Capturx™ for ArcGIS® Desktop 1.1
User Guide

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WELCOME TO CAPTURX FOR ARCGIS DESKTOP

Thank you for your purchase. Now you can put the power of digital pen technology to work. Capturx for ArcGIS Desktop is a powerful, easy-to-use, digital data collection solution that enables you to keep using paper maps. Our extension is the ideal way to create, import, edit, share, and act on paper-based data in and between geographic information systems (GIS).

CAPTURX FOR ARCGIS DESKTOP USER GUIDE

This document describes how to use Capturx for ArcGIS Desktop to add features to your map and how to review the features you have added. To make it easier for you to find the information you need, this guide is divided into the following sections:

- **Intended Audience and Conventions**: This section describes the intended audience and conventions used in this document.
- **System Requirements**: This section provides a detailed list of the system requirements you will need to use Capturx for ArcGIS.
- **Digital Pen and Paper Overview**: This section gives you an overview of the digital pen, docking station, and the digital paper used with your map and describes how they work.
- **Getting Started with ArcGIS Desktop**: This section describes the contents of the package and takes you through the steps for installing the software.
- **Overview of the Process**: This section provides an overview of the process used to add and review features to your map.
- **Using Capturx for ArcGIS Desktop**: This section provides step-by-step instructions for using the software and digital map to add and review features to your map.
- **Appendix A: Penx Control Panel**: This section describes the Penx Control Panel used with the pen to specify download options, to use a password with the pen, and to view information about the status of the pen.
- **Appendix B: Supported Renderers**: This section lists the renderers supported by Capturx for ArcGIS.
- **Troubleshooting and Maintenance**: This section provides a list of common errors and solutions, instructions for changing the ink cartridge, and FAQ.
- **Product and Contact Information**: This section provides a list of product specifications for the pen, contact and reorder information, care and maintenance information, and a section on how to record your pen identification number.

INTENDED AUDIENCE AND CONVENTIONS

This user guide is intended for a general audience familiar with operating a PC and with Microsoft Windows® operating system. No previous experience with digital pens or digital media is required. This document does presuppose that you are familiar with the ArcMap application and its features. If you have not already used ArcMap, we recommend that you take some time to become familiar with their features and capabilities.

This document focuses on ArcMap on how it is used with the Capturx for ArcGIS extension. If you would like more information about ArcGIS Desktop applications, the following link takes you to the ArcGIS Desktop help:

ArcGIS Desktop Help:
http://webhelp.esri.com/arcgisdesktop/9.2/index.cfm?TopicName=What_is_ArcGIS_9.2

Conventions Used in This Document

This guide uses the following conventions for required actions:

- Menu items and mouse operations are shown in bold fonts, with the steps separated by ">", for example:
    - Click **Tools>Extensions**

SYSTEM REQUIREMENTS

In order to successfully install and run your Capturx for ArcGIS extension, you must make sure your computer and printer meets these requirements:

Basic	Same qualifications required for prerequisite ArcGIS Desktop 9.2 application http://www.esri.com/software/arcgis/arcinfo/about/systemrequirements.html
Computer and processor	1 to 1.6 gigahertz (GHz) or higher processor, depending on ArcGIS version used.
USB	USB 1.0 or greater for docking up to 6 Penx simultaneously and any number of Penx sequentially; Penx must be docked at the workstation where the map was printed
Memory	512 megabytes (MB) or higher
Hard disk	12 MB
Drive	CD-ROM or DVD drive for installation
Display	Monitor with 1024x768 or higher resolution; Color depth greater than 256.
Operating system	Microsoft Windows XP with Service Pack 2 (SP2), .NET 2.0 or greater
Printing	Adapx recommends the following configurations when printing with Capturx. Printers: Qualified color printers (guaranteed performance for the life of the printer): Oki C5400, C6100, C5900, C6100, C9600[1] An assortment of tested color laser printers and plotters can be found at:

[1] Other model numbers used outside the United States.

	www.adapx.com/support/ Essential requirements for printers: CMYK color, Postscript Level 2 support, true 600 dpi for laser or true 1200 dpi for ink jet,
Ink	Laser toner or inkjet pigment ink for black (K),[2] traditional dye (CMY) color inks.[3]
Paper	White paper, the brighter the better, medium bond.[4]
Additional	Actual requirements and product functionality may vary based on your system configuration and operating system.
Network	Internet access required during product registration, initial Penx connection and while restocking pattern.

[2] High absorption in the wavelengths 800-950.
[3] Minimal absorption in the wavelengths 800-950.
[4] Uncoated with weights > 60 g/m, opacity > 88%, surface roughness, Bendsen (ml/min) between 100-400.

PEN, DOCKING STATION AND DIGITAL PAPER OVERVIEW

The following section provides an overview of the digital pen (Penx™) and the docking station you received in your Capturx for ArcGIS package. This includes a description of the digital paper you will use to print your maps.

The pen looks and feels just like an ordinary ballpoint pen and you use it in the same way (see Figure 1). There are no keys to press. You activate the pen simply by removing the cap and deactivate it by replacing the cap. The docking station is used to dock your pen and to connect your pen to a PC or laptop via the USB port. The docking station consists of the base, insert, and the USB slave port you use to connect the docking station to your computer (see Figure 1).

Figure 1 Adapx Pen and Docking Station

The Digital Paper Used with Your Map

You write on the digital map the same way you write on regular paper. Digital map paper is regular paper, but it is printed with specially arranged dots known as Anoto® pattern when you print your map. The

built-in camera captures the location it traverses on the page by seeing the dot patterns based on your handwritten notes, and the captured information is processed into digital signals by the pen's CPU. To capture your ink strokes and annotations, you need to hold the pen facing up, away from the map so that the beveled edge of the pen tip is facing the paper.

GETTING STARTED

This section provides a list so you can verify the contents of the package and describes how to install the Capturx for ArcGIS software. This includes

- Verifying the package contents
- Installing the required software
- Charging your pen

Open the email you received from Adapx with the product keys you received when you purchased this product. You will need them during the installation and first use of the product.

Verifying the Package Contents

The Capturx for ArcGIS Desktop package is shipped with the following items:

- Your ArcGIS Extension CD
- Capturx for OneNote kit with each seat license

Your kit contains the following

- Capturx software bridge to Microsoft Office OneNote 2007
- Installation CD with owner's manual,
- Quick Start Guide
- Penx digital pen
- Fisher Penx replacement ink cartridges
- Adapx/Rite in the Rain digital field notebook
- USB dock
- USB cable

USING CAPTURX FOR ARCGIS IN EVALUATION MODE

30-day trial begins with activation, which the customer can start at any time. Ends on 30th day or when pattern is depleted for the evaluation product. Evaluation products have access to 256 pages of A4 and 32 pages of A2 and A0 pattern. During evaluation, the product can be activated at any time by running the License Manager.

LICENSE REQUIREMENTS OVERVIEW

The product requires activation of your pen and a license for the Capturx for ArcGIS Desktop Extension. The topics below describe the registration process. This process includes validating the license for your extension and for ensuring that the pen you are using has been enabled for use with that product. The topics below describe what you need to do to register your extension and your pen.

PRODUCT REGISTRATION

Capturx for ArcGIS Desktop requires a license and your pen must be activated. The registration process involves the following steps:

- After installation of the Capturx for ArcGIS Desktop Extension, you will be prompted to enter a product key for your plug-in. If you do not, you will enter into a 30-day trial period for the product.

- After printing a file using the Capturx for ArcGIS Desktop Extension, when you dock your pen for the first time (and it has data for in the extension to process), you will be prompted to use a pen license.

LICENSE REQUIREMENTS FOR PEN AND PLUG-IN

The following section outlines the process used to validate the licenses required for Capturx for ArcGIS Desktop Extension and for your pens.

Note: You need to be connected to the internet whenever you wish to activate a pen for use with Capturx for ArcGIS.

Extension License

A license is activated either during installation or by running the License Manager tool, which can be found in Start\Program Files\Adapx\Capturx for ArcGIS\:

License Activation/De-activation

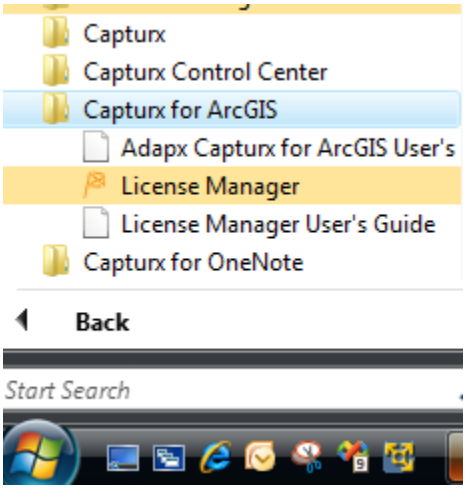


Figure 2 License Activation/Deactivation

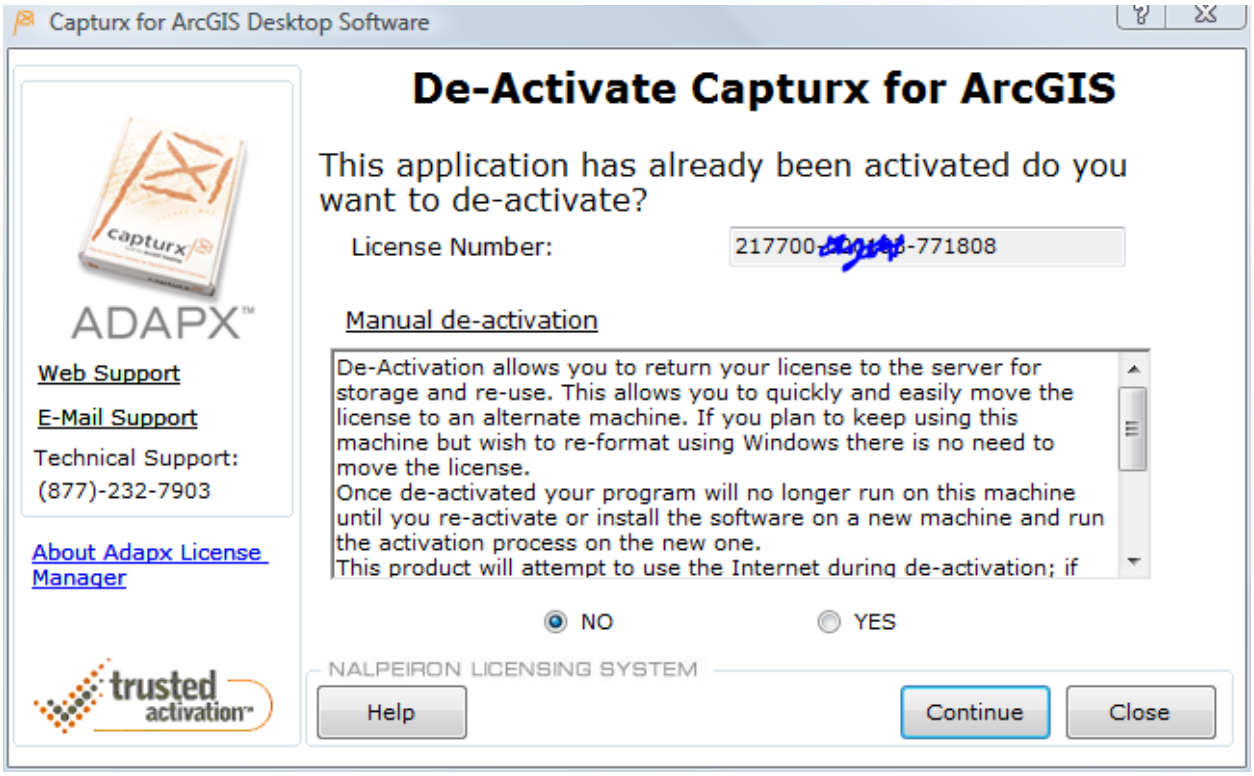


Figure 3 De-Activate Selection

To activate, follow the same steps, but instead of being prompted to de-activate, you will need to enter the License Number you received with your product in the screen shown above. The extension will then be registered to your machine.

Plug-in Connection for the Pen

When you dock a pen, the system will check to see if the pen has been enabled for use with the Capturx product that printed the document. If the pen has been activated, the data will download. If it has not been enabled for that product, a dialog will prompt you whether you would like to activate your pen. However, unlike the extension license itself, the extension connection license is not restricted to a single machine (the pen can be used on any Capturx workstation where the same product is installed).

Charging Your Pen

The pen contained in the package needs to be charged before you can use it to capture data with your map.

To charge the pen:

1. Take one of the ink cartridges and gently slide it into the hole at the tip until it is completely seated and doesn't fall out. It's normal for the cartridge to feel slightly loose.
2. Attach the docking station to a PC or laptop via the USB port.
3. Fully insert the pen in the docking station.
4. The gold connection points on the pen and docking station need to be aligned and the pen needs to be firmly placed in the docking station.
5. After you connect the USB port to your computer and dock your pen, you will initially need to keep the pen in the docking station for four hours for it to fully charge.

Note: To prevent your battery from running low, do not leave the cap off the pen for extended periods of time. You will need your pen cap so keep it safe.

Note: For information on using the password feature, see Appendix A Penx Control Panel.

Installing the Software

The installation contains the Capturx for ArcGIS Desktop extension and the Penx Control Panel used to access and manage your ink and digital pen.

To install Capturx for ArcGIS Desktop:

1. Insert the Capturx for ArcGIS Desktop CD-ROM into the CD-ROM Drive. If the installation window does not appear, run the setup or setup.exe by selecting **Start>Run** and selecting your CD-ROM drive.
2. Follow the setup instruction on your screen.

After you have installed the software and restarted your computer, the Penx Control appears among the system tray icons. See Appendix A Penx Control Panel for more information on the Panel and how it is used.

Penx Control Panel Tray Icon →

Figure 4 Penx Control Panel Tray Icon

CAPTURX FOR ARCGIS DESKTOP OVERVIEW

This section provides an overview of ArcGIS desktop and how it is used. This includes:

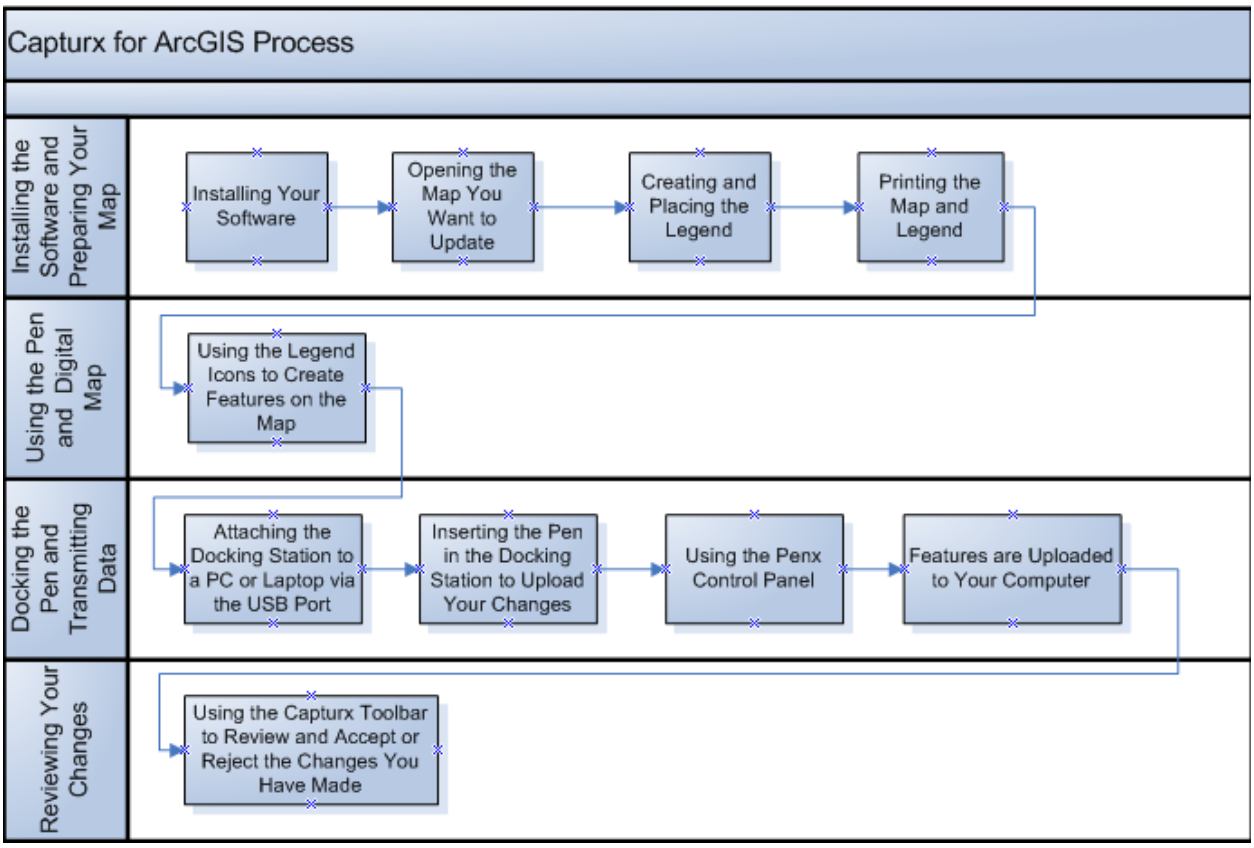
- A flow diagram showing the process involved in using Capturx for ArcGIS Desktop
- An overview of layers and legends and how Capturx for ArcGIS Desktop is used to update layers with new information
- A description of the Capturx for ArcGIS Desktop extension toolbar. This includes a description of each of the buttons on the toolbar and its purpose

Note: ArcView, ArcEditor, and ArcInfo are three versions of ArcGIS Desktop, and each of these includes ArcMap. All of these versions are supported.

Overview of the Capturx for ArcGIS Desktop Process

The following process flow shows you the overall process used to capture, review, and edit your features and annotations. This includes the steps involved in:

- Preparing and printing your map and legend
- Using the pen to create ink strokes on the map
- Docking the pen and transmitting the features you have created
- Reviewing and editing your changes using the Capturx ArcGIS Desktop extension



Maps and Legends Overview

The following overview provides a brief description of layers and legends, how they are related, and the role the legend and map play in using Capturx for ArcGIS Desktop.

A layer is a visual representation of a geographic dataset in any digital map environment. When you add a dataset to ArcMap, a layer is created, and each map layer is used to display and work with a specific GIS dataset. Thus, a layer always reflects the most up-to-date information in your database. A layer won't show on your map unless you also have access to the data source on which the layer is based. You can think of a layer as a slice of the geographic reality in a particular area. On a county map, for example, roads, parks, fire stations, and city boundaries might be considered different layers.

A legend item on the map portrays a feature or class of features (depending on the renderer) that belongs to the layer, and the legend shows you the different layers available on your map and in your database. A legend, therefore, depicts the types of features (layers) displayed in the map layout.

The Capturx for ArcGIS extension enables you to update the layers in the database by using the legend and map to add features on your map. For example, a field worker might want to update the number of roads and parks on the current county map. Using the legend, printed map and digital pen, the field worker can mark the location of a new county road and park on the map and update the parks and county road layers with this new information.

The ArcMap Legend Wizard described later in this guide allows you to select the layers you want to place in the legend so you can work with them using the Capturx for ArcGIS extension. The Legend Wizard also allows you to choose the appearance of the legend title and legend frame.

See the ArcGIS Desktop Help for a more detailed discussion of map layers and how they are used:
http://webhelp.esri.com/arcgisdesktop/9.2/index.cfm?id=177&pid=174&topicname=Map_layers

Capturx for ArcGIS Desktop Toolbar Overview

At the most general level, the Capturx for ArcGIS extension toolbar is used to:

- Add one or more annotation layers to your map
- Print the page layout containing the map and legend you have selected
- Use the import options import the ink strokes you have made on your map so they can be reviewed and accepted or rejected
- Use the review options for selecting the ink strokes you have made and accepting or rejecting these changes

The following overview provides a description of the toolbar and how each of the buttons is used to perform these general tasks.

The States of the Toolbar and Buttons

The toolbar consists of 12 buttons and some of these buttons will be disabled (grayed out) depending on where you are in the process of capturing and reviewing your field data and whether you are in layout or data view. As shown below, the toolbar can be in different general states with different options disabled:

Printing Your Map and Importing a Session

The buttons highlighted below are used to add an annotation layer to your legend, to print the map and legend you have selected, and to import your session(s) into ArcGIS so they can be reviewed.

Figure 5 Printing and Importing

Toolbars Available in the Review Mode

After you have docked your pen and imported your sessions, you can use the buttons highlighted below to select features, accept or reject all the changes you have made to your map The first toolbar shows you the options available in the layout view and the second shows you the options available in the data view.

Figure 6 Reviewing Sessions

	Add Annotation Layer: This button is used to add an annotation layer that you can use to write annotations on your map. This takes you to a dialog box that enables you to: • Select the data frame you want to apply the layer to • Provide a name for the annotation layer • Select the path to the location where you want to store the files.
	Print Page Layout: This button is used to print the page layout. This takes you to the print dialog.
	Import Next Session for Current Map: This button is used download the current session for the map you are working on so that your changes will appear on the map. This button is only active if there are sessions waiting for the currently loaded map.
	Open the Session Dialog Box: This button will show you a current list of sessions you have uploaded using your pen so you can choose a session from the list. This dialog includes the • Name of the map • User name associated with the pen • The time and date the upload was received You can also use this dialog box to delete a session. Sessions that correspond

	with other maps will be inactive.
	Select All Capturx Features: This button is used to select all of the features (including user features and annotation strokes) you have made on your map.
	Clear All Selected Features: This button is used to unselect any of the features you have made on your map
	Select the First Change: This button is used to select the first feature you have made on your map
	Select the Previous Change: This button is used to select the previous feature you have made on your map
	Select the Next Change: As you move through the changes you have made, this button is used to select the next feature you have made on your map.
	Select the Last Change: This button is used to select the last feature you have made on your map.
	Reject All Changes: This button is used to reject all of the feature you have made on your map
	Accept All Changes: This button is used to accept all of the features you have made on your map.

Deleting and Modifying Features during the Review Session

When it comes it making changes to your geo-database, ArcGIS Desktop only “knows about” one data-source at a time. For this reason, the data-source must be chosen before any editing in the tool can take place, although the data-source may be referenced by multiple layers in your map. This is true even though Capturx for ArcGIS Desktop opens edit-sessions for other data-sources that you may have inserted via electronic ink.

For this reason, Capturx must decide which data-source to open in the editor and which to open in the background. Capturx prefers your user-datasources to its own (such as the markup layer), and the first user-datasource encountered wins over any subsequent ones. You will be able to use the ESRI-provided delete function (via the Delete toolbar command, or **Edit->Delete**) to delete the selected feature when it is enabled. This will happen when the selected feature belongs to the data-source shown in the editor toolbar.

During the review session you will not be able to delete features belonging other datasources – to do so, you must accept all changes and start a new edit-session for each data-source you wish to target, and delete these features outside of the Capturx review session.

Note: The next version of Capturx for ArcGIS Desktop will contain more advanced and flexible review and correction facilities to make this process easier.

OPENING A MAP AND CREATING A LEGEND

As described in the previous section, a legend item on the map is equivalent to a layer, and the legend shows you the different layers available on your map and in your database. A legend, therefore, depicts the types of features (layers) displayed in the map layout. This section describes the process for opening a map and creating and placing the legend you will use to add features to your map. This includes:

- How to open the map you want to use with Capturx for ArcGIS Desktop
- How to use the ArcMap Legend Wizard to select the layers you want to include in your legend.

To create a map and legend:

1. Open ArcMap.
2. Select the map you want to use (see Figure 7).

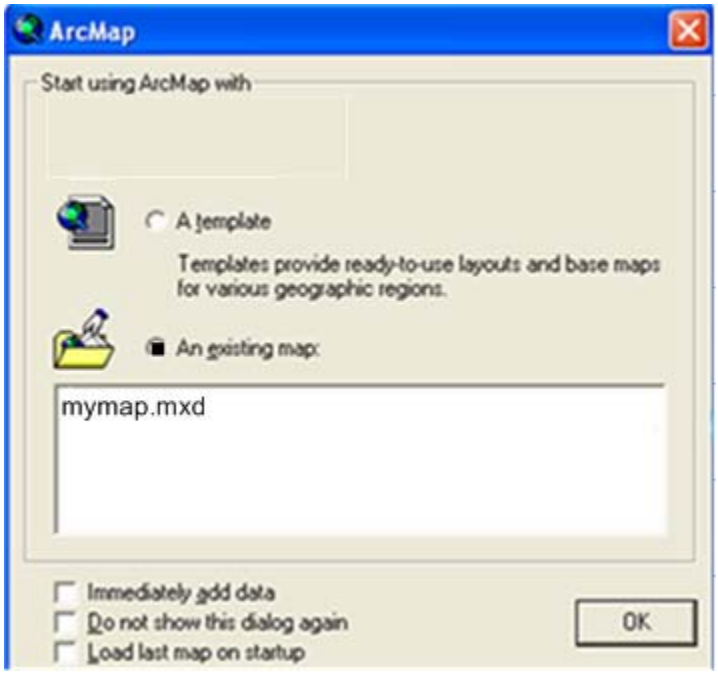


Figure 7 Selecting a Map

3. From the **View Menu**, select **Layout View**.

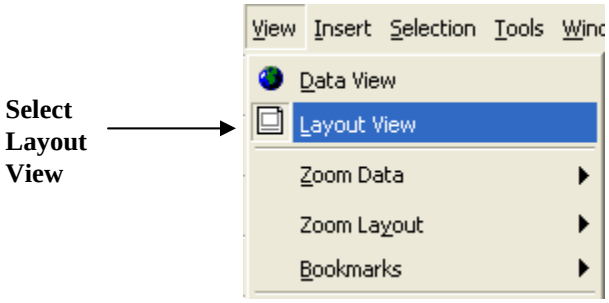


Figure 8 Selecting Layout View

4. From the **Insert Menu**, select **Legend**.
5. Use the **Legend Wizard** to select the layers you want to include in your Legend (see Figure 9).

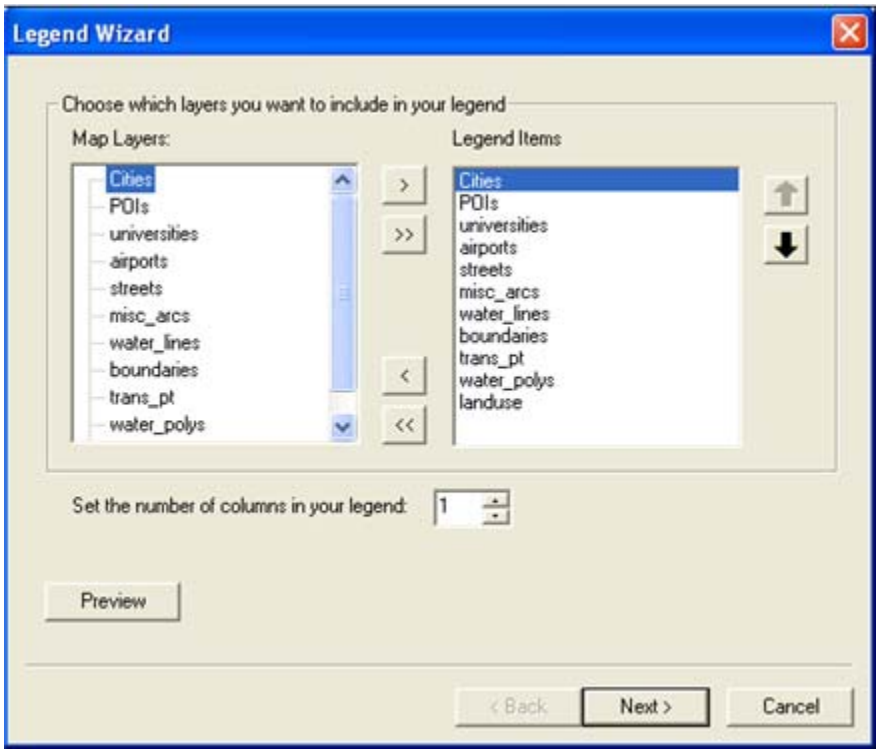


Figure 9 Selecting Legend Items

6. Select **Next**.
7. The items you have selected will appear in the legend. You can also right-click on the legend and choose **Properties** to modify it later.
8. Use your mouse to drag it to the desired location on the map and to resize it. You can save the map or print it. See the next section for instructions on printing the page layout and legend.

Note: See Appendix B for a list of the renderers that are supported with the Capturx for ArcGIS extension.

PRINTING YOUR MAP AND LEGEND

This section describes the process for printing your map and legend with digital pattern. This includes:

- The license requirements for your pen and for Capturx for ArcGIS desktop, including the process used to validate both of these licenses
- How you select an appropriate printer to print the map and legend, including a description of the printer requirements for using Capturx for ArcGIS Desktop
- After you have selected the appropriate printer, a description of the process for printing the map and legend, including a description of how to use the Capturx Pattern Refill dialog box to get the pattern you need to print your digital map

Printing the Page Layout and Legend

As noted in the section under License Requirements, you use pattern to print your digital map. Before you print, you need to know how the pattern is used when you print your map and how to select the pattern size that best meets your needs. This section describes:

- How the pattern is used to print your digital map
- The process used to print the pattern
- How to use the options on the Pattern Refill dialog box to obtain the pattern you need
- How to use the Printing dialog box to learn how much pattern you have available and how to get more pattern when you are running low

How the Pattern is Used to Print Your Digital Map

A certain amount of pattern is required to print the digital map you will use, and these different size patterns are used to print different size pages:

- A4 pattern can print up to 14” x 14” (You can print A4, letter or legal, in any orientation)
- A2 pattern can print up to 23.4” x 23.4”
- A0 pattern can print up to 46.8” x 46.8”

A larger size pattern can be used to print a smaller size page layout. For example, one-square-yard “A0” can be used to print a letter-size 8.5” x 11” page layout. However, there are fewer pages in a refill of a larger size pattern, so it is more cost efficient to use the smallest size pattern you can.

If you have downloaded pattern that is too large for the size you would like to print (“A0” being used to print a letter-size 8.5” x 11” page layout) you can still print, but you will see a warning notice in red text at the lower left of the print dialog noting that you could use smaller pattern.

Monitoring and Using Pattern in ArcGIS Desktop

Capturx for ArcGIS provides you with a Pattern Refill dialog box and a Desktop printing dialog that you use to download pattern and to monitor that amount of pattern you have (see Figure 10).

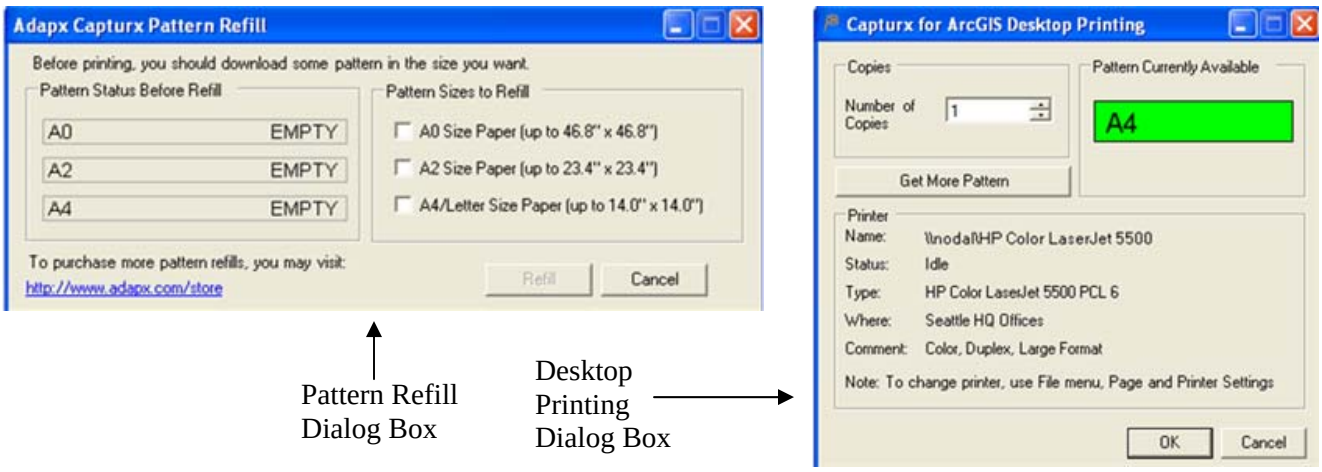


Figure 10 Pattern Refill and Printing Dialog Boxes

When you're in the Pattern Refill dialog, you have the option to download any size pattern that you don't already have more than 1000 pages of. If you already have more than 1000 pattern pages, the checkbox for that size will be grayed out.

The bars on the pattern control are full/green at 1000 pattern pages or more If there is less than 800 pages left you can find out exactly how many pages you have by hovering on that bar, otherwise the hover text just reads 'full' (see Figure 11).

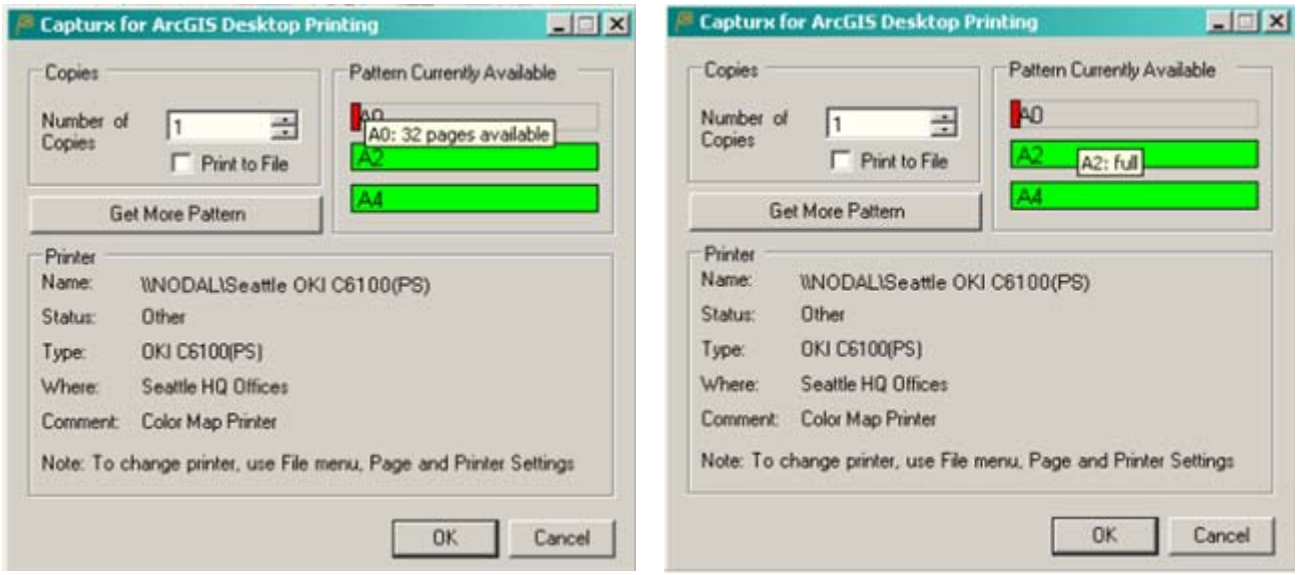


Figure 11 Hovering Over Pattern Bars

You may need to buy some more pattern refills at some point, although your initial purchase provides you access to 1 digital pattern shelf per pen Extension Connection license purchase (each shelf contains over 6,100 sheets of A4 digital printing pattern). A 5 digital pen package provides over 31,000 unique pattern pages for your Capturx for ArcGIS solution. You can purchase more from the Adapx store at:

http://www.adapx.com/index.php?/How-to-Buy.html

To print the page layout and legend

1. Within ArcMap, select printer options by selecting **File>Page and Print Setup**.

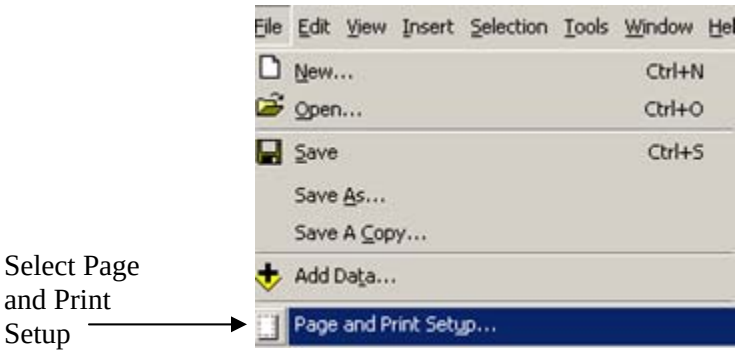


Figure 12 Selecting the Page and Print Setup Menu

2. This will open the Page and Print Setup window (see Figure 13). When using this window:

   - Set your printer to use the size of paper desired as the “default tray”, since the “source” (paper tray) setting in this Page and Print Setup window is not currently supported
   - The “Show printer margins on layout” option is helpful to keep your page elements (map, legend) within the area of the page that will actually be printed.
   - Select the **Use Printer Paper Settings** radio button

Note: The “Layout View” shows exactly what will be printed, including the orientation of the page.

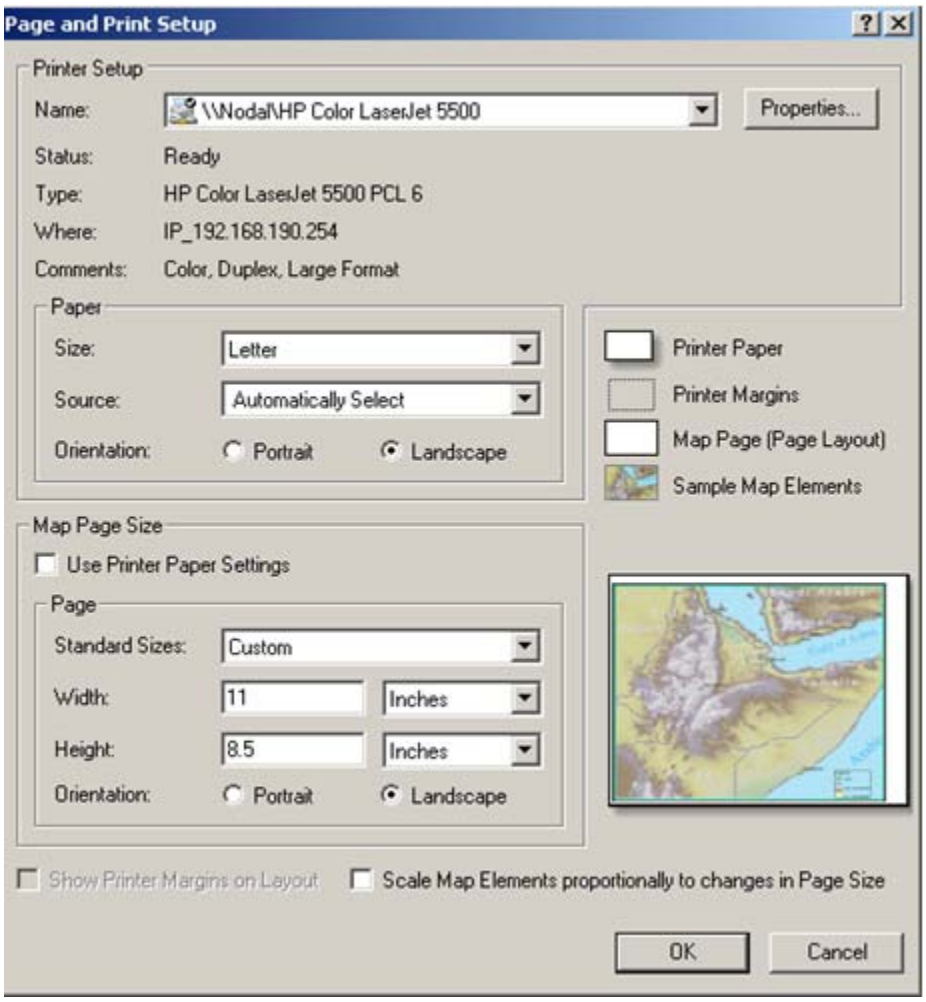


Figure 13 Page and Print Setup Window

3. You need to be in the Layout View to print your map. Select **View>Layout View** to print your map.

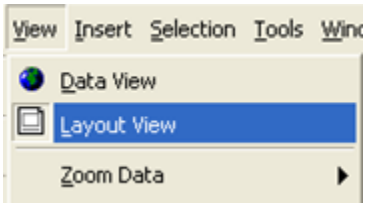


Figure 14 Selecting Layout View

This will display the map in “Layout View” (see Figure 15). This view provides rulers and printer margins that will help you see the actual orientation of your page layout (portrait or landscape) and determine how the page is printed. In other words, if it is 11” wide by 8.5” tall, it will be printed landscape style.

By showing you the size of the page layout these rulers also show you what size paper you should be setting your printer to use (make sure that the printer’s “default tray” is using paper of that size.) As noted above, you must set the default printer tray to the size you like before printing or loading the appropriate size paper you are using into the default tray.

As noted below, in the Page Layout, you might want to keep anything you want to write on, such as a map frame or a legend icon, at least 7 mm away from the printer margins.

Ruler

Figure 15 Map in Layout View

4. Select the print button on the Capturx toolbar to print current layout.

Figure 16 Print Button

Note: If the legend has layers that represent types of database that we cannot modify, or that we are not able to use fully, a “Layer Support Information” form will pop up before printing. This form lists the unsupported layers and unsupported symbology.

- Unsupported Layer means that legend icons representing features from that layer cannot be used to create features.
- Unsupported Symbology means that legend icons representing features from that layer will always create the ‘default’ feature, whatever it would be for that database/table.

If you see this form, you can cancel printing, or continue on to print.

Using the Pattern Refill Options

When you print for the first time, you need to download pattern in the desired size before you can print. You should choose pattern of the smallest size that will suit your needs. For example, if you are usually printing letter-size maps, choose “A4” pattern to download. At any time, if you don’t have any pages of the size needed to print your current page layout, you will get the pattern refill dialog before getting the printing dialog.

5. Select one or more checkboxes for the pattern size you want and select the **Refill** button. Your pattern will be refilled via a download from Adapx.

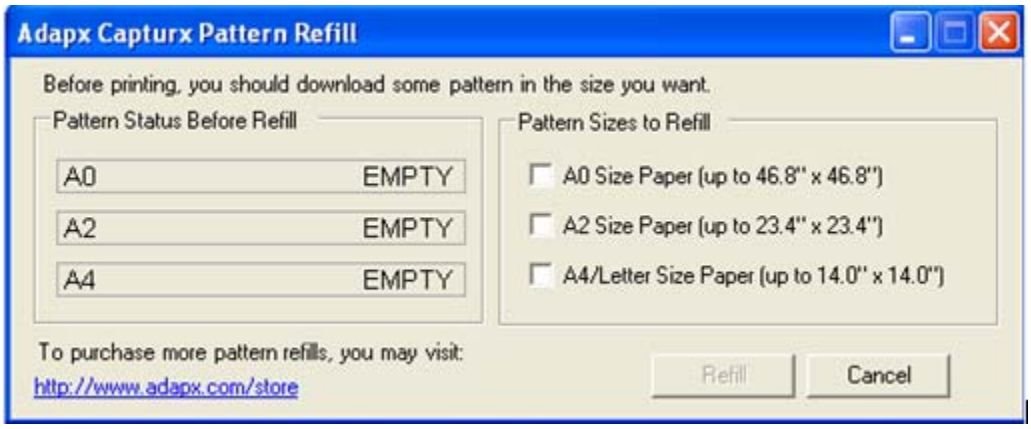


Figure 17 Capturx Pattern Refill

6. After you have downloaded the pattern you need, select the print button on the Capturx toolbar to print current layout.

The Capturx for ArcGIS Printing dialog opens (see Figure 18). This dialog provides two ways to tell you the status of your pattern and to let you know when you are running low:

- The status bar becomes shorter and changes in color as you use your pattern. The color changes from green to yellow to red as you use up the available pattern.

- When you reach 100 pages, a message will appear at the bottom of the dialog

When you’re in the print dialog, you always have the option to try to download another pattern refill, by pressing the “Get More Pattern” button. Using this button is a good idea if you see the “Could use smaller pattern” warning, and you expect to be printing this size page fairly frequently.

When the color changes to red or the message appears, you need to select the **Get More Pattern** button. This will take you back to the Pattern Refill dialog (see Figure 18).

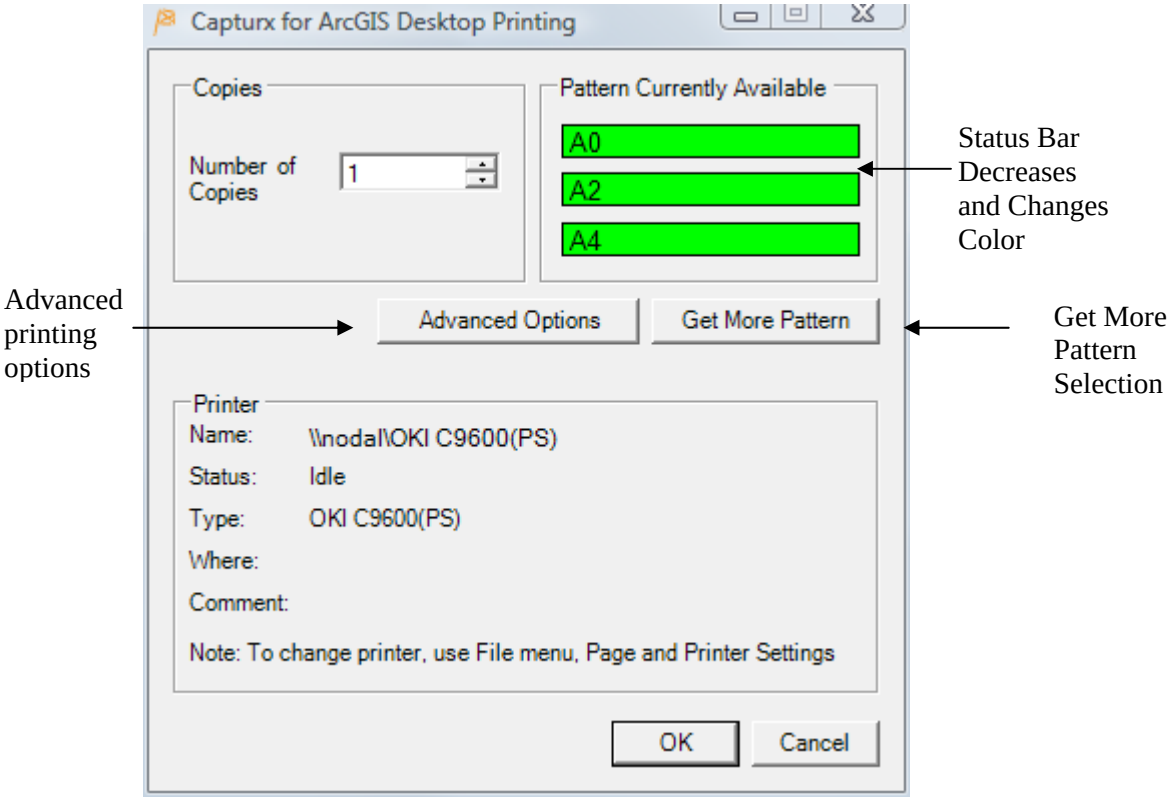


Figure 18 Capturx for ArcGIS Printing dialog

7. If printing large format maps, you may need to reduce the number of colors or the resolution (DPI) of the map images. To do this, use Capturx for ArcGIS' Advanced Printing Options dialog.

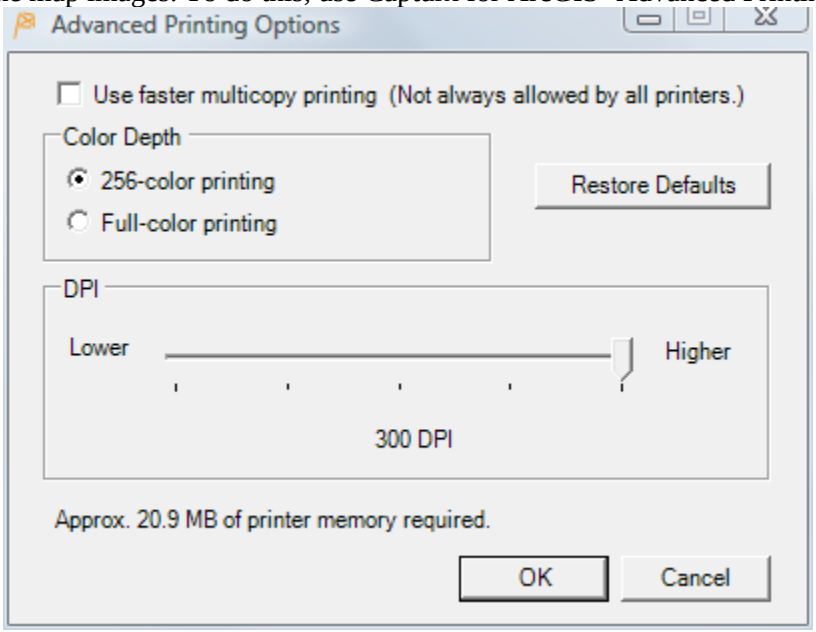


Figure 19 Advanced Printing Options dialog

8. Using the Capturx for ArcGIS Printing dialog, select the numbers copies and then select **OK** (see Figure 18).

How to Use Capturx for ArcGIS Desktop

The following section describes the digital map and legend and how they are used to add features on your map so you can update the desired layer with new information.

Tips for using the legend

The legend contains icons for feature types. You select the feature types by checking the desired feature type with the digital pen. The “feature type” refers to the symbol used for representing the feature on the map. You can select the feature type by using a checkmark or by drawing a short line through the feature type. You draw a line through the color line to select the color for your annotations (see Figure 36).

Note: To correctly capture your feature, you need to spatially limit the size of your mark you use to the desired feature. Imagine there is a border around the feature that limits the size of your mark.

Warning: If you do not select an icon before writing, your ink may be lost or result in the creation of unintended feature types. If you attempt to write an annotation without selecting a legend item first, you will receive a warning that the imported session had no effect on any Geodatabases. You will be given the options to remove the session or to revert to the previous state.

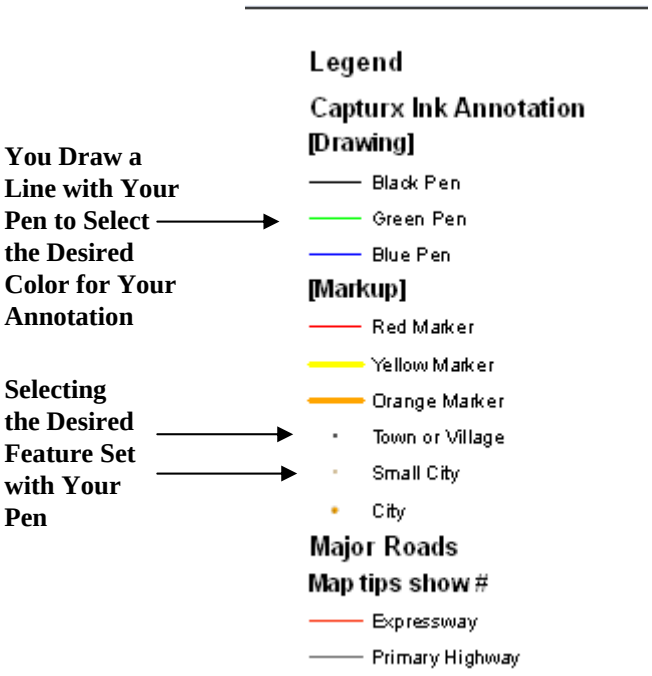


Figure 20 Legend with Feature Types

How to Use the Map and Pen to Create Features

You use the pen to select icons from the legend and then mark the desired location on the map to place these features.

To produce features on the map:

1. First, check the icon on the legend for the feature you wish to produce.
2. Then each stroke on the map page indicates where these features should be produced on the map.
3. You may select a different feature type by checking the appropriate icon on the legend page at any time, after which each stroke will produce that kind of feature.
4. You may select the feature types in the **Adapx Ink Annotation** group to produce written annotations on the map which will appear on the **Ink Annotation** layer. (Note: your legend may not be set to display the "Adapx Ink Annotation" group name.)

For example, to add a fire station, check its icon in the legend and mark its location on the map with a single dot of the pen. Switch to an annotation feature, a red marker, by checking its icon in the legend, then write the acronym 'FS' next to the location of the fire station to remind you that it was added there.

The Types of Features and How They are Used

Capturx for ArcGIS can create features on the map with three kinds of geometries:

- **Point** features are represented by icons on the map; their location is a single point
- **Line** features are represented by a series of points; their location is a series of points
- **Area** features are represented by a series of points that are defined as representing an "inside" and an "outside"

Each of these features is created by first selecting an icon on the legend and then marking the desired location on the map. All the strokes made on the map between selecting one feature icon on the legend and another icon creates multiple instances of each kind of feature from each stroke.

You should use one of the annotation feature types to write notes or comments. If you select the *Building* (a point-type feature) and then write the word "building", a building icon would appear every place the pen touched the map during the writing of "building", so be sure and switch to the annotation feature to write any notes or comments.

Note: The digital pen does not work well at the edges of the map. Allow a 7 mm margin to ensure that your ink strokes are captured correctly.

DOCKING THE PEN AND TRANSMITTING YOUR CHANGES

This section describes how to dock the pen and upload your digital ink. The Penx Control Panel described in Appendix A is used to select the download option you want to use.

To upload the digital ink using the pen

1. Attach the docking station to a PC or laptop via the USB port.
2. Fully insert the pen in the docking station. The gold connection points on the pen and docking station need to be aligned and the pen needs to be firmly placed in the docking station.
3. After you connect the USB port to your computer and dock your pen, semi-transparent Status Window will also show you the progress of the download (see Figure 21).

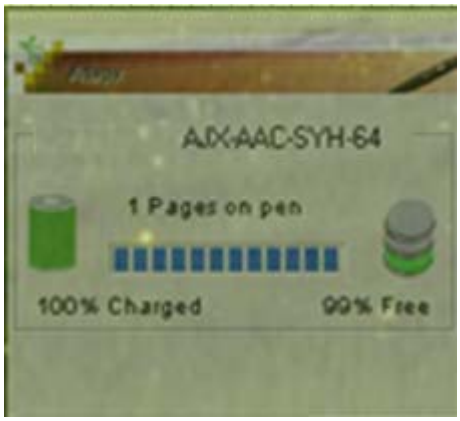


Figure 21 Penx Downloading

PENX CONTROL PANEL OVERVIEW

The pen and the downloaded ink are managed using the Penx Control Panel. This control panel enables you to specify download options, assign a password, and to obtain status information about the pen and the download. The Penx Control appears among the system tray icons in the lower right corner of the screen.

Penx Control Panel Tray Icon →

Figure 22 Control Panel Tray Icon

See Appendix A for a detailed discussion of the Penx Control Panel and instructions on how it is used.

REVIEWING THE CHANGES YOU HAVE MADE

After you have uploaded your changes, you can review them. The following section describes how you review the changes you have made to your map. This includes

- Using the Session Selection window to choose the particular session you want to review
- A description of the reviewing options available with the Capturx toolbar and the process for accepting or rejecting the features you have added.

To Import Your Review Session

After you have docked your pen and imported your sessions, you can use the buttons highlighted below to select, accept or reject the changes you have made to your map The first toolbar shows you the options available in the layout view and the second shows you the options available in the data view.

Figure 23 Reviewing Sessions

To review changes on the map:

A. Select the Import Next session button on the Capturx toolbar to download the next session available on the current map so that your changes will appear on the map.

Or

B. The Select Session Activate button on the Capturx toolbar and it will show you a current list of sessions you have uploaded (see Figure 24). This includes the

- Name of the map
- User name associated with the pen
- Time and date the upload was received

1. Select the **Import** button to upload the desired session or double-click on the item. The Import button is only enabled for sessions associated with the current map – to load a session for another map, you must first load the desired map into ArcMap, then import the session.

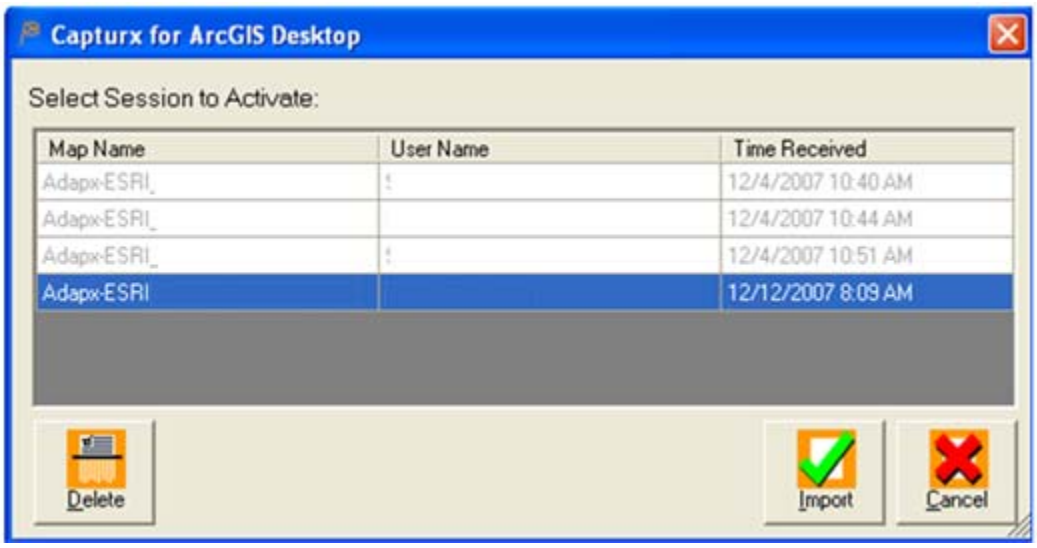


Figure 24 Session Selection Window

2. The features you have made will be shown on the map (see Figure 25).

To Review Your Changes

The following section takes you through the process for reviewing the changes you have made.

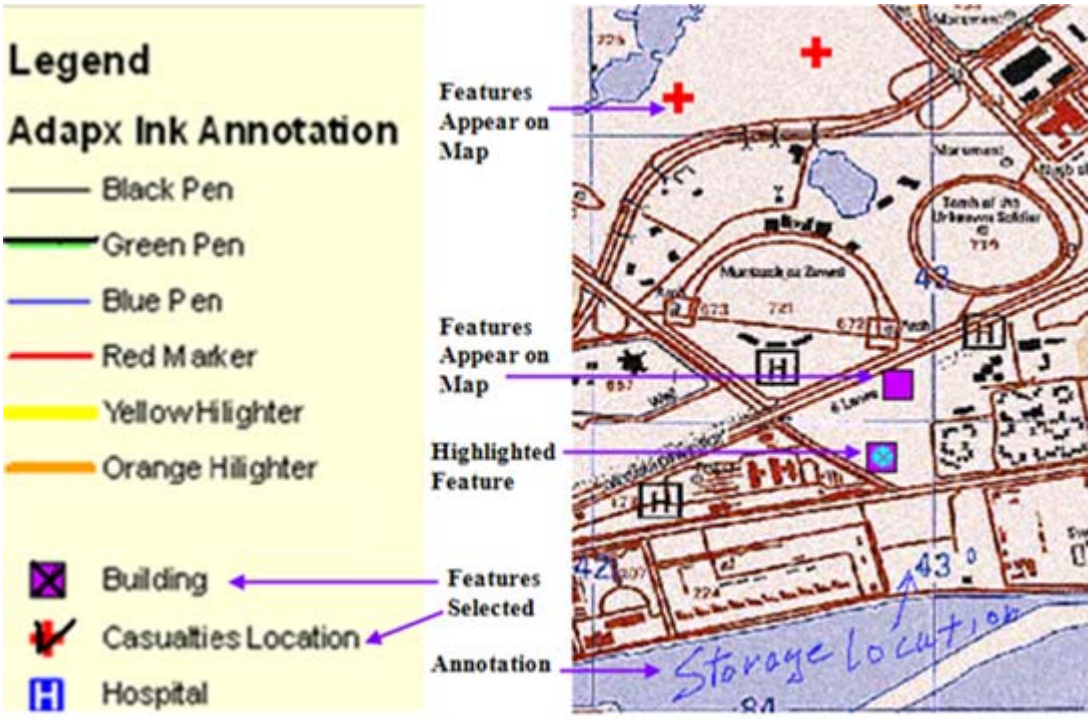


Figure 25 Selections Appear on the Map

3. Use the Capturx toolbar to select all pending changes or to step through your features one at a time. The feature you select will be highlighted on the map (see Figure 26).
4. Use the Accept all button to accept all changes (reviewed or not) made to the geodatabase. Use the Reject all button to reject all changes (reviewed or not) made to the geodatabase (see Figure 26).

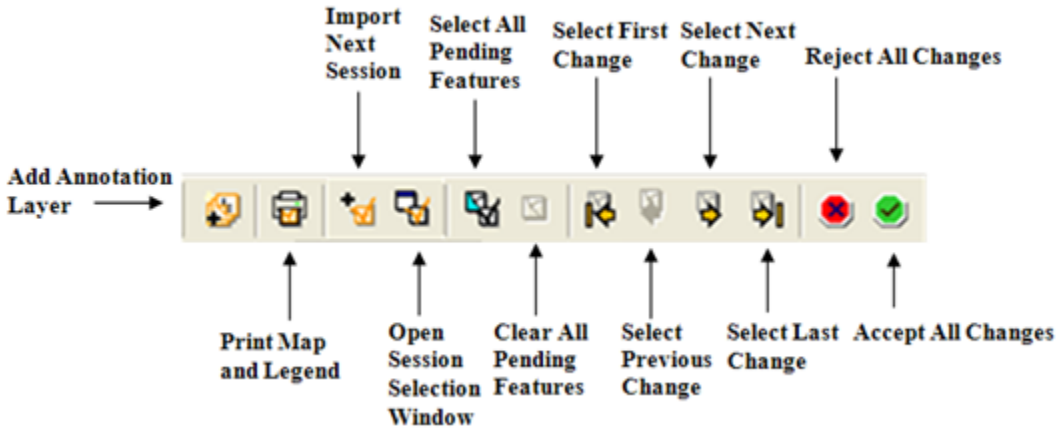


Figure 26 Capturx for ArcGIS Toolbar

5. When you select the Reject All button the following window will appear asking you to cancel the rejection, remove the session you have just imported, or to revert the session so you can re-import it again at a later time.

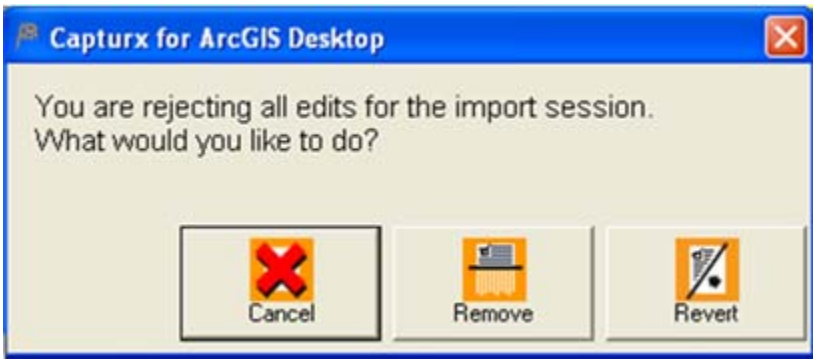


Figure 27 Review Options

Note on editing sessions for advanced users

Adapx Capturx for ArcGIS opens an edit session in the editor when you import ink into your database. (You must close any existing edit-sessions before Capturx will allow you to import your digital ink.) ArcGIS Desktop is designed to only edit one datasource at a time, so to support automatic entry of all features you've added with your Penx, in addition to one edit session which is opened on your behalf in the editor, Capturx maintains parallel, synchronized edit sessions for your additional datasources, such as the Adapx Ink Annotation layer or other user-layers that reference additional geo-databases. While the state of all edit sessions is unified, it is recommended you use the Capturx toolbar commands to Accept

and Reject your imported edit sessions, rather than using the ArcGIS editor's *Stop Editing* command, since this will provide you with added benefits, such as the ability to revert your ink session if changes are rejected.

Notes:

- Capturx prefers user datasources to its own, so it will only open one of its own layers in the editor if there are no user-features to add, but only Capturx annotations.
- Currently, the first user dataset that is inked has preference in the editor.
- While the correction process is in progress, you may also manually edit any of the layers in the editors *Target:* list.
  To manually edit another datasource, you must accept or reject the Capturx changes first, then open a new edit session as you normally would.
- In Capturx 1.0 you must accept or reject all imported changes at one time.
  Although you may accept all Capturx changes and restart an edit session manually at a later time to adjust previously imported features, there will no longer be a mechanism to distinguish previously imported features from other features that may exist in the geo-database.

PEN CONTROL PANEL

The Penx Control Panel enables you to specify download options, assign a password, and to obtain status information about the pen and the download. The Penx Control Panel options include:

- Viewing the docked and/or unlocked status of the pen
- Entering and saving personal details to the pen
- Assigning a password with the pen
- Viewing the remaining time left on the battery of the pen
- Downloading and deleting the pages currently on the pen
- Setting how you want the pages to download
- Enabling or disabling the Bluetooth feature on the pen

Four icons are used to show you status:

- White Pen: No pens docked
- Green Pen: One or more pens are docked
- Green Blinking Pen: Docked data pending download
- Green Spinning Pen: Currently downloading data for one or more pens

Hovering over the system tray icon with your mouse pointer will provide you with the battery information, current number of pages on the pen, and memory status of the pen. When you are downloading, a semi-transparent Status Window will also show you the progress of the download.
You can access the Penx Control Panel by double-clicking on the Penx Control Panel icon in your system Tray
.

The Penx Control Panel is divided into tabs, a docking status indicator, and four main sections and options. Each of these is identified by number and in the description below (See Figure 4):

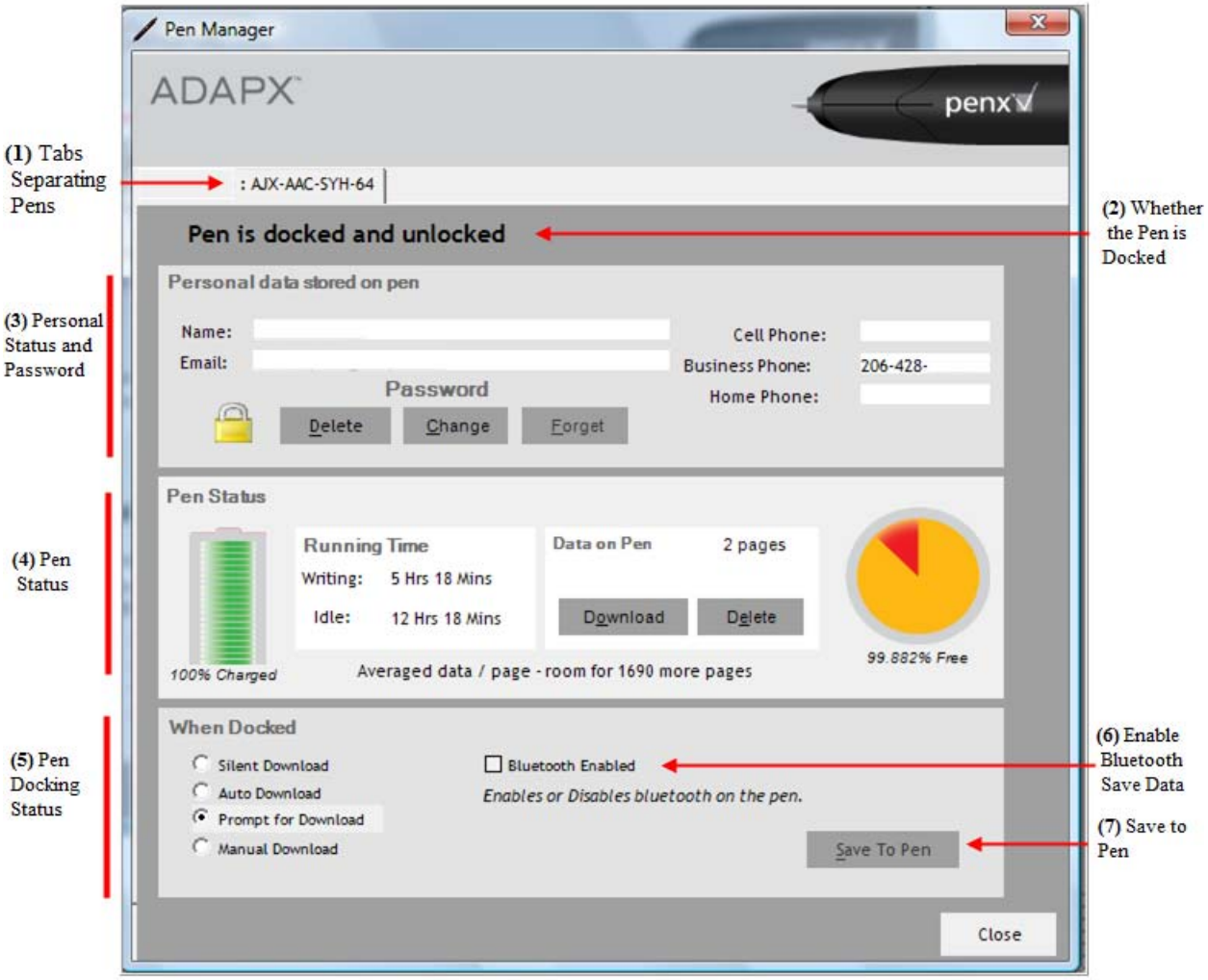


Figure 28 Pen Manager

Tabs Separating Each Pen (1)
Tabs are used to separate the Penx Control Panel options for each individual pen. Selecting the tab will show you the Penx Control Panel options for the tab (pen) you have selected.

Note: When multiple pens are used, docking a particular pen does not automatically switch the active tab to match that pen. You need to select the desired tab for the particular pen you want to view.

Pen Docking Status (2)
Pen status tells you if your pen is currently docked and unlocked (using the password). If the pen is undocked, the Penx Control Panel will show you the data from the last docking. Selecting the Unlock Pen button enables you to enter a password so you can unlock the pen. If you have separate pens using the Pen Manager, you can select the **Forget Pen** button when the pen is undocked to delete the cache information about the undocked pen selected using the tab.

Personal Data Stored on the Pen (3)
This section of the control panel is used to assign a password and to enter personal data to the pen. By assigning a password, you prevent someone else from downloading with the pen or viewing the personal

information you have entered. Once you assign a password, you will be asked to enter it before you can download data from the pen. The password options include:

- Delete Button: Use this button to delete the password you have assigned
- Change Button: Use this button to change the password you have previously assigned
- Forget Button: Use this button to cancel the settings of any previously installed software that has been used with the pen.

You can enter personal data by filling in the desired fields.

Pen Status (4)
This section allows you to view the following information:

- Battery Status: Percent charged, writing time, and idle time left on the pen
- Data on Pen: Percentage of free space left on the pen, pages remaining, and the number of current pages on the pen ready to download. You can also delete and download the current pages on the pen by selecting the desired button.
- Based on average data per page, an estimate of how many pages you have left to use on the pen

Pen Docking Status (5)
This section allows you to select a download option. Note that the download options become less automated as you move down the following list. For example, if you select “Silent download” the data will be auto downloaded. The download options include:

- Silent download –When you select this option, you will not see the dialog box showing the status of the download.
- Automatically download – Data is auto downloaded as soon as the system detects a connected pen. You will see a dialog box showing the status of the download.
- Prompt for download – When the system detects a connected pen, you are prompted for permission to download the data.
- Manual Download – With the pen connected, the system will wait for you to initiate download using the **Download** button on the Pen Status section of the Pen Manager.

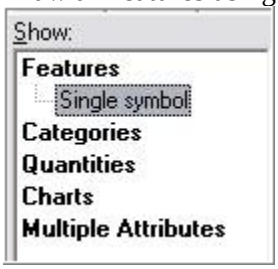
Enable Bluetooth (6)
This option allows you to use the check box to enable the Bluetooth feature on the pen. Selecting this option does not change or add any functions.

Save to Pen (7)
When you make a change on the Control Panel, the change will be shown in pink. Selecting the Save to Pen button will save the change you have made and the pink highlighting will disappear.

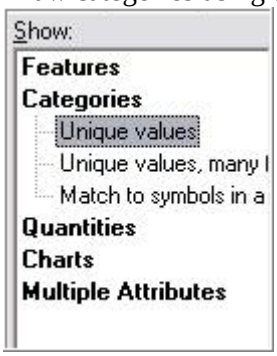
APPENDIX B SUPPORTED RENDERERS

This appendix shows you the renderers supported by Capturx for ArcGIS desktop extension. The following five supported renderers are available from the Symbology tab under the Layer Properties dialog box. This tab shows the methods you can use to represent your data using the Capturx ArcGIS extension.

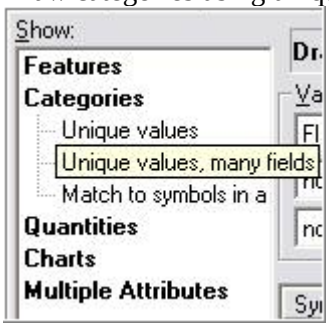
Draw all features using a single symbol:



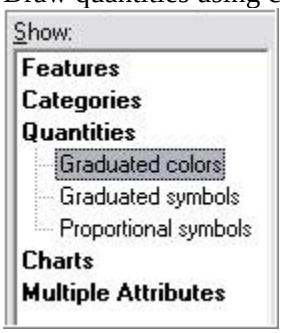
Draw categories using unique values of one field:



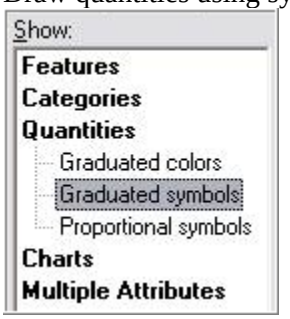
Draw categories using unique values combining up to 3 fields:



Draw quantities using color to show values:



Draw quantities using symbol size to show relative values:



TROUBLESHOOTING AND MAINTENANCE

This following section provides information on troubleshooting and maintenance. This includes:

- Common errors and recommendations on how to resolve them
- Changing the ink cartridge
- Care and maintenance of the pen
- Frequently asked questions about Capturx for ArcGIS Desktop, and the pen.

Common errors and recommendations

Below is a listing of common errors that can occur with the pen and recommendations on how to resolve each of the issues.

Errors and recommendations for pen

The pen does not turn on when I take off the cap.
Make sure the pen is fully charged. Insert the pen into the USB cradle to recharge the battery.

The pen does not charge when connected to the docking station.

1. Make sure the computer is turned on.
2. Make sure the docking station is connected to the computers USB port
3. Make sure the pen is fully seated
4. Try using another USB port on the computer.

The pen does not download handwritten documents when inserted into the docking station.

1. Make sure the computer is turned on.
2. Make sure the Docking station is connected to the computers USB port
3. Make sure you have installed the software you need to perform the download.
4. Make sure you are writing on the required digital paper
5. The pen will vibrate if you write outside the margins of the digital paper. When you are outside the margins, the vibration tells you the pen is no longer recording your text.

Changing the Ink Cartridge

You can change the ink cartridge by using the ink cartridge removal hole. This section takes you through the removal steps. The ink is under pressure, so be careful when changing the cartridge that you don't break the tip.

To change the ink cartridge:

1. Remove the cap and place the ink cartridge in the hole provided on the shirt clip.
2. Gently pull to extract the cartridge.
3. Insert the new cartridge and press to fully seat.

Care and Maintenance of the Pen

Your pen is a product of superior design and craftsmanship and should be treated with care. The suggestions below will help you protect your warranty coverage.

1. Although the pen is designed to work on all-weather environments, try to keep the device dry. Precipitation, humidity, and all types of liquids or moisture can contain minerals that can corrode electronic circuits.
2. Do not use or store the device in dusty, dirty areas. Its electronic components can be damaged. Always keep the cap on when you are not using the pen.
3. If possible, try not to store the device in hot areas, as with any electronic components and equipment. High temperatures can shorten the life of electronic devices, damage batteries, and warp or melt certain plastics.
4. Do not store the device in freezing areas. When the device returns to its normal temperature, moisture can form inside the device and damage electronic circuit boards.
5. Do not drop, knock, or shake the device. Rough handling can break internal circuit boards and fine mechanics.
6. Do not use harsh chemicals, cleaning solvents, or strong detergents to clean the device.
7. All of the above suggestions apply equally to your battery, charger, or any enhancement. If any device is not working properly, take it to the nearest authorized service facility for service.

Frequently Asked Questions

Below is a list of commonly asked questions about the pen and an answer to each of these questions.

Q1. Is the pen waterproof?

A1. No, the pen is not waterproof. Do not use the pen in locations subject to water or high humidity.

Q2. How often should I recharge the battery?

A2. Recharging the battery every 3 to 4 days is advisable if you use the pen for 1 to 2 hours a day. It is a good custom to recharge the battery every day if you use the pen for 3 to 4 hours a day.

Q3. How long does a fully-charged rechargeable battery operate?

A3. Approximately two months after full charge. When the battery is left unused with the cap on for about two months, a “low battery warning LED” lights up. If the LED lights up, be sure to recharge the battery before using the pen.

Q4. Can I replace the built-in battery myself?

A4. No, you cannot replace the battery yourself. The warranty for the pen is void if you replace the battery yourself. Consult Adapx if battery replacement is required.

Q5. Can I replace the ball-point pen myself?

A5. Yes, the pen has a clip on the cap as a replacement adapter. Use the hole on the clip

to replace the ball-point pen with a new one.

Q6. Can I use a spare general ball-point pen available at local retail shops?

A6. The pen requires a triple action refill cartridge. We recommend that you obtain pen refills directly from Adapx, or from Rite in the Rain. The Adapx ink cartridge is pressured with a unique ink that is designed for note taking in extreme conditions.

Q7. How long is the life span of a Pen?

A7. The life span of a pen is about three years. This figure is calculated on the assumption that the pen is used for three hours a day. (This figure is just a guide and varies depending on conditions of use.)

Q8. How much data can be stored in the pen's built-in memory?

A8. The memory capacity of a pen is equivalent to approx. 40 pages in terms of 81/2 by 11 paper depending on the density of the writing. We recommend that you transfer the data to your PC before the memory becomes full.

Q9. Does a pen have a "memory full indicator"?

A9. Yes, the vibrator in a pen oscillates to warn you when the memory is full. If the memory is full, it is no longer possible to save new data.

Q10. Tell me about the accuracy or limit of resolution of the coordinates the pen can detect.

A10. The maximum address error the pen can detect is 1.0mm, or the sum total of the following two conditions.
1: *Anoto* pattern resolution: 0.3mm (dot pitch is 0.3mm)
2: Address errors calculated by the locations of the pen and *Anoto* patterns vary depending on the angle of the pen against the paper. The maximum error is 0.7mm.

PRODUCT AND CONTACT INFORMATION

This following section provides information on:

- Product specifications for the pen
- Contact and reorder information
- How to record your pen number

Pen Specifications

Model	AMP-121 (Bluetooth® + USB model)
Weight	30g
Dimensions	153 x 19 x 17mm (without a cap) 157 x 21 x 18mm (with a cap)

Data communication	USB 1.1 standard (USB 2.0 standard can be used) Bluetooth 1.2 standard
Operating temperature	0°C to 40°C (with no condensation)
Built-in battery	Lithium-ion rechargeable battery. Lasts up to 10 days between recharges
Operation time	4 hours (120 minutes) or longer. Memory stores up to 50 pages between transfers
Standby time	10 hours (min.) without a cap
Charging time	Approx. 2.5 hours
Charging method	Via cradle (AC adapter/USB)

Contact and Reorder Information

Use the email address, phone numbers, and URL below for technical support, sales, and to reorder parts.

Troubleshooting and Technical Support
Email: techsupport@adapx.com
Phone: 866-208-9673

Sales
Email: sales@adapx.com
Phone: 206-428-0800
FAX: 206-428-0801

Reorder Part numbers for Adapx Products
The following part numbers can be used to order products

- Penx – Model AMP-121
- Dox-Penx waterproof transport case - Model AMD-110
- Notebooks – 870FB
- Ink refills – Available in packs of 5 and 10. FSPR-005 (5 pack) FSPR-010 (10 pack)
- Capturx is built for Microsoft OneNote 2007 – ASMO4211

You can reorder these products from Adapx at

http://www.adapx.com

Recording your pen serial numbers

Each pen has a unique four-digit identification number used to deactivate the pen or to disable Bluetooth. For future reference, you can use the box below to enter pen information or to place your identification number and keep it in a safe place:

Pen Model: _____
Pen Serial No: _____
Bluetooth Addr: _____
PIN Code: _____

ArcGIS Desktop Extension Serial No: