

ScanTek

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REVISION HISTORY

NUMBER	DATE	DESCRIPTION	NAME

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Chapter 1

ScanTek

1.1 ScanTek Manual

ScanTek 2.6

A scanner driver for
Microtek, Highscreen and Mustek
Flatbed Scanner

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Get It, Feel It, Love It

Overview
The features

What's new
What's new

System Requirements
What you must have

Installation
How to install

Using ScanTek
How to use

Registration
Why and how to register

Support
Where to get it

Tested Systems
It works...

Trouble Shooting

What to consider

Bug Reports
If any..

Copyrights
Consider carefully

Credits
I thank you

Author
Me ..

History
It's history

Future
Things to come

Miscellaneous
The rest

1.2 Overview

Overview

The ScanTek scanner driver has the following features:

1. Support of the following SCSI Microtek scanner models:
MICROTEK IISP, MICROTEK II, HIGHSCREEN Flatbed Color IIs,
ScanMaker E3, ScanMaker 35t

Support of the following SCSI Mustek scanner models:

Three Pass Scanners:

6000CX, 8000CX (not tested), 12000CX (not tested) all should work

One or Single Pass Scanners:

6000SP, 8000SP (not tested), 12000SP (not tested) all should work
6000CZ (not tested), 8000CZ (not tested)

600IISP, 800IISP (not tested) all should work

If your scanner is not mentioned in the list above try it and give me a response whether it works or not.

Attention: Mustek scanners have a critical SCSI interface. It was reported to me that these scanners may not work with the A3000(T) internal SCSI interface. It is possible that these scanners do not work with other SCSI host adapters, either.
But the Mustek 6000CX works in combination with an Oktagon SCSI host adapter.
Be sure to disable reselection for Mustek scanners on your SCSI host adapter. Otherwise your system may

not boot.

2. Support of black/white, built-in halftone (dither), one-pass-color-scan, three pass color scan, grey, red, green and blue scan.
3. Individual setting of resolution, scanning frame, contrast, shadow, midtone, highlight, exposure time and scanning speed for download to the scanner.
4. Download of a color look up table (gamma correction table) to the scanner supported.
5. Scanning to IFF File of 1, 8 or 24 bit color depth. The maximum size of the scanned image is independent from the RAM size. After the scanning process it is possible to start an external program.
6. GUI for preview and configuration of the driver. You need Kickstart 2.04 but Kickstart 3.0 is recommended.
7. Sizeable preview window in black/white or grey scale. Color preview on Cybergraphix screens (15, 16 or 24 bit necessary). There are much more skilled programs to view and manipulate the scanned images in color. (A tool like ADPRO, IMAGE FX or so is needed, if you want to do sophisticated postproduction)
8. Screenmode requester to define custom screen for working. The actual public screen is supported as well
9. Configurable SCSI device and SCSI ID. The driver supports only SCSI connectable scanners.
10. The driver is tested with the following SCSI drivers: oktagon.device and gvpscsi.device V4.5.
11. ScanTek is written using SAS C 6.55.
11. ScanTek is SHAREWARE.
12. The non registered version of ScanTek is a full working version, but all scanned images have black lines to motivate you to register. Additionally the maximum size of the preview is restricted.

1.3 What's new

"What's new"

New for ScanTek 2.6:

- Full support of Mustek one pass scanners
- Recognition of Mustek scanners enhanced

New for ScanTek 2.5:

- Workaround to handle strange color mode behaviour of Mustek one pass scanners.
- Reverse scanning in black and white mode introduced.
See the
 Scanning Misc Window
 for details.

New for ScanTek 2.4:

- Support of Mustek SCSI one pass color scanners in color mode and parameter ranges.
- ScanTek can now open its GUI windows on the actual public screen.
See the
 Scanning Misc Window
 for details.

1.4 System Requirements

System Requirements

1. An AMIGA with Kickstart 2.04 or higher.
2. A SCSI host adapter (commonly known as SCSI controller) with an external connector for the scanner :-)
3. You should have more than 2 MByte RAM in one piece. If you have less, the scanning would be rather boring than fun.
4. A harddisk with a lot of free space.

1.5 Installation

Installation

The archive contains the following files:

ScanTek/ScanTek	- The scanner driver
ScanTek/ScanTek.info	- The appropriate info file
ScanTek/ScanTek.guide	- This amigaguide document
ScanTek/ScanTek.guide.info	
ScanTek/ReadMe	- A short description
ScanTek/ReadMe.info	
ScanTek/OrderForm	- The english orderform
ScanTek/OrderForm.info	

ScanTek/Bestellformular	- The german orderform
ScanTek/Bestellformular.info	
ScanTek/Gamma/	- Directory for look-up tables (gamma)
ScanTek/Images/	- Directory for scanned images
ScanTek/Temp/	- Directory for temporarily files

To install, unpack the archive to a preferred location at your hard disk. Assigns are not necessary.

1.6 Using ScanTek

Using ScanTek

After

installing
you can start ScanTek from CLI or the

Workbench.

Configuration
Tayloring to your needs

Scanning
Scanning

Menus
The Layout of the Menus

Windows
The Layout of the Windows

1.7 Configuration

Configuration

1. Select the menuitem >Settings/SCSI...<

- Set the SCSI <Device Name> and scanner SCSI <Device ID> according to your

SCSI system configuration

- The SCSI <Device ID> must be same as the SCSI ID which is set with the push-indexing or rotary switch on the rear panel or the underside of the scanner. Any ID from 0 through 6 is valid as long as it is not used by any other device on the SCSI bus.
 - The <Scan Buffer> should be set as large as possible, because the scanner performs better with a large buffer. If the buffer is not large enough to receive the whole scanned image, then the scanner fills this buffer and stops until the data is processed. Then the scanner continues to scan the next portions until the whole image is scanned.
 - The <File Buffer> size is not as important as the <Scan Buffer> size. A value of several kBytes may also work well.
-

- The <File Buffer> and <Scan Buffer> are only allocated during the scanner access and you should ensure that the specified memory is available at that time. The memory has to be in one piece.
 - The memory types <Scan Memory> and <File Memory> can be modified to speed up the SCSI performance on certain SCSI host adapters. You may test the various memory types and choose the one that performs best or reliable.
 - Examine your SCSI settings by clicking the <Test Device>-Button and wait for the delivered information in <Test Results>. ScanTek has checked, if the given SCSI parameters and the related SCSI device is suitable.
 - Click <OK> to accept your new settings or <Cancel> to forget it.
2. Select the menuitem >Dir Paths/Scanned Pics...< and >Dir Paths/Temp. Files...<
 - Set the initial default directory path, where the scanned images or the temporarily needed files should be located.
 - The temp directory should never be located in RAM. You should better set the <Scanner Buffer> to a higher value to increase the scanning performance.
 3. Select the menuitem >Settings/Screenmode<
 - You will get a screenmode requester, where you can choose a new screenmode or change the color depth, ie. the number of screen colors.
 - If the screenmode requester does not appear, you must get a newer version of the ASL library, that supports the screenmode requester.
 4. Select the menuitem >Settings/Save Settings<
 - You can save your current settings to a file. The default settings file name is 'ScanTek.cfg'. This file will be read during startup of the program.
 - With the menuitem >Settings/Load Settings< you can read a different settings file.

1.8 Scanning

Scanning

After starting and

configurating

ScanTek, we can start to scan.

1. Place the desired object you want to scan on the scanner
 2. Define the
 - maximum size
 - of the scanning or preview frame for further
 - operation
 3. Size the
 - Preview Window
 - as large as you want it to
-

4. Set the desired scanning mode

- Click the <Scan Mode>-Button until your desired scanning mode appears.
- Click the <Options>-Button to change the parameters of the actual scan mode. Each scan mode has an Options Window. Even if the options window look similar, the options of each scanning mode are independent from another.

5. Getting a preview picture

- Click the <Preview>-Button in the Main Control Window or select the menu item >Project/Preview<.
- The scanner starts to scan a preview picture and displays it in the Preview Window.
- The preview picture will be shown dependent on the chosen scan mode.

scan mode	normal preview mode	Cybergraphix, onepass and color preview
red	red	red
grey	grey	grey
blue	blue	blue
green	green	green
color	grey	color
halftone	halftone	halftone
black&white	black&white	black&white

- The size of the preview picture depends on the size of the Preview Window.
- During the scan the Scanner Access Window is open and shows the scanning status.

6. Modify the

color look-up curves
with the
Look-Up Control Window
and go back to step 5.

7. Set the scanning frame in the Preview Window

- Press the left mouse button, hold it and move the mouse until the scanning frame is as large as you want it.
- The dimensions of the image defined by the scanning frame are shown in the Scanning Frame Box. These figures are only approximate.
- There is no real limitation of the scanning frame. If you choose a very small scanning frame then the scanned image may not look good in rare cases. Seize your scanning frame bigger and you will be happy again.
- To achieve a high correspondance between the scanning frame contents and the scanned image you should tag the parameter "accurate coordinates" in the

Scanning Misc Window.

8. Set the scanning resolution

- Move the <Resolution>-Slider to the desired resolution setting.

(dpi = dots per inch). A high dpi value leads to more dots scanned per inch and to a larger scanned image. Take care of the moiree effect as described in

Trouble Shooting

Try to set resolution values that are integer parts of your scanners physical resolution. This leads to better scanning results.

9. Start the scanning process

- Click the <Scan>-Button in the Main Control Window or select the menu item >Project/Scan<.
- You will get a file requester, where you can define the file name for the image to scan.
- During the scan the Scanner Access Window is open and shows the scanning status.
- The scanned image will be written as uncompressed IFF File with either 1, 8 or 24 bit color depth.
- If your <Scan Buffer> is smaller than the picture to scan, then ScanTek will use temp files for saving. The scanning process will be divided into several scanning accesses until the image is completely scanned.

1.9 Menu Structure

Menu Structure

```

Project
|--
    Scan
    |--
    Preview
    |--
    About...
    `--
    Quit
    Settings
|--
    SCSI...
    |
|-- Scanning Modes
|   |--
|       Black&White
|       |   |--
|       Halftone
|       |   |--
|       Color
|       |   |--
|       Red
|       |   |--
|       Green
|       |   |--
|       Blue
|       |   `--
|       Grey
  
```

```

      |
|-- Scanning Frame
|   |--
      |   Max Frame Size
      |   |   `--
      |   Adjust Frame
      |   |
|--
      |   Scanning Misc
      |   |--
      |   Look-Up Table
      |   |
|-- Dir Paths
|   |--
      |   Scanned Pics...
      |   |   |--
      |   Temp. Files...
      |   |   `--
      |   Look-Up Files...
      |   |
|--
      |   External Program
      |   |
|--
      |   ScreenMode
      |   |
|--
      |   Load Settings
      |   `--
      |   Save Settings

```

1.10 Project/Scan

Menu Item Project/Scan

After selecting this menu item, a file requester appears. This file requester can be used to choose the filename for the image to be scanned.

The actual parameters defined in the

Main Control Window

are taken for the

scanning of the image.

1.11 Project/Preview

Menu Item Project/Preview

After selecting this menu item a preview image is scanned and displayed in the

Preview Window

.

The size of the preview image depends on the actual size of the Preview Window.

1.12 Project/About...

Menu Item Project/About...

The About Window will be displayed to show general information about the program. The name of the registered user will be also displayed.

1.13 Project Quit

Menu Item Project/Quit

If you want to quit the program, use this menu item. Alternatively you can click on the close gadget in the Main Control Window

1.14 Settings/SCSI...

Menu Item Settings/SCSI...

After selecting this menu item the SCSI Parameter Window opens and you can view and set the SCSI parameters.

1.15 Settings/Scanning/Black&White

Menu Item Settings/Scanning/Black&White

After selecting this menu item the Black&White Options Window opens and you can view and set the Black&White parameters.

1.16 Settings/Scanning/Halftone

Menu Item Settings/Scanning/Halftone

After selecting this menu item the Halftone Options Window opens and you can view and set the Halftone parameters.

1.17 Settings/Scanning/Color

Menu Item Settings/Scanning/Color

After selecting this menu item the
Color Options Window
opens and you
can view and set the Color parameters.

1.18 Settings/Scanning/Red

Menu Item Settings/Scanning/Red

After selecting this menu item the
Red Options Window
opens and you
can view and set the Red parameters.

1.19 Settings/Scanning/Green

Menu Item Settings/Scanning/Green

After selecting this menu item the
Green Options Window
opens and you
can view and set the Green parameters.

1.20 Settings/Scanning/Blue

Menu Item Settings/Scanning/Blue

After selecting this menu item the
Blue Options Window
opens and you
can view and set the Blue parameters.

1.21 Settings/Scanning/Grey

Menu Item Settings/Scanning/Grey

After selecting this menu item the
Grey Options Window
opens and you
can view and set the Grey parameters.

1.22 Settings/Scanning Misc

Menu Item Settings/Scanning Misc

After selecting this menu item the
Scanning Misc Window
opens and you
can set the scanning misc parameters.

1.23 Settings/Look-Up Table

Menu Item Settings/Look-Up Table

After selecting this menu item the
Look-Up Control Window
opens and you
can set the scanning misc parameters.

1.24 Settings/Scanning Frame/Max Frame Size

Menu Item Settings/Scanning Frame/Max Frame Size

After selecting this menu item the
Max Frame Setting Window
opens and you
can set the parameters for the maximum size of the scanning frame.

1.25 Settings/Scanning Frame/Adjust Frame

Menu Item Settings/Scanning Frame/Adjust Frame

After selecting this menu item the
Adjust Frame Window
opens and you
can set the position and size of the scanning frame.

1.26 Settings/Dir Paths/Scanned Pics...

Menu Item Settings/Dir Paths/Scanned Pics...

After selecting this menu item a directory requester opens and let you
set the default directory path, where scanned images are written to.

1.27 Settings/Dir Paths/Temp. Files...

Menu Item Settings/Dir Paths/Temp. Files...

After selecting this menu item a directory requester opens and let you set the default directory path for temporary files.

1.28 Settings/Dir Paths/Look-Up Files...@

Menu Item Settings/Dir Paths/Look-Up Files...

After selecting this menu item a directory requester opens and let you set the default directory path for the look up table files.

1.29 Settings/External Program

Menu Item Settings/External Program

After selecting this menu item the
External Program Window
opens and you
can set the parameters for an external program, which may be started after
each scan.

1.30 Settings/Screenmode

Menu Item Settings/ScreenMode

After selecting this menu item a screenmode requester opens and let you set the screen mode. If you select a screenmode, then ScanTek closes his actual screen and opens a new screen.

To ensure a high quality preview image, try to get a large
Preview Window

The more colors you have the better the preview image output.

NOTE: The preview image will be deleted during the change of the screenmode.

1.31 Settings/Load Settings

Menu Item Settings/Load Settings

After selecting this menu item the SCSI and Scanning parameters can be loaded from a file. The filename can be choosen with a file requester.

The default parameter file is named 'ScanTek.cfg'. It is loaded during the startup of ScanTek (if available).

1.32 Settings/Save Settings

Menu Item Settings/Save Settings

After selecting this menu item the SCSI and Scanning parameters can be saved to a file. The filename can be chosen with a file requester.

The default parameter file is named 'ScanTek.cfg'.

1.33 Windows

Windows

Main Control Window

Color Options Window

BlackWhite Options Window

Halftone Options Window

Preview Window

Scanner Access Window

SCSI Window

External Program Window

Max Frame Setting Window

Adjust Frame Window

Misc Window

Look-Up Control Window

Look-Up Table Window

1.34 Main Control Window

Main Control Window

The following gadgets appear in this window:

Scan Mode : The supported scanning modes.

Options : Dependent on the scan mode there are several scanning options.

Black&White

Halftone

Color

Red

Green

Blue

Grey

Resolution : The resolution to be used at scanning.
The highest resolution value depends on the scanner model.
The preview resolution is independent from this value and
derived from the Preview Window size.

Preset : The predefined resolutions for faster setting of
scanning resolution.

Change Resolution Preset :

Change the list of predefined resolution values.
The actual resolution value of the slider is taken.
If the value is already in the list, then it will be removed.
If the value is not in the list, then it will be added.
The number of possible values is restricted.

Preview : To get a preview image for displaying in the
Preview Window
.
This function can also be start by selecting the menu item

Project/Scan
.

Scan : To start scanning. This function can also be start by selecting
the menu item
Project/Scan
.

CloseGadget : To quit the program.

The following information text fields appear in this window:

Width : Displays the width of scanning frame in the actual chosen
length unit.

Height : Displays the height of the scanning frame in the actual chosen
length unit.

Size : Displays the size of the image

1.35 Color, Red, Green, Blue and Grey Options Window

Color, Red, Green, Blue and Grey Options Window

This window enables you edit the parameters for the Color, Red , Green, Blue and Grey scanmodes.

The mentioned scanmodes have the same parameters, but they are independent from another. If you edit the options for the red scanmode, then only this options are changed.

The following gadgets appear in this window:

Exposure Time : The exposure time or analog brightness adjustment has a valid range from at least -18% to +21 % in steps of 3%.

Contrast : The contrast setting has a valid range from at least -42% to +49% in steps of 7%.

Digital Brightness : For scanners that support digital brightness adjustments this parameter has a valid range from -100% to +100%.

The following parameters are described by quoting from the Microtek Programmers Reference:

Speed : "Lower speeds can be used to prevent deterioration of image quality when the <Scan Buffer> is small and the image must be scanned in segments."

Shadow : "... setting a value other than 0 in this register makes the darkest scanned shades (all raw pixels values equal to or less then the register value) come out as pure black (0) and linearly maps the remaining scanned shades (all raw pixel values greater than the shadow adjustment value and less than the highlight register value) into the range of 0 through 255."

Midtone : "... setting a value other than 128 in this register causes all raw scanned values from 0 (or the shadow adjustment register value) through the midtone adjustment register value minus one to be mapped linearly into the range of 0 through 127, and all raw scanned values from the midtone adjustment value through 255 (or hte highlight adjustment register value) to be mapped linearly into the range of 128 through 255."

Highlight : "... setting a value other than 256 in this register makes the lightest scanned shades (all raw pixels values equal to or greater then the register value) come out as pure white (255) and linearly maps the remaining scanned shades (all raw pixel values less than the highlight adjustment value and greater than the shadow register value) into the range of 0 through 255."

Cancel : Throw away changes.

OK : Accept changes.

NOTE: Parameters which are not supported by the scanner or ScanTek are ghosted.

1.36 Black&White Options Window

Black&White Options Window

Black&White : This value defines the threshold for the black&white conversion. All raw scanned values less than this value are black and the other values are treated as white.

Speed : "Lower speeds can be used to prevent deterioration of image quality when the <Scan Buffer> is small and the image must be scanned in segments."

Cancel : Throw away changes.

OK : Accept changes.

1.37 Halftone Options Window

Halftone Options Window

Halftone Pattern : There are at least 12 different build in dither patterns.

Speed : "Lower speeds can be used to prevent deterioration of image quality when the <Scan Buffer> is small and the image must be scanned in segments."

Cancel : Throw away changes.

OK : Accept changes.

1.38 Preview Window

Preview Window

This window is used to show the preview image and to define the scanning frame. The size of this window can be modified. During preview scanning the dimensions of the window are taken to calculate the size of the preview image. The preview will be scanned with a higher resolution, if the preview window is larger. The aspect ratio of the usable scanner flatbed is considered as well.

The preview image is surrounded by a border frame, that shows the maximum size of the image.

Within the border frame it is necessary to define the scanning frame with the mouse.

In the Main Control Window the actual dimensions and memory size of the image to be scanned are shown.

1.39 Define Scanning Frame

The scanning frame can be defined by using one of two ways. The first way is to set the parameters of the scanning frame within the

Adjust Frame Window.

The other way is to define the scanning frame by using the mouse \leftrightarrow within the

Preview Window

.

If you move the mouse within the border frame of the preview window, than the mouse changes its shape to show its actual state.

The following mouse shapes (states) are supported:

```
| Set a complete new scanning frame.
- - Press the left mouse button, hold it and move the mouse until the
| scanning frame is as large as you want it.

^
<+> Press the left mouse button to drag the scanning frame to a new position.
V
```

If you see another shape of the mouse than it is possible to resize the actual scanning frame.

Press the left mouse button to reposition the vertices or edges of the scanning frame.

1.40 Scanner Access Window

Scanner Access Window

This window appears during scanning. It informs about the actual status of the scanning process.

Stop : Click to stop or abort the actual scanning process. This event can be delayed due to the fact, that the transfer of raw data from the scanner to the <Scan Buffer> can not be interrupted immediately. This may lead to the fact that the actual scanning action can not be stopped.

1.41 SCSI Window

SCSI Window

This window must be used to set and to enable the SCSI scanner configuration

.

Device Name : The device name of the used SCSI host adapter.

Device ID : The device ID or SCSI ID of the flatbed scanner.
The SCSI <Device ID> must be same as the SCSI ID which is set with the push-indexing or rotary switch on the rear panel or the underside of the scanner. Any ID from 0 through 6 is valid as long as it is not used by any other device on the SCSI bus.

Scan Buffer : The size in kByte of the <Scan Buffer> used for image scanning. The memory is only allocated during the scanning access.

File Buffer : The size in kByte of the <File Buffer> used for file operations image scanning. The memory is only allocated during the scanning access.

Scan Memory : Defines the type of used memory. This enables you to speed up SCSI performance in some cases.
On certain SCSI host adapters it is necessary to choose the proper memory type for a reliable connection. Test the different opportunities and choose the best.

File Memory : Defines the type of used memory. This enables you to speed up SCSI performance in some cases.
On certain SCSI host adapters it is necessary to choose the proper memory type for a reliable connection. Test the different opportunities and choose the best.

Test Device : Must be used to test the SCSI settings. You have to activate this test to enable the new settings.

Test Results : The results of the <Test Device> will be displayed in this list view.

Cancel : Throw away changes.

OK : Accept changes.

1.42 External Program Window

External Program Window

This window enables you to edit the parameters necessary for launching an external program. The program will be started right after scanning and saving an image.

- Executable : This string gadget shows the actual filename of the executable program (or what ever can be started with the built in SystemTags).
If you want, that the filename of the scanned image should be inserted in the command then you should insert %s at the appropriate position.
- ? : Opens a file requester, where you can choose an external program. If you select the external program, then the full path and the filename are valid as executable.
You may add %s if you like.
- Start
- Executable : Tag this gadget, if you want the external program started.
- Synchronization : This gadget lets you set the type of execution.
- Sync : ScanTek will wait until the launched external program terminates. If a startup error occurs during the execution of the external program a notification requester appears with an error description.
- Async : ScanTek does not wait and continues to work without any relations to the launched program. There will be in rare cases a notification requester, since the error information is no more relevant.
- Test your external program in synchron mode and if this works fine, then you may switch to asynchron mode.
- Cancel : Throw away changes.
- OK : Accept changes.

1.43 Max Frame Setting Window

Max Frame Setting Window

This window enables you to edit the maximum size of the preview frame. With this settings you can optimize the preview frame, if your object to scan does not cover the whole flatbed.

Additionally it is very helpful, to avoid problems with "Illegal scanning frame coordinate" SCSI Errors.

The scanning frame maximum size can be set in parts of 1/8 inch
Any input is adjusted to the allowed range and to multiples of 1/8 inch.

You should experiment with these values, if you get the SCSI Error requester "Illegal scanning frame coordinate". In most cases you have to decrement the Width value.

Width : The new maximum width of the scanning frame.

Height : The new maximum height of the scanning frame.

Cancel : Throw away changes.

OK : Accept changes.

1.44 Adjust Frame Window

Adjust Frame Window

This window enables you to set the position and size of the scanning frame without using the preview window.

Orig Unit : Defines the measure unit for the origin position of the scanning frame. You can choose between 'inch', 'cm' and 'mm'.

XOffset : The x position of the upper left corner of the scanning frame. The unit can be set in Orig Unit. At the left you can see the maximum possible value.

YOffset : The y position of the upper left corner of the scanning frame. The unit can be set in Orig Unit. At the left you can see the maximum possible value.

Dim Unit : Defines the measure unit for the dimensions (width and height) of the scanning frame. You can choose between 'inch', 'cm', 'mm' and 'pixel'.

Width : The width of the scanning frame in the unit specified with Dim Unit. At the left you can see the maximum possible value.

Height : The height of the scanning frame in the unit specified with Dim Unit. At the left you can see the maximum possible value.

Cancel : Throw away changes.

OK : Accept changes.

1.45 Scanning Misc Window

Scanning Misc Window

This window enables you to set several miscellaneous parameters.

Reverse Colors :

If checked, then the scanner will produce a negative image. This parameter is ghosted if it is not supported by the used scanner model.

Accurate Coordinates :

If checked, then the scanning frame will be sent to the scanner in pixel unit. The scanned image dimensions will correspond with the scanning frame shown in the preview window. This parameters should be checked for better scanning results. This parameter is ghosted if it is not supported by the used scanner.

Use own Black/White Mode :

If checked, then a special black/white scanning mode is used in black/white scanning. The image is scanned in grey mode and then converted to black/white. This parameter should be checked, if you are not satisfied with the normal black/white scanning.

Reverse BW and Half Tone :

If checked, then the normal black/white and half tone image is reversed (inverted).

Color Preview :

If checked, then the preview is done in true color. This parameter is ghosted if the actual ScanTek screen is not a Cybergraphix screen with 15, 16 or 24 bit color depth or your scanner does not support onepass color scans. Remember: Color scanning increases the duration of the preview and it consumes three times more memory to hold the preview scan data.

Open on Public Screen :

If checked, then Scantek tries to open his windows on the actual public screen (normally the Workbench). The public screen must fulfill the following requirements:

- 1) More than 16 free color pens available
- 2) The Screen dimensions must be at least 640x400.
- 3) You must have OS3.0 or better.

Cancel : Throw away changes.

OK : Accept changes.

1.46 Look-Up Control Window

Look-Up Control Window

This window enables you to set the parameters necessary for the download of color look up tables. The actual shape of the color look-up curves are

shown in the

Look-Up Table Window.

Use Table : Tag this, if you want to download and use color look-up tables (gamma correction table).

Look-Up Type : The type of modification on the actual active color look-up table.

The following look-up types are supported:

Normal : The same as no color correction.

Gamma : Gamma correction with input value.
Set the gamma correction value in the <Look-Up Input> and use it by clicking on <Apply>.

Freestyle : Modification of each pixel by hand.

Step : Leads to a curve with steps.
Set the number of desired steps in the <Look-Up Input> and apply it by clicking on <Apply>.

Look-UpInput : If this field is not ghosted it is used to receive input data for the actual Look-Up Type.

Apply : This button must be pressed, if a Look-Up Type with additional parameter input in Look-Up Input should be applied to the activated look-up curve.

All : Defines the look-up table for color scanning.
If <All> is active Red, Green and Blue will be processed with the same curve.

Red : Defines the look-up table for the Red component.

Green : Defines the look-up table for the Green component.

Blue : Defines the look-up table for the Blue component.

If one of the above modes is active during a color scan, then Red, Green and Blue will be processed with their individual curves.

Grey : Defines the look-up table for the Grey component.
Only used, if scanning mode is <Grey>.

Save : Save the color look-up tables to file.

Load : Load the color look-up tables from file.

Cancel : Throw away changes.

OK : Accept changes.

1.47 Look-Up Table Window

Look-Up Table Window

This window enables you to watch and set the look-up tables necessary for the download to the scanner.

<pre> .------.255 light . / / / / / / / / / / \------'0 dark 0 --> 255 dark --> light </pre>	<p>With a look-up curve it is possible to remap the scanned image data. It is possible to lighten or darken an image. This kind of technique is very important since every scanner has a specific color characteristic. Several scanners tend to scan the image slightly too dark with the default settings.</p> <p>This deviation depends on the electronical and optical calibration of the scanner hardware. With a color look-up table is is possible to compensate this deviation. The Look-Up Type "Gamma" leads normally to the best results. You should test various gamma values to get the best curve for your scanner.</p>
--	---

The look-up table will be sent to the scanner who recalculates his scanned data by use of this color look-up table.

If the Look-Up Type in the
Look-Up Control Window
is set to

Freestyle than it is possible to manipulate the actual look-up curve with the mouse. You should move the mouse slowly to get a continous curve.

It is a good practice to predefine a curve by using "Normal", "Gamma" or "Step" and than modify it, if necessary, with "Freestyle".

1.48 Registration

Registration

ScanTek is shareware.

You have tested ScanTek and want to register. The registered version offers you the following advantage:

- no more black lines in the scanned images
- the maximum size of the preview is not restricted

The shareware fee is notified in the files "OrderForm" or "Bestellformular". Registered users receive a personalized keyfile which removes the black lines.

Edit the file "OrderForm" or "Bestellformular", answer the questions,

print it out and sign it. Put it together with the registration fee
(only cash accepted) in an envelope and send it to
me

.

The keyfile will be sent to you via email or on a floppy disk.

1.49 Support

Support

The Xantilon BBS (Nürnberg, Germany) is offline.

Every major release will be uploaded to the AmiNet.

1.50 Tested Systems

Tested Systems

The following combinations have been reported to work:

Scanner model	Amiga	SCSI host device	external termination
Highscreen flatbed IIs	A4000	oktagon 2008 V6.10	yes, necessary because of external SCSI Box.
Mustek MFS 6000CX	A4000	oktagon 2008 V6.10	yes, "Reselection" must be switched of

1.51 Trouble Shooting

Trouble Shooting

If something goes wrong consider these golden rules:

- The whole system does not boot.
-> Disable the SCSI parameter "Reselection" on your SCSI host adapter for
your scanner.
- Check the
SCSI settings
in ScanTek and click the <Test Device>-Button
for further information ;-)
Experiment with the settings of the
memory types and buffer sizes.

- The scanner is not ready (the READY lamp is blinking).
 -> Wait until the READY lamp is on or you have to reset the scanner by switching it off and on.
- The scanner may not be mounted, if you switch it on after the AMIGA has booted. Reboot the AMIGA or remount the scanner with an appropriate tool.
- During scanner operation there is a SCSI error.
An SCSI error will be generated by the SCSI device handler. It denotes an error on the lower protocol layer. In most cases, there is an invalid SCSI bus termination, which will lead to this failure.
- The SCSI bus hangs up during the scanner access.
 - > You may check your termination on the SCSI bus, since the scanner is not terminated internally. You may have to connect an external SCSI termination plug as well as terminate the SCSI bus correctly. The SCSI bus must be terminated on both ends. This is necessary, if you have problems with SCSI errors.
 - > You may have to change the order of the discrete SCSI components.
- There is a kind of pattern over the scanned image and the scanned image does not look good.
 - > This may be caused by a moire effect.
You have possibly scanned a raster print. Each printed paper has its own dpi rate. This dpi rate overlaps with the scanner's dpi rate and leads to the mentioned moire effect.
The only solution is to increase the scanner resolution to a value, that is more than twice as high as the dpi rate of the print.
As a rule of thumb the dpi rate of rastered prints goes from 100 to 150 dpi. If you get this moire effect you should choose a resolution of 200 to 300 dpi.
- There is a SCSI error requester saying "Illegal scanning frame coordinate"
 - > Decrease the Width or Height value of the maximum frame size.
 - The scanned images have some kind of ghost pictures.
 - > Any virtual memory manager software like VMM or GigaMem could scramble the scanned data and kills performance.
DO NOT USE VMM OR GIGAMEM with ScanTek.
There is no need to use these tools with ScanTek.
ScanTek uses his own virtual memory facilities to scan large images.
- The color of the scanned images are not identical to the original.
 - > You may activate or modify the current Look-Up Table.
If nothing of the above mentioned first aid methods lead to a conclusion, then you may give me a bug report.

1.52 Bug reports

Bug reports

If you find something strange in the behaviour of ScanTek decide for yourself, whether it is a bug or a feature.

If it is a bug, there is a way to get additional information. You must tell ScanTek to generate a LOG file.

From CLI: ScanTek debug
From Workbench: Set the TOOLTYPE DEBUG=ON

With this startup value ScanTek generates a text file called 'ScanTek.log' that may contain some important informations about several scanner operations. Try to localize the bug and send me the file 'ScanTek.log'.

Finally the bug report should contain the following items:

- The file 'ScanTek.log', if it is a scanner interworking problem.
- Your AMIGA configuration: Model, RAM, OS-Version, accelerator board, graphic card, SCSI host adapter and SCSI components
- Your scanner model type

Any suggestions on ScanTek, this guide or other things of interest are welcome.

1.53 Copyrights

Copyrights

The program ScanTek is © Copyright 1995/1996 Waldemar Zöhner. The archive may be freely distributed as long as it remain unchanged.

The keyfile for the registered user must be installed on one computer only and it is not allowed to spread it to others. With your signature on the orderform you accept these conditions.

The user interface of the program was designed with GadToolsBox
© Copyright 1991-1993 Jaba Development.

Parts of the program are © Copyright 1991-1993 Jaba Development.

1.54 Credits

Credits

The author says thank you to the following persons and companies for their help and support.

- Arndt van der Molen for beta testing and constructive criticism
- Horst (The Whistler) Knobloch for support
- Beate Kaspar (...all good things must end...)
- Kerstin Hedrich for a good time
- Markus Rupprecht for Mustek Paragon MFS 6000CX
- Lutz Küch for Mustek Paragon MSF 6000SP

- Jaba Development for GadToolsBox
- »»»»~Several Icons by Martin Huttenloher ««««
- Microtek, Düsseldorf for the programmers reference
- SAS Institute for their C-Compiler 6.55 and at least no support

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1.56 History

History

V1.0 30 Nov. 1995

- first public release

V1.1 17 Dec. 1995

- detection of Microtek scanner via SCSI inquiry enhanced
-

- stepping of resolution slider adapted to expanded base resolution
- calculation of scanning frame size data modified

V1.2 3 Jan. 1996

- Debug output data revised and enhanced
- Max Frame Setting setting introduced
- Start of external program possible
- Window positions are remembered and saved
- Configuration file enhanced

V1.3 25 Feb. 1996

- Detection of new ScanMaker E3 Flatbed scanner implemented
- Special adaption for E3 to use 8.5 * 13.5 inch scanning frame (due to E3 inquiry data the max frame size is 8.5 * 11.69 inch)
- No start of the external program, if the scanning process is aborted
- Higher dpi rates for ScanMaker 35t (slide scanner) possible
Preview image should look better now.
- "Main Control" window and gadgets modified
- Debug filename "ScanTek.log" can be overridden through CLI or Tooltype

V2.0 30 Apr. 1996

- Preview in color mode with proper options values
- Use of expanded Contrast and Exposure Time selections on certain scanners
- X and Y Aspect Ratio in scanned color images is now correct
- ScanMaker E3 does not support undocumented red, gree and blue scanning
- Lookup Table command supported (Gamma Correction on certain scanner possible)
- Scanning Frame Setting is now more intuitive
- Reverse image scanning supported (only on certain scanners possible)
- Accurate scanning frame definition. Scanning frame is now more precise.

V2.1 5 July 1996

- Preview now fully supported for Mustek 6000CX
- Special adaption for Mustek 6000CX to use 8.5 * 14 inch scanning frame

V2.2 26 July 1996

- Enhanced support for Mustek scanners
"Exposure Time" and "Contrast" parameters are now correct
- Gamma value "All" now works on threepass scanner
- Alternative Black/White scanning mode

V2.3 6 Sept. 1996

- Color Preview on Cybergraphix screens in true color mode (15, 16 or 24 bit) for onepass flatbed scanners
 - Grey/Red/Green/Blue Preview on Cybergraphix screens in true color mode
-

- (15, 16 or 24 bit) for threepass and onepass flatbed scanners
- Change and recall of predefined resolution values

V2.4 10 Sept. 1996

- Support of Mustek SCSI one pass color scanners in color mode and parameter ranges.
- ScanTek can now open its GUI windows on the actual public screen.

V2.5 5 Oct. 1996

- Workaround to handle strange color mode behaviour of Mustek one pass scanners
- Reverse scanning in black and white mode introduced

V2.6 30 Oct. 1996

- Full support of Mustek one pass scanners
- Recognition of Mustek scanners enhanced

1.57 Future

Future

- Optimized performance speed
- Full CLI control to scan without GUI

1.58 Miscellaneous

Miscellaneous

- The ScanMaker E3 firmware (28-Feb-1996) reports the scanning frame as 8.5 * 11.69 inch.
But the maximum scanning frame is at least 8.5 * 13.5 inch wide.
 - The ScanMaker E3 firmware (03-May-1996) does not support the undocumented red, green and blue scanning modes. These scanning modes are from now on disabled for this scanner model.
 - The Mustek 6000CX firmware reports a smaller scanning frame than available.
But the maximum scanning frame is at least 8.5 * 14 inch wide.
-