BMPdt

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	TITLE : BMPdt		
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	REVISION HISTORY		
NUMBER	DATE	DESCRIPTION	NAME

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BMPdt

1.1 BMP picture datatype

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                BMP Picture DataType for Workbench 3.0 or above
         Written by
          Gunther Nikl
           in 1995/97
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 FreeWare

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  Author
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1.2 copyright

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          This BMP datatype is Copyright © 1995/97 by Gunther Nikl. This  ←
               software
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package may be used freely for non-commercial purposes. Distribution of
this software package is allowed as long as it remains unaltered.

Hereby permission is granted to distribute this software package on the
"Meeting Pearls" CD-ROM series. Distribution on other CD-ROMs, disks
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               Author
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1.3   introduction

Starting with OS Release 3 the Amiga has the concept of 'datatypes', which
allow reading and viewing files of different types and formats. MultiView is
an application that utilizes these datatypes and handles any file for which
you have a data types class installed.

This datatype has been created to supersede the bmp.datatype v39.4 from the
3.1 NDK or pictdt_42_1.lha. That datatype was limited to 16 and 256 color
pictures, handled only Windows type BMPs (but didn't check for this) and had
other quite serious bugs.

Another reason to write this datatype was that I wanted to know if it is
indeed possible to use GNU-C to program one :^)

1.4   features

The datatype supports 1, 4, 8 and 24 bit BMPs. It handles OS/2 1.x, Windows
3.x and OS/2 2.x types of BMPs correctly. Images of 4 or 8 bit depth may be
rle compressed (it even tolerates possibly corrupted rle images).

Other features:

  – switches to V43 mode if a new picture.datatype V43 is found
  – asynchronous file I/O to speedup image loading and decoding
  – utilizes WritePixelLine8() for chunky-to-planar in V42 mode

Currently displaying true-colour images requires the picture.datatype V43.
With older versions of the picture.datatype one will get an error message
saying "ERROR_NOT_IMPLEMENTED". This may change in a future version.

Please note:
  1.) Some types of BMP pictures are called to be in 'DIB' format, but these
      are simple BMPs only with another extension
  2.) Pictures from OS/2 Warp are in OS/2 2.x format, thus can be handled by
      this datatype
  3.) Compressed BMPs have often a '.rle' file extension

1.5   installation

The "BMP" datatype distribution should consist of the following files:

  · Classes/DataTypes/680x0/bmp.datatype

  · Devs/DataTypes/Windows BMP
  · Devs/DataTypes/Windows BMP.info

  · BMPdt.guide
  · BMPdt.guide.info

  · Source code

Copy one "bmp.datatype" into the "SYS:Classes/DataTypes" drawer. The file
"Windows BMP" and its info file should be placed in the "DEVS:DataTypes"
drawer. In order to use the datatype doubleclick on "Windows BMP.info"
(or reboot the machine).

1.6 acknowledgments

This "BMP" datatype was written from scratch using GNU-C 2.7.2.1 (ADE).
All required information how to create a datatype were obtained from the
sample source code by David N. Junod found in the 3.1 NDK.

The asynchronous file I/O functions used had been adapted from an example file
of the picture.datatype V43. It was written by Matthias Scheler who allowed me
to use his 'ffr.c' with this datatype. I made some changes to adapt it to my
needs and to get it compile with GNU-C cleanly.

The library init code is based on the class initialization from the AIFF
datatype 1.16 by Olaf 'Olsen' Barthel adapted to GNU-C conventions.

1.7 history

v40.8 - class initialization rewritten in C (hi coto ;-)
      - a save request for DTWM_RAW returns a failure now

v40.7 - added missing sanity check for DTA_SourceType

v40.6 - buffer handling for asynchronous I/O improved to
          gain better performance
          (size adjustment and quad-longword alignment)
      - 8bit color value now spreaded over full 32bit
      - version for 68020+ equipped amigas included

v40.5 - added support for compresssed 4 and 8 bit images
      - added support for the new picture.datatype V43
      - added asynchronous file I/O
      - other optimizations

v40.4 [previous version was released a little bit to fast]
      - forgot to correct the normal address in the guide :(
      - source code cleanup (reduced the executable size :-)

v40.3 - fixed a serious bug with 8-bit images (did not use a
          separate pixel buffer for WritePixelLine8(), but this
          is *absolutely* required due to a size restriction...)
      - switched from AllocVec() to exec pool-functions of V39+
      - reduced stack usage

v40.2 - library bases are now taken directly from the classbase
          (no additional global library bases required anymore)
      - fixed a (harmless) bug in the bmpheader decode function
      - freed a buffer in the image decoder at a wrong place...

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v40.1 - initial release
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1.8 author

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Final note: Use at your own risk!
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