the touch screen interface if you select this mode as start-up mode.
- If you "lock yourself out" delete the ***inkdraw.ini*** file and you'll be back to a default environment.

File database

SECTION TO BE DONE. TDJ!

Lock Tool

The Lock Tool allows you to prevent the user from accessing functions in the OBJ INKdraw software. Any function can be locked out.

There are 2 levels of protection, each with their ***individual password***.

Where	Covered
Preferences / Lock Tool	The lock tool menu itself, where you can enable/disable icons and menus.
Printer Parameters	The menu for print parameters

- The preferences password is the most important. If you know this password, you can disable the other two
- Remember the passwords; the functions will not work if you forget the password.
- The passwords are case sensitive ("PaSsWoRd" is different from "password")
- You can disable the print function / print parameters without setting a password.

This menu can also be used to set the password for the CU file. If you enter a password here, it will be stored in the CU next time you transfer files.

How to disable a function

To disable a function, click the button or check the box. Once disabled, the button or the menu will appear as greyed out:

Figure 75: Locking Buttons

Figure 78: Locking Functions

Disabled functions in OBJ INKdraw will appear as greyed out, as the examples below illustrate:

Figure 76: Disabled menus

Figure 77: Disabled icons

How to set the passwords:

Preferences menu password: Use the button “Preferences (Password)” under “Files”

Print password / Parameters password : Use the two buttons under “Parameters/Print” where the text indicates “Press button to enable password”.

Logfile

The logfile will tell you what OBJ INKdraw is doing. The information is stored in the file

{OBJ INKdraw installation directory}\LogFile\LogFile.txt

There are 5 levels of logging: from None (No log) to Maximum (log all). The change of log level will not take effect until the program is restarted.

Error messages

Since OBJ INKdraw is targeted also at remoted control, it is sometimes necessary to have error messages on the screen (that require user intervention) disabled. This is possible by selecting a different value here. Choose between the following:

Disabled	Errors appear only in log files
Message	You will get a message box on the screen
Network	Most error messages are output on the TCP/IP connection
Serial	If possible, errors are output on the serial connection

Database

The database group contains different options related to the database functions.

Database functions

Keep references when reloading: If this option is on, the program will connect the currently open database to objects with the same name when you open another file. Example: you have attached field1 to "Name" object. Now, when you open another file, field1 is still attached to "Name" object. This is great for using templates, because you can use the same data with different layouts.

You must however take great care that the objects you have connected with fields exist in the files you open. Otherwise, unexpected results might occur.

Reload database just before printing: If you have an application that modifies the database "on-line" this function ensures that you have the most up-to-date data before you start the print function.

Prompt for username and password: When a database is opened, a box will appear where you must enter username and password. With this option, you can choose if the program should use default username/password, and/or prompt you.

Visual

Always display header in design mode: If this is activated, objects on the canvas will not display the value of the current record, but will display the field name. (example: "Field1" instead of "ACME corporation")

Prompt

Lock database to found record: If activated, the record that is found during a search (see section on Prompts) will be printed all the time. Otherwise, the printing will ***start*** from the found record.

Drag and drop

Enable drag/drop from entry list: This option must be on for the program to allow dragging from the ***entry*** list to the object panel. If off, you can only drag field names.

SQL server settings

Save local version: When connected to an SQL server, the retrieved database will be saved locally, in case of network problems.

Barcodes

EAN128 limits

As mentioned previously, the EAN 128 barcodes have application identifiers. These are by default configured by OBJ INKdraw. However, you can choose if you wish to be able to re-configure the allowed identifiers and their content.

You have two options:

- Use the default identifiers as setup in OBJ INKdraw
- Use the configuration file [installation directory]/init/ean128.ini

The file must be a standard text file with 4 fields per line, each line terminated by a ***;*** and each field separated by a ***;***

Fields are:

- 1 : App. identifier number (0..9999)
- 2 : Only numbers allowed ("TRUE" or "FALSE")
- 3 : max length allowed (0=(no limit)..99999)
- 4 : Check Digit ("TRUE" or "FALSE")

Example from this file:

```
;
; semicolons in pos. 1 starts a comment
;
0;TRUE;TRUE;17;TRUE;
1;TRUE;TRUE;13;TRUE;
```

```
2;TRUE;TRUE;13;TRUE;
3;FALSE;TRUE;14;FALSE;
4;FALSE;TRUE;16;FALSE;
```

- There is **NO** check of the validity of this file. OBJ INKdraw may crash if you don't keep the correct format of the file.
- If you choose to use this file, you are responsible for the result.

Validation

An important part of printing barcodes is the ability to validate that what you printed is actually readable. If enabled, the controller will expect to receive the printed barcode on the serial port. If there is no barcode read, you can choose what string the scanner sends.

Additionally you can set a signal on an output if there is a no-read, error, or either of them.

The barcode data is logged into a text file, and statistics will be added when print mode is deactivated.

DETAILS TO BE SPECIFIED. TDJ.

Multiple messages

It is possible to open two messages in OBJ INKdraw, but if you wish to revert to only one message, this group of options allows you to control multiple messages

One message can be opened…

Select here what should happen when you try to open the same message again.

If printing is started while another job is running…

Set here what should happen when you activate print from the window that is not printing. This option has no effect if multiple messages is disabled.

Max number of windows

Allows you to set how many open windows OBJ INKdraw will allow. Set to 1 to disable multiple messages. Obviously you can't set to a lower number than the current number of open windows.

Network

If you wish to use network communication, you can activate the communication here. OBJ INKdraw will show you the machine's current IP address and name (read only, these are read automatically on startup).

Port

The port you wish to use to connect to OBJ INKdraw. It is not important which port you use, but it should probably be above 1000.

Allow connections

Select both of these if you want OBJ INKdraw to accept connections on startup. Optionally you can set a password here, to prevent unauthorized access.

Command Separators

In the communication protocol, there are two types of separator. They must be different, and you can not use a separator in a string. By default, they are defined as "#" (end of command string) and ";" (item separator) - but should you need hash and/or semicolon in a string, feel free to redefine to f.ex. "§" and "~".

Special functions

Use date file

Specify here a date file that contains exactly 366 lines, each with a date format for that specific day of the year. Please see dates for an explanation.

Use day/month/year offset

Normally date offsets are specified as number of days. But if this option is on, you can specify number of years, months and days. This is explained under dates.

Short date format

Selects the input date format for prompts

Date encryption

For each date object, you can set the names of week days and month names. Here, you can further encrypt your date, by replacing individual digits with a different string. Notice that this setting is global and affects all date objects.

Scan and print

TO DO. TDJ.

Printing

The printing section is where the special preferences for printing are placed. The print modes you will find here are commonly "special" meaning that you need special instructions for these. Please ask for more information.

2-sided print

If this is on, the controller will automatically assume that 1/2 of your heads are on the opposite side printing the same information as the first one or two heads.

Print buffer mode

DOCUMENT THIS. TDJ!

Directories

Normally when you ask OBJ INKdraw to load a file or an image by use of remote commands, you need to enter the specific path and file names. But an option allows you to manually add "search directories". It is a good idea to add your logo directory here, as it allows you to stop worrying about the path on the creator's machine. Now you can store your graphics on one central computer.

Select the location for inkfiles, logos and databases by clicking the "…" button.

When you add search directories, you can change their order by using the stack up/down buttons. Directories are searched in the order they appear here.

System

The final option is a "system variable" that you can use to identify the production line running OBJ INKdraw. The content you enter here is used in the "System object", please see objects description for more.

Section 7

summary

- OBJ INKdraw allows you to change all the menu titles, but the function of the menus are not changed in any way. You change the menus in the language files.
- Many things in the program can be changed in the preferences menu, available through **Ctrl+Alt+p**.
- It is possible to prevent the use of the functions and/or menus by using the lock tool. You can put a password on the preferences menu and print function / parameter menu..
- If you have a problem, the log function can tell you what the last successful operation was. HS Automatic might ask you to send you files from the “logfile” directory, as they will help to identify your problem.

Section 8
Support

18: If you find a bug

If you find a bug 18

HS Automatic would like to make it easy for you to report a bug if you think you found one in our software. To make it easy for us to identify the problem, please take a moment to fill out some information about your setup before contacting us:

Information about your hardware

Controller

- Controller type, Operating system

Printing equipment

- Type and quantity of printers
- Description of your setup at the conveyor (equipment, measures,..)

How you tried to print

Your desired settings

- Line speed
- Number of prints per minute
- Distance between prints
- Print size
- Do you use encoder or velocity

Actual settings

- (send us the ***ink*** file that you used)

Your Problem

The result of the problem

- Please provide a good description of the problem, preferably fax us copies of the result if you can – or simply drawings that clearly illustrate the problem.
- What happens ? Crash, or just an undesired result ?

Consistensy

- Can you reproduce the problem many times ? For example also when creating a new file ?
- Does the problem appear on all printers that you connect to the controller (check for relation to hardware vs. software). ?
- Does the problem appear on all controllers you try ? (if possible).

When you have all the information:

Please send a full bug report to

bugs@hsautomatic.com

or to the fax number mentioned at the beginning of this manual.

Please attach in a zipped file:

- Your .ink file
- Your database (if you use one) – or sample data in a similar database
- The file ***[installation directory] / init/Inkdraw.ini***
- The file ***[installation directory] /logfile/logfile.txt***
- The file ***[installation directory] /logfile/report.txt*** (generated with [***`file->report`***])

To Do

The following has not yet been updated in the CB manual:

- Firmware settings for CB board
- File database
- Scan and print
- Double speed
- Barcode validation