

Installing ILWIS 2.2

2.1 The ILWIS 2.2 package and related services

2.1.1 The ILWIS 2.2 package

The ILWIS 2.2 package contains the following items:

- sealed CD-ROM, containing the system and accessory data;
- ILWIS Hardware Key (not included when upgrades are involved);
- ILWIS 2.2 Guide (this manual);
- Beginner's Guide;
- User's Guide;
- Applications Guide;
- Reference Guide.

Upgrades only include the CD-ROM and the ILWIS 2.2 Guide.

If any of these items are missing or damaged, please contact your local distributor or the PCI-ILWIS Nederland B.V.

Before you break the seal of the CD-ROM, carefully read the terms of the ILWIS 2.2 software license agreement (Appendix G). By breaking the seal you signify that you have read this agreement and accept its terms.

2.1.2 Warranty

There is a 60-days warranty on the entire package, starting on the date the package leaves our premises. In the event of notification and return of the defective part(s) within the warranty period, your local distributor or PCI-ILWIS Nederland B.V. will replace the defective part(s).

2.1.3 ILWIS hardware key

The ILWIS 2.2 software package is protected against unauthorized use by a unique hardware key. ILWIS 2.2 software can be executed only when this hardware key is plugged in properly and you have entered the registration code (see 2.3: Installing ILWIS 2.2). Do not lose or damage the hardware key, without this key ILWIS 2.2 software can not be activated! Lost or damaged keys will not be replaced. Store the hardware key in a secure place when not in use. We advise you to insure the ILWIS hardware key for the price of the package. Furthermore, it is recommended to keep a copy of your registration code.

2.1.4 Technical support and software maintenance

PCI-ILWIS Nederland B.V. provides a Help Desk service to assist users in solving ILWIS related problems. However, before requiring this assistance, we advise users to consult the on-line help or documentation. Questions that require in-depth analysis should be reported through the Customers Services Report Form (Appendix H).

For up-to-date information concerning ILWIS you can browse to the web address: <http://www.itc.nl/ilwis>

The following E-mail addresses are available:

support.ilwis@itc.nl

When you want to know how to achieve a certain task or when you encounter problems, you can ask support.

wishes.ilwis@itc.nl

For suggestions and requests for new functionality; not for support.

bugs.ilwis@itc.nl

To report bugs; not for support.

ilwis@itc.nl

PCI-ILWIS Nederland B.V. E-mail address; for requests concerning the ILWIS package as a whole, e.g. pricing, etc.

ILWIS Users may obtain a Software Maintenance Contract (SMC). The SMC covers all package improvements released by PCI-ILWIS Nederland B.V. during the contract period. For more information on the SMC, contact your local distributor or PCI-ILWIS Nederland B.V.

2.2 Hardware and software requirements

2.2.1 Minimum hardware and software requirements

To ensure that ILWIS 2.2 will run under Windows you need at least a CPU with 80386 processor, 8 MB RAM, 256 colors graphics board with a resolution of 640×480, a CD-ROM player and a mouse. The Operating System should be Microsoft Windows 3.1 or later.

2.2.2 Recommended hardware and software requirements

For best performance of ILWIS 2.2 under Windows, we recommend using a Pentium class processor (CPU), 16 MB RAM or more and a 24 bit graphics Windows accelerator board, with a resolution of minimum 1024×768, a CD-ROM player and a mouse. The recommended Operating System is Microsoft Windows 95 or later.

2.2.3 Digitizers, printers and plotters

The most common method to enter spatial data in ILWIS is by digitizing a map or any other paper document (e.g. photo-interpretation). To be able to digitize in ILWIS, a digitizer tablet with a digitizer cursor with a minimum of 4 cursor buttons is needed. For digitizer installation and configuration, see section 2.4.

To be able to print or plot maps, graphs and tables, a printer or plotter is needed. For printer and plotter installation, see section 2.5.

2.2.4 Display drivers

ILWIS makes all graphic calls to Windows. Windows and the associated graphic display drivers then show the graphic output on the screen. When display problems are encountered, this may be related to your graphic drivers.

You can check display driver related issues in Win 3.1 by double-clicking the Windows Setup icon in the Windows Main program group (then under Options, choose Change System Settings); or in Windows 95, by choosing Start, Settings, Control Panel (then double-click Display icon and click the Settings tab).

- Make sure that you have installed the correct display driver. If you do not know which one to use, the option **Standard display types** should always work. If you experience any display driver errors, please contact your manufacturer.
- To work with ILWIS for Windows you should have a resolution of at least 256 colors (8 bits). Maps are then generally displayed in satisfactory quality. When you work with 16 colors only, maps cannot be properly displayed. Optimal results are achieved when you use display drivers with a pixel depth of 16 or 24 bits (High Color or True Color).

2.2.5 Required hard disk space

For the installation of the ILWIS software, you will need approximately 20 MB of hard disk space.

For the *additional installation* of the Beginner's Guide data, you will need 2.7 MB, for the User's Guide data 65 MB, and for the Applications Guide data 100 MB. For the Georeference Orthophoto exercise you need 17 MB, and for the Geostatistics exercise 250 KB.

A full installation from CD-ROM thus requires approximately 205 MB.

2.3 Installing ILWIS 2.2

The set up program can be used to:

- Install ILWIS from diskette or CD-ROM.
- To add components that were not previously installed.

Before running the ILWIS set up program, it is strongly recommended that you exit all running programs.

When you have started the set up program, you can step through the different dialog boxes by clicking the **Next** and **Back** buttons. At any time you can to exit the setup program just by clicking the **Cancel** button.

2.3.1 Installation from CD-ROM

1. Place the ILWIS Hardware Key in one of the parallel ports. Printer devices can still use the selected port simultaneously.
2. Start up the computer.

3. Insert the CD-ROM into the CD-ROM drive and select **Run** from the Program Manager **File** menu (Windows 3.1/NT 3.51) or click the **Start** button and select **Run...** (Windows 95/98/NT4).
4. Type:
D:\setup.exe (where D is the disk letter of your CD-ROM drive)
5. The installation starts, and the **Welcome** dialog box will open.
6. Read the text in this dialog box and click **Next** to move to the next dialog box.
7. Read the text in the **Information** dialog box and click **Next** to continue.
8. The **Select Components** dialog box opens. Select the components that you want to install by clicking the check box in front of the components. A checkmark appears in the check box when a component is selected. To deselect a component, click a check box again. Some components have sub-components that can be selected for installation individually. When a component consists of sub-components, the **Change** button will become active. Click this button to view the sub-components and select or deselect them.
When you select a component and mark its check box, all sub-components are selected automatically. Likewise, removing the mark will deselect all sub-components. The **Change** button can then be used to customize the main setting. Click **Next** to continue.
9. The **Select Directories** dialog box is displayed. The installation offers default directories in which you can install ILWIS 2.2. Change the defaults or select other directories by using the **Browse** buttons to install all components (ILWIS program files, Beginner's Guide data, User's Guide data and Applications Guide data). Click the **Next** button.
10. The **Select Program Folder** dialog box opens. You can change the default name proposed to create a new program group (Windows 3.1/NT 3.51) or program folder (Windows 95/98/NT4). You can also choose to use an already existing program group or folder. Click the **Next** button.
ILWIS 2.2 will now be installed. A progress bar appears indicating the status of installation. Pressing the **Cancel** button will interrupt the installation procedure.
During installation ILWIS will try to add `ansi.sys` in the `config.sys` file if not yet included. The setup will search for the `ansi.sys` file on harddisk, and if found will ask the user to confirm addition to the `config.sys` file. A backup copy of the `config.sys` file will be made in case you confirm the addition. The line in `config.sys` will resemble the line:
device=c:\dos\ansi.sys The `ansi.sys` driver is used by the **Convert14** program. Although not required, the display of this DOS program will look much better with the driver loaded.
11. When the installation is successful the **Setup Complete** dialog opens. Select **Yes, I want to view the Release Notes** and **Yes, I want to install the security key driver** and **Yes, I want to register the security key**. Then click the **Finish** button.
Note: Checking the option **Yes, I want to register the security key** will automatically select **Yes, I want to install the security key driver**.
12. The `readme` file now opens. Read this file and close it when you are done.

13. The security key installation will start a separate installation program that will install the correct driver for the hardware key. It will first ask to select a language to view the installation in. Then, you are asked to select a directory for the hardware key utilities. You can choose any directory you like.
14. The Register ILWIS Key program now starts. Carefully enter your registration code and click OK. The registration code is printed on the inside front cover of the User's Guide. Note that The code is case sensitive and must therefore be entered **exactly** as written, i.e. with small characters and capitals!
15. When you have installed ILWIS 2.2 correctly and entered your registration code correctly, you can now run ILWIS 2.2 by double-clicking the ILWIS 2.2 icon in the appropriate folder.

2.3.2 Add components to the current installation

If you did not install all ILWIS 2.2 components during the first installation, this can be done afterwards.

To add components:

1. Insert the CD-ROM and select **Run** from the Program Manager **File** menu (Windows 3.1/NT 3.51) or click the **Start** button and select **Run...** (Windows 95/98/NT4).
2. Type:
D:\setup.exe (where D is the disk letter of your CD-ROM drive)
3. The **Select Components** dialog box opens. The set up program automatically recognizes previously installed components. Select the components that you want to add and click the **Next** button to continue.
4. The **Select Directories** dialog box opens. Modify the default directories to those into which you want to install the new components. Click the **Next** button to continue.
If the setup detects that you *deselected* previously installed components, it will display the **Confirm Delete Directory** dialog. Accept removal of the previously installed components and install the *selected* components, or reject to continue without changing the contents of this directory.
5. The **Select Program Folder** dialog box opens. In this dialog box select the desired folder to add the ILWIS 2.2 program icons to, or select another already existing program folder to which the new program icons must be added. Click the **Next** button.
The new components will now be installed. A progress bar appears indicating the status of installation. Pressing the **Cancel** button at any time will interrupt the installation procedure.
6. When the installation is successful, the **Setup Complete** dialog box opens. Select **Yes, I want to view the Release Notes** and click the **Finish** button to complete the setup procedure.
7. You can now run ILWIS 2.2 by double-clicking the ILWIS 2.2 icon in the appropriate folder.

2.3.3 Uninstalling the ILWIS 2.2 software

To uninstall ILWIS 2.2, double-click the uninstall icon in the ILWIS 2.2 program folder. All ILWIS 2.2 program files and data that has been added to your hard disk by the installation program will now be deleted. Data that has not been added by the installation program (e.g. data that you created) will not be deleted.

When you delete installed files by other methods, a message will appear when using uninstall afterwards, however this does not effect the uninstall procedure.

Note:

When you created data yourself based on the ILWIS data, make sure that dependency links of the new data are broken. Otherwise, this data may become corrupt after the uninstallation.

Before using the uninstall option, copy all installed data files that you do not want to remove to another directory.

☞ Note: To uninstall ILWIS 2.2, you need to use the same Windows version used to install ILWIS 2.2.

2.3.4 After installation

ILWIS icons

When a full installation is performed, i.e. when all ILWIS 2.2 components are installed, the new folder ILWIS 2.2 or the selected folder will contain the following icons:



Ilwis 2.2

Double-click this icon to start ILWIS 2.2, with the Beginner's Guide data directory as the Start up directory.



Ilwis Help

Double-click this icon to open the general ILWIS Help.



Ilwis
Operations
Help

Double-click this icon to open the ILWIS Help file on operations.



Ilwis Menu
Help

Double-click this icon to open the ILWIS Help file on menu commands.



Ilwis 2.2
Release
Notes

Double-click this icon to display the release notes.



Double-click this icon to start the ILWIS Hardware Key registration program.



Uninstall
Ilwis 2.2

Double-click this icon to start the uninstall program.

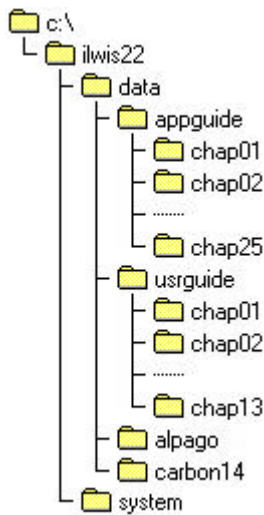
File structure after installation

The following files are added or changed (assuming all selections were the defaults):

- An ILWIS 2.2 directory is added to the root;
- In your Windows directory, an ILWIS.INI file is added;
- In the SYSTEM.INI file, a HARDLOCK.VXD virtual device driver is added. In addition, in the [386ENH] section a device= line is added (Windows 3.1 only).

ILWIS 2.2 directory structure

The ILWIS 2.2 directory tree has the following structure:



Where c:\ is the drive and ILWIS22 the directory in which you installed ILWIS 2.2. The files in each chap subdirectory correspond to the files needed for the chapters in the Applications Guide and the Users Guide.

If you did not perform a full installation, you will only find directories for those chapters you did install in the above structure.

2.3.5 Viewing ILWIS documentation PDF files

Most of the printed ILWIS documentation is also available on the CD-ROM in .pdf format. When you install Adobe Acrobat Reader, you can read all these files on your screen, exactly as they appear in the printer ILWIS Guides.

The \doc directory on the CD-ROM contains the text files of the ILWIS documentation, stored in .pdf format, as well as the Adobe Acrobat Reader 3.0. The Adobe Acrobat Reader 3.0 is used with permission of Adobe Systems Incorporated. The directory has the following structure:

readpdf	This directory contains the Adobe Acrobat reader for the .pdf files and consists of two subdirectories: 16bit: for installing the Adobe Acrobat reader in Windows 3.1 32bit: for installing the Adobe Acrobat reader in all other Windows platforms.
appguide	The 25 chapters of the ILWIS Applications guide, stored as appch00.pdf (contents and preface), appch01.pdf (chapter 1) to appch25.pdf (chapter 25).
bgnguide	The file bgnguide.pdf contains the text of the ILWIS Beginner's guide.
refguide	This file contains the 8 chapters and some appendices of the ILWIS Reference Guide, stored as refch01.pdf (chapter 1) to refch08.pdf (chapter 8) and refappen.pdf (appendices).
usrguide	The 13 chapters of the ILWIS User's Guide, stored as usrch00.pdf (contents and preface), usrch01.pdf (chapter 1) to usrch13.pdf (chapter 13) and usrindex.pdf (index).

2.3.6 Installing the Adobe Acrobat PDF reader

1. Insert the CD-ROM into the CD-ROM drive and select Run from the File menu of the Program Manager (Windows 3.1/NT 3.51) or click the Start button and select Run... (Windows 95/98/NT4).
2. Type (for D substitute the disk letter of your CD-ROM drive):
D:\doc\16bit\setup (Windows 3.1)
D:\doc\32bit\setup (Windows 95/98/NT3.51/NT4)
3. Follow the instructions of the set up program.

The set up program will create a program group Adobe Acrobat on your hard disk, and it will associate .pdf files with the Adobe Acrobat Reader. After that you can open the .pdf files and look at their contents. There is no need to copy the .pdf files to the hard disk: they can be viewed from the CD-ROM. You can also print and copy the files or parts from it.

2.4 Installation and configuration of digitizers

The most common method to enter spatial data in ILWIS 2.2 is by digitizing a map or any other paper document (e.g. photo-interpretation). To use a digitizer, it must be properly installed and configured first. Depending on the type of digitizer used,

the digitizer can be configured manually or with the use of a WinTab driver. The digitizer manufacturer usually supplies a WinTab driver. It is advised to use a WinTab driver, because it makes it easier to set up your digitizer and the digitizer can be used for other applications too.

2.4.1 Set up your digitizer using a WinTab driver

1. Connect all cables of the digitizer to the proper components.
2. Install the WinTab driver (see your digitizer manual or WinTab documentation).
3. Start ILWIS 2.2.
4. In the Main window, open the Options menu, choose Digitizer, Setup Digitizer. The Setup Digitizer dialog box appears.
5. Select the WinTab option to configure your digitizer.
6. You can now reference your map (see How to reference a map in the Reference Guide) and start digitizing (see How to digitize in Reference Guide).

☞ When you start Windows after you have installed the WinTab driver and the digitizer is disconnected or switched off, an error message is displayed because Windows can not detect the tablet. If you continue, the digitizer cannot be used, unless you connect and/or switch on the tablet and reboot your system.

2.4.2 Set up your digitizer manually

1. Connect all cables of the digitizer to the proper components.
2. Configure your digitizer, using the configuration software and/or the digitizer dip switches. Make sure that the digitizer:
 - is set in stream (run) mode (sometimes called continuous mode),
 - sends data in ASCII format,
 - gives Carriage Return (cr) and/or Line Feed (lf),
 - sends data using serial communication (rs-232-c),
 - supports Xon/Xoff signals.
3. Write down the configuration for the Baud Rate, Parity, Data Bits and Stop Bits and the Resolution (lines per inch or per mm). For more information, refer to your digitizer manual or section 2.4.3, where the settings for some widely available digitizers are described.
4. Up until this stage, you do not need ILWIS yet!
5. Start ILWIS 2.2.
6. In the Main window, open the Options menu, choose Digitizer, Setup Digitizer. The Setup Digitizer dialog appears.
7. Select the serial port (COM1 to COM4) to which your digitizer is connected. A message box now appears which lists the communication settings of the selected port (baud rate, parity, data bits, stop bits, flow control).
8. Make sure that these port settings are **exactly** the same as the communication settings of your digitizer you wrote down at step 3. If these settings are exactly the same press **yes** to open the Setup digitizer dialog box and continue with step 9. When the settings do not match press **No** to open the Control Panel (Windows 3.1) or the System Properties (Windows 95), and change the Port settings until they match the digitizer configuration. Go back to step 5.

9. When communication is established between the digitizer and the port, the coordinates are displayed as readable numbers that change when the digitizer cursor is moved. Continue with step 10. If this is not the case, check the set up of the digitizer tablet itself, and change the port settings accordingly to the digitizer settings until you have communication. When you do have communication, but not in readable numbers, it is most likely that you did not configure the digitizer in ASCII mode or the wrong port settings are selected. If so, reconfigure the digitizer in ASCII mode or change the port settings.
10. Follow the instructions for automatic set up; press the digitizer cursor buttons which you want to use as buttons 0, 1, 2 and 3 (Press the button you want to use as 0 button, when asked **Press Button 0**, etc.). Remember the sequence you have entered, because these are the buttons you have to press to execute the command following a 0, 1, 2 or 3 in the different Digitizer Menus of the editors.

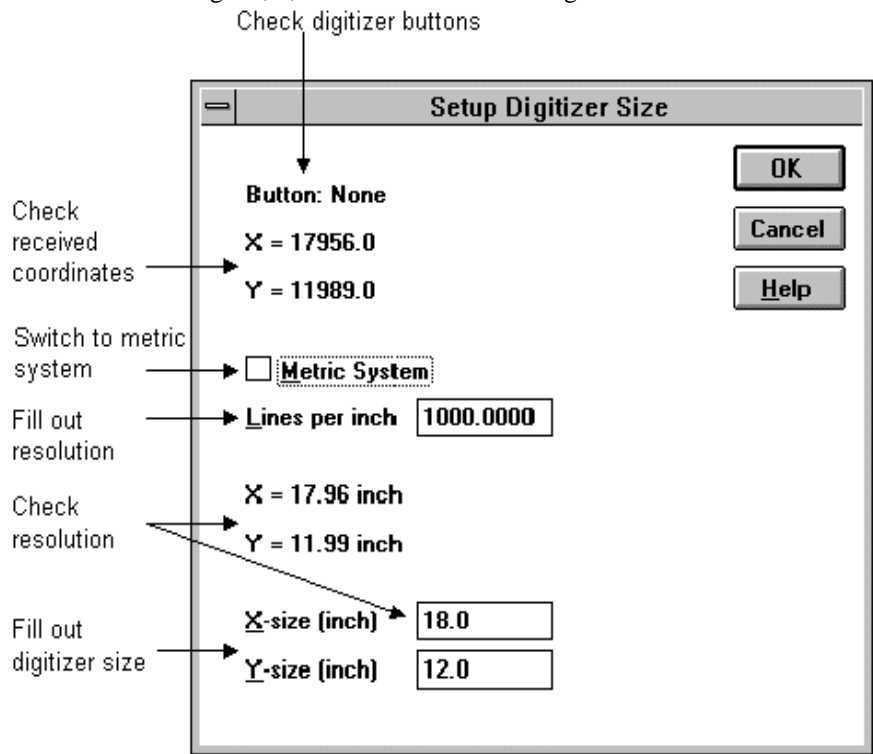


Figure 1: Setup digitizer size dialog

11. In the upper part of the Setup Digitizer Size dialog (see Figure 1): check if all buttons work, and check whether the X-values increase by moving the digitizer cursor to the right, and Y-values increase by moving the cursor up. If the communication is not correct, press **Cancel** to return to the previous dialog box and change until the communication is correct. When you have good communication, fill out the resolution (lines per inch or per mm) that the digitizer is using and the size of the digitizer. Remember to enter the same resolution, as you have configured for your digitizer (in step 3). You can check

the resolution by locating the digitizer cursor in the upper right corner of the tablet. The received X and Y coordinates (in mm or inch) mentioned under the Lines per mm (or inch) option should now be equal to the filled out digitizer size (at the bottom of the dialog). If the resolution is not correctly specified, an incorrect scale will be displayed during Map Referencing. Check the feedback you obtain in the lower part of the dialog and make changes until satisfied.

12. Reference your map (see How to reference a map in the Reference Guide) and start digitizing (see How to digitize in the Reference Guide).

Troubleshooting

If for some reason the automatic set up does not work, it is also possible to do the set up manually. Click the **manual** button in the **Setup Digitizer** dialog. You can now enter the format and the flag codes in the dialog. These can be obtained by analyzing the received coordinates in the second dialog. These contain the amount of characters, the position and amount of the X and Y characters and the flag codes. Move the cursor horizontally and vertically over the tablet to obtain X and Y position. The flag codes can be obtained by pressing the cursor buttons sequentially. The corresponding characters will show on the flag codes position.

Received Coordinates:
03791,07676,0

Means:
Format: XXXX,YYYY,c (Format: X, Y, flag codes)
Flag Codes: 1248 (depending on the tablet you use)

And thus:
Nr chars: the amount of characters in the format is 11
X Pos: the start position of the first X character is 1
X Length: the amount of X characters of the format is 4
Y Pos: the start position of the first Y character is 6
Y Length: the amount of Y characters of the format is 4
Flag Pos: the position of the flag codes is 11
Flag Codes: the flag codes are 1248

Note that all characters are counted as positions. You can also find the format and flag codes in your digitizer manual. You can now enter the format and flag codes in the dialog and click OK to continue with step 11.

2.4.3 Settings for some widely available digitizers

The next pages list possible configurations of some well known digitizers. Note that these are just suggestions; digitizers can often be configured for several data formats. This appendix only presents one of the possibilities; other configurations may well be possible. Note that the set up is not always automatically saved, this depends on the type of digitizer used. In some cases, it may well be possible that you have to reconfigure your digitizer every time you use ILWIS! Read your digitizer manual for more information.

☞ If your digitizer does not store the setup, put the setup command in the autoexec.bat.

CalComp 2000

Dip switch settings:

	1	2	3	4	5	6	7	8	9
S1	open	open	close	open	close	close	open	open	open
S2	open	close	open	open	close	close	open	open	close
S3	open	open	open	open	open	open	open	open	close

This configures the digitizer for the following set up:

Baud Rate 9600, Even Parity, 7 Data Bits, 1 Stop Bit and Resolution 1000 lines per inch.

Format: XXXX,YYYY,c

Flag Codes: 1248

CalComp Drawing Board 2

All sizes, using the set up menu.

Menu settings:

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
bank A	1	1	0	0	0	0	1	0	1	1	0	0	0	0	0	0	1	0
bank B	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0

This configures the digitizer for the following set up:

Baud Rate 9600, Even Parity, 7 Data Bits, 2 Stop Bits and Resolution 1000 lines per inch.

Format: XXXXX,YYYYY,c

Flag Codes: 1248

CalComp Drawing Board 3

All sizes, using the set up menu.

Menu settings:

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
bank A	1	1	0	0	0	1	0	0	1	1	0	0	0	0	0	0	1	0
bank B	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
bank C	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

This configures the digitizer for the following set up:

Baud Rate 9600, Even Parity, 7 Data Bits, 2 Stop Bits and Resolution 1000 lines per inch.

Format: XXXXX,YYYYY,c

Flag Codes: 1248

Numonics 2205 (12 ×12) / 2206 (12 ×17)

Dip switch settings:

1	2	3	4	5	6	7	8
off	off	off	on	on	on	off	on

This configures the digitizer for the following set up:

Baud Rate 9600, Even Parity, 7 Data Bits, 2 Stop Bits and Resolution 200 lines per inch.

Format: XXXX,YYYY,c

Flag Codes: 1234

Numonics 2207

The program SETTAB.COM, which is a content of your digitizer package, is needed to configure your digitizer.

To configure:

Go in DOS to the directory where SETTAB.COM is located.

Type:

```
SETTAB ASCII 7E COM1
```

(enter)

The digitizer is now configured. This will set your digitizer on ASCII format, with 7 data bits and even parity on comport 1. Make sure that the tablet is attached to the specified Comport (here: COM 1). If the tablet is attached to another Comport, change the 1 in the formula in the Comport no. used (e.g. 2).

Then RESTART Windows (NOT your computer!) and start ILWIS.

This configures the digitizer for the following set up:

Comport 1, Baud Rate 9600, Even Parity, 7 Data Bits, 2 Stop Bits and Resolution 200 lines per inch.

Format: XXXX,YYYY,c

Flag Codes: 1248

Numonics GraphicMaster

To configure the digitizer for ILWIS:

This digitizer can be configured with Softkey Selection (See the digitizer manual).

First align the Numonics set up Sheet with the bottom left side of the digitizer. Then remove the digitizer cursor. Install the cursor again, but when you do this, keep one cursor button pressed down. The set up Menu is now active. Select Baud Rate 9600, 8 Data Bits, None Parity, 1 Stop Bit, Enable XON/XOFF, Stream Mode, Stream Rate 20, Metric Resolution 10 (not higher, or the format changes) and Standard Formats S-BP1 ASCII.

Exit with Save Configuration.

This configures the digitizer for the following set up:

Baud Rate 9600, None Parity, 8 Data Bits, 1 Stop Bit and Metric Resolution 10 lines per mm.

Format: XXXX,YYYY,c

Flag Codes: 1248

Numonics GraphicMaster II

To configure the digitizer for ILWIS:

This digitizer can be configured with Softkey Selection (See the digitizer manual).

First align the Numonics set up Sheet with the bottom left side of the digitizer. Then place the cursor over the Softkey labelled set up. The beeper will emit a continuous series of beeps. Press and hold any cursor button, until the beeper stops. The set up Menu is now active. Select Standard Formats S-BPII ASCII, Baud Rate 9600, 7 Data Bits, Even Parity, 2 Stop Bit, Enable XON/XOFF, Stream Mode, Stream Rate 20, Metric Resolution 10 (not higher, or the format changes).

Exit with Confirm Change or Save to.

This configures the digitizer for the following set up:

Baud Rate 9600, Even Parity, 7 Data Bits, 2 Stop Bits and Resolution 200 lines per inch.

Format: XXXX,YYYY,c

Flag Codes: 1248

SummaSketch II

The SummaSketch does not have the possibility to store a configuration. The programs SEND.COM and MMRST.COM, which are a content of your digitizer package, are needed to configure your digitizer.

To configure:

Go in DOS to the directory where SEND.COM and MMRST.COM are located.

Type:

```
mmrst /1
```

```
send /1 /Cza@
```

(enter)

The digitizer is now configured. Make sure that the tablet is attached to the specified Comport (here: COM 1). If the tablet is attached to another Comport, change the 1 in the formula in the Comport no. used (e.g. 2).

This configures the digitizer for the following set up:

Comport 1, Baud Rate 9600, Odd Parity, 8 Data Bits, 1 Stop Bit and Resolution 20 lines per mm.

Format: XXXX,YYYY,c

2.5 Printer and plotter setup

In ILWIS a printer and/or plotter is necessary to generate output of maps and images. This chapter describes the steps to set up a printer or a plotter. Note that using a plotter under Windows may cause problems, we therefore recommend to create a plot file instead and send this to the plotter.

We will only describe the setup procedure for a printer, because the setup procedure for printer and plotter is identical. Simply read *plotter* instead of *printer* for a plotter setup.

Set up your printer:

1. Connect all cables of the printer to the proper components. Make sure that you connect a parallel printer to a parallel port and a serial printer to a serial port!
2. Install the printer driver (see your printer manual or Windows documentation).
3. Configure your printer using the printer configuration software (and/or dip switches). For more information about the configuration, see your printer manual.
4. Start ILWIS.
5. Open the **Printer Setup** dialog box: open the **File** menu of a graph window, table window or a map window, and select the option **Printer Setup**. Fill out the following options:
 - **Default printer:** Select this option when the printer that you want to use is set as the default, or
 - **Specific printer:** Select the printer you want to use; ILWIS simply lists installed printer drivers.
 - **Orientation:** Select the orientation of the paper in relation to the map(s) you want to print:
 - **Portrait:** Vertical paper orientation.
 - **Landscape:** Horizontal paper orientation.
 - **Paper:** Select the paper size and the source of the paper:
 - **Paper size:** Select the paper size for the selected printer, e.g. A4 or A3, or another paper size appearing in the drop-down list box. The paper sizes that appear depend on the printer driver.
 - **Source:** Select the paper source for the selected printer. The paper sources that appear in the drop-down list box depend on the printer driver.
 - **Options button:** Controls printer settings for the printer you select in the **Specific Printers** list. The available options vary depending on the printer driver. To get **Help** for the selected printer, choose the **Options** button, and then choose the **Help** button.
 - **Network button:** Connects your computer to a network printer. The **Network** button is available only if your computer is connected to a network. To get **Help** on network printers, choose the **Network** button, and then choose the **Help** button.
6. Click the **OK** button to finish the set up, or the **cancel** button to return without changes.
7. You can now print, see the Reference Guide : How to print maps, tables and annotation

