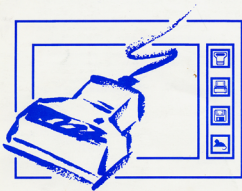


DATAscan **PROFESSIONAL**



VERSION FOR COMMODORE AMIGA

USER MANUAL

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INTRODUCTION

DAATASCAN is the generic name for the range of image scanners and scanning software developed by Pandaal Marketing Ltd. This user manual describes the operation of the DAATASCAN Professional 105 hand-held image scanner for the Amiga.

DAATASCAN Professional enables graphics to be captured and incorporated within the pages of DTP documents quickly and easily. It is possible to scan photos, drawings, newspaper clippings, magazines, books, etc.

This user manual describes the basic concept, controls and use of the DAATASCAN Professional image scanner. It describes the features of the scanner in detail to enable the installation and correct use of the hardware and familiarity with the software.

The DAATASCAN Professional image scanner can process images in several resolutions. They can be scanned at 100, 200, 300 or 400 dots per inch, with the quality of the scanned image increasing with greater resolution.

Scans can be either simple black and white images for line work, or the scanner can simulate grey shades by using dither patterns for photographs.

The software allows the use of all these modes from a simple interface hardware cartridge and provides several image enhancement options. Any rectangular portion of an image can be scanned with variable width and height settings. The scanned image can be magnified and edited at pixel level. The scanned area can be accurately cropped, giving precise control over the size and shape of the final image. Images can be loaded and saved to create a clip art library for use within DTP, Paint and Word Processing applications.

We feel sure that you will enjoy using the scanner and find that it adds a new dimension to the graphic capabilities of your Amiga.

1.0 PACKING LIST

Packing list The scanner package contains the following items :

1. Hand-held image scanner.
2. The hardware interface cartridge.
3. Power supply unit.
4. DAATASCAN Professional software disk.
5. The user manual.

It is strongly advised that a back-up copy of the software disk is made before use.

Disk contents

1. **DScanPro**
Drawer containing the DAATASCAN projects and tools.
2. **Utilities**
Workbench drawer containing utilities such as notepad, install printer, etc.
3. **Expansion**
Workbench drawer into which you can place icons for expansion devices (such as a hard disk) that you may add to your Amiga system.
4. **System**
A CLI icon is contained in this Workbench drawer to show that CLI is set on.
5. **Prefs**
The Workbench preferences drawer contains tools for changing the settings of the printer, key/mouse speeds and editing/designing the Workbench pointer.
6. **Shell**
The shell project is a souped-up CLI window for communicating directly with AmigaDOS[®] by typing commands at the keyboard.
7. **Trashcan**
Workbench garbage facility for discarding tools and projects from disk.
8. **Empty**
An empty Workbench drawer. Can be used to save IFF files from DAATASCAN into.

2.0 SETTING UP

The scanner uses an interface that plugs into the parallel port of the Amiga.

Fitting the power supply

Turn the power to your computer system OFF before fitting the scanner hardware.

WARNING :

DO NOT CONNECT OR DISCONNECT THE INTERFACE WHILST THE POWER IS ON, OR DAMAGE MAY OCCUR TO BOTH THE INTERFACE AND THE COMPUTER.

Connect a standard 3 amp, 3 pin plug to the mains input cable of the power supply unit, following the colour coding wiring instructions. Plug the power supply unit into a standard mains socket and connect the output plug into the corresponding socket on the interface cartridge.

Connecting the interface cartridge

Insert the interface connecting cable into the parallel port located at the rear of the Amiga> ensuring that it is fully pushed home. This port is usually reserved for the printer so you may need to connect the parallel cable into the appropriate port on your printer switch box.



Fig.1 DAATASCAN interface

Connect the scanners' 8 pin mini DIN plug to the corresponding socket on the interface ensuring that the pins align and that the arrow on the scanner plug is facing downwards. This is a firm fit, so ensure that it is pushed home fully.

Loading the software

Once the scanner hardware has been connected, switch on the computer and insert the program disk into the internal disk drive.

The Workbench will first be loaded from the DAATASCAN disk. Once Workbench is loaded, open the DScanPro disk. The Workbench and DScanPro drawers will be displayed.

Open the DScanPro drawer to display the DAATASCAN files.
Double-click on the **READ_ME project** for any additional notes.

If you wish to run the program from hard disk, run the **Install_On_DH0** project and the DAATASCAN files will be copied to your hard disk into a DScanPro drawer.

From within the DScanPro drawer, run the DScanPro tool to load the DAATASCAN software.



Fig.2 The opening screen

This will then bring up the opening screen.

3.0 SCANNING A DOCUMENT

How to scan an image

Now follows a simple outline procedure for scanning.

1. Set the length and width of the page on the Settings window.



Fig.3 The Settings window

When using the hand held scanner, it is advised to set a short page height, perhaps 3 inches, otherwise the scanner will have to be moved over a distance of one page length before this function is completed. To set the length of the page click on the Height and Width boxes on the master page and retype the required sizes or select one of the two pre-set page Types, A4 or A5. Place the scanner at the top of the document or image to be scanned.

SCAN



2. Ensure that the resolution switch on the scanner is set to the same resolution (DPI setting) as the software and select the **SCAN** icon. The screen display will now change to the real-time Scanner Display indicating that the software is ready to scan and at what resolution the scan is to be performed at; displaying **Real-time scan at xxx dpi**.
3. The green scan light on the underside of the scanner will light up. Align the scanner at the top of the document and press and hold the START button with the thumb. If the scanner fails to light up, check the connection into the cartridge and the connection to the computer.

4. Move the scanner slowly and smoothly down the document. As the image fills the screen, the Real-time display will wrap around until the set page height is completed. If the 'Speed Over' indicator goes off during scanning, a slower scanning speed should be used.

Once the scan has been completed the software leaves the 'Real-time Scanner Display' mode and returns to the main screen.



Fig.4 The Image window

The scanned image is then displayed in the Image window after a short delay. The image may now be edited, printed, saved, etc.

4.0 SCANNER CONTROLS

The hand-held scanner incorporates all the scanning controls as external switches, and are described below.

Scan and dither switches

The controls on the hand scanner adjust the type of scan performed. On the left side of the scanner are two controls. The **START** button, which is used to activate the scanner and allow it to scan a document.

Next to this button is the **Scan Mode** switch which can be set in one of four positions.

TEXT PHOTO



The **TEXT** setting results in scans in black and white mode (two tone, for scanning line art, charts, text, etc.). The other three **PHOTO** settings allow the choice of dither patterns to simulate grey scales (halftones, for scanning photos & colour pictures etc.).



Resolution and brightness controls

On the right side of the scanner are two further controls. The **Resolution** switch, which can be set to position 100, 200, 300 or 400. This setting stands for the number of dots per inch the scanner will scan at. The greater the number of dots per inch, the greater the size, density and quality of the image.

LIGHT DARK



The other switch is the **Brightness** control. The central position of the brightness control knob is the standard setting and is correct for most purposes.

View window and Speed Over Indicator

On top of the scanner is the viewing window which is illuminated when the scan button is pressed.

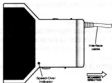


Fig.5 Top view of hand scanner

There is an alignment arrow on either side of the window which allows the scanner to be accurately lined up before scanning. Only the image between the two alignment arrows will be scanned.

Just below the viewing window is a small red LED which is known as a 'Speed Over' indicator. This LED lights when the scanning operation starts and flickers when the scanner is moved at the optimum speed.

When the LED goes out it is an indication that the scanner is being moved too quickly and data is being lost. The START button must be released and the LED will relight showing it is ready for use again; the scanner must be moved at a slower speed during the scanning operation.

5.0 DAATASCAN SOFTWARE

This section describes the DAATASCAN Professional program. Operations are performed by selection of menu options, icons or keyboard shortcuts.

Load the DAATASCAN software to bring up the opening screen shown which contains the Settings window, icons and Image window.



Fig.6 DAATASCAN opening screen

Settings window

The Settings window contains information on scanner settings, page area, memory usage, etc.



Fig.7 Settings window

Type

Selects the type of page size. Click on either A5 or A4 to select the required page size. The height and width adjust to the new dimensions. Any image contained in the Image window is lost when selecting a new page size.

Memory

Displays the amount of memory remaining in the computer available for use.

Resolution

The hand scanner has a 4 position switch which sets the resolution. Position 1 sets 100 dpi resolution whilst 2, 3 and 4 set 200, 300 and 400 dpi respectively. The resolution set by the hardware must match up with the software settings for correct timing.

Scaling

Shows the units in which the width, height and X offset are displayed in, either inches or millimetres. The selected option is highlighted. Simply click on the required option to select.

X Offset

Displays the X offset which determines the scan position in the horizontal direction in relation to the left edge of the page size set in Type. If the page size is set at 8" wide then a 0" X Offset will enable a scan of the left side of the page and a 4" X Offset will enable a scan of the right side of the page.

Width

Shows the width of the page. To set width for subsequent scans click on box and retype the desired width.

Height

Shows the height of the page. To set height for subsequent scans click on box and retype the desired height.

Positioner









Shows current area displayed within the Image window in proportion to the actual size of the image. The section of the image shown can be altered by the image positioner by moving the mouse pointer over the box and 'dragging' the box to the new location. The image window will then be updated.

Closing the Settings window

To close the settings window simply click on the 'close box' in the top left corner of the window. All other windows can be closed in the same way. Unlike other windows the Settings window may be reopened.

Using the icons

On the left hand side of the screen are the icons for using the main operating tools of the program. The table below describes the icons and their functions.

ICON	FUNCTION
Load 	Load file from disk.
Save 	Save image to disk as IFF file.
Scan 	Commence scan to image window.
Scan Clipboard 	Commence scan to Clipboard area.
Scan Current Area 	Commence scan to Current area.
Zoom 	Open Zoom window.
Print 	Print an IFF file stored on disk.
Resolution 	Select scan resolution.

The menu options

The icons only allow selection of commonly used functions. The remaining functions are selected using the pull down menus from the desktop.

Project menu

The Project menu options allow for file handling when loading, saving, deleting or printing an image to or from disk.



Fig.8 The Project menu

Load IFF...

Loads a previously saved IFF file into memory. Brings up the File Selector window and lists all the files in the current disk directory. Select the directory (shown in Drawer) and click on the required file (shown in File) and select [OK] to load. Select [Cancel] to exit the File Selector window.

Save IFF File

This automatically saves the file under the default name. If the file has not been previously saved selecting this option brings up the File Selector window and lists all the files in the current disk directory. Select the directory (shown in Drawer) and click on the File box, type in the filename and select [OK] to save. Select [Cancel] to exit the File Selector window.

Save As ...

Brings up the File Selector window and lists all the files in the current disk directory. Select the directory (shown in Drawer) and click on the File box, type in the filename and select [OK] to save the image currently held within the image window. Select [Cancel] to exit the File Selector window.

Save Clip...

Same as Save As IFF File, except that the image saved is the image currently held within the Clipboard window.

Delete File

Brings up the File Selector window and lists all the files in the current disk directory.

Select the directory (shown in Drawer) and click on the file required (shown in File) and select [OK].

Select [Cancel] to exit the File Selector window.

Print

Click on 'Print' and the image currently contained within the image window will be printed at a scale of 1:1. Please note the images cannot be printed whilst the scanner is connected. The interface cartridge must be disconnected from the parallel connector and the printer connected in its place.

Preferences

An option to allow you to set the maximum scan buffer size.

Type in the size in KBytes for the amount of memory you wish to use for scanning.

About

Shows details of the software including the latest version number.

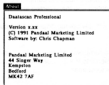


Fig.9 The 'About' Daatascan box

Quit

Exits the DAATASCAN program and returns to the Workbench.

Image menu

The Image menu deals with an image that has been scanned or loaded into memory and is contained within the Image window.

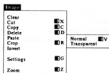


Fig.10 The Image menu

Clear

Clears the Image window. Any image within the window is lost.

Cut

This cuts a pre-defined area of the image to the Clipboard. First select the area to be cut by drawing a box around the required area. To do this simply position the mouse pointer and click and hold the left mouse button and when the pointer changes from an arrow to a cross drag a box around the area within the Image window.

Release the left mouse button to complete drawing the box. Select the cut option and the selected area will be cut from the image window.

The Clipboard window opens; displaying the cut area.

Copy

Operates in the same way as the cut option, except that the area selected is copied into the Clipboard window leaving the original in the image window intact.

Delete

Operates in the same way as the cut option, except that the area selected is permanently cut from the Image window. You are asked to confirm any deletions.

Paste

Pastes the image in the Clipboard onto the Image window. Select 'Paste', then select either Normal (over-write) or Transparent paste from the sub-menu then position the pointer on the Image window and press the left mouse button to paste.

Crop

Draw a box around the image required, drawing in the same way as in the cut option.

Cropping the image will discard the area outside the crop box and retain what is inside the box.

Invert

Inverts the Image window and produces a negative version of it. All black pixels change to white and vice versa.

Settings

Re-opens the Settings window if it has been closed.

Zoom

Opens the Zoom window to allow you to view/edit the image in the Image window at pixel level, at a magnification of 8:1.

Clicking on the Image window updates the Zoom window to display the current area.

Pixel editing may be performed within the Zoom window.

Clipboard menu

The Clipboard menu deals with an image that has been cut or copied from the Image window into the Clipboard.



Fig.11 The Clipboard menu

Clear

Clears the Clipboard. Any image within the window is lost.

Rotate 90

Allows the rotation of an image by 90 degrees in a clockwise direction.

Flip Horiz

Flips the image on its horizontal axis. This produces a mirror image of the original.

Flip Vert

Flips the image on its vertical axis. This produces a mirror image of the original.

Invert

Inverts the image in the Clipboard and produces a negative version of the image. All black pixels change to white and vice versa.

Zoom

Opens the zoom window to allow you to view/edit the image in the Clipboard at pixel level, at a magnification of 8:1. Clicking on the Clipboard updates the Zoom window to display the current area. Pixel editing may be performed within the Zoom window.

Scan menu

The Scan menu options deal with scanning a new image into memory in one of three scanning operations.

Scan	
To Image	F1
To Clipboard	F2
To Current Area	F3

Fig.12 The Scan menu

To Image

Scans an image using the settings on the Settings window into the Image window. The screen clears and enters the real-time scanning mode allowing a scan to be performed. Once the scan is completed the screen exits the real-time scanning mode and returns to the main screen with the scanned image appearing in the Image window.

To Clipboard

Scanning can additionally be done into the Clipboard. The clipboard must be opened before this takes place.



Fig.13 Clipboard

The scanning operation is performed in the same way as the 'Scan To Image' operation except that the scanned image will appear within the Clipboard window.

To Current...

The third scanning option is Scan To Current Area. This will place the scanned image within the area that has been selected within the Image window, using the 'rubber banding' selection method described in the 'Cut' section.



Fig.14 Current area

This causes the scan to appear within the banded area within the Image window.

Pixel editing

Facilities are provided for editing a scanned image at pixel level. When drawing on the Zoom window, clicking on a white pixel selects drawing in black and vice versa. Pixel editing is performed when you are in the zoom magnification mode.

Clicking on the zoom icon or selecting the zoom option from either the Image or Clipboard menus will open the Zoom window and you will enter the zoom magnification mode. In zoom mode, the Zoom window displays the top left hand corner of the image contained within the Image or Clipboard window at a scale factor of 8:1.

You may scroll the Zoom window as you would any other window, but a quicker way to zoom the area you require is to locate the area on the image window and then click on the area with the left mouse button. This will update the Zoom window with the selected location.

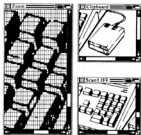


Fig.15 Zoom Mode

Pixel editing may be performed on either the Image or Clipboard window, depending upon which window is currently selected.

Keyboard shortcuts

The keyboard shortcuts allow most of the operations to be carried out without using the mouse or pull-down menus.

KEY	ACTION
A-L	Load IFF File
A-S	Save IFF File
A-W	Save As IFF File
A-O	Save Clipboard
A-E	Delete File
A-P	Print
A-X	Cut
A-C	Copy
A-D	Delete
A-V	Paste (Normal)
A-R	Crop
A-G	Open Settings
A-Z	Zoom Image
F1	Scan To Image
F2	Scan To Clipboard
F3	Scan To Current Area

APPENDIX A : TECHNICAL SPECIFICATIONS

Scanner Specifications

Scan Width : 105mm / 4.25 inches

Resolution **Gradation Level**

400dpi 64

300dpi 64

200dpi 16

100dpi 16

Scan Mode **Setting**

TEXT Black & White

PHOTO 1 Dither - Bayer

PHOTO 2 Dither - Spiral

PHOTO 3 Dither - Screen

Power supply specifications

Voltage +12V DC nominal, tolerance +0.8V, -0.4V

Current 150mA continuous, 750mA max for 3 mins.

Failure to supply the voltage within the tolerance range given will cause the scanner output to deteriorate.

PSU Input :240 volts

Output :12 volts, centre +ve

Hardware Interface Cartridge specifications

Parallel Port Use

Port	I/O	Scanner	Description
D0..D7	I	DATA	D7 is left most bit
ACK*	I	STB	strobe from scanner
BUSY	O	ON	switch on scanner
SEL	O	NEXT	strobe to scanner
POUT	O	STRM	high for stream mode

APPENDIX B : SCANNER CARE

Cautions on handling your scanner

1. Do not use or leave your scanner in places where it can be exposed to direct sunlight, dust, high humidity, very low/high temperatures, sudden vibration, magnetic/static electricity field.
2. Avoid contact with solvents.
3. Do not disassemble or insert anything such as a screwdriver into the scanner.
4. When disconnecting scanner always grip the connector body, do not pull the cable.
5. Do not use benzine, thinners, or chemical dustcloth.
6. To clean the scanner case, roller and cable use a cloth moistened with water and wipe with a soft lint-free cloth.
7. Turn of power to computer when connecting or disconnecting from system.
8. Avoid accidental spillage of drinks, liquids, etc. on scanner.
9. This is a precise mechanism. Please do not give the unit a high shock, such as a drop or a hit.
10. Staples, clips, etc. must be removed from documents before scanning to prevent scratches on scanning window.