

# **PBMdt**

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	<i>TITLE :</i> PBMdt		
<i>ACTION</i>	<i>NAME</i>	<i>DATE</i>	<i>SIGNATURE</i>
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<b>REVISION HISTORY</b>
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NUMBER	DATE	DESCRIPTION	NAME

# Contents

<b>1</b>	<b>PBMdt</b>	<b>1</b>
1.1	PBM picture datatype . . . . .	1
1.2	copyright . . . . .	1
1.3	disclaimer . . . . .	1
1.4	introduction . . . . .	2
1.5	features . . . . .	2
1.6	installation . . . . .	2
1.7	preferences . . . . .	3
1.8	faq . . . . .	3
1.9	acknowledgments . . . . .	4
1.10	history . . . . .	4
1.11	future . . . . .	5
1.12	author . . . . .	5

# Chapter 1

## PBMdt

### 1.1 PBM picture datatype

PBM Picture DataType for Workbench 3.0 or above  
Written by Gunther Nikl in 1998-2001

FreeWare

Disclaimer  
Introduction  
Features  
Installation  
Preferences  
Datatype FAQ  
Acknowledgments  
History  
Future  
Author

Final note: Use at your own risk!

### 1.2 copyright

This PBM package is Copyright © 1998-2001 by Gunther Nikl. This software 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 series or cover disks requires a permission of the Author.

### 1.3 disclaimer

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The author takes no responsibility for any results of the use of this program. This software is provided "AS IS" and there is no warranty of any kind, so that you use this software at your own risk.

## 1.4 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 pbm.datatype can be used with either an old V42 style picture.datatype or with a new V43 one. It adapts itself to the underlying version of the picture.datatype.

I wrote this datatype because I wasn't satisfied with the ones available ;-)

This datatype was tested on an A4000/060 with a PicassoIV running OS3.5 + P96.

## 1.5 features

- supports P1, P2, P3, P4, P5 and P6 style pbm pictures
- supports HAM output (HAM6 as well as HAM8)
- 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
- can be configured to suit personal preferences
- OS 3.5 support (disables dithering for hi/true colour screens)
- FBlit support (affects V42 mode only)
- uses memory pools

## 1.6 installation

This "PBM" datatype distribution should consist of the following files:

- Classes/DataTypes/680x0/pbm.datatype
- Devs/DataTypes/Px
- Devs/DataTypes/Px.info
- PBMdt.guide
- PBMdt.guide.info
- Source code

Copy an appropriate "pbm.datatype" into the "SYS:Classes/DataTypes" drawer. The files "Px" and their info files should be placed in the "DEVS:DataTypes" drawer. In order to use the datatype doubleclick on the "Px.info" files (or reboot the machine). If there was another pbm.datatype installed you should remove its descriptor(s) from the "DEVS:Datatypes" drawer before installing

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the new ones. A reboot is required in this case to get the new datatype activated.

## 1.7 preferences

The datatype can be configured by placing desired options in an environment variable. The name of this variable is "classes/datatypes/pbm44.prefs". Please use Setenv (or Echo if you prefer) to create *\*global\** or Set to create *\*local\** preference settings. Local settings do override global ones.

Note: You have to copy the variable from ENV: to ENVARC: if you want to keep global settings permanently!

The preference template is:

```
V42MODE/S,GRAY/S,HAM/K/N,UNSAFE/S
```

```
V42MODE
```

```
-----
```

Forces the datatype to work in the old V42 mode even if a new V43 picture datatype is installed. The datatype switches automatically into this mode if no V43 aware picture.datatype is found.

```
GRAY
```

```
----
```

If specified the datatype emits grayscale images (default for V42MODE!)

```
HAM
```

```
----
```

Request the conversion of true-colour data into HAM. A value of 6 invokes HAM6 and a value of 8 invokes HAM8 mode.

Note: This option is silently ignored when working in grayscale mode or if the supplied argument is invalid.

```
UNSAFE
```

```
-----
```

When working in V42 mode this option enables a FBlit related optimization provided FBlit is installed.

## 1.8 faq

Q: Why is the datatype so slow with the P96 picture.datatype V43?

A: The picture.datatype coming with P96 dithers 24bit data even for 15/16 bit screens. Either use only 24bit screens or disable dithering globally this way (posted on the PML by Olaf "Olsen" Barthel):

```
setenv classes/datatypes/picture/dither 2
```

and then following it up with

```
copy env:classes envarc:classes all
```

Note: it may be necessary to create the picture drawer manually to get the Setenv command succeed!

Q: Can I speedup decoding in V42 mode?

A: Since the OS function `graphics.library/WritePixelLine8()` utilized for c2p conversation when working in V42 mode is not the fastest one possible you should consider installing a patch for this function. Highly recommended is NewWP8 from Michael van Elst available on AmiNet.

Note: This probably affects native graphic chip-sets only!

## 1.9 acknowledgments

This "PBM" datatype was written entirely from scratch using GNU CC 2.7.2.1 and GNU CC 2.95.2 (ADE/GG). All required information how to create a datatype were obtained from sample source code by David N. Junod found in the 3.1 NDK.

The asynchronous file I/O functions used are taken from an example file of the original picture.datatype V43. It was written by Matthias Scheler who allowed me to use his 'ffr.c'. I made some changes to adapt it to my needs, to add save capabilities and to get it compile with GNU CC cleanly.

I have to thank Frank Wille for pointing out a problem I was unaware of. Since the original IPrefs has very little stackspace available a datatype should not require much stackspace. Because my IPrefs was patched long ago increasing its stack size significantly I wouldn't have noticed this problem.

The class init code is loosely based on the class initialization from the AIFF datatype 1.16 by Olaf 'Olsen' Barthel. The HAM6 and HAM8 conversion functions are derived from assembler functions written by Olaf.

Futhermore, a thanks must go to Roland Mainz who pushed further datatypes development in the past and supplied useful example codes.

## 1.10 history

- 44.5 (09/09/2001) - disabled own save handling to make Multiview happy  
(Luca 'Hexaae' Longone)
    - added vmakefile for VBCC 0.8+
  - 44.4 (03/03/2001) - modified library initialization to fix some holes  
according to hints from Thomas 'Thor' Richter
    - added FBlit support for V42 mode  
(Luca 'Hexaae' Longone)
  - 44.3 (17/09/2000) - changed method handling in V43 datatype mode  
(switched from vararg to "normal" method call)
    - disables dithering on hi/truecolour screens if  
picture.datatype V44 is detected (-> OS 3.5+)
    - added color icons ;-)
    - added a smakefile
  - (18/02/2000) - adaption for V44 includes
-

44.2 (21/03/1999) - added missing WaitBlit() call  
- minor tweaks

44.1 (12/10/1998) - initial release

## 1.11 future

Things that might be added in a future release:

- adding an encoder
- ...

The future of this program depends on YOU!

## 1.12 author

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