ScanTek

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COLLABORATORS

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ScanTek

1.1 ScanTek Manual

```
                          ScanTek 1.0

              A scanner driver for
            Microtek and Highscreen
               Flatbed Scanner


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         Get It, Feel It, Love It



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```
             Consider carefully

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             I thank you

             Author
             Me ..

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1.2 Overview

```
Overview

The ScanTek scanner driver has the following features:

1. Support of the one pass scanner model MICROTEK IISP (ScanMaker) or the
   OEM model HIGHSCREEN Flatbed Color IIs (SCSI, up to 600dpi).

2. Support of black/white, built-in halftone (dither), one-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.

3. 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.

4. GUI for preview and configuration of the driver. You need Kickstart 2.04
   or higher.

5. Sizeable preview window in black/white or grey scale. 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)

6. Screenmode requester to define screen for working.

7. Configurable SCSI device and SCSI ID. ( Yes, the driver supports only
   SCSI connectable Microtek scanners. This is not rather bad, since I
   do not know of any NON-SCSI scanner from Microtek).

8. Support of Microtek II three pass color scanner, but I have implemented
   this support without testing because I have no Microtek II scanner.
   Try it and report to me all problems (if any) to implement a full working
   version.

8. The driver is tested with the following SCSI drivers: oktagon.device and
   gvpscsi.device V4.5.
```

9. ScanTek is written using SAS C 6.55.

10. ScanTek is SHAREWARE.

11. The non registered version of ScanTek is a full working version but all
    scanned images have black lines to motivate you to register.

1.3   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 lots of free space.

1.4   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/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.

1.5   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
```

1.6 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 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.
 · 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.

1.7 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. Size the
                  Preview Window
                  as large as you want it to

3. 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 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.

4. 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.

5. 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.

6. 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
                 .

7. 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.

1.8 Menu Structure

```
              Menu Structure

Project
|--
              Scan
              |--
              Preview
              |--
              About...
              `--
              Quit
              Settings
|--
              SCSI...
              |-- Scanning
|    |--
              Black&White
|    |--
              Halftone
|    |--
              Color
```

```
                      |    |--
                      Red
                      |    |--
                      Green
                      |    |--
                      Blue
                      |    `--
                      Grey
                      |
|-- Dir Paths
|    |--
                      Scanned Pics...
                      |    `--
                      Temp. Files...
                      |
|--
                      ScreenMode
                      |
|--
                      Load Settings
                      `--
                      Save Settings
```

1.9 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.

1.10 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.

1.11 Project/About...

```
                Menu Item Project/About...
```

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

```
                      registrated user
                      will be also displayed.
```

1.12 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
                .

1.13 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.

1.14 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.

1.15 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.

1.16 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.
```

1.17   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.
```

1.18   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.
```

1.19   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.
```

1.20   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.
```

1.21   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.
```

1.22   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.
```

1.23   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.
```

1.24   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).
```

1.25   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 choosen with a file requester.
The default parameter file is named 'ScanTek.cfg'.
```

1.26   Windows

```
              Windows
```

```
              Main Control Window
```

```
              Color Options Window
```

```
                    BlackWhite Options Window

                    Halftone Options Window

                    Preview Window

                    Scanner Access Window

                    SCSI Window
```

1.27   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 preview resolution is independent from this value and
              derived from the Preview Window size.

  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
```

1.28   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       : For scanners that support digital brightness adjustments
Brightness      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.
```

1.29   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.
```

1.30   Halftone Options Window

```
  Halftone Options Window

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

  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.
```

1.31   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 set a scanning frame. The scanning
frame is set by pressing and holding the left mouse button and than move the
pointer to the desired location. During this movement the scanning frame is
updated. If you release the left mouse button than the scanning frame is set.

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

1.32   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.

1.33   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 same cases.

File Memory  : Defines the type of used memory. This enables you to speed up
               SCSI performance in same cases.

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.
```

1.34 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 shareware fee is DM 30,- or US$ 30,-. Registered users will 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 sent it to
               me
               .

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

1.35 Support

```
Support

The Xantilon BBS (Nürnberg, Germany) will always have the latest version
of ScanTek.
```

```
+49-911-819860  ( Zyx   19.2 )
+49-911-819878  ( V.FC  28.8 )
+49-911-862090  ( TORN. 14.4 )
+49-911-8179985 ( OnBit 24.0 )
+49-911-8129806 ( ISDN  64.0 )
+49-911-8129807 ( ISDN  64.0 )
```

Login: gast

Board: Filebereich/+Amiga-PD/-Support/-ScanTek
        or
        NewsFiles/Filebereich/+Amiga-PD/-Support/-ScanTek

Every major release will be uploaded to the AmiNet.

1.36 Trouble Shooting

                    Trouble Shooting

If something is going wrong consider these golden rules:

 · Check the
                 SCSI settings
                 in ScanTek and click the <Test Device>-Button
   for further information ;-)

 · 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.

 · 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.
   --> 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
   looks not 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 scanners 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.

 If nothing of the above mentioned first aid methods lead to a conclusion,

```
  then you may give me a
                bug report
                .
```

1.37 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.

1.38 Copyrights

```
Copyrights
```

The program ScanTek is © Copyright 1995 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.

1.39   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...)

   · Rainer Wallenfels for Xantilon BBS

   · 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

1.40   Author

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For faster access and faster response use email.

1.41   History

History

V1.0 30 Nov. 1995

   - first public release

1.42 Future

Future

- · Optimized performance speed
- · Enhanced scanning frame handling
- · Full CLI control to scan without GUI
- · Start of an external program after scanning (i.e. a picture viewer)