
Remote Communication in INKDraw

Reference Manual

Complete guide to remote communication in INKdraw, including examples, command reference and sample code for use in your application.

You should have some programming experience to use this material.

All the sample code is provided *as-is*, meaning that HS Automatic will not offer any support on the specific code. You are welcome to use, modify and change this code.

Please also see Remote Communication – Technical Reference for RS232

Principle (short)

Ethernet connection

To use ethernet connection, you should connect to a message (CB version), before you can change it's content. You can address all open messages, even the non-active messages.

ALL communication must end with "#" (pound sign).

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

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

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)

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

Complete command list

The following pages contain a complete command list for OBJ INKdraw remote communication. Please refer to examples section for instruction on how to use.

On some commands, there are requirements, these are specified in the upper-right part.

- (minus): Does not work here
- + (plus): Works only / required
- (+) Works, but is not applied immediately
- ! Works, but please see remark

COMMANDS COMMAND CMD

Commands are used to do things.

Close	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
Closes the active window. A new connect request is required afterwards.			-			
<i>Command(s) to use</i>	<i>Return Data (if any)</i>					
COMMAND:C# COMMAND:close#						

Database search	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
Search the database for <string>. If 'J' or 'search' is used, it will search the whole database. If 'K' or 'fastsearch' is used, it will search only in the first column.						+
<i>Command(s) to use</i>	<i>Return Data (if any)</i>					
COMMAND:J;<string># COMMAND:search;<string># COMMAND:K;<string># COMMAND:fastsearch;<string>#						

Direct access of database	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
The command loads the record numbers used for the direct access feature.						+
<i>Command(s) to use</i>	<i>Return Data (if any)</i>					
COMMAND:A;<record 1>[;<record 2>;<record 3>...]#						

Disconnect	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
Disconnects the client program from Obj INKDraw.			-			
<i>Command(s) to use</i>	<i>Return Data (if any)</i>					
COMMAND:D# COMMAND:disconnect#						

Goto record	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
The command points the database to the specified record.						+
<i>Command(s) to use</i> COMMAND:G;<record number># COMMAND:goto;<record number>#	<i>Return Data (if any)</i>					

Load file	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
If connected to a layout, opened in same window. Otherwise, tries to open a new window. Loads the file specified by <file name>. If no path is given Inkdraw will load the file from the folders defined by the paths in preferences. The .ink extension is not necessary.				!		
<i>Command(s) to use</i> COMMAND:F;<file name># COMMAND:load file;<file name>#	<i>Return Data (if any)</i>					

Print go	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
The print go command loads one print to the printhead.						
<i>Command(s) to use</i> COMMAND:P# COMMAND:print# COMMAND:go#	<i>Return Data (if any)</i>					

Shutdown	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
Shuts down Obj INKDraw AND the PC						
<i>Command(s) to use</i> COMMAND:Q# COMMAND:shut down#	<i>Return Data (if any)</i>					

Start print	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
The command starts the printer						+
<i>Command(s) to use</i> COMMAND:R# COMMAND:start#	<i>Return Data (if any)</i>					

Start print on hold

The command readies the printer for printing (R-), but the printer is not activated before an R+ command is send. Use this set of commands when using more than one controller board to synchronize the printers.
If the commands are send when not connected to any message, they will be send to all open messages (print all).

Command(s) to use

COMMAND: R+ / - #
COMMAND: start+ / - #

Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
-----------	------	-------	---------	------------------	--------------

!

Return Data (if any)

Stop print

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

Command(s) to use

COMMAND: S #
COMMAND: stop #

Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
-----------	------	-------	---------	------------------	--------------

+

Return Data (if any)

OBJECT COMMANDS

OBJECT

OBJ

Alignment	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
field objects only Changes the alignment of the field object. Allowed values are "left", "center", or "right".						
<i>Command(s) to use</i>	<i>Return Data (if any)</i>					
OBJECT:<object name>;ALN;<alignment>#						

Barcode contents	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
barcode only Changes the contents of a barcode. This will only work if no objects have been inserted into the barcode.						
<i>Command(s) to use</i>	<i>Return Data (if any)</i>					
OBJECT:<object name>;CON;<contents>#						

Barcode Ink Spacing	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
Sets the ink spacing to <value>.						
<i>Command(s) to use</i>	<i>Return Data (if any)</i>					
OBJECT:<object name>;SPC;<value>#						

Barcode module	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
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.						
<i>Command(s) to use</i>	<i>Return Data (if any)</i>					
OBJECT:<object name>;MOD;<module>#						

Barcode type	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
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).						
<i>Command(s) to use</i>	<i>Return Data (if any)</i>					
OBJECT:<object name>;TYP;<barcode type>#						

Color	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
<p>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.</p>						
<p><i>Command(s) to use</i></p> <p>OBJECT:<object name>;COL;<color 1>[<color 2>]#</p>	<i>Return Data (if any)</i>					

Counter values	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
<p>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.</p>						
<p><i>Command(s) to use</i></p> <p>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 n</p>	<i>Return Data (if any)</i>					

Create object	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
<p>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) OTField (field) OTMail (mail field) OTLine (line) OTRectangle (rectangle) OTEllipse (ellipse)</p>						
<p><i>Command(s) to use</i></p> <p>OBJECT:<object name>;create;<object type>#</p>	<i>Return Data (if any)</i>					

Datamatrix size	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
<p>datamatrix barcodes only Sets the dot resolution. Valid sizes are: default, 10x10, 12x12, 14x14, 16x16, 18x18, 20x20, 22x22, 24x24, 26x26, 32x32, 36x36, 40x40, 44x44, 48x48, 52x52, 64x64, 72x72, 80x80, 88x88, 96x96, 104x104, 120x120, 132x132, 144x144, 8x18, 8x32, 12x26, 12x36, 16x36, and 16x48. If a non-valid size is given, default is used. Refer to datamatrix specifications for content size.</p>						
<p><i>Command(s) to use</i></p> <p>OBJECT:<object name>;DMS;<size>#</p>	<i>Return Data (if any)</i>					

Date format	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
<p>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.</p>						
<p><i>Command(s) to use</i></p> <p>OBJECT:<object name>;FOR;<format>#</p>	<i>Return Data (if any)</i>					

Delete object	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
<p>Deletes the specified object and all sub-objects it might contain.</p>						
<p><i>Command(s) to use</i></p> <p>OBJECT:<object name>;delete#</p>	<i>Return Data (if any)</i>					

Expiry date/set date	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
<p>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.</p>						
<p><i>Command(s) to use</i></p> <p>OBJECT:<object name>;EXP;<expiry date># OBJECT:<object name>;DAT;<date>#</p>	<i>Return Data (if any)</i>					

Field data	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
<p>Field objects only. 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.</p>						
<p><i>Command(s) to use</i></p> <p>OBJECT:<object name>;DAT;<line 1>;[<line 2>;<line 3>;...;]#</p>	<i>Return Data (if any)</i>					

Font	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
<p>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).</p>						
<p><i>Command(s) to use</i></p> <p>OBJECT:<object name>;FON;[;;]#</p>	<i>Return Data (if any)</i>					

Human Readable	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
Turns on ("+") or off ("-") human readable text in the barcode.						
<i>Command(s) to use</i> OBJECT:<object name>;HUM;+/-#	<i>Return Data (if any)</i>					

Invert	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
Inverts the object ("+") or returns the object to normal ("-").						
<i>Command(s) to use</i> OBJECT:<object name>;invert;<+/->#	<i>Return Data (if any)</i>					

Line position	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
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>).						
<i>Command(s) to use</i> 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>#	<i>Return Data (if any)</i>					

Line width	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
only graphic objects (lines, rectangles and ellipses) Changes the line width.						
<i>Command(s) to use</i> OBJECT:<object name>;WID;<width>#	<i>Return Data (if any)</i>					

Load logo	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
logos only Loads a new logo into the logo object, as specified by the name and path given. Uses LOGO search path.						
<i>Command(s) to use</i> OBJECT:<object name>;PAT;<path to new logo>#	<i>Return Data (if any)</i>					

Monitoring	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
Adds ("+") or removes ("-") an object from the monitor list.						
<i>Command(s) to use</i> OBJECT:<object name>;monitor;<+/->#	<i>Return Data (if any)</i>					

Number of field lines	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
empty fields only Sets the number of lines in the field object. The command will not work unless the field is empty.						
<i>Command(s) to use</i> OBJECT:<object name>;LIN;<amount of lines>#	<i>Return Data (if any)</i>					

Position	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
All objects except lines Changes the position of the object. Positions are measured as the upper left corner.						
<i>Command(s) to use</i> OBJECT:<object name>;POS;<x>;<y>#	<i>Return Data (if any)</i>					

Rename object	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
Renames the object.						
<i>Command(s) to use</i> OBJECT:<object name>;rename;<new object name>#	<i>Return Data (if any)</i>					

Rotation	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
All objects except lines Rotates the object. Valid values for <rotation> are 0, 90, 180, or 270 (degrees).						
<i>Command(s) to use</i> OBJECT:<object name>;ROT;<rotation>#	<i>Return Data (if any)</i>					

Size	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
All objects except lines Changes the size of the object. Any font will be automatically resized to fit in the new size.						
<i>Command(s) to use</i> OBJECT:<object name>;SIZ;<width>;<height>#	<i>Return Data (if any)</i>					

Snap Point	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
Sets the object snap point. 1=up/left, 2=up, 3=up/right, 4=left, 5=center, 6=right, 7=down/left, 8=down, 9=down/right.						
<i>Command(s) to use</i> OBJECT:<object name>;snap;<1-9>#	<i>Return Data (if any)</i>					

Text	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
text objects only Writes a new text in the object. The object will be automatically resized to fit the size of the new text.						
<i>Command(s) to use</i> OBJECT:<object name>;TEX;<new text>#	<i>Return Data (if any)</i>					

Transparency	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
Turns object transparency on ("+") or off ("-").						
<i>Command(s) to use</i> OBJECT:<object name>;trans;<+/->#	<i>Return Data (if any)</i>					

PARAMETERS

PARAMETER

PAR

Endless	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
The command will turn on/off endless mode. It will be accepted in print mode, but will not change before exiting printmode.						
<p><i>Command(s) to use</i></p> <p>PARAMETER: endless;+# PARAMETER: endless;-#</p>	<i>Return Data (if any)</i>					

Global Ink Reduction	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
Sets the global ink reduction. Valid values are 25, 50, 75. 25 can be replaced by 1, 50 by 2 and 75 by 3. Any other value will disable ink reduction.						
<p><i>Command(s) to use</i></p> <p>PARAMETER: ink reduction;<value>#</p>	<i>Return Data (if any)</i>					

Head adjustments	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
Makes adjustments to the print heads. With offset you give an offset in mm, engine1-4 is engine offset (also in mm), upside, otherside, invert is activated with "+" or deactivated with anything else.						
<p><i>Command(s) to use</i></p> <p>PARAMETER: adjust;<head no>;offset;<value># PARAMETER: adjust;<head no>;engine1;<value># PARAMETER: adjust;<head no>;eng1;<value># PARAMETER: adjust;<head no>;l1;<value># PARAMETER: adjust;<head no>;engine2;<value># PARAMETER: adjust;<head no>;eng2;<value># PARA</p>	<i>Return Data (if any)</i>					

HP print mode	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
The command will set the HP printing resolution. Types are: 600x600 DPI ("1"), 300x300 DPI highspeed ("2"), 300x300 DPI with one row ("3"), 150x300 DPI ("4"), 600x300 DPI highspeed ("5") and 300x600 DPI with one row ("6"). The optional parameter contains the relative nozzle offset, or, which row ("1" or "2") to use with one row modes.						
<p><i>Command(s) to use</i></p> <p>PARAMETER: hp;<type>[;parameter]#</p>	<i>Return Data (if any)</i>					

Message length	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
Sets message length						
<p><i>Command(s) to use</i></p> <p>PARAMETER: size;<value># PARAMETER: length;<value>#</p>	<i>Return Data (if any)</i>					

Modules	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
Sets the modular encoder value.	-					
Command(s) to use PARAMETER;modules;<value># PARAMETER;modular;<value>#	Return Data (if any)					
Print Buffer Mode	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
The command will set the print buffer mode user-managed buffer ("user"), 1, 2, or 10 print ("1", "2", or "10"). Other values of <type> will set the buffer mode to default (unlimited).	-					
Command(s) to use PARAMETER;buffermode;<type>#	Return Data (if any)					
Print direction	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
Sets the print direction. + is left to right, - is right to left	-					
Command(s) to use PARAMETER;direction;+/-# PARAMETER;dir;+/-#	Return Data (if any)					
Print mode	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
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.	-					
Command(s) to use PARAMETER;mode;<print mode>#	Return Data (if any)					
Print signal	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
The command will set the signal type to either print signal ("print", or "+") or message signal ("message", or "-").						
Command(s) to use PARAMETER;signal;<type>#	Return Data (if any)					
Print speed	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
Changes the encoder/velocity parameter. Exiting printmode is needed.	(+)					
Command(s) to use PARAMETER;encoder;<value># PARAMETER;velocity;<value>#	Return Data (if any)					

Purge	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
Starts a purge on the heads defined in head flags (1=head 1, 2=head 2, 4=head 3, 8=head 4, etc, multiple heads can be activated by adding their values). The purge will last the given time in msec. If you start purge by using the start command the heads will purge until you send the stop command.	-					
<i>Command(s) to use</i> PARAMETER:purge;<head flags>;<time># PARAMETER:start purge;<heads># PARAMETER:stop purge#	<i>Return Data (if any)</i>					

Quadrature	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
Turns quadrature on or off	-					
<i>Command(s) to use</i> PARAMETER:quadrature;+/-# PARAMETER:quad;+/-#	<i>Return Data (if any)</i>					

Repeat	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
Sets repeat number and distance.	-					
<i>Command(s) to use</i> PARAMETER;repeat;<count>;<distance>#	<i>Return Data (if any)</i>					

Set edge	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
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.	-					
<i>Command(s) to use</i> PARAMETER:edge;<edge>#	<i>Return Data (if any)</i>					

Spit	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
Sets the spit rate and burst size, and turns tickle on ("+") or off (anything else).	-					
<i>Command(s) to use</i> PARAMETER;spit;<rate>;<size>;+/-#	<i>Return Data (if any)</i>					

Start distance	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
The command changes the "start mm" parameter. The given value must be in mms.	(+)					
<i>Command(s) to use</i> PARAMETER:start;<start distance>#	<i>Return Data (if any)</i>					

Stictching

Adjusts vertical stitching of the printheads

Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
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-

Command(s) to use

PARAMETER:stitch;<head no>;<value>#

Return Data (if any)

REQUESTING INFORMATION

REQUEST

REQ

Available fonts	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
Inkdraw returns a list of all available fonts.						
<i>Command(s) to use</i> REQUEST:font list#	<i>Return Data (if any)</i> DATA:#					

Connect to message	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
Connects to the specified message. File type (.ink) is mandatory. If just file name is given, file is loaded from "files directory".			-			
<i>Command(s) to use</i> REQUEST:connect ;<message name>#	<i>Return Data (if any)</i>					

Conveyor velocity	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
Returns the current conveyor velocity						+
<i>Command(s) to use</i> REQUEST:velocity#	<i>Return Data (if any)</i> DATA:<value>#					

File directory	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
A list of the files available in {install}\files directory.						
<i>Command(s) to use</i> REQUEST:dir# REQUEST:directory#	<i>Return Data (if any)</i> DATA:inkfile1.ink# DATA:inkfile2.ink#					

Ink usage	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
Returns the ink used per head since last request. Use this to build your own ink counter.						
<i>Command(s) to use</i> REQUEST:ink use#	<i>Return Data (if any)</i> DATA:<head1> ; <head2> ; <head3> ; <head4>#					

List of open layouts / files	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
Returns a list of open layouts.						-
<i>Command(s) to use</i> REQUEST:messages# REQUEST:file list#	<i>Return Data (if any)</i> DATA:c:\path\subpath\file1.ink# DATA:c:\path2\subpath\file2.ink#					

Ping	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
Use to check if the connection is alive and working						
<i>Command(s) to use</i> REQUEST:ECHO#	<i>Return Data (if any)</i> DATA:ECHO#					
Print ready	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
Checks if the CB got space for another print in the buffer. Used with user-managed buffer.					+	
<i>Command(s) to use</i> REQUEST:print ready#	<i>Return Data (if any)</i> DATA:ready# DATA:not ready#					
Printer status	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
Inkdraw returns status of the printer (online/offline/printing) as well as hardware status (fuses, inklow).						
<i>Command(s) to use</i> REQUEST:status#	<i>Return Data (if any)</i> DATA:<field>;<value>#					
Request data of an object	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
Inkdraw returns all data available for the object.						
<i>Command(s) to use</i> REQUEST:object data;<object name>#	<i>Return Data (if any)</i> DATA:<field>;<value>#					
Request list of objects	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
Inkdraw returns a list of objects from the current layout Ethernet mode: must be connected to a layout					!	
<i>Command(s) to use</i> REQUEST:object list#	<i>Return Data (if any)</i> DATA:<object type>;<object name># Object type: OTText OTCounter ...					
Request parameter data	Printmode	Edit	RS232	Eth.net	Usermg buffer	DB loaded
Inkdraw returns all available parameters.						
<i>Command(s) to use</i> REQUEST:parameters#	<i>Return Data (if any)</i> DATA:<field>;<value>#					

Interpreting replies from INKdraw

All objects

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

Result 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: 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: 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: 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: 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: 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: 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: 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: 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: 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: when requesting parameters

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

Status

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

Result from: 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: after all commands send

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

Error Codes

0: "Transmission OK"

Transmission gone through and all return information send without problems.

1: "Wrong password"

Wrong password. This will disconnect you.

2: "Unknown command"

An invalid command was send to Inkdraw. You probably forgot "COMMAND:", "OBJECT:", or "REQUEST:" in front of your data.

10: "Password OK"

Your password was accepted. This is NOT an error.

100: "COMMAND: Unknown command"

The command you sent was not a vallid COMMAND: command.

101: "COMMAND: S: Printer is not running"

You tried to stop the printer but it wasn't running.

102: "COMMAND: R: Printer is already running"

You tried to start the printer, but it was already started.

103: "COMMAND: F: File not found"

The file you tried to load does not exist. Check spelling and/or path.

104: "COMMAND: G/A: Database not active"

You tried to send a database command, but not database was loaded.

105: "COMMAND: Illegal data, a number was expected"

The command you sent had text where a number was expected. You tried to go to database record "field 1", instead of "1".

110: "COMMAND: DATABASE: Record not found"

The requested record was not found in the database.

200: "REQUEST: Unknown command"

Unknown request.

210: "REQUEST: CONNECT: Message not found"

You tried to connect to a message that was not open. Check that your name matches the Inkdraw message name exactly (use "REQUEST:messages").

211: "REQUEST: CONNECT: Message in use"

You tried to connect to a message thats in use by someone else. This might be due to a broken link.

220: "REQUEST: OBJECT DATA: Object not found"

You requested data on an object that is not present in the layout.

300: "OBJECT: Object not found"

You tried to send a command (different from create) to an object that was not found.

301: "OBJECT: Unknown command"

You send an unknown command. This might be a mismatch between object type and command.

302: "OBJECT: Invalid object type (this is a server error)"

There is a problem with the object you tried to access. You should never see this error.

310: "OBJECT: POSITION: Invalid X value"

You sent a position where the x value was a text not a number.

311: "OBJECT: POSITION: Invalid Y value"

You sent a position where the y value was a text not a number.

312: "OBJECT: POSITION: No X value"

There was no values for x and y in the position you sent. Check for missing ;s.

313: "OBJECT: POSITION: No Y value"

There was only one value for the position you sent. Check for a missing ;.

314: "OBJECT: SIZE: Invalid X value"

You sent a size where the width was a text not a number.

315: "OBJECT: SIZE: Invalid Y value"

You sent a size where the height was a text not a number.

316: "OBJECT: SIZE: No X value"

There was no values for width and height in the size you sent. Check for missing ;s.

317: "OBJECT: SIZE: No Y value"

There was only one value for the size you sent. Check for a missing ;.

318: "OBJECT: FONT: Illegal data, a number was expected"

A number was expected for the font size/style and you sent a text.

319: "OBJECT: COLOR: Illegal data"

Either you send too few data, or illegal data. Legal data are "w", "W", and "-" for white, and "b", "B", and "+" for black. For rectangles and ellipses this must have the format "wb", not "w;b".

320: "OBJECT: COUNTER: Illegal data, a number was expected"

You sent a text where a number was expected.

330: "OBJECT: DATE: Illegal data, a number was expected"

You sent a text where a number was expected.

331: "OBJECT: DATE: Illegal data, the format dd/mm/yy was expected"

You have used the wrong format for a date.

332: "OBJECT: DATE: Function failed"

Inkdraw failed to change the date to the requested date. You might have entered 31st of february (2003/02/31) or the interchanged the month and day (2002/24/12 instead of 2002/12/24).

340: "OBJECT: LOGO: File not found"

The requested logo file was not found. Check path and filename.

352: "OBJECT: BARCODE: Function failed"

Inkdraw failed to change the barcode text.

353: "OBJECT: BARCODE: Invalid barcode type"

The barcode type was not found. This might be due to wrong spelling, or wrong barcode module.

360: "OBJECT: LINE: Illegal data, a number was expected"

A text was found where a number was expected.

370: "OBJECT: RECTANGLE: Illegal data, a number was expected"

A text was found where a number was expected.

380: "OBJECT: ELLIPSE: Illegal data, a number was expected"

A text was found where a number was expected.

390: "OBJECT: FIELD: Illegal data, a number was expected"

A text was found where a number was expected.

391: "OBJECT: FIELD: Invalid command"

You tried to set the number of lines in an already populated field.

392: "OBJECT: FIELD: Too many lines"

You have entered more data than there are text lines in the field.

393: "OBJECT: FIELD: Unknown alignment"

Alignment must be "left", "center", or "right".

400: "OBJECT: ROTATION: Only rotations of 0, 90, 180, and 270 degrees allowed"

The function argument must be 0, 90, 180, or 270.

1000: "PARAMETER: Unknown command"

Unknown parameter.

1010: "PARAMETER: START: Illegal data, a number was expected"

A text was found where a number was expected.

1020: "PARAMETER: EDGE: Unknown edge"

Edges must be "+" (positive) or "-" (negative).

1030: "PARAMETER: SIGNAL: Unknown signal"

The signal must be "+" (print signal) or "-" (message signal).

1040: "PARAMETER: ENDLESS: Illegal data, + or - was expected"

Endless must be either on ("+") or off ("-").

1050: "PARAMETER: MODE: illegal data, P, M or V was expected"

Mode must be either "P", "position", "V", "velocity", "M", or "modular".

1060: "PARAMETER: VELOCITY/ENCODER: illegal data, a number was expected"

A text was found where a number was expected.