
AllMyPapers

AMPLIBTM

BAR Batch Manual

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Contents

Introduction	1
1. What is BAR Batch?	1
Installation	3
2. Installing BAR Batch	3
Quick Start	5
3. BAR Batch Quick Start	5
Program Operation and Menus	7
4. BAR Batch Program Operation and Menus	7
4.1 File	7
4.1.1 Open	8
4.1.2 Save As	8
4.1.3 Paste Clipboard	8
4.1.4 Twain Capture Image	8
4.1.5 Twain Select Source	9
4.1.6 Exit	9
4.2 Barcode	9
4.2.1 Read Image	9
4.2.2 Read Folder	9
4.2.3 Read Last Folder	10
4.2.4 Read Network Protocol Image Folder	11
4.2.5 Network Protocol Options	11
4.2.6 Barcode Options	12
4.2.7 Processing Options	13
4.2.7.1 BAR Batch Results File	14
4.2.7.2 Source File Filter	15
4.2.7.3 Verify Default Path	15
4.2.7.4 AMPLIB Trace File	15
4.2.7.5 Subdirectories	16
4.2.7.6 Tracing	16

4.2.7.7 Image Prep	16
4.2.7.8 Black Edges	16
4.2.7.9 Left Rotation	16
4.2.7.10 Right Rotation	17
4.2.7.11 Force Res.	17
4.2.7.12 DPI	17
4.2.7.13 Bilevel	17
4.2.7.14 Gray	17
4.2.7.15 Color	18
4.2.8 Image Output File Options	18
4.2.9 Output File Format Options	19
4.2.9.1 Headers	21
4.2.9.2 Barcode Data	22
4.2.9.3 Footer	23
4.2.10 Read Barcode.tif	24
4.3 Operations	24
4.3.1 Image Info	25
4.3.2 MICR Prep	25
4.3.3 Rotate	25
4.3.4 Fill	25
4.3.5 Invert	25
4.3.6 Mirror	25
4.3.7 Double Size	26
4.4 Help - About BAR Batch	26

Initialization File Format27

5. Initialization File Format	27
5.1 [Files]	27
5.1.1 BBOut=	27
5.1.2 Filter=*.tif	28
5.1.3 Trace=	28
5.1.4 AutoDir=	28
5.1.5 ImageDir=	28
5.1.6 WriteFileDir=	28
5.1.7 NetProtocolDir=	28
5.2 [Settings]	29
5.2.1 BitmapType=2	29
5.2.2 Traverse=No	29
5.2.3 AutoNetProt=No	29
5.2.4 Trace=No	29
5.2.5 ImagePrep=Yes	29
5.2.6 BlackEdge=No	30
5.2.7 ForceRes=No	30
5.2.8 Resolution=200	30
5.2.9 Rotation=0	30
5.2.10 AutoRun=No	30
5.2.11 WFOMode=0	31

5.2.12	WFOFile=0	31
5.2.13	WFOOverwrite=Yes	31
5.2.14	NetProtAutoDel=Yes	31
5.2.15	NetProtJobname=No	31
5.2.16	NetProtNoWait=No	31
5.2.17	BCWidth=	32
5.2.18	BCHeight=	32
5.2.19	BCTypes=	32
5.2.20	BCOrient=	32
5.2.21	BCQuality=	32
5.2.22	BCSmall=	32
5.2.23	BCMedium=	32
5.2.24	BCLarge=	33
5.2.25	BCMinNumb=	33
5.2.26	BCNumber=	33
5.2.27	BCLength=	33
5.2.28	BCPartialLen=	33
5.2.29	BCFixed=	33
5.2.30	BCOptions=	33

Appendix A	35
-------------------	-----------

AMPLIB Error Codes	35
---------------------------	-----------

Index	39
--------------	-----------

Introduction

1. What is BAR Batch?

BAR Batch is a barcode reading application created by All My Papers for processing entire folders, including subdirectories, containing thousands of images. After processing, the output Barcodes are placed in a text file where the control of content and order makes it very simple for the results to be loaded into an indexed database.

BAR Batch can be operated interactively to set up and test barcode processing. All the parameters that have been set up interactively are saved in an "INI" file. Using the controls set into the INI file, BAR Batch can be run from a command line or script file without user interaction.

In addition to the output of the ASCII barcode data file, reformatted and repackaged image files can also be output. This allows conversion from multi-image Tiff to single image Tiff, single image Tiff to multi-image Tiff and many other combinations. BAR Batch also outputs PDF format files. BAR Batch fully supports color and grayscale images for input and output.

In summary, BAR Batch will accept as input a group of scanned images and then read the barcode data. The images can then be reformatted and/or combined and moved to a new directory location. The barcode data will be output into the ASCII data file in the order and with the content the user desires. This may include the file path for the reformatted check image. This ASCII file can then be easily loaded into a database used for check archiving and retrieval.

Installation

2. Installing BAR Batch

To install BAR Batch on your hard disk, simply double-click on the ZIP file BBATCH.ZIP. Extract the files into a temporary directory and then run SETUP.EXE. Following the installation defaults will place BAR Batch files in:

C:\Program Files\AllMyPapers\BAR Batch

AMPLIB executables will be placed in:

C:\Program Files\AllMyPapers\Amplib\Bin

After installation is complete, select All My Papers->BAR Batch from the Windows Start menu or double-click on the BAR Batch desktop icon to start the program.

Quick Start

3. BAR Batch Quick Start

Upon entering the program, you will see the program menu and several scanned barcode images. Select Read Image under the Barcode menu and the codes present on the image will be read and displayed in a dialog box.

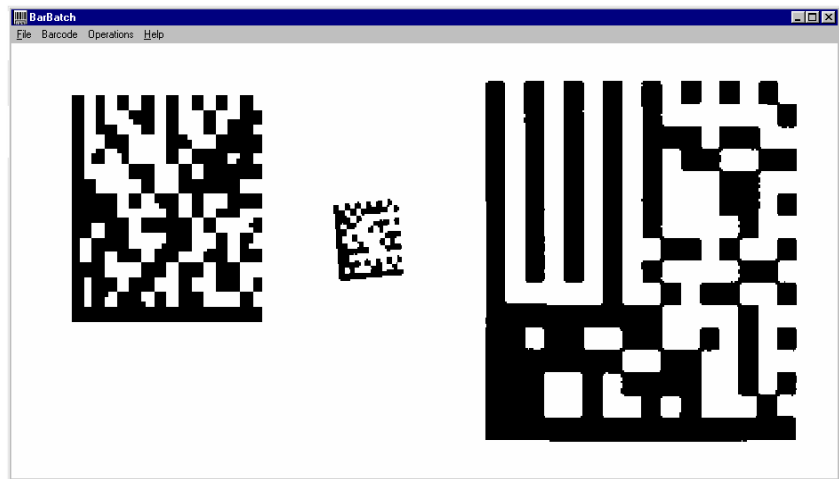


Figure 1 - BAR Batch Main Screen

Scanning an entire folder of images is just as easy. Select Read Folder under the Barcode menu and you will be shown a diagram of all the drives on your computer. It should look and feel just like Windows Explorer. Navigate to the folder you want to read just as you would in Explorer and highlight the folder. Clicking OK will now start BAR Batch reading images. As BAR Batch works through each file in the folder and subfolders, a dialog box is updated with the current directory, the current file, and any Barcodes found on that file.

The Barcode Options dialog under the Barcode menu allows you to select the barcode style you want to read as well as other parameters associated with the style of barcode selected. BAR Batch is initialized at the factory to read TIFF files, but you can use the Processing Options dialog under the Barcode menu to change which file types are active, whether subdirectories should be searched, where the results should be placed, processing parameters, and much more.

Program Operation and Menus

4. BAR Batch Program Operation and Menus

This section describes the general operation of BAR Batch including a brief description of the functionality of each menu and dialog box option. BAR Batch can accept one command line parameter that specifies the name of the file to use for program initialization. If no command line parameter is present, the default file used is BARBATCH.INI which exists in the same directory as BARBATCH.EXE. The format of the .INI file is described in more detail in Initialization File Format (Section 5).

If the AutoRun=Yes line is present in the .INI file, BAR Batch will immediately begin reading Barcodes. AutoNetProt=No selects simple folder processing (see Section 4.2.2) while AutoNetProt=Yes enables the more complex Network Protocol described in Section 4.2.5. If AutoRun=No or is not present, then BAR Batch will display its user interface, open the file BARCODE.TIF for viewing in the client area, and operate with the usual Windows mouse-driven point-and-click style approach.

4.1 File

This menu operates on files or scanned images displayed in the main viewing window of BAR Batch. This viewing window does not automatically resize itself to match the source image dimensions, so it is up to the user to adjust aspect ratios that are appropriate for the current image.

4.1.1 Open ...

This option presents a standard Windows file selection dialog box that enables the user to navigate through storage devices and folders on those devices. Once a file is selected, BAR Batch will attempt to open that file with the `ampLoadImage` API and then display it. BAR Batch supports the following file types: TIFF (multipage G4/G3), PDF G4, JPEG, PCX (bilevel), and BMP.

Color images may be displayed and processed in color by selecting the Color check box in the Native Bitmap Options group displayed in the Processing Options dialog box (see Section 4.2.7.15). In a similar way, use the Gray check box (see Section 4.2.7.14) if you want to process gray barcode images in their native gray format. In general, bilevel barcode processing is fastest with gray running a close second. If a bilevel image is loaded with Gray selected as the native bitmap, barcode processing will be done as if Bilevel were selected. Similarly, if a gray barcode image is loaded with Color selected as the native bitmap, grayscale image processing algorithms will still be used to process the image.

Color and grayscale check images that are loaded into a native bitmap that has been selected to be Bilevel, will be thresholded with an advanced algorithm that preserves the barcode details.

4.1.2 Save As ...

Displays a standard Windows file selection dialog box that allows the user to save the current image as a disk file. The default filename will be the same as the last filename used in Open

4.1.3 Paste Clipboard

If there is a DIB image already "pasted" to the clipboard, BAR Batch will load and display it in the program client area below the main menu according to the native bitmap selected: bilevel, gray, or color.

4.1.4 Twain Capture Image

This option enables BAR Batch to use TWAIN compatible devices like PC Cameras and scanners to input single images for viewing in the

program. As the image is transferred, the color depth will be transformed to match the current native bitmap selected: bilevel, gray, or color. Most TWAIN compatible devices have their own user interface that acts as an intermediary to BAR Batch allowing selection of scanning parameters and scanned images.

4.1.5 Twain Select Source

Brings up the standard TWAIN dialog used to select between the currently active TWAIN devices installed on the computer.

4.1.6 Exit

Exits BAR Batch and saves all parameters in the same .INI file used when the program began. If no command line filename was used, the default file is BAR BATCH.INI located in the same directory as BAR BATCH.EXE.

4.2 Barcode

This menu contains options that read Barcodes from images and also enables the selection of various parameters used during reading.

4.2.1 Read Image

This option causes BAR Batch to scan the image that is currently being displayed on the screen for Barcodes and to display the results in a dialog box. The codes will be read using AMPLIB parameters set in the Barcode Options (Section 4.2.6) and Processing Options (Section 4.2.7) dialogs. If there is an error during processing, the error code and a brief description of the problem will be shown. If there were no Barcodes detected, the box will display the text "Results:" followed by blanks.

4.2.2 Read Folder

Brings up a standard Windows folder selection dialog similar to the left side of the Windows Explorer program. This dialog can be used to select a particular folder on a local or remote disk drive for barcode processing. Pressing OK will start the process of sequentially looking at

all the files in that directory that match the extension and wildcards set up with the Barcode Source File Filter (Section 4.2.7.2). The Sub-



Figure 2 - Read Folder Progress Dialog Box

directories option (Section 4.2.7.5) controls whether subfolders will be traversed during processing. Output Barcodes will be placed in a text file specified by the BAR Batch Results File (Section 4.2.7.1). Pressing Cancel closes the folder dialog and returns you to the main program menu and current image.

While Read Folder is processing, a dialog box is presented that contains the following information: current directory, file being read, Barcode read from the last file, output pathname of the results text file, and the number of images read so far. After all the selected subdirectories have been read, a final dialog is presented that displays the elapsed time along with how many images and files were processed. Note that the number of images read may be larger than the number of files if multipage TIFF files were present.

4.2.3 Read Last Folder

This menu option performs the same function as Read Folder, but uses the last directory selected for the source of images. It is useful for rapidly repeating a batch operation with only a different set of parameters.

4.2.4 Read Network Protocol Image Folder

This option enables BAR Batch to become a Barcode reading image file server. Any application that follows the Xerox DocuCentre protocol (e.g. Seaport AutoScan) can act as an image source for BAR Batch. This means that several scanners can be simultaneously feeding check images into a network subdirectory and that BAR Batch will be reading those images as they are produced. During processing, BAR Batch will display the progress dialog shown below and will continue processing images until the Done button is pressed or optionally, when all the existing images have been processed.

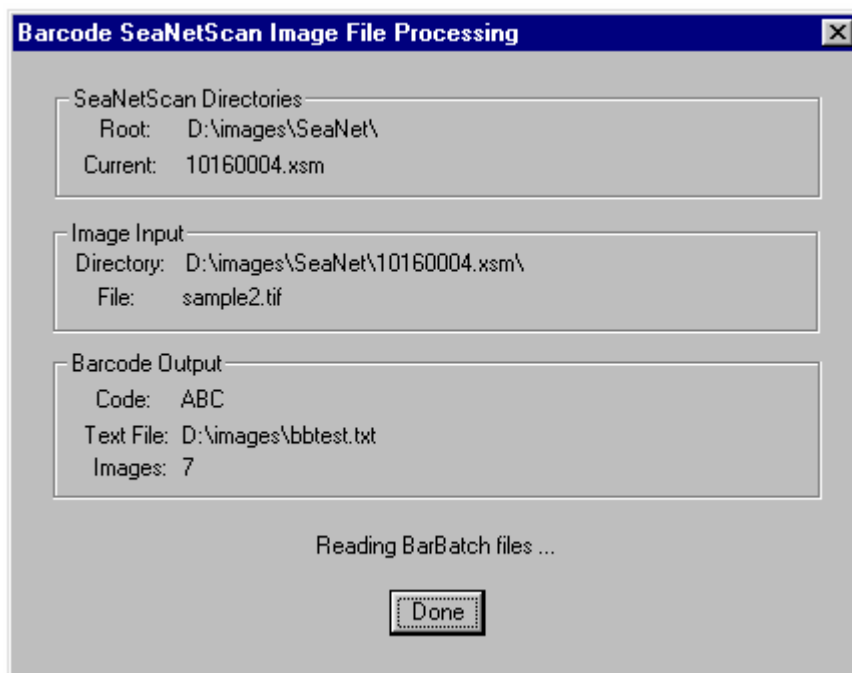


Figure 3 - Read Network Protocol Image Folder Progress Dialog Box

4.2.5 Network Protocol Options

This dialog controls the action of Read Network Protocol Image Folder (Section 4.2.5). The Network Protocol active directory may be selected by browsing or by directly entering the path in the edit field. Image subdirectories may be automatically deleted after the Barcodes are read by placing a check next to the first option. If the second option is

checked, all valid image subdirectories will be processed and then the process will terminate back to the main BAR Batch menu. The last option selects AutoNetProt=Yes in the .INI file so that Network Protocol processing can be performed without user interaction if AutoRun=Yes.

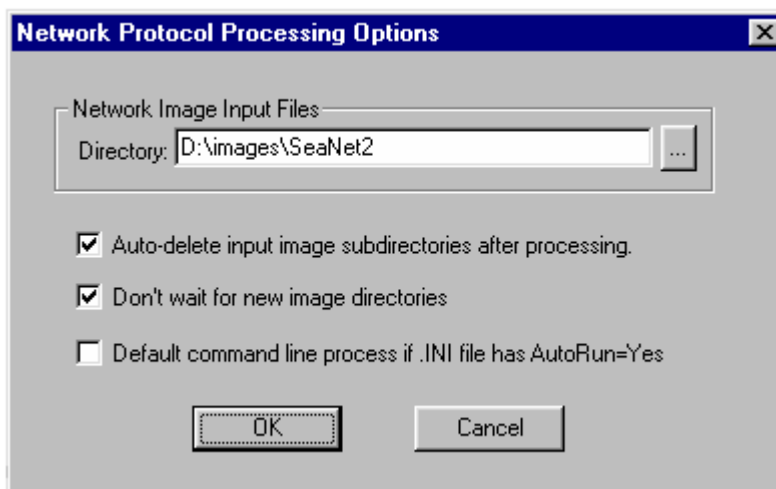


Figure 4 - Network Protocol Options Dialog Box

4.2.6 Barcode Options ...

This dialog box selects the type(s) of barcodes that will be read by BAR Batch during reading operations. It also controls parameters that will be used in searching for barcodes on the image, how many barcodes to search for, what to do if incomplete barcodes are found, as well as the overall expected quality of the barcode image. In general, each selection control in Barcode Options has a directly related line in the .INI file so that input parameters may be restored each time BAR Batch is started.

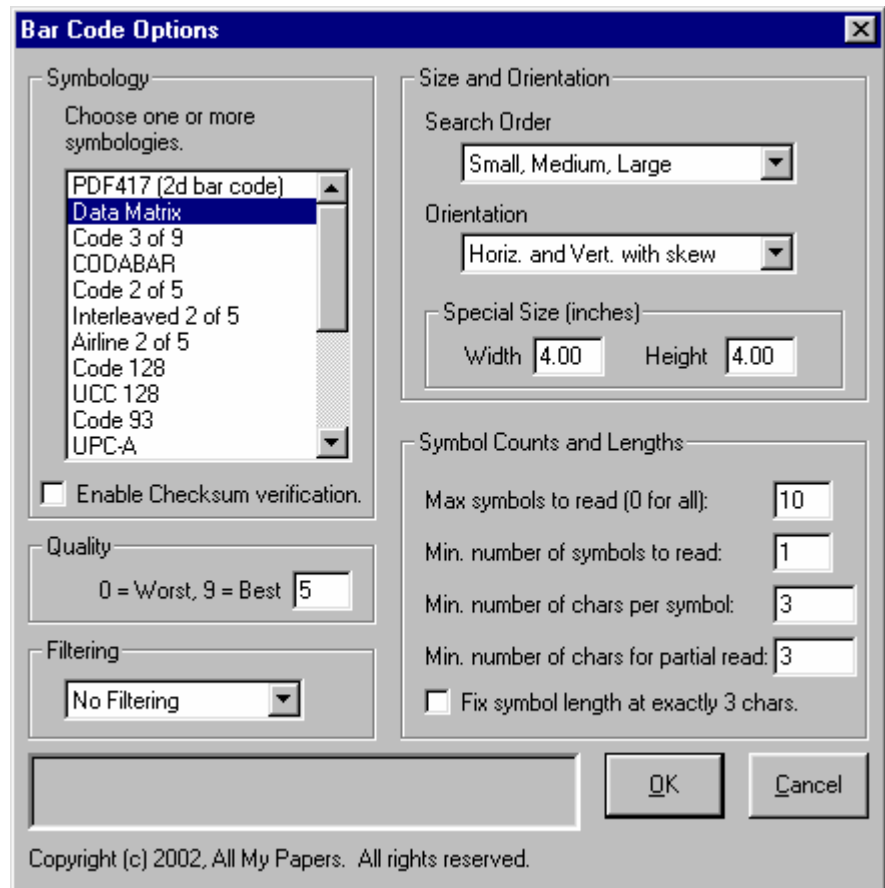


Figure 5 - Options Dialog Box

The Symbology control determines which type of barcodes will be read. Some of the simpler barcode styles (e.g. Code 3 of 9) allow several types of styles (e.g. Code 3 of 9 plus Code 2 of 5 plus Code 128) to be read simultaneously. Conversely, Data Matrix may be selected only by itself. The text box in the lower left corner of the dialog is used for error messages if a particular combination of symbologies or parameters is not allowed.

4.2.7 Processing Options ...

This dialog box controls the options that will be used by BAR Batch and in turn by AMPLIB during Barcode reading. It also controls which files will be read and how the barcode results will be saved to disk. A number of the checkbox items are directly linked to variables in the

ampPREPINFO structure which is documented in the ampPrepMicr section of the AMPLIB manual. In general, each selection field in Processing Options has a directly related line in the .INI file.

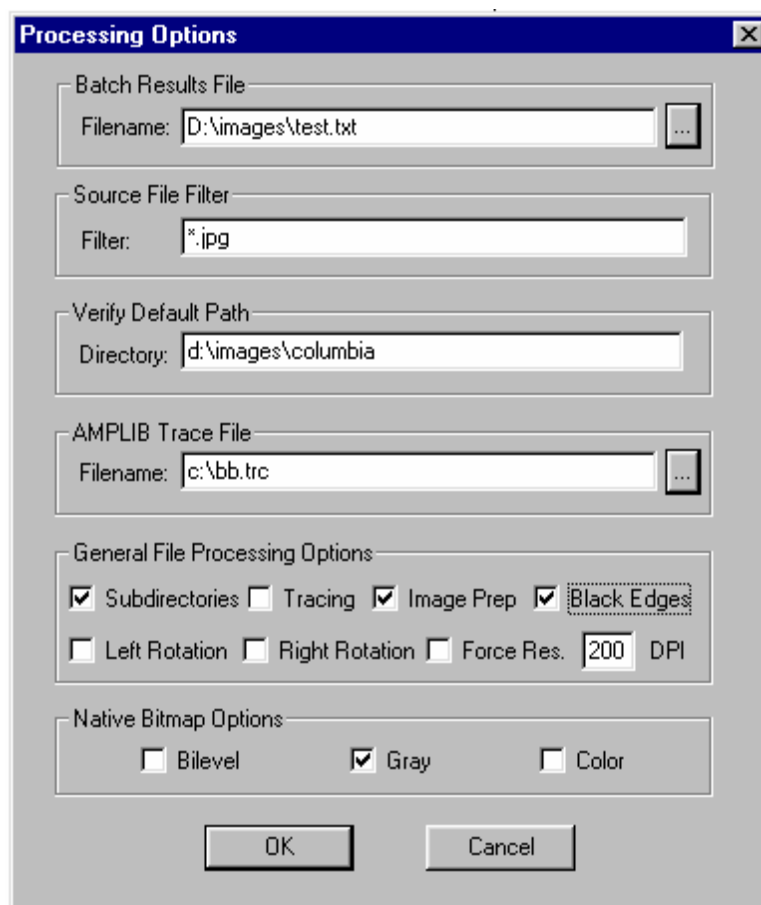


Figure 5 - Options Dialog Box

4.2.7.1 BAR Batch Results File

This editable field contains the location and name of the text file that will be used to hold Barcodes output from the Read Folder (Section 4.2.2), Read Last Folder (Section 4.2.3), and Read Network Protocol Image Folder (Section 4.2.4) menu options. The general format of the text file is header information followed by repeated lines of barcode data followed by footer information. The order of fields within the each

header, barcode data, or footer record is completely flexible and specified by the Output File Format Options dialogs (Section 4.2.9). Each field can be delimited from neighboring field by any ASCII character, but usually the default value (comma) works well. Field data may be bracketed by quotations or any other character if desired. In addition, headers and footers may be completely suppressed if desired. Here are some lines from a sample Batch Results File:

```
"BARBatch Processing", "7/09/2003"  
1, D:\images\DataMatrix\DAMA0001.jpg, A1B2C3D4E5F6G7H8I9J0K1L2  
2, D:\images\DataMatrix\DM1616.jpg, ABCDEFGHIJKLMNOP  
3, D:\images\DataMatrix\DAMA0007.jpg, 1049837  
4, D:\images\DataMatrix\DM13.jpg, 12345678912345678912345679  
5, D:\images\DataMatrix\DAMA0016.jpg, 30Q324343430794<OQQ  
"End of Batch Processing", "7/09/2003"
```

In this example, each input file has a single Data Matrix symbol located somewhere on the image.

4.2.7.2 Source File Filter

This field is used mainly to select the type of file extension (TIF, BMP, JPG, etc.) that will be used to screen input files during the Read Folder (Section 4.2.2) function. It can also be used to filter filenames as in the following examples:

- *.* - all files processed
- *.tif - only files with a .TIF extension are processed
- 000*.* - filenames must begin with 000 in order to be processed
- 000000???.tif - Only the first 99 numeric TIFF filenames are used

4.2.7.3 Verify Default Path

The path specified in this editable field will be used in a future version of BAR Batch.

4.2.7.4 AMPLIB Trace File

AMPLIB trace files are useful to All My Papers technical support personnel to help diagnose imaging problems that occur infrequently or are otherwise difficult to debug. This editable field can be used to select

the pathname for the text file where AMPLIB specific program information can be saved during BAR Batch execution. As BAR Batch executes, new AMPLIB trace information is appended to the end of the file building up a record of AMPLIB parameters associated with each AMPLIB program call made while tracing was activated. The Tracing check box (Section 4.2.7.6) is used to turn tracing on and off. As a general rule, it is best to keep tracing deactivated because the large amounts of information sent to a trace file can significantly decrease barcode throughput speed.

4.2.7.5 Subdirectories

This check box activates the processing of subfolders when Read Folder (Section 4.2.2) is used or if AutoRun=Yes is present in the initialization file.

4.2.7.6 Tracing

This check box activates and deactivates AMPLIB tracing as described in Section 4.2.7.4.

4.2.7.7 Image Prep

This option enables AMPLIB to intelligently scale, rotate, or deskew the incoming image in order to increase barcode reading accuracy.

4.2.7.8 Black Edges

The deskew portion of Image Prep (Section 4.2.7.7) can perform a better job removing the margins on tilted images surrounded by black if this option is selected.

4.2.7.9 Left Rotation

This option enables the counter-clockwise rotation of the image during Image Prep (Section 4.2.7.7).

4.2.7.10 Right Rotation

This option enables the clockwise rotation of the image during Image Prep (Section 4.2.7.7).

4.2.7.11 Force Res.

Normally, resolution data is contained in the image file being processed. If the source image is from a camera, then the resolution information may not have been present at capture time. This may be compensated for by setting this checkbox and entering a new resolution at the DPI parameter (Section 4.2.7.12).

4.2.7.12 DPI

When Force Res. (Section 4.2.7.11) is active, this parameter should be set to a value that approximates the visual dots per inch of the image. For example, if the field of view of the image is 4 inches and the total resolution is 640 pixels, then DPI should be set to $640/4$ or about 160.

4.2.7.13 Bilevel

This parameter selects that the native bitmap format used for all barcode image processing will be binary. If a barcode image is grayscale or color, it will be immediately thresholded to bilevel when read from the hard drive. All subsequent transformations and operations performed on that image will be done in the bilevel domain. If a color or grayscale image is currently displayed in the BAR Batch client area, selecting this option will convert the image to bilevel and cause the image to be refreshed.

4.2.7.14 Gray

This parameter selects that the native bitmap format used for barcode image processing will be 8-bit grayscale. This allows greater accuracy for deskew and other image processing operations when processing grayscale and color barcode images. If a barcode image is color, it will be immediately converted to grayscale when read from the hard drive treating green as 59% of the intensity, red as 29%, and blue as 11%.

Bilevel barcode images will continue to be processed as 1-bit images and will not benefit from the increased visual accuracy. If a color image is currently displayed in the BAR Batch client area, selecting this option will convert the image to grayscale and cause the image to be refreshed changing the displayed colors to shades of gray. If a bilevel image is currently displayed, selecting Gray will force the image to grayscale, but there will not be a visual change of the image within the client area.

4.2.7.15 Color

This parameter selects 32-bit color as the native bitmap format that will be used for all barcode image processing. This allows greater accuracy for deskew and other image processing operations. If a barcode image is bilevel or grayscale, it will remain bilevel or grayscale when loaded. Some operations may be noticeably slower if color is selected rather than Gray or Bilevel.

4.2.8 Image Output File Options

This dialog box controls the generation of output image files during barcode processing. Output file formats include single or multi-image TIFF as well as PDF (grayscale or color PDF output is not currently supported). Output images may be placed in a single output directory or sorted into new subdirectories using the Jobname dating schema. In this schema the first 2 characters of the subdirectory name are the month (01-12), the next 2 are the day (01-31), and the last 4 start at 0001 and are incremented each time a batch of files are processed. For example, if the image file output directory is c:\images and the date is January 15, then the third run of barcode processing would place check images in the subdirectory c:\images\01150003\.

Output filenames are based on the Write File Order selected. The Automatic option gives the output file the same name as the input file. If the input was a multi-image file, the output will be multi-image. The Standard option breaks up input multi-image files so that the output filename is the source name appended with a numeric index as in MULTITEST_00000001. The Multi Image option appends all output images potentially making a very large output file.

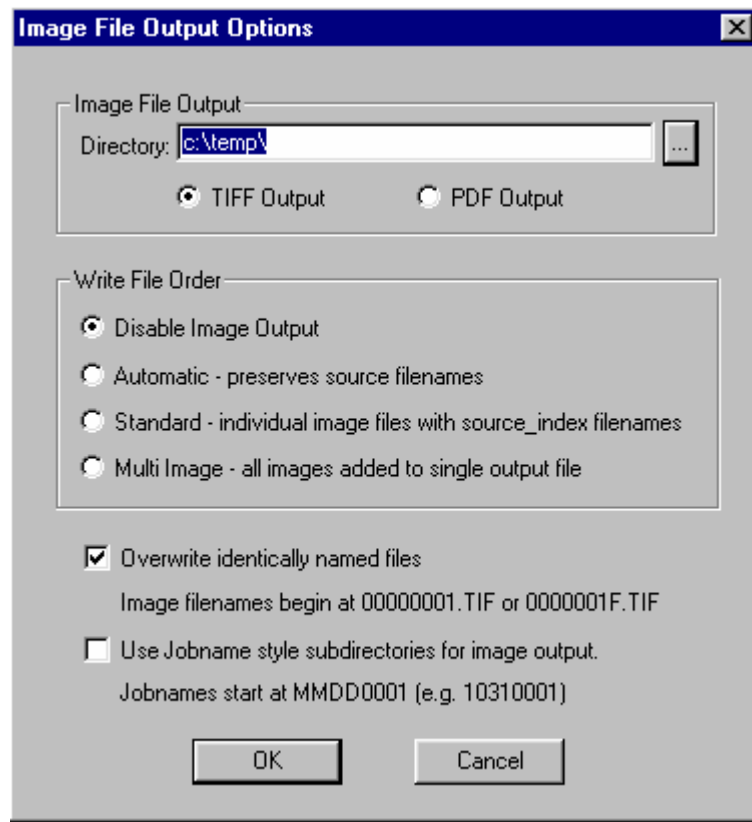


Figure 6 - Image File Output Options Dialog Box

4.2.9 Output File Format Options

BAR Batch provides an extremely powerful environment in which to control the output order of textual information in the BAR Batch Results File. This allows the direct importation of scanned barcode information into a variety of database applications. The main requirement is that the database can import comma (actually any ASCII character) delimited data.

BAR Batch supports data ordering for not only the barcodes on the image, but also for two header records and a footer record. Fields within each record may be delimited with a comma or any other ASCII character. Entering a CR as a Field Delimiter will cause carriage returns to be used as delimiters. Field Enclosure brackets any field data with quotation marks or any other ASCII character. As long as a header, data, or footer record has at least one field selected, those selected

field(s) will be output to a Results File and then terminated with a carriage return/line feed (CR/LF) pair of characters. If Total Fields is set to zero for a given record, then the CR/LF will be suppressed essentially eliminating the record from the output stream of data.

Empty fields (e.g. , ,) may be specified by setting Total Fields to a number higher than the number of actual fields needed and then setting gaps in the field Order where the empty fields are desired. Pressing the Clear button will set Total Fields to 0, the Field Delimiter to a comma, the Field Enclosure to quotation mark, and all other fields to blank.

Remember that the Total Fields needs to be set to a number greater or equal to the highest number used in the Order column. It is a good practice to always press Test Format before pressing Accept. The Output Order line will then be filled with characters that represent the data order pattern specified. It's always good to double-check this data order with the database field order so that proper data is passed in valid locations.

4.2.9.1 Headers

Shown below is the dialog box that controls the field ordering for the first header. In this simple example, only the 3 last fields are to be output in sequential order. Note that quotation marks will surround the contents of all 3 fields.

Order	Field
<input type="checkbox"/>	Process Date (PD) <input type="text" value="3"/> Total Fields (Max. 20)
<input type="checkbox"/>	Batch ID (BI) <input type="text"/>
<input type="checkbox"/>	Input Root Path (RP) <input type="text"/>
<input type="checkbox"/>	Output Root Path (OP) <input type="text"/>
<input checked="" type="checkbox"/>	String A (SA) <input type="text" value="This is a"/>
<input checked="" type="checkbox"/>	String B (SB) <input type="text" value="barcode reading test"/>
<input checked="" type="checkbox"/>	String C (SC) <input type="text" value="with BARBatch"/>

Field Delimiter: String Enclosure:
Output Order: SA,SB,SC

Buttons: Accept, Test Format, Clear, Cancel

Figure 7 - Header 1 Dialog Box

The second header dialog is special in that the Process Date, and Batch ID may be defined in the first two edit fields at the bottom. These two parameters may be used in any of the header, data, or footer records. Show below is the Header 2 dialog with only two data fields selected for output. Note that quotation marks will be used around these data fields.

Output File Header 2 Record Control

Order	Field
<input type="checkbox"/>	Process Date (PD)
<input checked="" type="checkbox"/>	Batch ID (BI)
<input type="checkbox"/>	Input Root Path (RP)
<input type="checkbox"/>	Output Root Path (RP)
<input type="checkbox"/>	String A (SA)
<input checked="" type="checkbox"/>	String B (SB)
<input type="checkbox"/>	String C (SC)

Total Fields (Max. 20):

Field Delimiter:

String Enclosure:

Clear

(Used as the Process Date)

String B (SB):

(Used as the Batch ID)

Output Order:
BI,SB

Accept Test Format Cancel

Figure 8 - Header 2 Dialog Box

4.2.9.2 Barcode Data

Shown below is the dialog that controls the data order for the barcodes on the image.

Order	Field
<input type="checkbox"/>	Process Date (PD)
<input type="checkbox"/>	Batch ID (BI)
<input type="checkbox"/>	Item No. (IN)
<input type="text" value="3"/>	File Name In (FI)
<input type="text" value="4"/>	File Name Out (FO)
<input type="text" value="2"/>	Barcode Data (BD)
<input type="checkbox"/>	Input Root Path (RP)
<input type="checkbox"/>	Output Root Path (OP)
<input type="checkbox"/>	Input Index (II)
<input type="checkbox"/>	Output Index (OI)
<input type="text" value="1"/>	String A (SA) Barcode
<input type="text"/>	String B (SB)
<input type="text"/>	String C (SC)

Order Preset A Order Preset B

Clear

Total Fields (Max. 20)

Hexadecimal Data Format

Exclude Input Root Path

Exclude Output Root Path

Field Delimiter (Use CR for new line)

String Enclosure

Output Order:
SA,BD,FI,FO

Accept Test Format Cancel

Figure 9 - Front Data Dialog Box

Special mention should be made of Exclude Input Root Path and Exclude Output Root Path. When checked, these two options cause only the filename (not the path) to be output for File Name In, File Name Out, File Name Out Front, and File Name Out Back. Complete pathnames can be quite lengthy, so this is a simple technique for reducing redundant information.

4.2.9.3 Footer

The dialog that controls the footer data record is shown below. In many instances no footer information is needed when importing Barcodes into a database. This can be selected easily by pressing Clear followed by Accept.

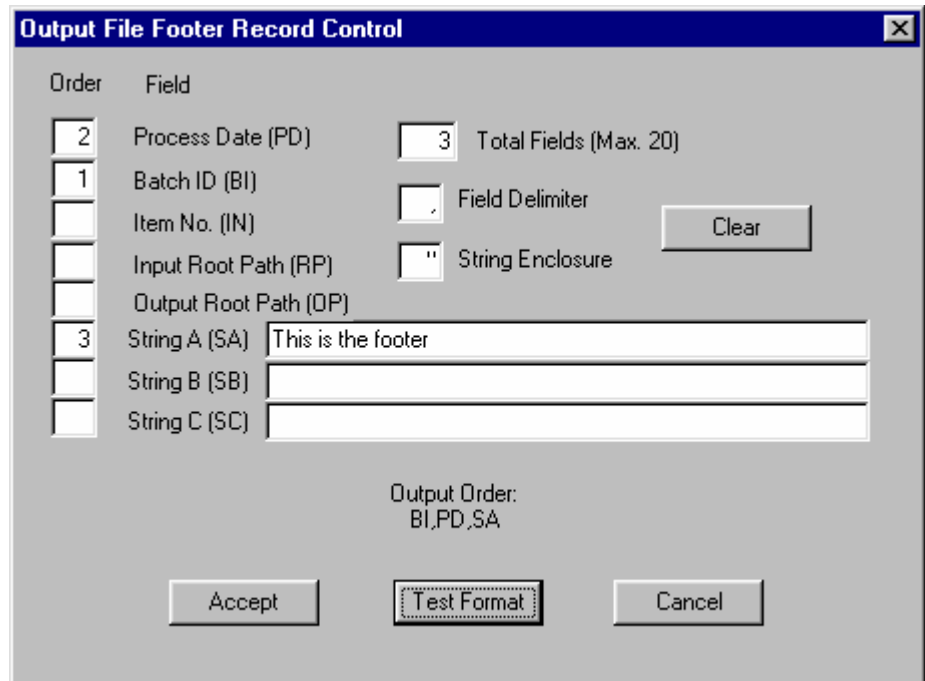


Figure 10 - Footer Dialog Box

4.2.10 Read Barcode.tif

This option causes BAR Batch to examine the file BARCODE.TIF for barcodes and display the results in a dialog box. As in the Section 4.2.1 Read Image command, the codes will be read using AMPLIB parameters set in the Barcode Options (Section 4.2.6) and Processing Options (Section 4.2.7) dialog boxes. If there is an error during processing, the error code and a brief description of the problem will be shown. If there were no Barcodes detected, the box will display the text "Results:" followed by blanks. Read barcode.tif is available as sample C source code for advanced developers who need an example of how to use the AMPLIB API to directly read the barcode from an image file.

4.3 Operations

This menu has commands that may be used to perform image processing operations on the image currently displayed as well as obtain informa-

tion concerning this image. These operations are included to help advanced users of BAR Batch select appropriate Processing Options for difficult check images by allowing them to visualize what is actually happening to the image before reading.

4.3.1 Image Info...

This option displays the dimensions, XY resolution, and pixel bit depth of the current image in a dialog box.

4.3.2 MICR Prep

This option uses the ampPrepMicr function in AMPLIB to process and replace the current image displayed. Either white or black edge options may be selected.

4.3.3 Rotate

These three suboptions allow the image to be rotated 90, 180, or 270 degrees counter clockwise. After rotation, the client area remains in its usual orientation which sometimes makes the image a little "squished" or "stretched" looking. This is only a display artifact and is not representative of the image in program memory.

4.3.4 Fill

These two suboptions allow the displayed image to be erased either to white or to black.

4.3.5 Invert

This option flips the image polarity so black becomes white and white becomes black

4.3.6 Mirror

These suboptions allow the image to be flipped horizontally around the X-axis or vertically around the Y-axis. Performing an X-axis mirror

followed by a Y-axis mirror operation accomplishes the same result as a 180 degree rotation.

4.3.7 Double Size

This menu option uses interpolation techniques to horizontally and vertically double the image size. There is generally little visual change to the displayed image because Windows automatically resizes the image when it is refreshes in the client area.

4.4 Help - About BAR Batch

This menu presents a dialog box containing the version number of the software and a telephone number for sales and technical support.

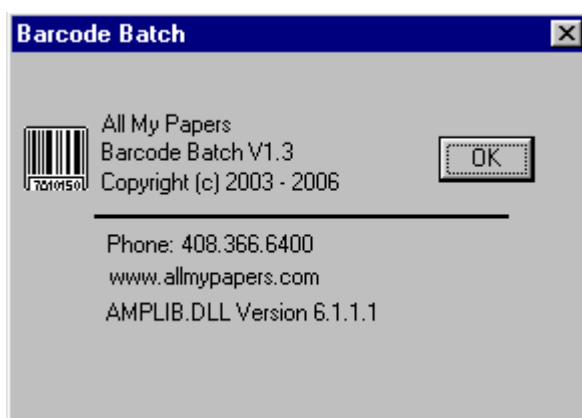


Figure 11 - About Dialog Box

The version number of the AMPLIB Dynamic-Link Library (DLL) is also listed in the dialog. Having this number available is critical when contacting All My Papers for technical support.

Initialization File Format

5. Initialization File Format

BAR Batch loads an initialization (.INI) file when it starts. Lines of text in this file are used to initialize the check boxes and edit fields in the various dialogs (e.g. Processing Options - Section 4.2.7) as well as other program parameters. If the standard BAR BATCH.INI or command line initialization file is not found, or if there are syntax errors in the file itself, then default values will be assigned to each program option. When you exit, BAR Batch will write all of its current program values to disk as a new initialization file using either the standard filename or the one entered on the command line. The standard location for BAR BATCH.INI is:

```
C:\Program Files\AllMyPapers\BAR Batch
```

The .INI file consists of the major sections: [Files], [Settings], [Header1], [Header2], [Data], and [Footer]. The default value of each line in [Files] and [Settings] will now be described so that advanced users can edit the .INI file and modify parameters of interest such as AutoRun. The characters before the equal sign on each line describe a unique parameter name and the characters after the equal sign are the text equivalent of the parameter value.

5.1 [Files]

This section includes directories and filenames used by BAR Batch. If there is a default value, it will typically be shown on the same line as the parameter name unless there are space constraints.

5.1.1 BBOut=

This pathname is used to initialize the BAR Batch Results File editable field in the Options dialog box (Section 4.2.7.1). The default is:

BBOut=C:\ProgramFiles\AllMyPapers\BARBatch\BARBatch.txt

5.1.2 Filter=*.tif

This line initializes the BAR Batch Source File Filter (Section 4.2.7.2) to scan for only TIFF files.

5.1.3 Trace=

This line initializes where AMPLIB trace information will be saved for later debugging. The default is:

Trace=C:\ProgramFiles\AllMyPapers\BAR Batch\ampbar.trc

5.1.4 AutoDir=

This line contains the directory of the folder to begin batch reading from in the no user interface mode (AutoRun=Yes). There is no default, but the line follows the syntax AutoDir=PATHNAME.EXT. Only images with the matching three-letter extension (e.g. .BMP) will be processed. An example line would be:

AutoDir=D:\images*.tif.

5.1.5 ImageDir=

This is the directory that is displayed by the File->Open... dialog when first used. An example line would be:

ImageDir=D:\images

5.1.6 WriteFileDir=

This line contains the directory last used for image file output (Section 4.2.8) An example would be:

WriteFileDir=d:\images\temp

5.1.7 NetProtocolDir=

This line contains the directory last used in Read Network Protocol Image Folder (Section 4.2.5). An example would be:

```
NetProtocolDir=D:\images\SeaNet2
```

5.2 [Settings]

This section is devoted to flags, numeric values, and character strings. If there is a default value, it will typically be shown on the same line as the parameter name.

5.2.1 BitmapType=2

Checks the native bitmap format box used in processing and reading images in BAR Batch to be Bilevel (0 - Section 4.2.7.13), Gray (1 - Section 4.2.7.14), or Color (2 - Section 4.2.7.15).

5.2.2 Traverse=No

Selects and deselects the Subdirectories (Section 4.2.7.5) checkbox in the Options dialog box. Make Traverse=Yes if you want to process subfolders in batchmode (AutoRun=Yes, AutoNetProt=No).

5.2.3 AutoNetProt=No

Enables and disables whether Network Protocol image file processing will be enabled in batchmode (AutoRun=Yes). When not enabled, the image file processing described in Section 4.2.2 will be active in batchmode.

5.2.4 Trace=No

Selects and deselects the Tracing (Section 4.2.7.6) checkbox in the Processing Options dialog.

5.2.5 ImagePrep=Yes

Selects and deselects the ImagePrep (Section 4.2.7.7) checkbox in the Options dialog.

5.2.6 BlackEdge=No

Selects and deselects the BlackEdges (Section 4.2.7.8) checkbox in the Options dialog.

5.2.7 ForceRes=No

Selects and deselects the Force Res (Section 4.2.7.11) checkbox in the Options dialog.

5.2.8 Resolution=200

Fills the DPI (Section 4.2.7.12) editable box with the number following the equal sign.

5.2.9 Rotation=0

Selects and deselects the Left Rotation (Section 4.2.7.9) and Right Rotation (Section 4.2.7.10) checkboxes in the Options dialog. A Rotation value of zero will deselect both boxes. A value of -1 will select Left Rotate while a value of +1 will select Right Rotate.

5.2.10 AutoRun=No

The No setting causes BAR Batch to enter the normal mode of pointing and clicking on user interface options. AutoRun=Yes will cause BAR Batch to bring up a minimal user interface along with a dialog box and then start processing image files according to the contents of the AutoDir=PATHNAME.EXT line in the .INI file (Section 5.1.4) and AutoNetProt=Yes/No (Section 5.2.3). File information and Barcodes are written to the dialog and the text file specified by BBOut= as the files are read. When all the files have been processed the dialog box is automatically closed and BAR Batch exits.

5.2.11 WFOMode=0

Sets the Write File Order in the Image File Output Options dialog (Section 4.2.8). The value zero corresponds to Disable Image Output

5.2.12 WFOFile=0

Sets the type of image file to be produced (TIFF or PDF) in the Image File Output Options dialog (Section 4.2.8). The value zero corresponds to TIFF.

5.2.13 WFOOverwrite=Yes

Determines whether existing output image files of the same name will be overwritten in the Image File Output Options dialog (Section 4.2.8).

5.2.14 NetProtAutoDel=Yes

Determines whether input image subdirectories will be erased after processing in the Network Protocol Options dialog (Section 4.2.5).

5.2.15 NetProtJobname=No

Determines whether output image file subdirectories using the Jobname schema will be created as described in the Image File Output Options dialog (Section 4.2.8).

5.2.16 NetProtNoWait=No

Determines whether Network Protocol processing will immediately cease after all images in input directories are processed (Yes) or if the process will continue indefinitely until the Done button is pressed (No) as described in the Network Protocol Options dialog (Section 4.2.5).

5.2.17 BCWidth=

Sets the Width value displayed in the Special Size portion of the Bar Code Options dialog (Section 4.2.6).

5.2.18 BCHeight=

Sets the Height value displayed in the Special Size portion of the Bar Code Options dialog (Section 4.2.6).

5.2.19 BCTypes=

Selects the barcode style in the Symbology section of the Bar Code Options dialog (Section 4.2.6).

5.2.20 BCOrient=

Selects the type of Orientation displayed in the Size and Orientation section of the Bar Code Options dialog (Section 4.2.6).

5.2.21 BCQuality=

Sets the Quality value in the Bar Code Options dialog (Section 4.2.6).

5.2.22 BCSmall=

Specifies the Search Order for small size barcodes in the Size and Orientation section of the Bar Code Options dialog (Section 4.2.6).

5.2.23 BCMedium=

Specifies the Search Order for medium size barcodes in the Size and Orientation section of the Bar Code Options dialog (Section 4.2.6).

5.2.24 BCLarge=

Specifies the Search Order for large size barcodes in the Size and Orientation section of the Bar Code Options dialog (Section 4.2.6).

5.2.25 BCMinNumb=

Sets the value for "Min. number of symbols to read" in the Symbol Counts and Lengths section of the Bar Code Options dialog (Section 4.2.6).

5.2.26 BCNumber=

Sets the value for "Max symbols to read" in the Symbol Counts and Lengths section of the Bar Code Options dialog (Section 4.2.6).

5.2.27 BCLength=

Sets the value for "Min. number of chars per symbol" in the Symbol Counts and Lengths section of the Bar Code Options dialog (Section 4.2.6).

5.2.28 BCPartialLen=

Sets the value for "Min. number of chars for partial read" in the Symbol Counts and Lengths section of the Bar Code Options dialog (Section 4.2.6).

5.2.29 BCFixed=

Sets the check box "Fix symbol length at exactly n chars." in the Symbol Counts and Lengths section of the Bar Code Options dialog (Section 4.2.6).

5.2.30 BCOptions=

Selects the Filtering style of the Bar Code Options dialog (Section 4.2.6).

Appendix A

AMPLIB Error Codes

- 1 Could not allocate PC memory space. A local or global allocation failed that was needed to complete the requested operation.
- 3 Specified work image does not exist. No image by the given name can be located.
- 4 Name already in use.
- 6 Not a primary image. An alias image may not be used in this instance.
- 10 AMPLIB cannot support any more tasks. The maximum number of callers has already been reached.
- 11 Internal error. A software error has been detected in the AMPLIB system. Please report this to AllMyPapers Technical Support.
- 12 Image bounds exceeded. The requested DX, DY, X, Y values exceed the values allowed for this image, as given by MaxHeight and MaxWidth, or the requested sub-image lies outside of the current image dimensions.
- 13 Image metrics error. The requested sub-image lies outside of the current image dimensions.
- 14 Internal error calling the Windows API.
- 15 Bad handle passed to function. The given handle is incorrect or inappropriate for the function in question.
- 16 User interrupt. A function terminated because of an improper call.
- 19 AMP function call error. There is an error in the arguments passed to the function in question.
- 20 No size information. The image has not yet been loaded with any image data and thus has no dimensions.
- 21 No cross-board operations are allowed. You may not perform an operation where the source and destination image operands reside on different co-processors.
- 22 Incompatible image sizes. When a destination image is fixed size, the result image must be less than or equal to the size of the destination.
- 23 Bad file name. The file path name given is incorrect or cannot be opened.
- 24 I/O error. The I/O system reported an error during execution of this function.
- 25 Cannot open trace file.
- 26 An invalid compression type was given.

- 27 An internal TIFF operation failed. In the processing of the IFD list or header, some critical operation failed.
- 28 Required TIFF tag missing. The TIFF 6.0 Specification defines those tags which at a minimum must be present in all baseline TIFF files. One of those tags is missing.
- 29 Image organization not supported. Only 1 bit per pixel bi-level images are supported.
- 30 This system is unable to run AMPLIB. Call AllMyPapers Technical Support.
- 31 Unable to open the requested TIFF file. It may not be a TIFF file, or has an invalid header.
- 32 The requested image within a multi-image TIFF file is not in the image file directory of that TIFF file.
- 33 An error occurred while reading the TIFF IFD.
- 34 The KDY value given for Group 3 2d compression is invalid.
- 35 Assertion logic error. Some internal software data or pointer consistency has occurred.
- 36 No region has been selected to support the requested operation.
- 37 The number passed to the function is out of range.
- 40 The resolution value given is not valid.
- 41 The page size value given is not valid.
- 42 The operation type is not valid.
- 43 The mode given is not valid.
- 46 The scale ratio given is not valid for this operation.
- 47 One of the arguments passed to the function is invalid.
- 48 AMPLIB is unable to create the requested file. This is most likely due to an invalid path or some I/O permission error.
- 49 The margins are not legal for the page size.
- 51 No file specification was given and is required for this operation.
- 52 No index string was found in the file path name string.
- 53 Huge objects not supported yet.
- 54 The clipboard is empty.
- 55 General error. No detail available.
- 56 Download failure.
- 60 General printer failure.
- 62 A bad tag was found in a TIFF file.
- 64 An invalid TIFF header was detected.
- 65 Scaling while printing requires buffered print mode.
- 66 Source and destination images must be different.
- 67 The function in question timed out.
- 68 A callback function returned an error.
- 69 Application lockout.

- 70 This version of AMPLIB is not correct for this application.
- 71 An invalid file type was specified.
- 72 The image IX value must be a multiple of 32 for this operation.
- 73 The margins specified are not legal for this operation.
- 74 The requested TIFF tag already exists in the IFD list.
- 75 An invalid Optika header was detected.
- 76 The requested file format is unsupported in this mode.
- 83 No ensigns defined or allowed.
- 84 Bad MODCA RECID parameter
- 85 IBM MMR format not supported
- 86 Unsupported compression type
- 87 Decompression error
- 88 Unsupported MODCA or IOCA file format
- 89 Compression error
- 90 Thread already attached to DLL
- 91 Disk is full
- 92 File Access error
- 93 Too many files open
- 94 File exists
- 95 Bad file handle
- 96 No such file or directory
- 98 Thread not attached
- 101 No object data in image block
- 102 Can't find a needed DLL
- 103 Can't find entry point in DLL
- 104 License file fails security check
- 105 License check detected date rollback
- 106 License expired
- 107 License required for this feature
- 108 Image degenerated to dx=0 or dy=0
- 113 Software implementation only
- 114 Not an AmpLib PDF file
- 115 Error parsing PDF file
- 116 Missing files/files not loaded
- 117 License computer id error
- 118 Problem opening license file
- 119 Problem opening TWAIN device
- 120 Problem reading paper sensor on TWAIN device

- 121** Scanner Timeout
- 122** Not supported scanner
- 123** No image acquired while scanning
- 124** Failure during image warp
- 125** Failure during Data Matrix read
- 126** Invalid JBIG header
- 127** JBIG decompression problem
- 128** Failure while rotating image
- 129** CLICK count exhausted
- 130** No image content (image mostly all black or white)

Index

A

Alias image, 35
AMPLIB Error Codes, 35
AMPLIB Trace File, 15
AMPLIB Verify Default Path, 15
ampLoadImage, 8
ampPREPINFO, 14
ampPrepMICR, 25
Appendix A—AMPLIB Error Codes, 35

B

BAR Batch Results File, 14
Barcode, 9
Barcode Data, 22
Bilevel, 17
Black Edges, 16

C

Color, 18

D

Double Size, 26
DPI, 17

E

Error Codes, 35
Exit, 9

F

File, 7
Files, 27
Fill, 25
Footer, 23
Force Res, 17

G

Gray, 17

H

Headers, 21
Help-About BAR Batch, 26

I

Image Info, 25
Image Output File Options, 18
Image Prep, 16
Index, 39
Initialization File Format, 27
 Files, 27
 Settings, 29
Installing BAR Batch, 3
Invert, 25

L

Left Rotation, 16

M

Menus, 7
MICR Prep, 25
Mirror, 25

N

Network Protocol Options, 11

O

Open, 8
Operations, 24

Output File Format Options, 19

P

Paste Clipboard, 8

Processing Options Dialog Box, 12, 13

Program Menus, 7

- Barcode, 9

- Barcode Data, 22

- Double Size, 26

- Exit, 9

- File, 7

- Fill, 25

- Footer, 23

- Headers, 21

- Help-About BAR Batch, 26

- Image Info, 25

- Image Output File Options, 18

- Invert, 25

- MICR Prep, 25

- Mirror, 25

- Network Protocol Options, 11

- Open, 8

- Operations, 24

- Output File Format Options, 19

- Paste Clipboard, 8

- Processing Options, 12, 13

- Read Check.tif, 24

- Read Folder, 9

- Read Image, 9

- Read Last Folder, 10

- Read Network Protocol Image Folder, 11

- Rotate, 25

- Save As, 8

- Twain Capture Image, 8

- Twain Select Source, 9

Program Operation and Menus, 7

Q

QuickStart, 5

R

Read Check.tif, 24

Read Folder, 9

Read Image, 9

Read Last Folder, 10

Read Network Protocol Image Folder, 11

Right Rotation, 17

Rotate, 25

S

Save As, 8

Settings, 29

Source File Filter, 15

Subdirectories, 16

T

Tracing, 16

Twain Capture Image, 8

Twain Select Source, 9