

Picture Archiver for Windows
User's Manual
Version 1.02

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ACKNOWLEDGEMENTS

All product names used in this text are trade marks of their manufacturers and are used only for reference.

WHAT IS PICTURE ARCHIVER

Recently computer graphics on PC has taken off. With this growth of graphics have come opportunities and problems. Scanners and painting programs provide thousands of images in various formats. These images often should be stored on your hard disk. Since each picture is something about 100KB - 1 MB in size, your picture archive often can occupy more than half of your hard disk. Of course, you can try to solve these problems with the help of any universal compression program such as PKZIP and so on. But such kind of programs are not directly designed for image packing, hence they are not effective for scanned images. Picture Archiver is simple-in-use and low-cost tool designed to manipulate picture archives. It has following features:

- Picture Archiver allows to store images in various graphic formats, including **BMP, GIF, TIFF, JPEG, TARGA, PCX**.
- Picture Archiver allows to store images using **LZW** or **JPEG** compression method.
- Picture Archiver has an **open interface to image converters** implemented as DLLs, so you can easily develop and add converters for new formats.
- Picture Archiver allows to associate stored images with textual information and key words.
- Picture Archiver allows to search images using key words, number and name of a record in an archive and/or name of image file.
- Picture Archiver allows to export image in TIFF format or put image on clipboard.
- Picture Archiver allows to print image and textual information.
- You can use Picture Archiver together with any image editor.

In order to give you the opportunity to see the advantages of a tool such as Picture Archiver, Picture Archiver is distributed as a shareware program. This provide you with a free two weeks trial period. In addition you will find Picture Archiver to be a quality application at a price substantially below that of comparable retail applications.

Note! Shareware version of Picture Archiver is restricted to manipulate images with size less than 640x480 pixels. You must register and obtain a license number to work with images of any size.

DISCLAIMER - AGREEMENT FOR TRYING PICTURE ARCHIVER

Users of Picture Archiver must accept this disclaimer of warranty:
"Picture Archiver is supplied as is. Potapov WORKS disclaims all warranties, expressed or implied, including, without limitation, the warranties of merchantability and of fitness for any purpose. Potapov WORKS assumes no liability for damages, direct or consequential, which may result from the use of Picture Archiver."

Picture Archiver is a "shareware program" and is provided at no charge to the

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user for evaluation. Feel free to share it with your friends, but please do not give it away altered or as part of another system. The essence of "user-supported" software is to provide personal computer users with quality software without high prices, and yet to provide incentive for programmers to continue to develop new products. If you find this program useful and find that you are using Picture Archiver and continue to use Picture Archiver after a reasonable trial period, you must make a registration payment to Potapov WORKS, STOIK Ltd. The registration fee will license one copy for use on any one computer at any one time. An example is that this software may be used by any number of people and may be freely moved from one computer location to another, so long as there is no possibility of it being used at one location while it's being used at another.

You are encouraged to pass a shareware copy of Picture Archiver along to your friends for evaluation. Please encourage them to register their copy if they find that they can use it. The unrestricted version may not be distributed. All registered users will receive a license number, information about updates, new versions, converters for additional formats and technical support via e-mail.

LICENSING AGREEMENT

Licensed user a bound to the following licensing agreement.

You may not transfer your license without written permission from Potapov WORKS, STOIK Ltd.

You may physically transfer Picture Archiver from one computer to another provided the program is used on only one computer at a time.

TERM:

The license to use this program is effective until terminated. You may terminate the license by destroying all copies of this program. It will also be terminated upon failure to comply with any of the terms or conditions of this agreement.

WARRANTY:

THIS PROGRAM IS PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND.

AGREEMENT:

By licensing Picture Archiver you agree to the above licensing agreement.

LICENSING (REGISTERING)

You may use Picture Archiver for a free two weeks trial period. If you continue to use Picture Archiver after the two weeks trial period, you are required to register your copy of Picture Archiver and obtain a license number.

When you register Picture Archiver you will be given a license number. After entering your license number, the information screen appeared on startup will be suppressed, and you will have an opportunity to add new image converters.

You can register by completing the registration form and mailing it and a check to authors. The registration form with the address is at the end of the user's manual and in separate file called form.txt.

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Pricing is: Picture Archiver registration.....\$39.00

SUPPORT

You may obtain support by contacting Potapov WORKS, STOIK Ltd. via Internet: potap@stoik.sensor.zgrad.su.

INSTALLATION

Picture Archiver currently is made up of 21 files:

PARC.EXE - Picture Archiver main program
CJPG.DLL - JPEG writer
DJPG.DLL - JPEG reader
DTARGA.DLL - TARGA reader
IBUTTON.DLL - system service DLL
READBMP.DLL - BMP reader
READGIF.DLL - GIF reader
READPCX.DLL - PCX reader
READTIF.DLL - TIFF reader
WRITETIF.DLL - TIFF writer
PARC.HLP - help file for Picture Archiver
STATUS.FON - font file for dialog boxes
CONV.INI - converters configuration file
PARC.INI - system configuration file
READPCX.C - example source for read converter DLL
CUSTCONV.H - header for READPCX.C
PWORKS.TXT - A short text about Potapov Works Group
PARC.WRI - this manual
README.TXT - A short description of Picture Archiver and how to install it.
FORM.TXT - A registration form.

These files are stored in the archive PICARC.ZIP. Place this archive in the required directory and unpack it.

Once the files are where you want them, add Picture Archiver to your Program Archiverager. Use your Windows manual for information on how to add an application to Program Archiverager.

You are now ready to run Picture Archiver. Start Picture Archiver the same way you would start any other Windows Program.

PARC.WRI is the user's manual. It is a Windows' Write file with all margins (top, bottom and both sides) set to 1".

OPERATIONAL CONSIDERATIONS

Before installing Picture Archiver you need Microsoft Windows, version 3.0 or later, an IBM PC-AT, 386-AT, 486-AT, PS/2 or compatible computer. You also need about 1Mb of free hard disk space to install Picture Archiver files. Your computer should be equipped with not less than 2 Mb of system memory. A pointing device, such as mouse, is necessary to use all power offered by the package. You must have enough temporary disk space to keep image archives. Common dialog library COMMDLG.DLL must be presented in your Windows system

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directory!

USER'S GUIDE FOR THE PICTURE ARCHIVER SYSTEM**Creation of a New Videodatabase**

For creating a new database you should choose the "File.." entry of the basic menu and choose the "Directory..." command in this entry, after this the "Change Directory" dialog box is displayed. Then type the directory name in the "Directory" field for the database being created and press the "OK" button. It is strongly recommended to place every database in a separate directory. Then you should choose the "New..." command in the menu of the "File..." entry. According to this command the "Database setting" dialog box is displayed. In the first instance you should enter a database name. This name may include up to eight Latin characters and will define file names of the database. For example, if you have entered the DADA, name then Picture Archiver will create the following three files:

DADA.MDB which contains a database descriptor;

DADA.CMT which contains a textual information;

DADA.PRE which contains a graphic information.

After entering the name you should enter a database type. The database type is entered by pressing buttons on the dialog box. In this case you choose the character of images included into your database: black and white or color ones, whether your database would save preview cards reflecting initial images, whether your database would include initial images, and also you choose the size and number of colors of preview cards reflecting images. You should enter key word names. Let's consider the following example to explain the sense of this notion.

You create a database of photos of country-cottage lots in the vicinity of Moscow. At the same time you believe that the following characteristics of a lot would be interesting to your clients:

- A remoteness from Moscow;
- The name of the nearest station;
- The number of floors in a country-house.

In this case you are projecting a database with an opportunity for a search according to these characteristics. Then it is expedient to choose the following key word names:

- remoteness (in km) %d;
- station;
- number of floors %d.

The %d designation means that these key words would be subsequently considered as integers.

The "Show" buttons on the dialog box are used to enter whether a given key word would be reflected in a line of the list of records (see below).

If you have chosen a mode of inclusion of initial images you may apply the image compression. For choosing the mode of compression it is necessary to press the "Pack method" button on the "Database setting" dialog box when using mouse.

At present the compression is supported according to the LZW and JPEG technologies.

The LZW technology allows to compress initial images by 2.5-3-fold without a loss of quality.

The JPEG technology allows to compress initial images by 10-20-fold with a

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small loss of quality. When choosing the JPEG technology you should select a quality parameter. Its value depends on the task being solved by you, the quality and type of initial images and is selected experimentally. The compression may considerably increase the time for viewing, exporting and printing images, but will allow you to save the space on a disk. After filling up the dialog fields, check up their correctness and press the "OK" button.

Creation of a New Database Record

After entering the database type the "Record setting" dialog box is displayed.

1. Record Name

Initially, you should enter a record name. Depending on the type of a database projected by you, the record name may characterize a general indication of the record, for example, "Dacha" or "Country-house" in the country-cottage database being formed or may be a unique name for a search, for example, the name in a database of photos for the department of personnel.

2. Files with Images

After entering the record name you should enter files with images related to this record. With these purposes, you should select the necessary file and then press the left button of the mouse two times. At that moment the name of the file selected by you appears in the "Selected images" window. For eliminating an erroneously selected file with images you should select a file name in the "Files" window and press the left button of the mouse two times. If you have chosen the "Do not include initial images" mode when entering the database type then the image stored in the clipboard may be selected as an image related to the record. To select this image you should press the "Paste" button in the dialog box, and at that moment the word "Clipboard" appears in the "List of images" window.

3. Entering Textual Information (Comments)

For entering textual information related to the record you should press the "Comment" button after which the text editor will be displayed. An escape from the text editor is accomplished by pressing the "Cancel" button (in this case the text won't be saved) or the "OK" button. For entering comments you may also use the NotePad editor included into Window 3.x. In this case you edit the text with that editor and then save the text in Clipboard with the help of the "Copy" function of the menu, but when editing the text with the "Comments" text editor you should press the "Paste" button.

4. Entering Key Words

For entering key words you should get into the corresponding field with the help of the mouse and type the meaning of a key word on the keyboard.

5. Including a Record Into the Database

After accomplishing the above-mentioned operations you should check up the

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correctness of the filling-in the fields with the record name and key words and the field with selected images and then press the "OK" button. After that the Picture Archver program will spent a certain period of time for forming the preview card with a graphic information, for including the record description into the database descriptor and for an image compression if it was selected, and then the prompt for entering the next record will be displayed. If you are going to add the next record into the database you should press the "Yes" button and the "Record setting" dialog box will be displayed again. If you have finished entering records, please, press the "No" button and your database is ready.

Operating the Image Database

1. Loading the Existing Database

For loading the existing database you should choose the "Open" command of the "File" entry of the main menu. Then the "File Open" dialog box will be displayed. Select, please, the necessary file with the MDB extension and press the "Open" button. After that the "List of Records" dialog box will be displayed from which it would be possible to boot the necessary record (see Paragraph 1.4.2 below) and the name of booted file will appear in the name of the basic window of the Picture Archiver program.

2. Looking Over the List of Records

If you have loaded the database then choose the "List of Records" command of the "Database" entry of the basic menu. Then the "List of Records" dialog box will be displayed. The line of the list of records consists of the record number, record name and the set of key words related to the record. But only those key words are displayed within the names of which the "Show" option is selected (see Paragraph 1.2 above). For looking over the contents of the record you should choose the necessary record using the mouse or keyboard and press the "Show" button.

3. Looking Over Images

For looking over all the images included into the database choose the "Images" command of the "Database" entry of the basic menu. After that 28 images from the database will be displayed. The name of every window with an image includes an ordinal number and name of the record which this image is related to. For looking over the next images you may use the arrow buttons or the "PgUp"/"PgDn" buttons of the keyboard or a scrollbar appearing in the right part of the Picture Archiver main window. For displaying the record bring the cursor arrow to the selected image and press the left button of the mouse two times.

4. A Search for a Record by Key words

For searching for a record by key words you should choose the "Search" command of the "Record" entry of the main menu, then the "Search" dialog box will be displayed. The search within the Picture Archiver program may be accomplished by the name and ordinal number of the record, by key words or, when the "Include Images" mode was selected while entering the database type, by the

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name of a file with an image (see Paragraph 1.2 above). Let's consider the search of the garden lot database by the example described in Paragraph 1.2. Let's assume that you are interested in garden lots situated not over 60 km from Moscow. Then, while using the mouse or keyboard, you should call the field of the key word corresponding to the "Remoteness (km) %d" name and type the value 60, after that you should press a button in the relevant field of choice (by default, the correlation "=" is chosen in this field) and select the correlation "<". After that you should press the "OK" button, and the "List of Records" dialog box will be displayed with records corresponding garden lots the distance to which does not exceed 60 km. If you are also interested in the number of floors of the garden-house then complete similar operations with the "Number of Floor %d" field. If the key word contains not a numerical information, but a textual one, the search would be realized while taking lexicographical correlations into account. For example, if you have entered the "Kuznetsov" name in any key word field and the "<" character in a correlation field then all the records with the names standing above the "Kuznetsov" name in the alphabetical list will be displayed.

The Picture Archiver program allows to realize a search by masks containing the "*" character which replaces any number of characters in a key word. For example, when the "F*" expression was entered into the "Station" field of the garden lot database (see above) then all the records corresponding garden lots situated near stations beginning from the letter "F" will be retrieved.

You may save the results of the search after their display. With this purpose in view you should press the "Save" button using the mouse. In this case the "Filter" mark will appear in the name of the basic task window which means that all the operations on looking over, searching for and displaying would be accomplished only with the records corresponding to the search mask entered. When saving a given search mask all the editing operations are prohibited. To cancel this mode it is necessary to run the "Free Filter" command of the "Database" menu.

Note: When making a search by masks with the "*" character the correlation field is ignored.

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5. Display Format of the Record Contents

After selecting the necessary record using one of the above-mentioned methods the information corresponding to the selected record is displayed namely: windows with images, a window with comments and a window with key words. These windows may be moved and minimized while using the standard method for Windows 3.x.

6. Looking Over Images

For running this command you should choose the "View" command in the "Image" entry of the main menu, in this case the window with the required image should be activized. Let's note that a better visual perception of an image in the "View" mode may be expected only when initial images were included into the database.

7. Image Export

The Picture Archiver program allows to transform the saved graphic information into various graphic file formats. With this purpose in view you should initialize the window with the selected image and choose the "Export" command of the "Image" entry of the menu. After that the "Export" dialog box will be displayed. While using the keyboard or mouse you should choose the output file type, directory where this file would be formed and enter the file name. If initial images have been included into the database then they could be exported to the RGB TIFF file or into the 8-bit halftone TIFF file. If only preview cards are saved in the database as a graphic information then the image may be exported to the PCX, TIFF and BMP files, but the number of colors in a file would be defined by the number of colors in the preview cards saved.

8. Printing Images

The Picture Archiver program allows to print images. With this purpose in view you should initialize the window with the selected image and choose the "Print..." command of the "Image..." entry of the menu. After that the "Print setting" dialog box will be displayed. While using the keyboard you should enter the dimensions of the image subject to printing. For making the export of images into textual editors to be more simple an opportunity of printing into clipboard and a file is added to the Picture Archiver program. For printing on black and white printers it is necessary to select the character of the rastre for printing.

Editing the Database of Images

1. Change of the Database Type

The Picture Archiver program allows to change the key word names, the number of colors and the size of preview cards of the existing database. With this purpose you should choose the "Edit" command in the "Database" entry of the basic menu. After that the "Database setting" dialog box will be displayed. The order of filling-in this dialog box is described in Paragraph 1.2 above. Attention! When changing the type of the database preview cards (the change of fields: "black and white", "color", "include initial images", the change of

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the number of colors and the size of preview cards) you should preliminarily make sure that all the initial images are in the working directory. In connection with the necessity of a reconstruction of the entire database and the possibility of a loss of information owing to a malfunction of PC we do not recommend to use this operation without an urgent necessity.

2. Editing a Record

For changing the contents of a record you should select the required record using one of methods described in Paragraphs 1.4.2 - 1.4.4, then choose the "Edit" command from the "Record" entry of the basic menu after which the "Record setting" dialog box will be displayed. Ordinal numbers and names of all the records of the database are shown for reference in the "List of Records" window of this dialog box. The order of filling-in the fields of this dialog box is described in Paragraph 1.3 above.

Note: When changing the contents of files with images related to a record you should preliminarily make sure that all the files with images are in the working directory.

3. Adding a Record

You may add a record by having called the "Add" command from the "Record" entry of the basic menu. Subsequent operations are described in detail in Paragraph 1.3 above.

4. Transformation into a Single File and Transformation into a Set of Files

When creating a new database the Picture Archiver program forms three following files:

- a file with the MDB extension which contains a database descriptor;
- a file with the CMT extension which contains a textual information;
- a file with the PRE extension which contains a graphic information.

After finishing the "filling" of the database and for a subsequent convenient usage you may transform the database into a single file with the MDB extension while using the "Link" command from the "Database" entry of the main menu. In this case, provided the database contains initial images, they would be included into that file. All the editing operations will be prohibited after the transformation into a single file. A reverse transformation of the database into a set of files is possible by using the "Unlink" command from the "Database" entry of the menu. After the transformation into a set of files editing commands are permitted.

Note: While running any of the above-mentioned commands for editing the database the Picture Archiver program creates a reserved copy of the database containing a set of files beginning from the characters \$tmp\$. In case of an error the Picture Archiver program restores automatically an initial state of the database. In case of a malfunction of your computer (disconnection of power etc.) you may restore the contents of the database "by hand" through renaming the files of the reserved copy.

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After the input of this command the "Database setting" dialog box is called . You should enter a database name (up to 8 Latin characters), define the type of preview cards formed by the Picture Archiver program (the "Color" and "Grey" fields), define whether the preview cards would be formed in advance and saved on a disk (the "Save preview" field), whether initial images would be included into the database or whether the preview cards would be saved in the database as a graphic information (the "Include Images" field), enter the size of preview cards (the "Vertical size" and "Horizontal size" fields), key word names (the "Key word names" field) and define whether key words would be displayed when looking over the list of records (the "Show" field).

Indications of a format are permissible in the key word names. With this purpose in view you should include a format mark at the end of the key word name in accordance with the following table:

%d - integer;

%f - floating point value.

If the format mark is not included the key word would be perceived as a string of characters.

Provided the images are included into the database it is necessary to select the image compression mode after pressing the "Pack method" button. At present the compression is supported in accordance with the LZW and JPEG technologies. The LZW technology allows to compress initial images by 1.5-3-fold without a loss of quality. The JPEG allows to compress initial images by 10-30-fold with a small loss of quality. When choosing the JPEG technology you should enter a quality parameter. The required quality parameter depends on the task being solved, the quality and type of initial images and it is selected in an experimental way. The compression may considerably increase the time for looking over, exporting and printing images, but it will allow you to save the space on a disk.

After filling up the above-mentioned fields it is necessary to check up a correctness of the parameters entered and to press the "OK" button. The entered database description is recorded on a disk, and for making the first record the "Record setting" dialog box is called (See Paragraph 2.3.1. below).

Note: In case of selecting the "Do Not Include Initial Images" and "Do Not Save Preview" modes simultaneously the Picture Archiver program may be used for saving a textual information only.

Attention! It is urgently recommended to place every database in a separate directory.

MENU ITEM File - Open

After the input of this command the "Open a File" dialog box is called . It is necessary to choose a file out of the suggested ones in the dialog box by pressing a button on the mouse while pointing out the file name and then pressing the "OK" button, after which the "List of Records" containing the list of records of the open database will be displayed, and the name of file with the open database will appear in the name of the Picture Archiver basic window.

MENU ITEM File - Directory

After the input of this command the "Directory" dialog box is called . While using the mouse it is necessary to select a directory or to enter the name of the required directory into the "Directory" field from the keyboard after

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which it is necessary to press the "Open" button with the help of the mouse. If there is no directory a prompt for its creation will appear on the screen.

MENU ITEM File - Exit

After the input of this command the running of the Picture Archiver program is completed.

MENU ITEM Database - List

After the input of this command the "List of Records" dialog box containing all the records of the booted database is called . Every line of the list consists of the record number, record name and a number of key words, and at the same time only those key words appear in a line of the list for which the "Show" parameter was entered in the "Database setting" dialog box (see Paragraph 2.1.1above). For displaying the required record you should select it with the help of the mouse and press the "Show" button.

Note: When a search mask is loaded (the filter flag in the name of the basic window) then only records corresponding the mask are displayed.

MENU ITEM Database - Images

After the input of this command up to 28 Windows with images from the database appear on the screen. The window caption contain record numbers and names corresponding to the images. If the number of images stored in the database is over 28 then the scroll bar appears at the right side of the main window which allows to scroll images of the database. For displaying a record corresponding any image it is necessary to bring the cursor to the required image and press the left button of the mouse two times.

Note: When a search mask is loaded (the filter flag in the name of the main window) only records corresponding to the mask are displayed.

MENU ITEM Database - Edit

After the input of this command the "Database setting" dialog box is called with the database name field prohibited for editing. The method of editing the database type is described in Paragraph 2.1.1.

Note: When changing the type of a graphic information stored (the "Include Images", "Save Preview", "Grey" and "Color" fields, the number of colors and the size of preview cards) it is necessary preliminarily to make sure that there are all the initial images in the working directory. Owing to the necessity of a prolonged transformation of the entire database for running this command the use of this command is undesirable and dangerous in connection with the possibility of a malfunction of the computer and a loss of information.

MENU ITEM Database - Link

After the input of this command the loaded database is transformed from a set of files containing a database descriptor, a textual and graphic information into a single file. At the same time operations of editing the database and records are prohibited.

MENU ITEM Database - Unlink

After the input of this command the loaded database is transformed from a single file into a set of files containing a database descriptor, a textual and graphic information with the MDB, CMT and PRE extension correspondingly.

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At the same time operations of editing the database and records are allowed.

MENU ITEM Database - Free Filter

This command cancels the search mask saved during the search.

MENU ITEM Database - Clear

After the input of this command all the buffers related to the booted database are cleared, the name, and any operations with the database are prohibited.

MENU ITEM Record - Edit

After the input of this command the "Record setting" dialog box is called . Then it is necessary to fill in the "Record name" and "Key words" fields. When filling in the "Key words" fields it is necessary to pay attention to the format flags of key words (see Paragraph 2.1.1 above).

A retrieval of files with images is accomplished through a selection of the file type and name with the help of the mouse. After selecting a file it is necessary to press the button of the mouse two times after which the name of the required file will appear in the "Selected files" window. If the standard image is recorded in Clipboard then it could be attached to the record by pressing the "Paste" button. A textual information (comments) is included into a record with the text editor called by pressing the "Comment" button.

Attention! When editing a record and changing the contents of images included into the record it is necessary to make sure that there are all the files mentioned in the "Selected files" window in the working directory.

MENU ITEM Record - Delete

After the input of this command the request for deleting a record displayed at a given moment appears on the screen. After an affirmative answer the record will be deleted.

MENU ITEM Record - Add

After the input of this command the "Record setting" dialog box is called . A procedure of filling in the fields of this dialog box is described in Paragraph 2.3.1. above

MENU ITEM Record - Search

After the input of this command the "Search" dialog box is called. The search for a required record may be accomplished by the record number and name, by key words and by the name of a file with an initial image provided initial images are included into the database. For entering a search mask it is necessary to fill in the fields corresponding to the sphere of search and to enter correlations by pressing the button against the corresponding field and by selecting a correlation (>, <, =, <=, >=). When filling in the fields for a search it is possible to use the "x" character for a designation of an unknown part of a word ("wild card"), in this case the correlations will be ignored. The search is not accomplished for empty fields. After filling in the search fields and entering the correlations it is necessary to press the "OK" button. The results of the search are displayed on the screen in the form of a list of records corresponding to the given search mask. The display of the required record on the screen is accomplished by selecting the record and pressing the "Show" button. For saving the search mask it is necessary to press the "Save" button, in this case the flag "filter" will appear in the name of the Picture

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Archiver main window, and all the subsequent operations will be realized only with records corresponding to the saved mask right up to the running of the "Free filter" command of the "Database" menu.

Note: When saving the search mask all the editing operations are prohibited.

MENU ITEM - Update preview

After the input of this command all preview cards of selected record are rebuilt.

MENU ITEM Record - Next and MENU ITEM Record - Previous

After the input of this command the scrolling of records of the database is accomplished.

MENU ITEM Image - View

After the input of this command the selected image is displayed, and the dimensions of the window with the image are defined by a free space of the memory of the computer.

Note: Provided initial images are not included into the database the running of this command would not lead to a better visual perception in comparison with a visual perception of a preview card when displaying the record.

MENU ITEM Image - Print

After the input of this command the "Print setting" dialog box is called . The Picture Archiver program allows to output images directly to a printer and also to prepare images for printing in a clipboard or a file. When preparing images for printing and for outputting images to a black-and-white printer it is recommended to choose the use of a raster of images. After indicating the required dimensions, please, press the "OK" button, and the image will be printed.

MENU ITEM Image - Export

After the input of this command the "Export" dialog box is called . It is necessary to choose the type of a file being saved and to enter its name. After pressing the "OK" button the file will be formed with the image in the format which was chosen

Note: Provided initial images are included into the database the image may be exported to the RGB TIFF file and to the 8-bit halftone TIFF file. If initial images are not included into the database then the image may be exported to the 8-bit halftone TIFF file and to the TIFF, BMP and PCX files with a palette, and the number of colors in the file with a palette will be defined by the number of colors on the preview card with the image.

MENU ITEM Image - Copy

After the input of this command the image chosen is placed into the clipboard and may be transferred to other tasks.

MENU ITEM Image - Edit

After the input of this command an image editor is invoked, and Picture Archiver passes the name of an image loaded into active window to this editor. The editor must be registered in the PARC.INI file in the [DIRECTORIES] key:

```
[DIRECTORIES]
EDITOR=C:\PMAN15\PMAN.EXE
```

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MENU ITEM Comment - Print

After the input of this command the "Font setting" dialog box is called . It is necessary to choose a font for printing .

Note: It is best of all to choose a font for printing in an experimental way.

MENU ITEM Comment - Export

After the input of this command the "Save comments" dialog box is called . Choose filename and press "OK" button.

MENU ITEM Comment - Copy

After the input of this command the text of comments is placed into the clipboard and may be transferred to other tasks.

FILE FORMATS SUPPORTED

General Information:

Pictures that may be used by PC computers are saved in a lot of formats. Picture Archiver supports a limited number of these formats. User can develop his own DLL module to support his own formats.

BMP File Format:

The BMP format will support bits per pixels of 1, 4, 8 and 24. Picture Archiver supports all possibilities.

BMP files can be used as "wallpaper" for the background when running in Windows. See your Windows documentation on how to use a BMP file as wallpaper.

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GIF File Format:

The GIF format will support bits per pixels of 1, 4 and 8. Picture Archiver supports all possibilities.

GIF files were designed to create the smallest possible picture files for uploading and downloading from BBSs.

There are 2 GIF file versions; 87a and 89a.

Version 87a was the first of the two versions to appear.

Version 89a added new features to the 87a format. None of these new 89a features are used by Picture Archiver.

Picture Archiver will also read interlaced GIFs.

Since Picture Archiver does not use any of the new features of the 89a version, all GIF files will be saved as 87a. This will allow older GIF viewers to display the pictures that are created by Picture Archiver.

NOTE: Some GIF files contain more than one picture. Picture Archiver will only process the first picture in the file.

PCX File Format:

The PCX format will support bits per pixels of 1, 4 and 8. Picture Archiver supports all possible bits per pixel.

TIFF File Format:

The TIFF format will support bits per pixels of 1, 4, 8 and 24. Picture Archiver supports all possibilities.

The TIFF format differentiates between types of pictures. These categories are: black and white, greyscaled and colored. Picture Archiver supports all of these categories.

The TIFF format can use one of four encoding routines. These encoding routines are: No-compression, Pack bits, LZW, Huffman.

Picture Archiver will read and write files that use the encoding routines of: No-compression, Pack bits, Huffman and LZW.

TARGA File Format:

The TARGA format will support bits per pixels of 8, 15, 16, 24 and 32. Picture Archiver supports all possibilities.

The TARGA format differentiates between types of pictures. These categories are: greyscaled, colormapped, and truecolor. Picture Archiver supports all of these categories.

The TARGA format can use one of three encoding routines. These encoding routines are: No-compression, Run-Length, and Huffman.

Picture Archiver will read and write files that use the first two of these

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encoding routines.

JPEG File Format:

The JPEG format will support bits per pixels of 8 and 24. Picture Archiver supports all possibilities.

JPEG decompressor can read non-interleaved grey scale and fully-interleaved true color images.

JPEG compressor writes non-interleaved grey scale and fully-interleaved true color images with (2h:2v) (1h:1v) (1h:1v) sampling factors.

JPEG compressor uses a quality parameter which may be of range 1..100. The more the quality parameter, the better the quality of the image stored, the greater the size of compressed image file.

DEVELOPMENT OF NEW CONVERTERS

Picture Archiver gives the user an opportunity of developing and including an unlimited number of new file formats in addition to already existing ones. The converter module is a dynamical link library (DLL). DLL is loaded into the memory during the Picture Archiver call. DLL with read converters must be registered in CONV.INI file in [SOURCES] section.

Each DLL must include a set of predefined exported functions which can be called by Picture Archiver.

For read converters the following functions are required:

```
int FAR PASCAL LibMain(HANDLE hModule, WORD wDataSeg,WORD cbHeapSize, LPSTR
lpszCmdLine);
int FAR PASCAL WEP(int bSystemExit);
WORD FAR PASCAL Magic(void);
DWORD FAR PASCAL GetFlags(void);
void FAR PASCAL GetDescription(LPSTR str);
void FAR PASCAL GetExtension(LPSTR str);
int FAR PASCAL ReadHeader(LPINFO p, void far *lpPrivate);
int FAR PASCAL ReadRow(int row, LPBYTE p, void far *lpPrivate);
void FAR PASCAL CleanUp(void far *lpPrivate);
int FAR PASCAL SetOptions(HWND hWnd, void far *lpPrivate);
int FAR PASCAL ReadFile(int tempfile, void far *lpPrivate,
FARPROC lpIndicator );
int FAR PASCAL GetPrivateSize(void);
```

Functions **LibMain** and **WEP** are standard DLL entry and exit procedures respectively.

Function **Magic** is identification procedure and must not be changed. It returns SRC_MAGIC number.

Function **GetFlags** returns flags for SetOptions Dialog box. If this function returns INFO_HASOPTIONS, Picture Archiver will call SetOptions function before conversion.

Function **GetDescription** provides name of image format supported by the given

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converter (e.g., "ZSoft Paintbrush PCX".) The name is returned in str variable, and it's length must be less than 40.

Function **GetExtension** provides extension of image file for given format (e.g., "PCX".) The extension is returned in str variable, and it's length must be less than 4

Function **GetPrivateSize** return size in bytes of private memory block lpPrivate, this memory block is allocated by Picture Archiver before **ReadHeader** function is called. Developer of converters modules can use this memory block to store any private information.

Function **ReadHeader** reads file header and fills INFO structure (formal parameter p points to this structure.)

The fields of INFO structure are listed below:

OFSTRUCT of - Opened Source/Destination file structure (Picture Archiver opens file itself and fills this field);

int file - Opened Source/Destination file (Picture Archiver opens file itself and fills this field);

WORD w - Width of file in pixels (ReadHeader must fill this field)

WORD h - Height of file in pixels (ReadHeader must fill this field)

WORD bps - Bits per pixel parameter (1, 4, 8, 24) (ReadHeader must fill this field)

WORD numcolors - Actual number of colors (0 for bps = 24) (ReadHeader must fill this field)

WORD nplanes - Number of bitplanes (ReadHeader must fill this field)

WORD bplin - Bytes per row for one bitplane (ReadHeader must fill this field)

DWORD xres - Horizontal resolution (ReadHeader must fill this field)

DWORD yres - Vertical resolution (ReadHeader must fill this field)

WORD resunit - Resolution unit for xres and yres fields(ReadHeader must fill this field). The value of this field may be one of the following set:

RES_UNKNOWN - Unknown resolution unit

RES_NOUNIT - Resolution unit is undefined. The aspect ratio is equal xres/yres.

RES_SCREEN - Same as RES_NOUNIT

RES_DPI - Pixels per inch

RES_DPCM - Pixels per centimeter

RES_DPM - Pixels per meter

DWORD flags - specified format attributes(ReadHeader must fill this field)

This attributes are described below. Two or more attributes can be combined by using the bitwise OR operator.

Color/halftone attributes

INFO_COLOR - Image is colored

INFO_PALETTE - Image is paletted

INFO_NEGATIVE - Image is negative

File organization bits attributes

INFO_TEMPFILE - Image can be read only by using temporary file

INFO_COMPRESSED - Image is compressed

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INFO_FORWARD - Image can be read only from the top to the bottom.
 INFO_BACKWARD - Image can be read only from the bottom to the top.
 INFO_RANDOM - Image can be read randomly.

Row organization bits attribute

INFO_PACKED - (bps < 8) bits are shifted together
 INFO_SEPARATE - (bps !=8) bitplanes are separated

PAL pal - Color palette (ReadHeader must fill this field).

PAL is an array with dimensions of [3][256] (r components, then g components, then b components subsequently)

Function **ReadRow** reads specified image row. Bits organization of image row (number of bit planes and bit per pixel parameter) must correspond to information stored in INFO structure filled by **ReadHeader** function. If nplanes field of INFO structure equals 1, pixels are stored in the row subsequently as RGBRGBRGB... for true color images and PPPPPP... for paletted and grey scale images. Else if nplanes field of INFO structure not equals 1, pixel values are stored separately in subsequent arrays, such as RRRRRR...GGGGGG...BBBBBB for true color images, and P1P1P1....P2P2P2...P3P3P3...P4P4P4 for paletted 4 bit images (P1-P4 are bits of pixel values).

Function **CleanUp** frees all auxiliary buffers. Terminates conversion. Picture Archiver calls this function after conversion before unloading DLL.

Function **SetOptions** creates dialog box for setting user defined parameters. For example, **SetOption** function is used for reading unformatted images for entering width and height of the images to be read.

Function **ReadFile** is called when INFO_TEMPFILE flag is set in the INFO structure. This function fills temporary file created by Picture Archiver according to the parameters in the INFO structure without header. It is necessary, for example, in the case of compressed interlaced image, when file can't be read subsequently from the beginning to the end or from the end to beginning. Of course, you can use this function in every case, but conversion through temporary file is relatively slow.

After development you must register your converter in CONV.INI file by adding string in [SOURCES] section and adding extension of supported file format in **extentions** string of [SOURCES] section. For example:

```
[sources]
extentions=... PCX
...
PCX=readpcx.dll
```

You may find examples of read converter in files READPCX.C.

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REGISTRATION FORM

Picture Archiver for Windows ver. 1.02

NAME _____

STREET _____

CITY _____

STATE _____ ZIP _____

TELEPHONE NUMBER _____

Picture Archiver license number.....\$39.00 _____

Please mail this form with check or money order in US \$ to :

Igor Plotnikov
519 Barry Court,
MECHANICSBURG, PA 17055

Allow 7 business days for personal check clearing.