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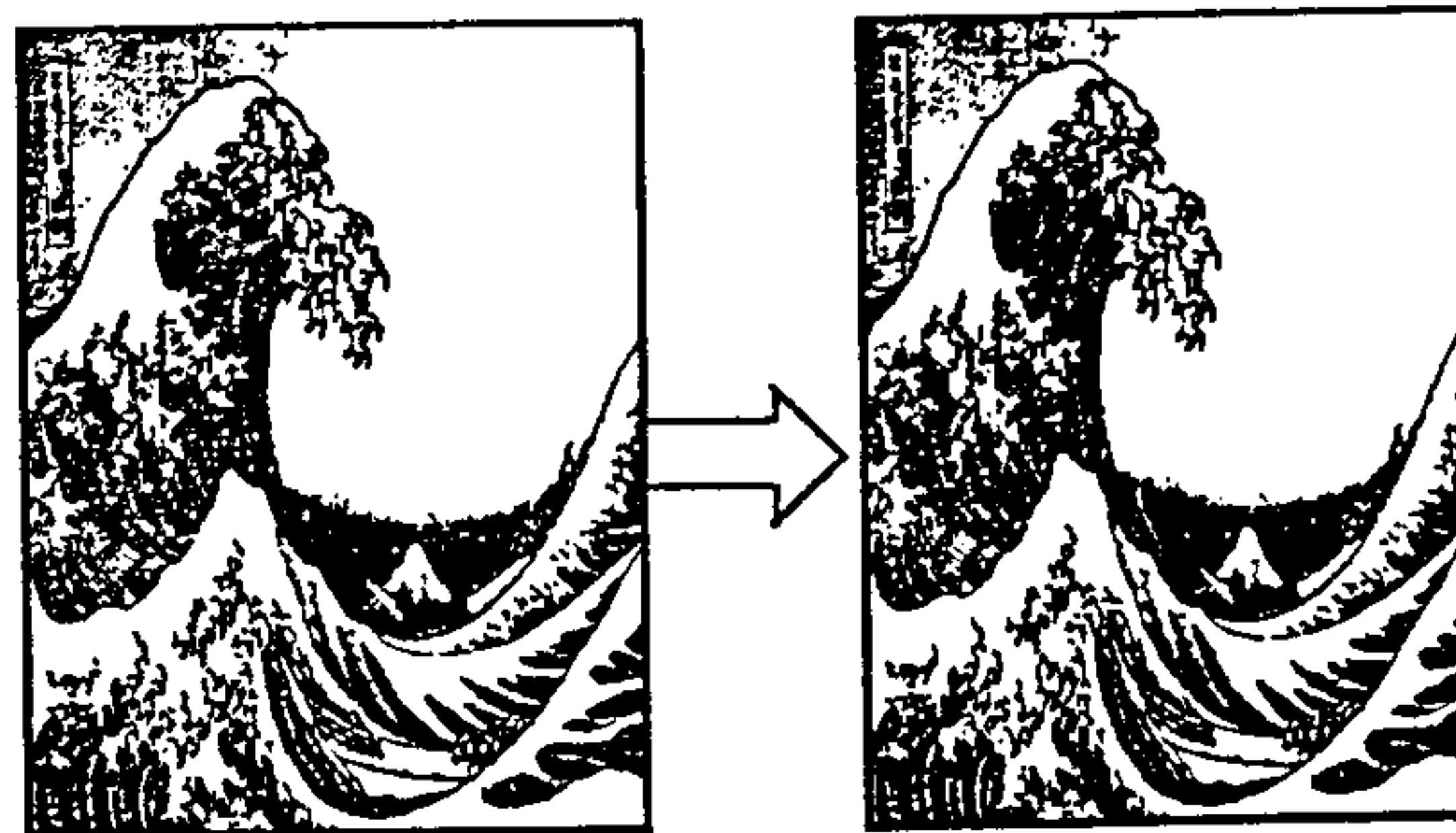
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Pix Pro



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Pix Pro

By Jim Reiss

Introduction

Pix Pro is designed to allow you to take pictures stored in a variety of popular picture formats and convert them to another format. Since it supports 8 different load formats and 6 different save formats, Pix Pro does the work of over 40 different conversion programs. Since it is entirely in assembly, it's often much faster than any other conversion program. Because it is designed to ensure the integrity of the picture, it doesn't have difficulties with any of the picture formats it supports, regardless of size or number of colors.

Pix Pro Overview

Before loading Pix Pro you should know what it is. Pix Pro consists of 2 separate utilities that work together, the main program (Pix Pro) which handles the vast majority of the conversions and McPix, the *MacPaint* converter, which converts *MacPaint* files into a generic, compressed format we call "Pix". It was necessary to make the *MacPaint* converter a separate utility because of the huge size of *MacPaint* pictures - there is little memory left in the computer for anything after a *MacPaint* file is loaded.

For most conversions you will simply have to load the main program, load in your files and then save them (or parts thereof) again in whichever format you choose. Converting a *MacPaint* picture is a two-step process (unless you wish to keep them in the "Pix" format) - you first must convert them to *Pix* and then, using the main program, convert the *Pix* version to whichever final format you need. Both programs offer features which make manipulating a picture easier - McPix will let you print out a *MacPaint* picture or convert it into *Page Pro* format directly, and the main program will allow you to clip and save parts of the *MacPaint* picture in other formats.

The *Pix* format is used as an interim format for all of the pictures, even internally in the main program. Pix Pro was designed this

way for a simple reason - instead of doing over 40 different conversions Pix Pro only has to do 14. If Pix Pro had to convert any of the load formats directly into any of the save formats, the program would have to consist of over 40 different little utilities. However, since it always converts the load formats into *Pix* internally, and converts the *Pix* file into whichever save format is chosen, it only has to have 14 or so conversions built in - all to or from *Pix*. This allows Pix Pro to do so much more than any other program of this type in the same amount of space.

The *Pix* format itself, which is also a save format, has certain advantages over other picture formats which make it an attractive format for other than as a handy "way-station".

For one thing, it is quite compact. A *Picasso* format picture that occupies 85 sectors on a disk might take only 42 when stored in *Pix* format. Similar space savings are found with most of the formats Pix Pro supports - many times a picture saved in Pix Pro format takes 1/2 of the disk space or less than it required in its native format. Since Pix Pro makes it easy to save and load pictures in *Pix* (as well as all the other formats), it makes sense to store all of your pictures on disk in *Pix* format, and to use *Pix* to convert them into whatever format you need them in when you want to use them.

Pix format pictures can also be converted to other formats quite quickly, as well as displayed on the screen with some speed. To demonstrate the latter, simply load a picture stored in *Instance* or *Picasso* format, and then save it in *Pix*. Note how long it takes to bring up the picture originally. Then re-load the *Pix* format version of the picture, and note how fast the picture now comes up. Most other picture formats are not designed for speed like *Pix*.

Therefore, Pix Pro has a number of uses. The program's primary use is as a conversion utility which will take pictures stored in most of the popular picture formats and save them in any other of those formats. The program can also be used as an archival tool - a program which will convert all your pictures into a neutral, space-saving storage format, and later allow you to convert them back into other formats for use. In this way, Pix Pro is at least 2 programs in one.

Loading Pix Pro

Pix Pro and McPix are designed to function on both the 99/4A and the Myarc Geneve 9640. Before loading Pix Pro or McPix make a backup, work copy of your disk and save the original in a cool, dry place.

On the TI-99/4A

Place the loading cartridge in the module port, turn on your peripherals and then the computer, place the program disk in drive one, and select the module from the Main Menu of the computer.

Through Extended BASIC

After Selecting Extended BASIC from the Main Menu, a small program menu will appear. Press "1" to load the main Pix Pro utility, or "2" to load the MacPaint converter McPix.

Through Editor/Assembler

Select option #5, "Load and Run" from the Editor/Assembler menu. Type the filename "DSK1.MCPIX" for McPix or "DSK1.PIXPRO" for the main conversion utility. The chosen utility will automatically load and run.

On the Geneve 9640

Boot up your Geneve with the most current version of M-DOS available. Place the program disk in drive one.

Through EXEC

Place Barry Boone's EXEC program on your copy of Pix Pro, or on a separate disk in a separate drive. Assuming EXEC is on your Pix Pro disk, type the following:

```
A>EXEC PIXPRO ENTER ..or.. A>EXEC MCPIX ENTER
```

The utility will automatically load and run. If you load Pix Pro in this manner frequently, please send a donation to Barry Boone (P.O. Box 1233, Sand Springs, OK 74063).

Through the GPL Interpreter

Load the GPL Interpreter and the Editor/Assembler or Extended BASIC modules. Follow the instructions above for loading with either module in the 99/4A loading section.

Using Pix Pro

This is specific instructions for the main utility. For information about using the *MacPaint* converter see the next section, "Using McPix".

Load Pix Pro following the instructions in the section above. After Pix Pro loads, press any key to advance beyond the main title screen.

Pix Pro is a very simple-to-use utility that does a lot of complex things. The main prompt of the program appears after the title screen

```
Load file?  
DSK1.■
```

At this prompt, enter the filename of any picture stored in the following formats: *GRAPHX*, *TI-Artist Picture*, *TI-Artist Instance*, *Picasso*, *Page Pro*, *RLE* or *Pix*. Remember to add any filename extensions which may exist (such as the "_I" part of an Instance filename), and press ENTER. Pix Pro will automatically figure out what kind of picture you are trying to load, and will load it accordingly.

If you don't remember the filenames of your pictures, you can get a disk catalog at this prompt simply by entering the device name of the disk drive you wish to catalog (for instance, to catalog disk drive one enter "DSK1." and press ENTER - note that the period is required). Pix Pro will then display a listing of the contents of the disk in that drive. You simply have to press a key to return to the "Load File?" prompt.

After loading in a picture, Pix Pro will automatically display it on the screen. At this point, there are a number of things you can do to it before saving it again.

If you are going to be saving the picture in a color format like *GRAPHX* or *TI-Artist Picture* format, you may want to change the foreground and/or background colors of the picture. To do this press the "F" or "B" keys respectively - Pix Pro will go through the list of foreground and background colors accordingly.

If you want to save only a portion of the picture (as a *TI-Artist Instance* or a *Page Pro* picture, for example), you have the option of just "clipping" that portion. Press "C" and a little arrow will appear on the screen. Using the Arrow Keys (FCTN-E, FCTN-S, FCTN-D and FCTN-X), move the arrow to the UPPER LEFT HAND CORNER of the area you wish to save. Press the ENTER key and the arrow becomes four corners (together at this point as a little box). Now use the Arrow Keys to make the corners encompass the area you wish to save. If you made a mistake, or just don't wish to clip the picture, you can press FCTN-9 to abort the clipping function at this point. After the part of the picture you wish to save is boxed in by the corner markers, press ENTER again to clip that area. You cannot abort the clip function after you have selected the area to clip.

The portion of the screen that you just clipped will then be displayed on the screen.

After the picture has been clipped, you can press any other key to go to the save menu. If you didn't clip any portion of it, you can also go to the save menu by pressing any key except "C", "F" and "B". After pressing such a key Pix Pro will ask you to select one of the following save formats:

1. Artist [TI-Artist Picture format]
2. GRAPHX
3. Instance [TI-Artist Instance format]
4. Page Pro
5. Picasso
6. Pix
7. Pix 128

To save it in *Page Pro* format, for instance, press "4" on the keyboard. To display a new picture and discard the current picture (or clip of the current picture), press ENTER.

After selecting the format you wish to save your picture (or clipping), Pix Pro will ask you again to enter in a disk filename. Enter the filename and press ENTER. Pix Pro will save your picture in the specified format. After saving the picture (or clip of the picture), you'll be returned to the "Load File?" prompt.

If you load in a file larger than the screen (which you probably will do quite often), a number of keys become active that let you view a portion of the picture. When the picture is larger than the screen, the screen acts as a sort of "window" on the picture. Certain keys (which will be familiar to users of TI-Writer) are used for "moving" this window to different parts of the picture.

Press: FCTN-5 to move the window to the right. When you are all the way on the far right hand side of the picture, FCTN-5 will take you to the left hand side of it (will "wrap-around" in other words)

Press: FCTN-3 to move the window to the left. When the window is displaying the left side of the picture, pressing this key again will move the window to the right-hand side.

Press: FCTN-4 to move the window down towards the bottom of the picture. Like the key above, when you are at the bottom, pressing FCTN-4 again will take you to the top of the picture.

Press: FCTN-6 to move the window towards the top of the picture. Pressing this key when the window is displaying the top of the picture will move the window to the bottom of it.

In addition to the ability to shift the window on picture in large jumps, there are a number of keys that give you finer control over the part of the picture displayed:

FCTN-E moves the window up 8 pixels

FCTN-X moves the window down 8 pixels

FCTN-S moves the window to the left 8 pixels

FCTN-D moves the window to the right 8 pixels

Being able to move the window over a specific part of the picture is very important. Some of the save formats available are limited in size to what you can display on the screen (*GRAPHX* and *TI-Artist Picture* formats for example). When you go to save the pic-

ture, the area that you are displaying in the window will be the part that is saved if you opt for one of those formats.

The windowing functions also complement the clipping function - you will often have to move the window over to the part of the picture containing what you want to clip before clipping it since the clipping function is confined to what you see on the screen.

When you are finished with this program, press FCTN-= to quit back to the Master Title Screen (or the M-DOS command line). For more tips on using Pix Pro see the section "Pix Pro Tips" below.

Using McPix

The *MacPaint* converter McPix is a separate utility for converting *MacPaint* pictures. Making it a separate utility has allowed us to add additional functions, including a few we couldn't cram into Pix Pro itself.

After loading the *MacPaint* converter as outlined in the loading instructions above, and advancing beyond the title screen (be pressing any key), you'll be faced with the following menu:

Press For

- 1 Convert Mac to Pix
- 2 Convert Mac to Page Pro
- 3 Print a Mac picture
- 4 Load Pix Pro

To select an option, press the key for number of the option you wish, or press FCTN-= to quit from the program altogether.

Option #1, "Convert Mac to Pix"

The option allows you to convert *MacPaint* format files into *Pix* format. After they are in *Pix* format, you can use Pix Pro itself to convert them into whichever final format you desire.

When the option is selected, you'll be asked to enter in the file-

name of the *MacPaint* picture you wish to convert. As with the "Load file?" prompt of Pix Pro, you can simply enter the device name by itself to get a listing of the files on the disk in that device (for instance, to get a catalog of the files on the disk in disk drive one, type DSK1. and press ENTER - note the period is essential in the device name).

If you view a catalog, you'll be returned to this prompt again when you press ENTER (or really any other key as well).

After entering in the filename of the *MacPaint* picture, McPix asks you the filename you wish to give the *Pix* version of it. You can press FCTN-9 at this point (or actually most points in this utility), to abort the operation and return to the McPix menu.

After entering in your save filename, McPix goes to work converting it. Please note that sometimes really big *MacPaint* files must be stored as 2 *Pix* files instead of one. McPix reduces the number of times this happens by removing any empty white space that appears around the *MacPaint* file, but it still happens, particularly with the really large ones. McPix saves the 2nd file with essentially the same filename, except for the last character incremented by one. For instance, if you save a really big *MacPaint* picture in *Pix* format as "DSK1.PICTURE", McPix may save it as "PICTURE" and "PICTURF" on your disk.

After converting the picture, you'll be returned to the McPix menu.

Option #2, "Convert Mac to Page Pro"

This option allows you to directly convert a *MacPaint* picture to *Page Pro* format, hence reducing the number of steps *Page Pro* owners need to take. The reason *Page Pro* was accorded this "honor" is simple - it is the only picture format for the TI-99/4A that can handle a picture anywhere near the size of a *MacPaint* picture. *MacPaint* pictures can be up to 576x720 pixels in size, while *Page Pro* pics can be 480x792. Note that *MacPaint* pictures that are wider than 480 pixels (which are somewhat of a rarity), will be truncated at 480 pixels.

As with the "Convert Mac to Pix" option, all white space will be

removed. This option operates fundamentally the same as the option for converting to *Pix* format, and hence the instructions and features are the same. After converting the picture, you'll be returned to the McPix menu.

Option #3, "Print a Mac picture"

This option is used to directly print a complete *MacPaint* picture. This was included because it makes it easier for people who don't use *Page Pro 99* to print out a complete pic (*Page Pro* users can simply print out full-page pictures in *Page Pro* itself after converting them into that format).

After selecting this option you'll be asked to enter the filename of a *MacPaint* picture. As with the above options, you can enter in the device name by itself to get a catalog of the disk in that disk drive (or on that RAM-disk or Hard disk drive).

After entering in the filename of the picture you wish to print, you'll be asked to enter in the device name of your printer. Please note that this function only works with Epson or compatible printers.

Finally, after entering in the device name of your printer, you'll be given 2 printing options:

Press For

- 1 Bit image print
- 2 Double density print

Which one you choose depends on your printer. If you have one of the newer Epsoms or compatibles, you'll want to select Bit image printing. Why? This function uses a printer graphics mode much closer to that used by Macintosh computers. Pictures printed in this mode are proportional, and generally look better. If your printer doesn't support this mode (and the only way to find out is to try it and see if it works), you can select the Double density printing option. This printing mode will produce a picture roughly 3/4 the width of the page and as long - this is because the *MacPaint* picture is only 576 pixels wide, and this printing mode makes the page 960 pixels wide. The results are certainly second best to the

results under the Bit image printing mode.

After printing out the picture, you'll be returned to the McPix menu.

Option #4, "Load Pix Pro".

This option allows you to go directly to *Pix Pro* from McPix, or actually load in Editor/Assembler option #5 program (*Page Pro 99*, *DM1000*, etc.). Simply enter in the disk filename and press ENTER. Pressing FCTN-9 returns you to the McPix menu.

Pix Pro Tips

If you want to make multiple clips from a large picture, you will want to save the whole thing in *Pix* format first. Pictures load fastest if they are in *Pix* format. Reloading the picture each time after clipping it will be much less time consuming (and with a RAM-disk practically unnoticeable except for the very large pictures). Why doesn't the program allow you to simply re-display the picture after clipping a part of it and saving it? This has much to do with current memory limitations. Perhaps a future version of *Pix Pro* will eliminate this problem.

Loading a picture can be time-consuming because some formats take longer than others to convert into *Pix* format for internal storage because of the way they are stored, and of course because the size of pictures varies between formats.

Selecting the *TI-Artist* or *GRAPHX* options on the save menu can be used to dump 256x192 sections of a large picture without clipping. Whatever was on the screen before going to the save menu will be stored in a *TI-Artist Picture* or *GRAPHX* file.

When loading *TI-Artist Pictures* you do not have to enter the filename extension (the "_P" and "_C"). *Pix Pro* will automatically add it if necessary. *Pix Pro* will also automatically add the "_P" and "_C" to a filename if you save a picture in *TI-Artist Picture* format, as well as the "_I" if you elect to save it in *TI-Artist Instance* format.