

# **DigitalAlmanac**

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<b>COLLABORATORS</b>
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	<i>TITLE :</i> DigitalAlmanac		
<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

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# Chapter 1

## DigitalAlmanac

### 1.1 main

Welcome to Digital Almanac II 1.5

Please read the chapters marked with an asterisk, because they contain important information to ensure a safe working on your Amiga !!

Best viewed on a 800\*600 resolution.

[Copyright](#)

[Registration](#)

[Requirements](#) \*\*

[Introduction](#)

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### 1.2 copyright

Digital Almanac II 1.5 © 1997-1999 by Achim Stegemann

\* Digital Almanac is shareware.

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\* Digital Almanac consists of the following archives:

- + DAlmanac\_Exe.lha: The main archiv (binaries, system files)
- + DAlmanac\_Data.lha: The basic datas (stars, constellations, cross-indeces)
- + DAlmanac\_Ast.lha: Asteroid catalog
- + DAlmanac\_DS.lha: Deep-sky object catalogs
- + DAlmanac\_Maps.lha: Surface textures
- + DAlmanac\_NList.lha{fg text}: Mainprogramm with use of MUI-NList.

These archives may be freely copied and spread.

No file may be changed or left !

No costs may be raised except costs for materials like disks or CD's !!

\* If you like to use the program, please register.

\* Every comment, critics, suggestion, bug report o.a. is welcome !

This helps me, to correct and to improve the program in the future. :-)

\* The program uses **MUI**.

\* All other trademarks named are copyrighted by the corresponding owner.

THE AUTHOR OF DIGITAL ALMANAC IS NOT RESPONSIBLE FOR ANY EVENT THAT IS CAUSED DIRECTLY OR INDIRECTLY BY USING THIS PROGRAM !!

## 1.3 copyright-mui

MUI - MagicUserInterface

(c) Copyright 1993-1999 by Stefan Stuntz

MUI is a system to generate and maintain graphical user interfaces. With the aid of a preferences program, the user of an application has the ability to customize the outfit according to his personal taste.

MUI is distributed as shareware. To obtain a complete package containing lots of examples and more information about registration please look for a file called "muiXXusr.lha" (XX means the latest version number) on your local bulletin boards or on public domain disks.

If you want to register directly, feel free to send

DM 30.- or US\$ 20.-

to

Stefan Stuntz

Eduard-Spranger-Straße 7

80935 München

GERMANY

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## 1.4 registrierung

If you like the program and want to continue using it, you can register at [me](#).

The shareware fee is DM 30.- (= 15 Euro) or US\$ 20.- (cash or remittance).

When you have remitted the fee, you will receive a keyfile, which disables all the restrictions. This keyfile is valid for all following versions (no updates needed !!).

Don't forget to specify your name, address (and phone number) on the remittance !!.

Restrictions of the unregistered version:

- \* Deep-sky catalog access limited to the Messier catalog.
- \* All saving and printer functions are disabled.
- \* No change of your position to a different planet, only Earth enabled.
- \* No detailed course of eclipses.
- \* No picture gallery.
- \* Plotting stars only to 6m.
- \* Plotting other objects only to 10m.
- \* Fixed pixelsize.
- \* No events in the calendar.
- \* The program will terminate after 20 min and all 5 min a requester will appear.

## 1.5 voraussetzungen

Minimum system configuration:

- \* OS 3.0 + AGA
- \* MC68020/68881
- \* 4 MB free FastRAM
- \* Harddrive
- \* MUI 3.8
- \* The NList classes, if you use the NList version of DA.

(Aminet:dev/mui/MCC\_NList.lha)

Recommended system configuration:

- \* OS 3.1
- \* MC68040 or MC68060
- \* 16 MB FastRAM
- \* Graphic card with CyberGraphX 3.x
- \* Turboprint for improved printer output.

To use the JPEG and QuickTime features you require:

- \* The JPEG-Tower system by Christoph Feck or the jpeg.library by Paul Huxham, both available on the Aminet.
  - \* Jpeg2Mov by Alex Kazik (included in the archive) to create the QuickTime movies.
-

\* For true/hicolor screens CyberGraphX.

To use the MPEG feature you require:

\* mpeg\_encode (included in the archive) to create the MPEG movies.

\* ixemul.library V39 or better.

\* For true/hicolor screens CyberGraphX.

The main program requires at least the data archive DAlmanac\_Data.lha 1.0 !!

Digital Almanac was developed and tested on:

\* A4000 with OS 3.0

\* Cyberstorm MK-III 68060 at 50 Mhz

\* 2 MB ChipRAM, 40 MB FastRAM

\* Cybervision 64 with CyberGraphX V3 (=41.21)

\* MUI 3.8

\* Developed with Maxon-C++ V3 and PhxAss.

## 1.6 einführung

Digital Almanac is an astronomy program which offers lots of possibilities.

The program is permanantly improved, so that new versions are at your disposal.

Digital Almanac offers:

\* Star database with ca. 500,000 stars up to 16m.

\* Cross-index for SAO, PPM, HD, YBS und GC catalogs.

\* About 40000 deep-sky objects (Messier, NGC, IC, UGC, Abell, Zwicky and other misc objects).

\* More than 50000 minor planets and asteroids as well as the

comets Halley, Hyakutake and Hale-Bopp.

\* Highly accurate calculation of Moon and planets with JPL's integration tables (DE404).

Accuracy partly <0.1'' over a period of some thousand years !!

\* Jovian, Saturnian and Uranian moons.

\* Textures for all planets and moons.

\* Milky way structure.

\* View the sky from any solar system object.

\* Save animations in IFF-ANIM, QuickTime or MPEG format.

\* Loading and saving of configuration files.

\* Highly optimized algorithms for maximum speed, mostly written in assembler.

Recognizes CPU for maximum speed.

\* Lots of configuration possibilities.

\* Online and menu help with HELP-key and MUI's bubblehelp.

\* Full Drag&Drop support.

\* Creation and export of ephemeris tables.

\* Picture galery creation.

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- \* User editable database of orbital elements.

- \* Control program with ARexx scripts.

Supported software:

- \* CyberGraphX for true/hicolor screens.

- \* The JPEG-Tower system by Christoph Feck or the jpeg.library by Paul Huxham, to make use of JPEG and Quicktime features.

Both programs are available on the Aminet.

- \* Jpeg2Mov by Alex Kazik (included in the archive) to create QuickTime movies.

- \* mpeg\_encode (included in the archive) to create MPEG movies (requires ixemul.library V39 or higher).

- \* Xpk system to store images in IFF-RGFX format.

A datatype for this new graphic format is available at Aminet:util/dtype/rgfx-dt.lha.

- \* Turboprint V3 or higher.

AGA mode and FBLit:

A very useful tool for all AGA users is FBLit, which can read and write graphic data from FastRAM with the CPU, to prevent low ChipRAM.

To make DA work together with FBLit, you need - in difference to the default prefs - the following settings:

- \* Start FBLitGUI.

- \* Enter DA's taskname, i.e. DigitalAlmanac in FALlocBitMap/Lists/Include List.

Of course you must activate FALlocBitMap and turn on the option Include List.

- \* Turn off the switches FAreaEnd/Activated and FDraw/Activated, to make lines and areas visible.

DA runs prefect together with FBLit with these settings. You don't need to close Workbench.

Even large pictures from the picture galery cause no more trouble.

## 1.7 installation

Start the installer script and follow the instructions.

If you install Digital Almanac the first time, you require at least the main (exe) and the data archive !!

The other archives are add-ons. Please use the installer script to install them.

Digital Almanac also requires asyncio.library, which is included in the archive as version 39.2.

If you have an older (or no) version, the library will automatically be copied to your SYS:Libs drawer.

To have the correct font in some requesters, please follow these steps:

- \* Start Digital Almanac.

- \* Click the corresponding MUI gadget or menu item for the local MUI settings for Digital Almanac from any of its window.

Do not start MUI preferences manually !!

- \* Select Windows in the MUI preferences.

- \* Type Astro/11 in Fonts/Normal.

- \* Save these prefs.

Digital Almanac will now use the Astro font in some error requesters.

The global MUI prefs will not be affected !

MUI preferences will create the file in the ENVARC:MUI/DIGITALALMANAC.prefs.

If you like to use the NList executable, simple download DAlmanac\_NList.lha, unpack it, and replace your main executable PROGDIR:DigitalAlmanac with this one.

Note:

The NList classes offers you lots of new features using lists, like clipboard-support and improved look. But because of its complexitiy, NList is also much slower than MUI's original list classes, especially the multi-column lists. So you should have a fast CPU (at least a 030/50 or a 040/25) when using the NList version of DA, with a reasonable speed !

Very important:

- \* Surface textures of Digital Almanac I do NOT work !!

You must delete them or install the new archive DAlmanac\_Maps.lha !!

- \* It is absolutely necessary to set the flag Windows/Refresh in the MUI preferences to Smart. Otherwise it is possible, that Digital Almanac refuses to work with your selected menuitems. On the other hand you avoid timeconsuming window refreshing whenever mui feels to update the windows !!

## 1.8 programmstart

From CLI:

Template: DigitalAlmanac FILE,HOMENAME=HN/K,HOMECOORDS=HC/K,  
SCREENMODE=SM/K,  
CACHE/K/N  
DSO/K,XPK/K,  
INTROFONT=IF/K,INTROSOUND=IS/K,  
PICTUREPATH=PP/K,  
NUMASTEROIDS=NUA/K/N,  
NOASTEROIDS=NA/S,NOOBJECTS=NO/S,NOSTARTUP=NS/S,NOINTRO=NI/S,  
CLOSEWB/S,LIKEWB/S,SCREENMODEREQUESTER=SMR/S

From Workbench:

Tooltypes:

- \* HOMENAME=Name of City

- \* HOMECOORDS=Latt. Long. Alt.

- \* SCREENMODE=SUPER72:SuperHighRes Interlace

---

\* CACHE=#kBytes for the cache memory (double buffer).

\* DSO=.....

\* XPK=Xpk-PackerID

\* INTROFONT=Name.font

\* INTROSOUND=Soundfile

\* PICTUREPATH=Searchpath for pictures

\* NUMASTEROIDS=#Asteroids to be loaded

\* NOASTEROIDS

\* NOOBJECTS

\* NOSTARTUP

\* NOINTRO

\* CLOSEWB

\* LIKEWB

\* SCREENMODEREQUESTER

FILE (CLI only)

Name of a config file to be loaded at program startup.

If you don't supply a filename, Digital Almanac will try to load the file Projects/Startup.

In this case time will be set to current system time.

HOMENAME

Enter the name of observing point.

This tooltype will be overwritten, if you have supplied the file Projects/Startup.

Example: New York

HOMECOORDS

Enter the latitude, longitude in degrees and your altitude in metre.

This tooltype will be overwritten, if you have supplied the file Projects/Startup.

Example: 34.5 -64.2 123

If you start the program from CLI, set the input string in quotes !

SCREENMODE

The program tries to use this specified screenmode as you can see in several screenmode requesters.

Click [here](#) for more information about screenmode handling.

CACHE

Set the size of cache memory in kBytes for the stars and asteroid catalogs.

The default is 100 kBytes, the minimum are 8 kBytes.

It does not make much sense to use large values for cache memory, because memory consumption is greater than speed gain.

Usually values more than 500 kBytes should not be used.

DSO

Combination of 7 characters '0' and '1' to en/disable deep-sky catalogs.

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For description click [here](#).

#### XPK

To save a picture in the IFF-RGFX format with Xpk compression, you need the ID of an Xpk-Sublibrary. This gives you the default setting.

Default is the first packer in the list.

#### INTROFONT

Name of the font to be used in the intro, e.g. Ruby.font.

Default is CGTime.font.

#### INTROSOUND

Name of the sound to be played in the intro.

Default is Data/Intro.snd.

I recommend the usage of sound.datatype 41.x by Steffan Rupprecht

(Aminet:util/dtype/sounddt41.lha), because this one is absolutely reliable and with its

AHI support it's able to play stereo sounds !

#### PICTUREPATH

Redirect searchpath for the picture galery.

Default is Pictures.

#### NUMASTEROIDS

If the asteroid database shall be loaded, this parameter limits the number of asteroids to the first n asteroids.

This option has no function, if NOASTEROIDS is set !

#### NOASTEROIDS

Avoid loading of the asteroid data files. Saves up to 3.0 MB of memory.

#### NOOBJECTS

Avoid loading of the deep-sky object data files. Saves up to 2.9 MB of memory.

Overrides DSO@.

#### NOSTARTUP

Don't load the Projects/Startup file, but instead use the interal startup settings.

HOMENAME and HOMECOORDS stay valid.

#### NOINTRO

Do not display intro picture during startup.

If you do not hve a graphic card, it is recommened to always set this tooltype.

#### CLOSEWB

Attempts to close the Workbench at startup.

This might be interesting for AGA users, as you can save lots of ChipMem.

Note:

\* The Workbench can be closed only, when there is no other program using it.

\* Changing screenmode or iconification will reopen Workbench.

\* This option overrides LIKEWB !

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## LIKEWB

Opens a screen for Digital Almanac with the Workbench's screen mode.

If this option is deactivated, it tries to open an 800x600 or 640x480 screen.

## SCREENMODEREQUESTER

Opens a requester where you can select the screen mode at startup.

This option overrides LIKEWB !

## 1.9 modusauswahl

Digital Almanac uses the following order of priority choosing a screenmode:

- \* Tooltype SCREENMODE
- \* Tooltype SCREENMODEREQUESTER
- \* Tooltype LIKEWB , if Workbench is (still) open.
- \* 800x600x8 screen
- \* 640\*480x8 screen

If the first item fails by any reason (tooltype is not set or invalid), then the next item downwards will be checked .. and so on.

To make the current screenmode the default mode, just choose the menu item 'Save screenmode'.

This will write the name of the screenmode directly into the tooltypes of DA's program icon and with the next start of DA, the screen will open in your saved mode.

## 1.10 dso

With this tooltype you can load those deep-sky catalogs into the memory you really need.

All others won't be loaded.

By default all catalogs will be loaded.

The character '0' disables, a '1' enables and loads a catalog.

The order of catalogs is:

- \* Messier
- \* NGC
- \* IC
- \* UGC
- \* Abell
- \* Zwicky
- \* Misc

Examples:

DSO=1000000 Only the Messier catalog will be loaded.

DSO=1010000 Messier and IC catalogs will be loaded.

DSO=0110001 NGC, IC and the misc catalogs will be loaded.

Usually the most interesting objects are the Messier and the NGC catalog, so you might want to set the tooltype to DSO=1100000.

## 1.11 beschreibung

The program is mostly self explaining. If you have used some other astronomy software in the past, you should have no difficulties using this program.

Lots of gadgets have bubblehelp.

Online and menu help is available !

Project Windows Map Extras

Open Preferences Planetarium Calendar

Save as Coordinates Locale sky Solar eclipse

About Telescope Orrery Lunar eclipse

MUI Settings Animation Redraw Pictures

Screenmode Tracking System time

Colors Solar system Direction

RGFX XPK Settings Asteroids

JPEG/PPM Settings Stars

Save map as DS-Objects

Export Orbital elements

Printer

Reset

Quit

## 1.12 projekt-öffnen

Loads a configuration file.

The new settings will be immediately displayed.

## 1.13 projekt-speichern

Saves the current configuration.

The icon Icons/Project.info will be saved with the configuration !

You can replace this icon by a different icon of your choice.

## 1.14 projekt-mui

Opens the MUI preferences on the Workbench.

Here you adjust several local MUI settings, that only affect Digital Almanac.

## 1.15 projekt-bildschirm

Choose a new display resolution for Digital Almanac.

---

## 1.16 projekt-farben

Opens a window where you can adjust the most important system colors.

## 1.17 projekt-rgfx

Choose an XPK-Packer for the IFF-RGFX-Format.

## 1.18 projekt-jpeg

Parameters for saving JPEG/PPM pictures, QuickTime and MPEG animations.

The flag Grayscale is also valid for the PPM and MPEG mode.

## 1.19 projekt-karte

### \* ILBM

Saves the main window as an IFF-ILBM file.

If the icon ENV:Sys/def\_ILBM.info exists, it will be added to the picture.

### \* RGFX

Saves the main window as an IFF-RGFX file.

If the icon ENV:Sys/def\_RGFX.info exists, it will be added to the picture.

Important: To use the Xpk support of the new IFF-RGFX format, you require the xpkmaster.library 2.x or better.

You can find a datatype for this new format in Aminet:util/dtype/RGFX\_DT.lha.

More information in Aminet:dev/misc/IFF-RGFX.lha.

### \* GIF

Saves the main window as a GIF file.

If the icon ENV:Sys/def\_GIF.info exists, it will be added to the picture.

Important: Only 8-bit screens can be saved as GIF.

### \* JPEG

Saves the main window as a JPEG file.

If the icon ENV:Sys/def\_JPEG.info or ENV:Sys/def\_JFIF.info exists, it will be added to the picture.

### \* PPM

Saves the main window as a PPM file.

If the icon ENV:Sys/def\_PPM.info, ENV:Sys/def\_PBM.info

or ENV:Sys/def\_PNM.info exists, it will be added to the picture.

---

## 1.20 projekt-export

In this window you find all parameters you need to create an ephemeris table.

- \* Select your starting parameter (location, time) in the window Coordinates and the calculation parameters in the window Preferences/Accuracy.
- \* Choose the output mode (window, printer or file).
- \* Select the stepsize and the number of outputs.
- \* Open the corresponding window for the object of your choice.
- \* Drag the object with the mouse to the text field of the export window.

With the help of the two lists, you tell the program, what datas you want to be calculated.

Choose an item in the left list and drag it with the mouse to a position of your choice to the right list.

Multiselection is supported.

Double inputs will be ignored !

To swap an item within the right list, just drag it to a different position.

Only the active item is swapped.

To delete an item from the right list, drag it back to the left list.

Multiselection is supported.

Press the Start button to begin calculation.

The datas will be printed according the order in the right list !

If calculation does not start, check your inputs (empty list, missing filename etc. ?).

Outputs, which don't make any sense, will be automatically filtered by the program.

Example: Sun -> Elongation and phase are filtered.

Important:

To get a formatted printer output, you must set a nonproportional font on your printer !

## 1.21 projekt-drucker

Here you can print the contents of the main window !

Please remember, that the printer.device from Commodore only can print screens with a depth  $\leq 8$  bit (also CyberGraphX screens).

For High/Truecolor screens you need the program Turboprint, which is supported by Digital Almanac.

The image will be printed according to the printer preferences. Additionally you can override some printing options with the special-flags.

Pressing Start the program calculates the size of the image on the paper.

Confirming the following requester starts printing the image.

---



## 1.22 projekt-reset

With this function, you can reset the whole display as described in the file Projects/Startup.

It is recommended, always to support such a startup file, otherwise the reset function will not work.

## 1.23 fenster-einstellungen

In this window you can change the most important options of Digital Almanac.

The window is divided into three pages:

1. Display and Details

Objects

Accuracy

Grid

Display

2. Objects

Solar system

Constellations

Stars

Objectname

3. Magnitudes

## 1.24 einstellungen-11

(De-)Activate one of the different categories of objects.

## 1.25 einstellungen-12

Select the accuracy of calculation.

Geocentric parallax

Difference between a geocentric (in the centre of the Earth) and a topocentric (on the Earth's surface) observer.

Important for Moon (up to  $0.5^\circ$  difference) and near planets.

Refraction

Effect caused by the atmosphere at lower heights.

Important for calculation of rises and sets (some minutes difference !).

Extinction

Lightweakening caused by earth's atmosphere depending on the zenith's distance.

Usually this option is not needed.

---

### Precession

Difference of coordinates caused by the Earth axis.

If this option is disabled, all calculations are referred to the equinox J2000.0.

Important for comparison of tables of ephemeris or star maps.

### Nutation

Second effect caused by the Earth axis.

Small effect (some arcseconds).

### Proper motion

Consideration of proper motion of the stars.

Very small effect. Use only during long time periods.

### Planetary aberration

Difference of the position of a planet caused by the time travelling  
from a planet to Earth.

Important during calculations of eclipses or observing details on a planet's surface  
(deviation of some arcminutes).

### Stellar aberration

Deviation caused by Earth orbiting around the Sun.

Small effect (max. 20").

### Daily aberration

Deviation caused by the rotation of the Earth.

Very small effect (max. 0.3").

### Remark:

These options have no influence on the calculation in the calendar or eclipse mode !!

They also don't make sense, when you have selected a position outside Earth. All coordinates  
are then calculated for the equinox J2000.0.

## 1.26 einstellungen-13

### Ecliptic

Draws the ecliptic.

### Horizon

Simply plots the horizon with direction labels.

### Kind

Choice of some different coordinate grids.

### Draw as

Display either as dots or as a line.

### Distance

Distance between grid lines in degree,

### Step

Increment in degree.

1 = slow, but accurate -> 90 = very fast, but inaccurate

---

## 1.27 einstellungen-14

### Map

Choose between planetarium and local sky.

### Projection

The map will be either displayed on an area or on a sphere.

### Az/He system

There exist two different measuring systems for the azimuth angle.

The first one starts measuring from south (default), the second one from north.

### Date

Put the date, local, universal und sidereal time in the upper left corner.

### Night palette

Switch between normal colors and night colors.

### Important:

\* MUI colors are not affected as they are under MUI's control.

### Invert colors

Invert all object colors.

### Pixelcheck

When the screen is covered all over with stars, it may happen, that bright stars are overwritten by fainter stars. To prevent this, you can enable this mode.

When enabled, the program checks the position for an eventually previous star.

This will protect bright stars from being overwritten.

The speed loss ranges between 5% and 20% (depending on your CPU and screenmode), but you receive a better map at a high star density.

This mode does not work on CyberGraphX hi/truecolor screens !

### Fast SinCos

In astronomical calculations the sinus/cosinus functions require the most time.

Is this option disabled, all these functions are executed by their corresponding FPU command.

Is this option enabled, then the sinus/cosinus functions are replaced in all time critical functions. Calculation speed increases up to 15% where accuracy of the fastfunctions is still 10 to 12 digits !

This option is only available on MC68040 or MC68060 CPUs.

### Developer info:

The FPU commands fsin, fcos and fsincos usually need about 400 bis 600 cycles on all FPUs.

As the fastfunctions only need additions and multiplications, they are very fast on 040/060 CPUs and only need about 100 (sin, cos) or 220 (sincos) cycles, so they are about 3 to 4 times faster.

On an MC68882 the FPU commands are faster, as additions and multiplications need 5 to 10 (!) times more cycles than on 040/060 CPUs (lots of FPU commands only need 2 to 4 cycles here !!).

### ObtainPen

With this gadget you can change the color remapping behaviour.

If you are a programmer, you know these values for sure.

The remapping quality ranges from GUI (=not so well) to EXACT (=best).

The better the value, the more exact the colors will be remapped to the current color palette.

At the same time, they allocate more pens, so that following remapping procedures will be less exact.

Before drawing a map, all old, allocated pens will be released and can be overwritten by new colors.

Usually you don't want to change the default value IMAGE, as this is the best compromise between allocation and quality.

Important:

Only surface textures and pictures from the galery are affected by this gadget.

True/hicolor screens are not affected.

## 1.28 einstellungen-21

Planetname / Asteroidname / Orbitname

Kind of name.

# Asteroids

To shorten the number of asteroids that you want the program to calculate, you can enter a limiting number. Only the first x asteroids then will be calculated.

Show phase

Draw phase of moons and planets.

Show grid

Draw a planetographic coordinate grid.

Texture

Show planets and moons with a surface texture.

Autozoom

Enlarge a selected object when centering.

## 1.29 einstellungen-22

Lines

Draw constellation figures.

Limits

Draw constellation borders.

Names

Choice of language.

---

## 1.30 einstellungen-23

Names

Draw names of stars.

Symbol

Draw greek letter of stars.

Flamsteed

Draw Flamsteed number of stars.

Plotting mode

Here you can select four different modes for the stars.

- \* Graylevel Pixel

- \* Graylevel Area

- \* Spectra Pixel

- \* Spectra Area

In the area modes, bright stars will be drawn as little circle areas.

Mag factor

With this factor you can take influence on the size of a star begin plotted.

Actually this factor works like a filter to avoid that stars are drawn too bright.

The greater the value the darker a star appears.

Note: Currently only stars are influenced with it !!

## 1.31 einstellungen-24

Messier / NGC / IC / UGC / Abell / Zwicky / Misc

Draw objectnames from the catalogs.

Mark

- \* Simple

The object will be marked with a little cross and its size in the sky will be displayed.

- \* Picture

You can fill the sky area of an object with its picture from your gallery.

When using an 8-bit screen, areas are displayed only grey-leveled.

## 1.32 einstellungen-3

Min. mag. stars

Minimum magnitude for the star catalog.

Min. mag. Objects

Minimum magnitude for planets, asteroids and deep-sky object catalogs.

Darkest pen

---

Darkest colors that is used during drawing.

Serves to make dark object more visible.

Note:

When zooming at an object, the object will become brighter !!

Actually it is: The half field angle increases the magnitude by factor four.

## 1.33 fenster-koordinaten

Input of location, time and environmental parameters of the observer.

This window is divided into two groups. Location and Date.

In the location group you choose you observing location on Earth.

In the date group you enter the date and time for any calculation you wish to do.

\* Geogr. latitude and longitude

Enter angles either in decimal (XX.YYY) oder in hexagesimal (DD°MM'SS") format.

Southern latitudes or western longitudes must be entered as negative angles.

\* Elevation above sea

This parameter is used for topocentric coordinates (geocentric parallax).

The elevation must be given in metres above sea.

\* Temperature and Air pressure

This parameter is used in refraction calculations.

The temperature must be given in deg Celsius, the air pressure in mbar.

\* Meridian shift

Adjust the meridian shift for the corresponding location.

Locations with a western longitude have a negative value, such with an eastern longitude have a positive value.

Example: MET=1, MEST=2

Default is the value defined in the SYS:Prefs/Locale.

\* TDT - UT

Astronomy does not use the "normal" time for calculation, but the "Terrestic Dynamic Time" (ephemeris time) is used.

This value gives the difference between the ephemeris time und the universal time in seconds.

Because of steady fluctuations of Earth's orbit, it is impossible to give an exact value for a certain time. However, the program gives you a quite accurate estimate for a period of some centuries.

So usually this value should not be changed.

\* Automatic update

Here you can adjust the time intervall (minutes) in which the map should be recalulated with the current preferences.

---

Using a '0' will deactivate this option.

How to handle different locations ?

- \* Enter your geogr. latitude, longitude etc. in the left column.

CyberGraphX users also can click on the little popup button to choose a location.

A window with a world map opens. With a mouse click the selected location will be copied into the string gadgets.

Because of the limited chip memory, this button is not visible when using AGA !!

- \* Press the Add button.

The parameters from the left side will be added to the list.

- \* To save the list, press the Save button.

The list will be saved as Data/place.data.

- \* To delete an entry from the list, press the Del button.

The currently activated entry will be deleted.

- \* The list is always sorted in alphabetical order.

Note:

Enter negative values for western/southern positions !

The coordinates format is XX.YY° or DD°MM'SS".

## 1.34 fenster-teleskop

The handling of the gadgets in locale sky and planetarium mode is different than when being in orrery mode.

Locale sky and planetarium mode:

- \* The string gadgets shows you the center coordinates and the angle-of-view corresponding to the current active coordinate system.

- \* With the arrow-buttons, you can move in longitude and latitude in steps of 1/4th of the angle-of-view.

- \* The zoom-buttons will zoom in or out by doubling (halving) the angle-of-view.

- \* The reset button in the middle of the arrows will reset your center angles.

- \* Dragging a solar system body (planet, moon, asteroid or orbital-element object) to the textfield will show you the sky as seen from this selected object.

- \* Pressing the button left to the textfield will reset your position to Earth.

Orrery mode:

- \* The string gadgets shows you the heliocentric polar coordinates of your position (note the difference to above !) from a center, which is by default the sun.

- \* With the arrow-buttons, you can move in longitude and latitude in steps of 10° around the center.

- \* The zoom-buttons will zoom in or out by a factor of 1.5.

- \* The reset button in the middle of the arrows will reset your position.

---

Because you have more animation possibilities in orrery mode, handling an animation is a bit more complex than in the other two modes.

Single map:{ub}

The map is drawn with your position shown in the string gadgets, no matter what is in the textfield set as observing position !!

To set yourself to the position of solar system body, just drag the object to the string gadgets, not to the textfield !!

Animation mode:{ub}

1. View from a fixed position:

Unselect the checkmark right to the textfield. The program will use the coordinates below like an a single map.

2. View from a solar system body.

Select the checkmark. When you start the animation, you will fly at the selected body in the textfield through the solar system.

For a better understanding there are two project files (animations).

1. Hale-Bopp-Flight shows you a flight of comet Hale-Bopp through our solar system as seen from the comet's point-of-view.

2. Hale-Bopp-Fix shows the same flight as seen from a fixed point in the solar system.

Watch the differences of the telescope window settings.

## 1.35 fenster-animation

Set the parameter of an animation.

Animations on true/high color screens can only be saved in QuickTime or MPEG format.

An animation will only be saved when the option Save is activated.

# Frames

This limits the number of frames of an animation (0 = no limit).

E.g you want to make an animation over a period of 24 h with a 5 min step, then simply set this parameter to the value  $1440 \text{ min} / 5 \text{ min} = 288$  frames.

Follow telescope

The telescope will stay at the selected coordinates during the whole animation.

Follow object

The telescope centers a chosen object during animation.

The field-of-view has to be adjusted first.

With this option you can e.g. watch a planet rotating or trace eclipses !

Simply drag any object from any list to the text field.

It is recommended to reduce the screen resolution if you want to save an animation.

Use for example DbIPAL-Lores or CyberGraphX 320x240.

If the icon ENV:Sys/def\_ANIM.info, ENV:Sys/def\_QuickTime.info or ENV:Sys/def\_MPEG.info exists, it will be added to the animation !



## 1.36 fenster-spur

With this window you set the parameters for object tracking. This means you can view the position of an object for different dates within one map.

- \* Select your starting parameter (location, time) in the window Coordinates and the calculation parameters in the window Preferences/Accuracy.

- \* Select the stepsize and the number of steps.

- \* Drag as many objects you want to track to the list as you like.

Only planets, asteroids and orbital element objects are allowed !

Press the Start button to start calculation.

At first the program draws a map according to your setting as usual.

Then it will calculate the positions from all objects in the list - regardless whether they are activated or not in the preferences window - from the initial date, and will draw their positions in the map.

This feature is very useful to watch the movement of a comet or other objects with unusual orbits.

To delete objects in the list, simply select them (multiselection is supported) and press the Delete button.

## 1.37 fenster-sonnensystem

In this window you can choose several actions that refer to objects of the solar system.

The objects in the list are draggable.

See also [Export](#), [Coordinates](#), [Animation](#) and [Orbital elements](#).

Actions are: Look for, Center and Ephemeris.

## 1.38 fenster-asteroide

In this window you can choose several actions that refer to minor planets and asteroids.

The objects in the list are draggable.

See also [Export](#), [Coordinates](#), [Animation](#) and [Orbital elements](#).

Actions are: Look for, Center and Ephemeris.

If you want to search the list for a name, simply enter the name in the string gadget.

All names matching your input will be shown in an extra window.

Example: Enter 'Cer' and all matching names are displayed.

The entries of this created list are draggable and you can perform the same actions as above.

---

## 1.39 fenster-sterne

In this window you can choose several actions that refer to stars

The objects of all lists except constellations and the string gadget Star (click at the frame !!) are draggable.

See also [Export](#) and [Animation](#).

Actions are: Look for, Center and Ephemeris.

If you want to search the lists for a name, simply enter a text in the string gadget.

All names matching your input will be shown in an extra window.

Example: Enter 'Sir' and all matching names are displayed.

The entries of this created list are draggable and you can perform the same actions as above.

## 1.40 fenster-objekte

In this window you can choose several actions that refer to objects outside the solar system.

The objects of all lists are draggable.

See also [Export](#).

Actions are: Look for, Center and Ephemeris.

If you want to search the lists for a text, simply enter the text in the string gadget.

All object that contain your input will be shown in an extra window.

Not only names are searched but also description and note texts.

Example: Enter 'And' and all objects containing this word are displayed.

The entries of this created list are draggable and you can perform the same actions as above.

You can create your own table of common object names with a text editor.

Each entry consists of two lines. The first one is the common name, the second its internal name.

The file name is User/ngcnames.data.

Example:

Great Nebula in Orion

M42

## 1.41 fenster-orbit"

Here you can create your own database of solar system bodies, as long as you have the orbital elements.

First choose the type of object: Asteroid or Comet.

When you have chosen Asteroid you have to know the mean anomaly at a given time (epoche) and the semi major axis.

If you have selected Comet, you need the perihelion time and the perihelion distance.

---

### JD Epoche

Julian date of the epoche of the orbital elements at Asteroid.

### JD Perihelion

Julian date of the perihelion at Comet.

### Mean anomaly

Mean anomaly at epoche time.

Only used for Asteroid.

### Eccentricity

Also values  $\geq 1$  (parabel, hyperbel) are allowed !!

For Asteroid you should avoid values  $> 0.9$ .

### Mag. Parameter H

Describes the absolute magnitude of the object in standard distance of 1 AU.

Is often called  $V(1,0)$ .

### Mag. Parameter G

This is a phase-depending parameter of the magnitude.

Is currently not used and may be supported in the future !

Note:

All parameters must refer to the equinox J2000.0 !!

The objects of the list are draggable.

See also [Export](#), [Coordinates](#) and [Animation](#).

Actions are: Look for, Center and Ephemeris.

All other gadgets are self-explaining.

This window also offers three special drag&drop features:

1. Make a copy of an asteroid's elements.

Simply drag an object from the asteroid window to the list here. All parameters are copied into the list. For example you now can alter these parameters.

2. Calculate the current osculating elements of a planet for J2000.0.

Just drag a planet from the window Solar system to the list. The program will then calculate its orbital elements. You can do this to speed up some planet-relating calculations.

You can only drag planets, no Sun or moons !

3. Drag the Julian date gadget from the coordinates window over the corresponding "JD ..." gadget to copy its value (and vice versa !).

## 1.42 karte-planetarium

Draws the map in the RA/Dec system.

---

## 1.43 karte-himmel

Draws the map in the Azimuth/Altitude system.

This map is only available, when Earth is chosen as observing position.

## 1.44 karte-orrery

This mode shows a view of the planet constellations and their orbits from a free to choose point inside or outside of our solar system.

Restrictions:

In opposition to the other view modes, this mode is a bit more complex to handle, because you must take care of some restrictions.

- \* All accuracy options will not be used. The planet positions (and the positions of all other drawn objects) will be calculated in heliocentric, non-corrected coordinates referring to equinox J2000.0.

- \* The planets are always displayed with their orbits, even if they are disabled in the preferences window.

- \* No moons will be displayed.

- \* All planets will be displayed as a simple disc with no phase, texture or grid drawn

- \* All search functions are disabled.

But all the other settings will be recognized !

For a better look, the orbit above earth's orbital plane is drawn in white color, below in gray color.

Orbit projection of other bodies:

This mode is getting interesting, when you like to watch the orbit of e.g. a comet or an asteroid. This is also very simple to realize.

As an example, we want to display the orbit of comet Hale-Bopp.

- \* Open the tracking window and the orbital-element window

- \* Drag the list entry "Hale-Bopp" to the list of the tracking window.

- \* Redraw the map.

Now with the help of the telescope window and its possibilities you can watch the comets's orbit from all the different view positions.

When you set the time parameters in the tracking window and start tracking from this window, you can also watch, how the comet will move through the solar system !

Note:

No matter what entries are in the tracking window, only asteroids and orbit-element objects will additionally be displayed with their orbits. All other will not be read.

Please also read the chapter [telescope window](#), because handling of the telescope is different than in the other viewmodes !!

---

## 1.45 karte-neu

Redraws the map according to the current settings.

## 1.46 karte-systemzeit

Updates time to current system time and redraws the map.

## 1.47 karte-richtung

Move the telescope to a direction.

## 1.48 extras-kalender

In this window you can inform yourself of some different events at a certain day or month.

Events of the day

Select a day of the month.

The apparent positions of Sun and Moon at 0h GMT and their time of rise and set will be displayed.

Special events of the Sun or the Moon will be also shown.

Events of the month

Press the button Events.

The program will calculate for each day of the month special events of Sun, Moon, planets and asteroids (if activated !) and displays them.

Depending on your hardware, this may take some time !!

## 1.49 extras-sf

If you know the date of a solar eclipse, for example with the help of the calendar, you can trace the course of the eclipse.

1. Input the date of the solar eclipse.

Input a time two to three hours before the center of the eclipse.

2. Input the number of steps and the step size in the window Solar eclipse and start calculation.

In the listview below you can see the course of the solar eclipse:

- Local time of the observer
- Geographic latitude and longitude of the main shadow
- Duration and phase of the eclipse

The example file Projects/SolarEclipse1999 shows the total solar eclipse at 11-Aug-1999 over Middle Europe. You can immediatly watch an animation of this eclipse.

---

Currently only a minor graphical output the course is supplied.

Only when there is a total solar eclipse, the course of the umbra will be displayed as a black line.

The area of the penumbra will currently not be displayed.

## 1.50 extras-mf

If you know the date of a lunar eclipse, for example with the help of the calendar, you can trace the course of the eclipse.

1. Input the date of the lunar eclipse.

Input a time two to three hours before the center of the eclipse.

2. Input the number of steps and the step size in the window Lunar eclipse and start calculation.

In the listview below you can see the course of the lunar eclipse:

- Local time of the observer
- Phase of the eclipse

The example file Projects/LunarEclipse1997 shows the total lunar eclipse at 16-Sep-1997 over Middle Europe. You can immediatly watch an animation of this eclipse.

## 1.51 arexx

Since Digital Almanac II the ARexx language is supported.

To make use of ARexx with Digital Almanac, your Amiga must be configured for ARexx.

- \* The command REXXMaster must be already executed.

- \* The command RX must be located in the REXX: directory.

By default all ARexx macros are stored in the ARexx subdirectory.

Following menu commands are for your useage:

Execute macro

Opens a filerequester for direct selection and execution of a macro.

Configure macros

Define up to 10 different macros.

Select a macro and enter a name that is to appear in the ARexx menu bar.

List of all ARexx commands.

## 1.52 arexxcommands

Here are listed all the ARexx commands, that Digital Almanac currently understands:

The format is: Command [DOS-Template]

The name of the ARexx port is DIGITALALMANAC.

---

The commands and parameters are case-insensitive. All BOOL options are 0 (off) or 1 (on).

Quit

Quit the program.

Hide

Iconifies the program.

Show

Reactivate the iconfied program.

Help FILE/A

Dumps all ARexx commands of Digital Almanac into a file.

Info ITEM/A

Returns some MUI application information. Read the MUI.guide for more information.

Open FILE/A

Save FILE/A

SaveMap FILE/A,FORMAT/A

FORMAT is CLIP, ILBM, RGFX, GIF, JPEG, or PPM.

Reset ITEM/A

ITEM is one of:

\* ALL = Reset the whole configuration.

\* TIME = Set the time back to system time.

\* TELESCOPE = Reset the telescope to full view and initial angles.

SetTime HOUR/A/N,MIN/A/N,SEC/A/N

Example: 'SetTime 12 40 30'

SetDate DAY/A/N,MONTH/A/N,YEAR/A/N

Example: 'SetDate 10 4 1996'

SetJulia JD/A

Set the julian date.

SetShift SHIFT/A/N

Set the meridian shift from -12 (W) to 12 (E).

SetLocation NAME/F

Set the name of your location.

SetLatitude LAT/A

Set your latitude. In decimals only !!

SetLongitude LON/A

Set your longitude. In decimals only !!

SetAltitude ALT/A/N

SetTemperature TEMP/A

SetPressure PRESS/A

SetObjects SUN/S,MO/S,PL/S,AS/S,OR/S,ST/S,MW/S,M/S,NGC/S,IC/S,UGC/S,AB/S,ZW/S,MI/S

(De-)activate a group of objects.

---

Each category named will be activated, not named will be deactivated.

Example: 'SetObjects SUN MO ST'

This will activate only the sun, the moon and the stars. All others are off.

SetPrecision GP/S,RF/S,EX/S,PR/S,NU/S,PM/S,PA/S,SA/S,DA/S

Set the **precision flags**.

The order is as they appear in the preferences window.

Each flag named will be activated, not named will be deactivated

Example: 'SetPrecision GP PR'

This will activate geocentric parallaxe and precession. All others are off.

**SetEcliptic** BOOL/A/N

**SetHorizon** BOOL/A/N

**SetGrid** MODE/A/N

Grid mode from 0 (=Off) to 4 (=Galactic).

**SetGridSteps** STEP1/A/N,STEP2/A/N

Set the step rate when drawing the grid.

STEPS are from 0 (1°) to 10 (90°).

**SetMap** MODE/A/N

MODE is 0 (Planetarium) or 1 (Local sky).

**SetProjection** MODE/A/N

MODE is 0 (Area) or 1 (Sphere).

**SetAHSsystem** MODE/A/N

MODE is 0 (S=0°) or 1 (N=0°).

**SetObtainPen** PRECISION/A/N

PRECISION from 0 (GUI) to 3 (EXACT).

**SetShowDate** BOOL/A/N

**SetNightPalette** BOOL/A/N

**SetInvertColors** BOOL/A/N

**SetPixelCheck** BOOL/A/N

**SetFastSC** BOOL/A/N

**SetPlanetNames** MODE/A/N

**SetAstNames** MODE/A/N

MODE from 0 (Off) to 2 (Names).

**SetOrbitNames** MODE/A/N

MODE is 0 (Off) or 1 (Names).

**SetNumAst** LIMIT/A/N

**SetPhase** BOOL/A/N

**SetShowGrid** BOOL/A/N

**SetTexture** BOOL/A/N

**SetAutoZoom** BOOL/A/N

---



**SetShadow** BOOL/A/N

**SetConstFigures** BOOL/A/N

**SetConstBorders** BOOL/A/N

**SetConstNames** MODE/A/N

MODE from 0 (Off) to 3 (Abbreviation).

**SetStarNames** BOOL/A/N

**SetStarSymbol** BOOL/A/N

**SetStarFlamsteed**

**SetStarMode** MODE/A/N

MODE from 0 (Graylevel Pixel) to 3 (Spectra Area).

**SetStarFactor** FACTOR/A/N

FACTOR from 1 (very bright) to 20 (very faint).

**SetDSNames** M/S,NGC/S,IC/S,UGC/S,AB/S,ZW/S,MI/S

(De-)activate drawing names of deep-sky objects.

Each categorie named will be activated, not named will be deactivated.

Example: 'SetDSNames M NGC'

This will activate Messier and NGC names. All others are off.

**SetDSMark** MODE/A/N

MODE from 0 (Off) to 2 (Image).

**SetMagStars** MAG/A/N

Maximum magnitude of stars to draw.

MAG from 0 to 16.

**SetMagObjects** MAG/A/N

Maximum magnitude of all other objects to draw.

MAG from 0 to 100.

**SetDarkPen** PEN/A/N

Darkest pen to take.

PEN from 0 (brightest) to 31 (darkest).

**SetTelRA** ANGLE/A

**SetTelDec** ANGLE/A

**SetTelView1** ANGLE/A

Set the center coordinates and field-of-view of planetarium mode. In decimals only !!

**SetTelAz** ANGLE/A

**SetTelAlt** ANGLE/A

**SetTelView2** ANGLE/A

Set the center coordinates and field-of-view of local sky mode. In decimals only !!

**SetTelLon** ANGLE/A

**SetTelLat** ANGLE/A

**SetTelView3** ANGLE/A

Set the center coordinates and field-of-view of heliocentric mode (when location is not Earth).

In decimals only !!

---

## 1.53 texturen

Starting with Digital Almanac II the concept of surface textures has been redesigned.

Before:

- \* Static size of textures (640\*320) at only 32 colors.
- \* No CGX support.
- \* The user couldn't replace these textures by his own.

This all now belongs to the past !

New is:

- \* Texture can have any size and color depth, also truecolor !!
- \* CGX support.
- \* The user can replace the default textures by his own.

How does Digital Almanac distinguish between truecolor and 'normal' textures ?

This is done by the file extension.

Truecolor textures end with '.map24', all others with '.map'.

Important:

Truecolor textures only can be used on true/hicolor screens, the others on all types of screens !

How do I create my own textures ?

In theory every picture can be converted into a texture.

For a real planetary texture following conditions must be fulfilled:

- \* The picture must be a simple cylindric projection of the planet's surface.
- \* The coordinates (0°/0°) must be located in the picture's centre.

To convert a picture into a texture, you must use the little CLI tool Bin/DT2Map.

With its help you can convert any picture with datatypes into a texture.

The picture.datatype V43 is supported of course.

Template: DT2Map FROM/A,TO/A,W=WIDTH/K/N,H=HEIGHT/K/N

FROM: Filename of the picture.

TO: Filename of the texture.

Important: Don't use the fileextension !! This is added by the tool itself !!

W,H: Scales the picture to this size.

Example: DT2Map Work:Graphics/Moon.jpg Work:DigitalAlmanac/Data/Map/Moon W 1024 H 512

Hint:

Usually you do not need a 24-bit texture, because the difference to a texture with 256 colors is almost not visible to your eyes, but they are three times as big.

If you own CGX, please do not forget to deactivate the 24-bit mode of the corresponding datatype preferences. Otherwise you will receive a 24-bit texture.

The default textures mostly have a size of 720\*360 with 256 colors.

Connection between objectname and filename (without fileextension !)

---

Objekt Name

-----

Sun Sun

Mercury Mercury

Venus Venus

Earth Earth

Moon Moon

Mars Mars

Jupiter Jupiter

Io Io

Europa Europa

Ganymed Ganymed

Callisto Callisto

Saturn Saturn

Mimas Mimas

Enceladus Enceladus

Tethys Tethys

Dione Dione

Rhea Rhea

Titan Titan

Hyperion Hyperion

Iapetus Iapetus

Uranus Uranus

Ariel Ariel

Umbriel Umbriel

Titania Titania

Oberon Oberon

Miranda Miranda

Neptune Neptune

Pluto Pluto

## 1.54 picturesupport

Create your own picture galery !

To view a picture simply select the name of the picture in the listview from the new menu item

Extras/Pictures or from the ephemeris window.

The program loads the pictures via datatypes.

The picture.datatype 43.x is supported !

Installation of a picture for the galery:

Digital Almanac distinguishes between three different names of a picture:

1. The filename itself.
2. The name that appears in the list.
3. The internal name of the object.

2 and 3 are stored in the filecomment, separated by the character '&'.

Rules:

\* If you don't specify a filecomment, the filename must equal to the internal name.

It will also appear with this name in the list.

\* If you specify a single filecomment (without '&'), then the filename must be equal to the internal name too, but the filecomment will appear in the list.

\* If you specify two names in the filecomment (with '&') the first part is the list name and the second part MUST be the internal name.

Examples:

You have a picture for the object "Messier 42" (The Great Orion Nebula).

Its internal name is "M42".

Example 1:

Your picture is called "M42", and you want it to appear as "M42" in the list.

In this case you don't need to specify a filecomment.

Example 2:

Your picture is called "M42", and you want it to appear as "Orion" in the list.

The filecomment is "Orion"

Example 3:

Your picture is called "M42.jpg", and you want it to appear as "Orion Nebula" in the list.

The filecomment is "Orion Nebula&M42"

Example 4:

Your picture is called "M42.jpg", and you want it to appear as "M42" in the list.

The filecomment is "M42&M42"

You see: Whenever the filename is different to the internal name, you MUST supply a file comment with '&', otherwise the program can't find the picture !

Important:

If you use CGX V2 on your system, you must have cybergraphics.library 40.113 or higher installed, otherwise pictures on true/hicolor screens won't be scaled !

If you use CGX V2 in true/hicolor mode, it may happen, that non-24-bit pictures are displayed corrupt ! When using CGX V3, there are no problems.

---

## 1.55 update

The directory User contains all the files, that can be altered by you.

User files:

- \* User/place.data

Here are stored the list with your favorite locations.

- \* User/ngcnames.data

This is the textfile with the list of common names of deep-sky objects.

- \* User/orbit.data

This file contains the list with your orbital elements created.

Deselect the corresponding flags in the installation process when updating !

## 1.56 geschichte

01-Jul-99 V1.5

- \* Added new tooltype 'PICTUREPATH' to redirect path for the picture galery.

- \* Current active screenmode can now be saved directly into the icon's tooltypes.

- \* Changed the stop-button to a tape image to make button smaller.

Also removed the busy bar to improve speed.

- \* Solar system list is now a listtree.

- \* Removed a debugging output.

- \* Starting from CLI, some arguments where not analysed.

- \* Dragging an orbit-object to telescope window in orrery mode caused an Enforcer hit.

- \* Create MPEG movies !

- \* Screens can now be opened in lores mode to make animation size smaller.

- \* Added an animated logo with sound.

- \* Removed GSC option, because nobody was using it.

- \* Loads project files correctly, even when list entries have been changed.

01-Jun-99 V1.4

- \* Fixed English catalog. Again some strings were blank.

- \* Loading a project file with azimuth mode North=0 caused a wrong display in telescope window. Fixed.

- \* Selecting 'Look for' with a (not visible) Uranian moon, caused a wrong text in requester.

- \* Solar system objects now are drawn, even when their center is outside the display but parts are visible. The object will no more suddenly disappear when it arrives at the display limits.

- \* Minor speed improvement when drawing the map.

- \* Added a popup window with an Earth map, where you can select an observing location directly with a mouse click.

---

This is for CyberGraphX mode only and is disabled on AGA !!

- \* Added new tooltypes 'SCREENMODE' and 'NOSTARTUP'.
- \* Pressing F1 in the map window causes window to toggle between backdrop and normal status.

Can be useful.

- \* Added own color entry for planet grids.
- \* Improved time input.
- \* Fixed all bugs concerning the orbital-element window.
- \* Improved output in export and eclipse windows.
- \* Extra executable that supports MUI-NList classes. Greatly enhances list outputs and look !!
- \* Fixed serious bug in hyperbel orbit calculation. Output was completely wrong.
- \* New feature: Object tracking !
- \* New feature: Orrery mode !!

Because of this, the textfield for changing observing position has moved from the coordinates window to the telescope window.

- \* Project icon was not saved.
- \* Break-window is frontmost window and cannot be clicked to the back.
- \* Includes new version of Jpeg2Mov.

29-Apr-99 V1.3

- \* All lists of objects now have a double-click action.

Default action can be set with a context menu.

- \* Message box "Star not found" displayed an SAO number instead of the internal star number.
- \* Stringfield "# Asteroids" was accidently set to 0 instead user default when asteroids were deactivated.
- \* Menu for ARexx macros added.
- \* Added developer information for telescope controlling.

28-Apr-99 V1.2

- \* Support of identify.library
- \* First official Aminet release of Digital Almanac II.

17-Apr-99 V1.1

- \* Added ARexx support !!
- \* Private release.

25-Mar-99 V1.0

- \* Complete new layout of all the archives for easier maintenance and downloading.
  - \* New installer script (all-in-one).
  - \* Now all solar system bodies have a surface texture (all 720\*360 in 256 colors).
  - \* Possibility to use 24-bit textures.
  - \* Speed improvement when drawing surface textures.
  - \* Added a little CLI tool that converts images to surface textures via datatypes.
-

\* Fixed a bug in the configuration loading. DA crashed when trying to draw objects that don't exist but have been selected in a config file.

\* Added the first five Uranian Moons (Ariel to Miranda).

\* Main window can now be saved as a PPM file.

\* Fixed a bug in Quicktime animation. The first frame was not saved.

\* Fixed a little bug at asteroids and object with orbital elements.

Position angles were not correct.

\* Some rarely used Drag&Drop functions didn't work.

\* AAARRGGHHH... The old asteroid catalog was completely wrong, because of an unrecognized change in the original catalog !!

I am very sorry for that !

\* An old mistakes reoccured. Some english menuitem texts were missing again.

\* Fixed some bugs in orbital element window.

Loading list created one object too much, which caused some confusion.

## 1.57 probleme

This program is designed to work on all those different Amigas that fulfill the hard- and software requirements.

However, it is possible, that on some systems the program crashes or shows an unexpected behaviour.

This is not a mistake of Digital Almanac !!

Because of those many different hardware configurations and background patches being installed, it can happen, that Digital Almanac does not work correctly.

In this case, you should check your system configuration. Degrade your system (deactivate all those utilities you do not need) and restart Digital Almanac.

This will work in most cases.

Known problems and their solution:

Problem:

Digital Almanac won't start. There is even no error requester. Most times the computer crashes.

Solution:

Digital Almanac makes intense use of the FPU. If you negate one of the following statements, it is possible, that the program will not run on your Amiga !!

\* I run a MC68040 and I have installed the original 68040.library from Commodore.

\* I run a MC68060 and I have installed the latest 68060.library.

\* I have installed the original math-libs from Commodore, i.e

I do not use any replacement libs or patches concerning these math-libs.

Problem:

I have problems running Digital Almanac with CyberGraphX. Sometimes the computer even crashes.

---

With AGA I have no problems.

Solution:

Digital Almanac has some problems with CyberGraphX, if the flag PLANES2FAST is deactivated.

Maybe because of an internal mistake of CyberGraphX, the animation mode shows a strange behaviour, which may lead into a guru.

To avoid those problems it is recommended to set the PLANES2FAST flag to TRUE (1) !!

Problem:

Sometimes the menu freezes for a short time.

Solution:

This behaviour can be caused by some menu patches (Magic Menu usw).

I myself do not have any problems with Magic Menu 2.21.

Deactivate those patches.

Problem:

Digital Almanac doesn't react on chosen menu item and drawing is extremely slow.

Solution:

Set the flag Windows/Refresh of the MUI prefs to Smart.

Problem:

Digital Almanac calculates very slow, though I run a MC68060.

Solution:

It seems you have an older version of the 68060.library and running Cyberpatcher with it in the background.

Install by all means the latest 68060.library from Aminet and deactivate Cyberpatcher as this is obsolete with it.

This 68060.library emulates all missing FPU commands correctly and very fast.

The latest version is 68060.library 46.4.

Problem:

In AGA mode I often cannot run any animations or some textures are not loaded.

Solution:

Well... I cannot help you, because your RAM (chip or fast) is too small.

Buy a graphic card and some RAM modules !

Problem:

Digital Almanac doesn't start and I get an error message from the locale.library.

Solution:

It seems you use a different language than those being supported by Digital Almanac.

Start the prefs program SYS:Prefs/Locale and add the installed language of Digital Almanac.

If you should detect any bug, strange behaviour etc., please report this to [me](#) with a detailed description of your system (hardware, background patches etc.).

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## 1.58 bugs

## 1.59 rgfx

What is IFF-RGFX ?

The IFF-RGFX format is a new image format to save images efficiently und up-to-date.

It was designed by Andreas Kleinert to replace the old and obsolete IFF-ILBM format.

The IFF-RGFX format offers following features;

- \* Saving of images as chunky pixels up to 24 bit depth.
- \* Xpk compression.
- \* Saving of display ID's from AGA, CyberGraphX and Picasso96.

Depending on the packer, these files are often smaller than corresponding GIF or PNG files !!

Because of its IFF design, the user still has got all advantages of IFF like the possibility of extension.

Where can I get the RGFX datatype ?

Currently, there exist only one datatype to read the IFF-RGFX format.

It is available on the Aminet in util/dtype/rgfx-dt.lha and was also written by me.

This archive also contains a Datatype->RGFX converter.

## 1.60 autor

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Here you can read the latest developer news of Digital Almanac.

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Important:

- \* Cheques in foreign currency will not be accepted, except euro-cheques !!
- \* If you send me a letter, make sure you provide your address, phone number and your hardware configuration !!

## 1.61 danke

Following people helped me developing DA or the program supports their work.

\* Peter Knight

Milky way structure and mathematical help.

\* Andreas Kleinert

RGFX graphics format

\* Alex Kazik

The 'Jpeg2Mov' utility.

\* Christoph Feck

Author of JPEG-Tower system.

\* Uwe Pannecke

Preview in the Aminet online-magazine.

\* Olaf Köbnik

Support of DA in his Amiga-Arena.

Many thanks also to all registered users, who give me the possibility to continue developing this program by their support and ideas.