

Tiger cinema

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1. Introduction

Ever since the BASIC-Tiger™ is able to control graphical displays, there are new appealing tasks for the Tiger community. A picture says more than thousand words – that’s right, but even more is said by animated graphics. How you bring such a small movie onto the display of the BASIC-Tiger™ will be shown in this application note. With the help of a shareware program (which doesn’t cost much) you can become a “movie producer” yourself as well as convert the many e.g. in the internet existing animated graphics in a way that they run on the BASIC-Tiger™ graphic display. Of course there are other programs offering the same functionality, but we will restrict ourselves to the program "Paintshop Pro" from Jasc Software, Inc. in version 5.00 or higher. This is the website of Jasc Software, Inc.:

<http://www.jasc.com>

You can get the program "Paintshop Pro 5.00" or its successors almost everywhere on the internet. Also many CDs coming with computer magazines contain it. It is a universal graphic program which doesn’t leave open many wishes regarding editing of pictures. But the real main attraction for us is the program "Animation Shop", a stand-alone sub program for creating and editing of animated GIF graphics. Such animated GIF pictures are widely used on web pages, and therefore large collections of more or less appealing miniature movies offer models for almost any task. An internet address for animated GIF’s is e.g.

<http://www.mediabuilder.com/graphicsagif.html>

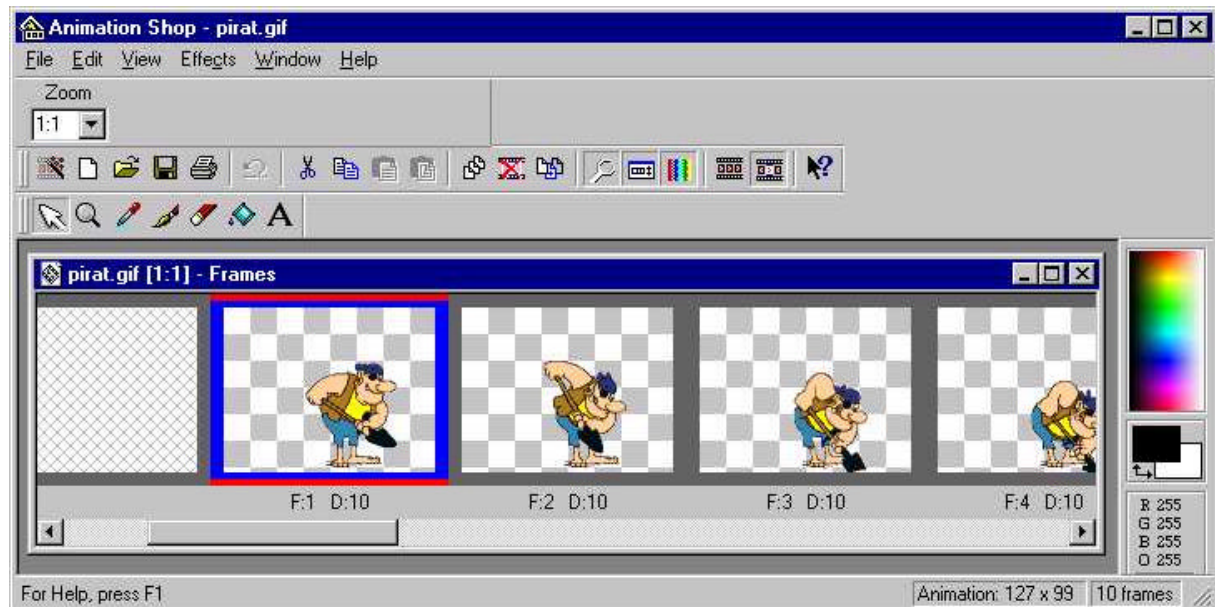
From here you can look further. Choosing the model you should consider some points:

- If possible, choose black/white graphics, as these fit directly to the b/w graphics display of the BASIC-Tiger™ and don’t have to be converted first. That almost every time results in loss of quality.
- The size should be right, because resizing also leads to quality losses.
- First check the memory of your Tiger module. For animations with lots of frames (single pictures) please use a Tiger with large Flash memory.
- If you intend to use the graphics for commercial purposes, think about possible copyrights!

2. We start at the PC

You have acquired and installed "Paintshop Pro", so there are two programs, which you will get to know and use in the following. At first start the program "Animation Shop", you find it in the directory “Paintshop Pro 5” as “Anim.exe”. Like used from Windows, you can open a previously chosen animated GIF file under **File** **Open...** (Menu items in the program usage are

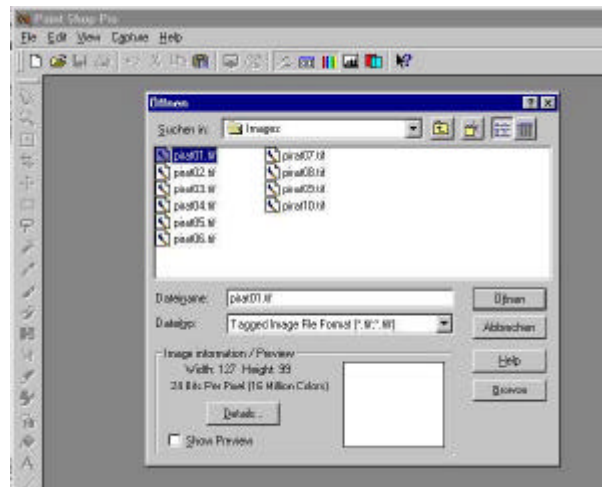
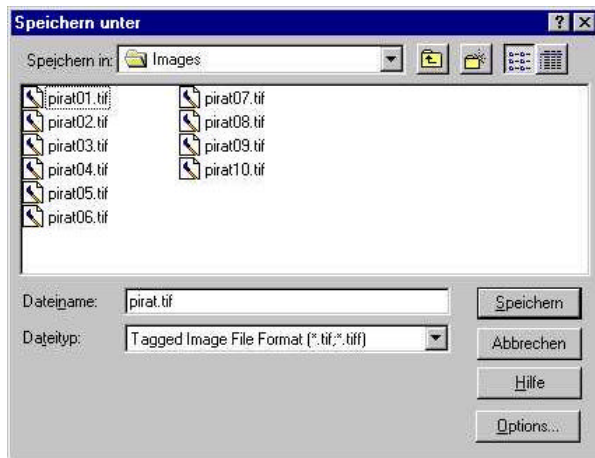
bordered in this text). The window of Animation Shop with an opened GIF file, here the file "pirat.gif" from R. Dagher, should look like this:



Pic 1 Animation Shop with opened file “pirat.gif”

The picture shows the single graphics (Frames) in a row like on a film strip, the frames have numbers (F:1, F:2 etc.), the description D:10 is the display time in milliseconds. Animation Shop allows the variation of the frame order per Drag and Drop, the modification of times and much more. With **View** and **Animation** you can watch “movie”, with **View** and **Frames** you can choose the film strip presentation above, both at the same time is also possible. The presentation as animation is also possible with any advanced internet browser, simply open the animated GIF file and there you go.

But the most important function for us is the break down of an animated GIF file into single frames, as we have to edit each single picture for the BASIC-Tiger™ accordingly. For this we again need the film strip presentation. The process is simple: First click the single picture with the left mouse button, which now has a blue border. On the top and bottom additionally two red lines appear. With **File** and **Save Frame as...** you can save the frame in a suited format. Keep it mind that every frame has to get its own name! You can choose the file type from a large number of common graphics formats, Paint Shop Pro and its subsidiary Animation Shop know almost every format. If the first frame is saved, click on the next and save it likewise. At the end you have all single pictures in one directory. Picture 2 shows the result, all 10 single pictures are saved under individual names (here as pirat01.tif up to pirat10.tif).

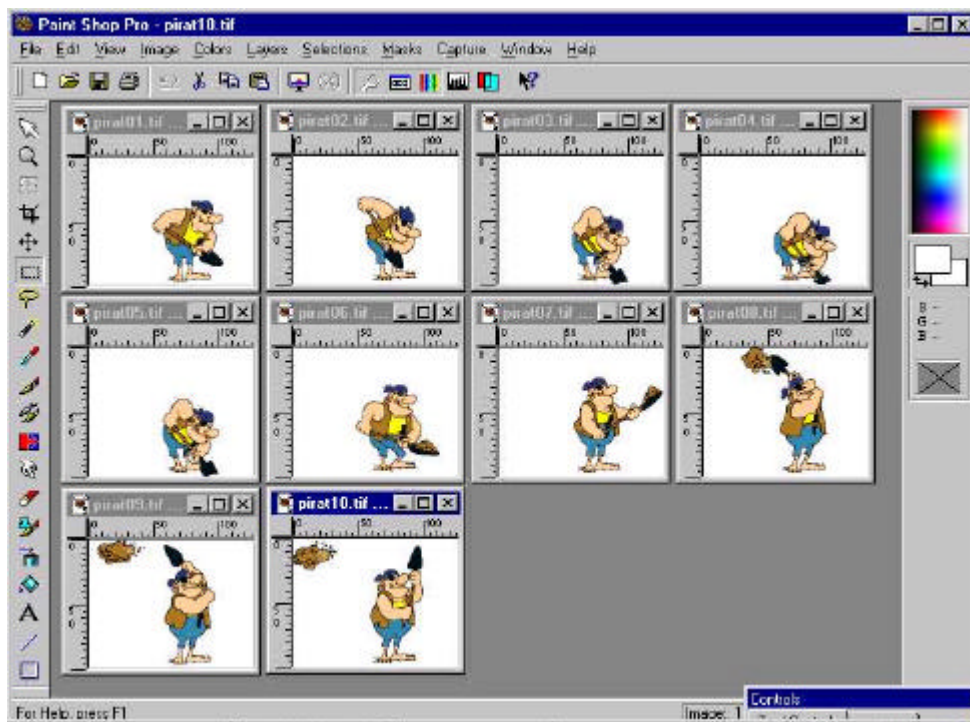


Pic 2 Pictures saved with Animation Shop

Pic 3 Open with Paint Shop Pro

The further editing is done with the program Paint Shop Pro, which should be in the same directory as the previously used program as "Psp.exe". We now run "Psp.exe" and with **File** and **Open...** go to the directory with the single pictures (Picture 3). For opening choose the same file type that you used for saving under Animation Shop (In the example: "Tagged Image File Format") or the option "All Files".

Now all of your pictures should appear on the list and can be loaded one by one or complete (Picture 4).



Pic 4 All pictures are opened and can be edited

Once the pictures are opened in Paint Shop Pro, they can be changed in almost any way you like. As always under Windows, the currently active picture has a blue title line at the top of the window.

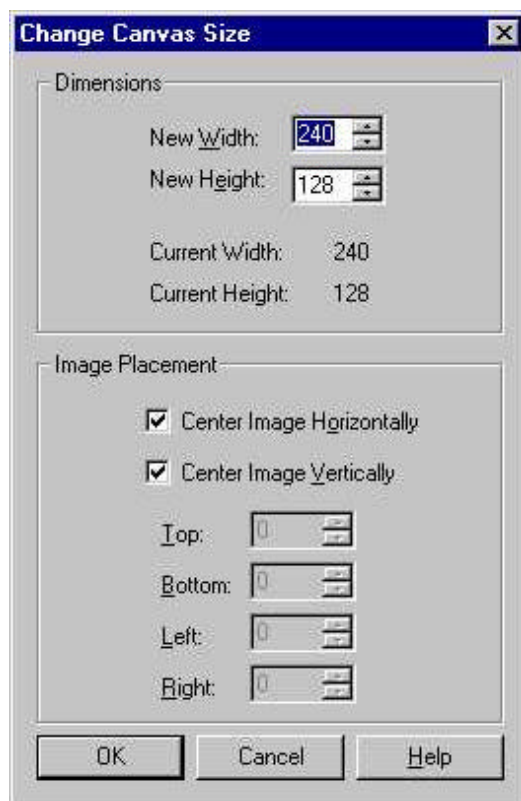
For the picture size to best fit the display, it possibly has to be changed. Our pirate e.g. has a format of 127x99 pixels. The standard display has a size of 240x128 pixels. Paint Shop Pro offers two possibilities for adjusting the size.

First you can extend the size of the picture in height and width to the needed values, meaning the actual picture content, here our pirate, stays as he is, he is only supplemented by a piece of background (Canvas size, like changing the size of the paper). This method does the least distort the motive. For this every picture must be treated with the following procedure:

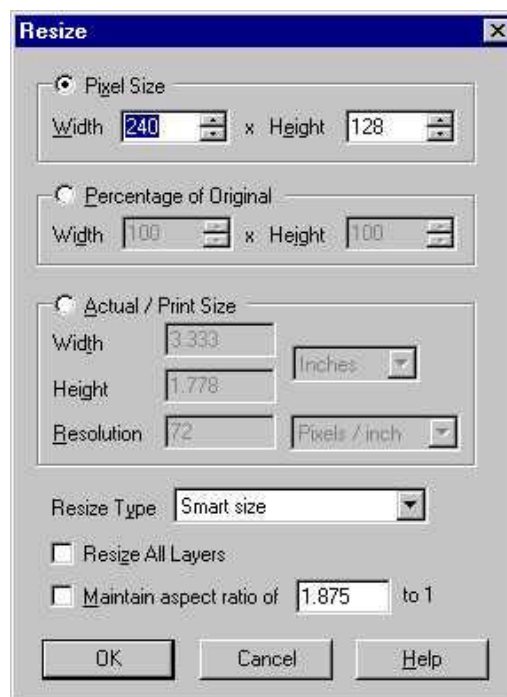
Image -> Canvas Size... -> New Width -> New Height
240 128

Please take care that both check boxes Center Image Horizontally and Center Image Vertically are activated, before you start the enlargement. This makes sure that the picture doesn't stick to any border.

The second method (Resize) stretches or compresses the whole picture with the danger that the aspect ratio is not changed proportional. The pictures 3 and 4 show the menu structures of both methods.

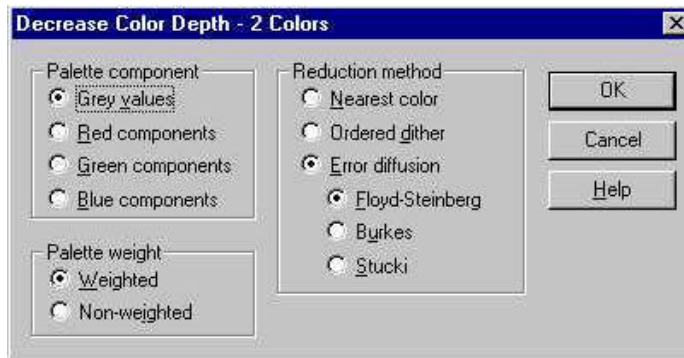


Pic 5 Adjustment with Canvas Size



Pic 6 Adjustment with Resize

The active picture still has colors, which unfortunately our display can't show. To come to a fairly similar picture, the following procedure is necessary. Go under **Colors** to **Decrease Color Depth** and choose there **2 Colors (1Bit)...**. A submenu appears (Picture 6), in which the following settings should be done.



Pic 6 Conversion to a 1-bit picture

The picture now becomes black/white with simulated grayscale, this procedure is called dithering. The pictures 7 and 8 show the conversion. When you now save the new picture with **Save as...** and as file type **Windows or OS/2 Bitmap (*.bmp)**, the first picture for the animated BASIC-Tiger™ graphic is ready. The same must be done for 9 remaining pictures of our example.



Pic 7 The original...



Pic 8 ...now in black/white

All pictures are now available as black/white BMP pictures and can immediately be brought onto the BASIC-Tiger™ display. Who wants can preview the "film" on the PC. For this you again need the program Animation Shop. Very easy you can create a new animated GIF file over **File** and **Animation Wizard...**, which in principle looks like it will do on the graphical LC display of the BASIC-Tiger™. Simply follow all instructions of the program and answer to questions you might not understand with **Continue >**, until you come to the menu item where you have to insert pictures (**Add Image...**). Now you can one by one insert all pictures of your new movie. At the end close with **Finish**, the movie is ready and can now be saved (**Save**).

The next paragraph is about how to get the animation into the BASIC-Tiger™. This part first requires some work at the PC, too: We still need a Tiger-BASIC™ program.

3. Programming the BASIC-Tiger™

The program "PIRAT_1.TIG" was derived from the program PLES_12.TIG of the Graphic Demo-Kit, it shows a pirate "at work". The connection of the graphical LC display is done in well-known way. If you need another number x of pictures for your movie, enter in the line below "Anfang:" instead of $3840*9$ the appropriate number of pictures $3840*(x-1)$. Additionally all pictures with exact path must be entered after the line "BILD1::".

If everything works, you can see your first movie running on the display. Have fun experimenting some more!



Pic 9 ...in action...