

**TeleText**

**COLLABORATORS**

	<i>TITLE :</i> TeleText		
<i>ACTION</i>	<i>NAME</i>	<i>DATE</i>	<i>SIGNATURE</i>
WRITTEN BY		March 29, 2022	

**REVISION HISTORY**

NUMBER	DATE	DESCRIPTION	NAME

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# Chapter 1

# TeleText

## 1.1 TeleText Documentation

TeleText V1.11

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Documentation

Disclaimer

Preface

System Requirements

Hardware

Assembling

Installation

Software

Acknowledgements

Planned future enhancements

How to reach the author

Version information

List of components

Registration

## 1.2 Preface

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This project makes it possible to view Teletext (also know as ↔  
Teletekst,  
Videotext, Ceefax, Skytext, Supertext etc.) on your Amiga. It is  
suitable for any PAL Amiga (read  
System requirements  
for more info,  
because it uses the parallel port to interface with the hardware.  
An electronic switch is provided to easily switch between the TeleText  
decoder and a printer.  
The project consists of a small piece of hardware and some software.

The software is Shareware. This means that if you use to program longer  
than 3 weeks, you have to register or stop using it.

Read the

Registration  
section for more information

on how to register.

Some features will one be available to registered users.

Some features:

- fully localized  
languages currently supported: nederlands, deutsch and dansk
- needs KS2.04 or higher and a PAL Amiga to run
- can hold up to 4 teletext-pages, each page can contain a maximum  
of 50 subpages
- saves pages in IFF, ASCII and its own TT format
- loads pages in TT format
- uses reqtools.library (included in archive) for requesters
- the hardware needs a PAL-encoded CVBS-videosignal containing  
teletext-information

(can be obtained from the SCART/AV connector of a TV/VCR)

The PAL-system is used in the following countries:

Australia, Austria, Belgium, China, Denmark, Finland, Germany, Great  
Britain, Holland, Hong Kong, Italy, Kuwait, Malaysia, New Zealand,  
Norway, Portugal, Singapore, Spain, Sweden, Switzerland, Thailand,  
etc.

The hardware has been changed in V1.11, check the

Version information  
section for more information !

### 1.3 System requirements

Commodore Amiga (should work on any PAL Amiga)

(the program needs a 640x256 Hires screen, so you cannot use it on  
a NTSC Amiga)

Kickstart 2.04 or higher.

Workbench 2.0 or higher

Approximately 100kb of free memory

The software was tested on:

A500, A500/68030 accelerator, A2000, A4000/030 and A4000/040

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Workbench 2.0, 2.1 and 3.0  
Kickstart 2.04 and 3.0

This project was developed on:  
A500 with KickStart 2.04 and 1MB Chip-RAM  
A590 harddrive (20MB XT) + 2MB Fast-RAM

Yes, I know, it's sad.... ;-))

## 1.4 Disclaimer

Although this project was thoroughly tested on my Amiga 500, I cannot be held responsible for any damages caused by using/building this project. If you damage your Amiga, or have other problems, they're your problems. I may be able to offer some advice for your problems, but cannot 'repair' your board/Amiga. If you do not have any soldering-experience, don't even get started.

While every effort has been made to make these instructions as accurate and complete as possible, I (Jan Leuverink) do not accept any responsibility arising from any inaccuracies contained herein.

## 1.5 Hardware

How it works:  
-----

The hardware consists of two functional parts:

- CCT decoder (Schematic1.iff)
- I2C interface (Schematic2.iff)

The CCT decoder is a standard application of the single-chip decoder SAA5246 (made by Philips ©). The RAM-chip (U2, 6264-120ns) is used to store up to 8 teletext pages. The oscillator-circuit needs some extra attention. This circuit differs for the 2 types of SAA5246 chips. When using a SAA5246P/x (where x can be E,H,T,J,K,L,R,I or S) the circuit can be built as drawn. When a SAA5246AP/x is used (newer version), the alternative oscillator-circuit (as shown in the blue box) should be used. The PCB-design can handle both.

The SAA5246 chip is controlled by a I2C bus.

This is a serial bus, that allows several standard chips to be connected. Example chips are: a 8-bit bi-directional IO-port, a real-time clock, a 8-bit AD/DA converter, EEPROM memory etc.

The I2C bus uses a clock-line (SCL) and a data-line (SDA). The I2C standard also defines an interrupt-line, which is not implemented, because very few I2C-chips actually use it.

SW1 switches between the TeleText hardware and a printer. When SW1 is closed the printer (or any other parallel device that is connected at J1) is selected. When SW1 is open (as drawn) the TeleText hardware is active. Switching is done by a triple 2 channel analog multiplexer/demultiplexer, type 74HC(T)4053. It is absolutely essential that you use a HC or HCT

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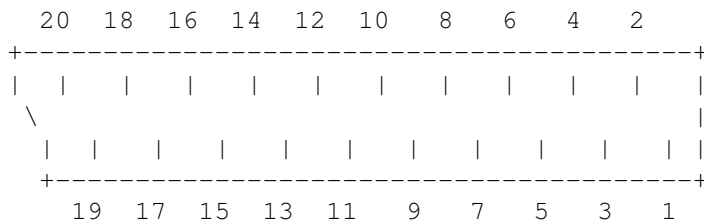
version of the 4053. This is due to the high "ON" resistance of the normal CMOS types (250 ohm against 70 ohm at 5V supply voltage).

The only extra thing needed to get started is a CBVS (in Germany FBAS) videosignal containing teletext-information. Such a signal can be obtained from the SCART-connector of a TV/VCR etc. This signal must be connected to J3/J4.

Note that the fact whether or not the CVBS-signal contains TeleText information, has nothing to do with the TV/VCR being capable of displaying TeleText. It purely depends on the broadcast-station that is tuned in on.

Also note that previously recorded tapes do no longer contain TeleText information.

Solder-side of SCART-plug (male):



Videoground: pin 17

CVBS out : pin 19

See VideoCable.iff for information on how the cable should be connected.

Some sets have a special AV-output, which delivers a CVBS signal. Check your manual to find out.

Note that this CVBS signal has to be a PAL-encoded one !  
NTSC or SECAM will not work.

The PAL-system is used in the following countries:  
Australia, Austria, Belgium, China, Denmark, Finland, Germany, Great Britain, Holland, Hong Kong, Italy, Kuwait, Malaysia, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, Thailand, etc.

## 1.6 Assembling

Building the TeleText hardware is a pretty straight forward job. I've included two HPGL plotter-files (TeleText/HPGL/Layout100.Hpgl and TeleText/HPGL/Layout200.Hpgl) of the PCB-layout (PCB=Printed Circuit Board). This file was created using a PCB-design package, plotting to a file at respectively 100% and 200%.

The 100% is handy for people who can use a photoplotter to get a negative/positive for making the PCB.

The 200% is handy for printing/plotting on paper and then use photo-technics to make a 100% negative/positive.

You may try to make a 100% plot directly on paper, but I doubt it will work. (traces will probably overlap).

The size of a 100% plot should be 80 x 96.5 mm and 160 x 193 mm for a 200% plot. I guess these files are only useful when using photo-technics for PCB-production.

I do not have the equipment to make series of PCB's, so I cannot supply you with one. I have investigated the possibility to order prints from a commercial firm, but that would make the PCB's much too expensive. Sorry. The circuit isn't that big, so it should also be easy to build on a prototype board. It took me about three hours to build my prototype (using an epoxy PCB board, with 3 holes/pad) and it worked at once !

Note that the oscillator-circuit is different for the SAA5246P and the SAA5246AP, so check what type of decoder-chip you have ! The PCB design can handle both, check the componentlist and the Assembly section to see which components should be installed.

(If you have already build the 'old' V1.10 board, check the last part of this section ("Adjusting your V1.10 board") to see how you can upgrade it.)

You need the following tools:

1. A small (15-25 Watt) soldering pencil
2. Good electronic quality 60/40 alloy rosin core solder
3. small needle-nose pliers
4. small diagonal cutters
5. wire stripper

Some general hints:

- use a few solder as possible
- be carefull not to overheat the components/solder-pads
- keep the soldering pencil tip clean and well tinned
- the components are intended to be inserted into the side of the printed circuit board that does not contain copper traces (called the component side)
- Integrated circuits, diodes, electrolytic capacitors, transistors and the voltage regulator can only be placed in one orientation, so read the description carefully.
- I strongly recomment that you place the integrated circuits in sockets. Do not use the low-cost types, it is better to spend a little more on quality sockets.
- Before placing the ic's in the sockets, carefully bend the pins to an approximately 90 degree angle. This can best be done by the use of a pin straightener. Alternatively you can use the small needlenose pliers for this job, be carefull to bend only one pin at a time. This in order to avoid electrical discharge, which may destroy the IC.

Start assembly

=====

For both types of U1 (SAA5246AP and SAA5246P):

- [ ] solder the 48 pin socket at U1
  - [ ] solder the 28 pin socket at U2
  - [ ] solder the 16 pin socket at U3
  - [ ] solder the wire above R5
-



- [ ] solder R1 and R5, the 10k resistors
- [ ] solder R2, the 10 ohm resistor
- [ ] solder R3, the 27k resistor
- [ ] solder R6, the 4k7 resistor
- [ ] solder D1, the 1N4001 diode
  - Note that the cathode of D1 is marked by a white stripe on one side of the black body. This side should point towards U3.
- [ ] solder U4, the 7805 voltage regulator
  - The 'metal side' of U4 should face R3, the black body with the text on it should point towards U3.
- [ ] solder T1, the BC547 transistor
  - The shape of the transistor should match the shape of T1 in the picture Componentside.iff. So the round side towards U1, and the flat side towards R5.
- [ ] solder C5, C6, C7 and C9, the 100nF capacitors
- [ ] solder C8, the 10 $\mu$ F / 16V radial electrolytic capacitor
  - The negative wire (mostly marked with a - (minus) sign) should point towards the edge of the board.
  - The positive wire (mostly not marked) should point towards C2.

For SAA5246AP only:

- [ ] solder X2, the 27MHz crystal
- [ ] solder a wire for X1 (thus connecting the 2 pads for X1)
- [ ] solder R7, the 3k3 resistor
- [ ] solder C2, the 10pF capacitor
- [ ] solder C10, the 15pF capacitor
- [ ] solder C11, the 1nF capacitor
- [ ] solder L1, the 4 $\mu$ 7H coil (watch out: it looks like a resistor)

For SAA5246P only:

- [ ] solder X1, the 27MHz crystal
- [ ] solder a wire for X2 (thus connecting the 2 pads for X2)
- [ ] solder C2, the 22pF capacitor
- [ ] solder C1, the 22pF capacitor
- [ ] solder C3, the 22pF capacitor
- [ ] solder L1, the 3 $\mu$ 3H coil (watch out: it looks like a resistor)

For both:

- [ ] solder all soldering pins (16 pins)
- [ ] connect the pin marked GND (placed on the left side of U1) to pin 25 of J2 (25p-subd male (A1000: female) connector)
- [ ] connect the pin marked D2A to pin 4 of J2
- [ ] connect the pin marked POUTA to pin 12 of J2
- [ ] connect the pin marked SELA to pin 13 of J2
- [ ] connect the pin marked D2P to pin 4 of J1 (25p-subd female (A1000: male) connector)
- [ ] connect the pin marked POUTP to pin 12 of J1
- [ ] connect the pin marked SELP to pin 13 of J1
- [ ] connect pin 25 of J1 to pin 25 of J2 (\*)
- [ ] connect the pin 'x' of J1 to pin 'x' of J2 (\*)  
where 'x' is 1,2,3, 5-11, 14-24

(\*) the wires between J1 and J2 should not be longer than 20cm  
See ParCable.iff for more info.

- [ ] connect the positive wire of DC adapter (7.5 - 12 Volts) to the pin marked 7V5 (this pin is placed between GND and D2P on the left side of U1)
- [ ] connect the negative or ground wire to the pin marked GND (placed on the (left side of U1)

Note: most (all ?) DC adapters have a connector attached to their output-wires.

You can use this connector to connect the adapter to the board, but you're on your own: because there are many kinds of plugs, I cannot give a general description.

You can also cut off the plug and strip the wires, so that you can solder them right on the pins.

Be sure that you have the positive and negative wires right.

Although D1 protects the board for this kind of errors, it is better not to rely on it.

You can check which wire is positive and which is negative by measuring it with a voltmeter. Just connect one wire to the - terminal of the meter and the other to the + terminal. If the connection is oke, the meter will show a positive value. If not, a negative value will be shown so the wires were switched.

Note that some adapters have a switch, allowing you to reverse the + and - wires.

- [ ] connect the middle of the cinch chassis connector to the pin marked CVBS
- [ ] connect the 'outside' of the cinch chassis connector to the pin marked GND (next to CVBS)

Note: keep these wires as short as possible (maximum of approx. 10 cm)

- [ ] connect the switch SW1 to the pins marked SW1 using two wires (approx. 10cm long, depending on the case you build the board in)

Before continuing, you should test if the supply voltage is ok.

You can do this by plugging the DC adapter into the mains, switch it on (most adapters don't have a power-switch, just plug it in and it's on).

Note that the TeleText circuit must NOT BE CONNECTED to your Amiga yet !

Now measure between the following pins:

- pin 7V5 (+) and GND (-), should be between 7.5 and 12 Volts
- pin 8 (-) of U3 and pin 16 (+) of U3, should be 5 Volts
- pin 25 (-) of U1 and pin 1 (+) of U1, should be 5 Volts
- pin 14 (-) of U2 and pin 28 (+) of U2, should be 5 Volts

When this is oke, proceed. If not, check your board for component-misplacements, bad connections, connections between two pads that should not have been connected (e.g. too much solder) etc.

Especially check if the diode D1 and the regulator U4 are placed ok.

- [ ] place U1 (SAA5246AP or SAA5246P) in the socket at U1
- [ ] place U2 (6264) in the socket at U2
- [ ] place U3 (74HC(T)4053) in the socket at U3

Note on placing these IC's:

On all IC's there is a mark on one of the short sides (not containing

pins). This mark should be aligned with the mark (half a circle) as shown in the picture ComponentSide.iff.

If you do not place the IC's in the correct orientation, you most certainly will damage them ! So check !

[ ] Last thing to do: place the board and the connectors in a case of your choice.

[ ] Very last thing to do: make a cable to connect your video source (e.g. TV or VCR with Scart connector) to the decoder.  
See VideoCable.iff for more information.  
It is best to use shielded cable (the type used for audio) for this connection.

If everything went well, you can now connect your TeleText decoder to the parallel port of your Amiga.

BE SURE TO TURN OFF THE POWER OF YOUR AMIGA AND THE DECODER BEFORE MAKING THE CONNECTION !!!

If you do not power down, you will most certainly damage your Amiga.

After this, you can connect the video-source (e.g a VCR) to the decoder.  
Again: ONLY DO THIS WITH THE DECODER AND THE VCR SWITCHED OFF !!!!  
You can seriously damage the decoder chip (U1) when you don't !

Now you can power up the decoder and the Amiga.

Start the TeleText program, and try to request a page.

The best page to try is page number 100, because that one is always present.

If you get an I2C error (status box below the page-box) check the decoder and the connections to the Amiga (power down !!).

If you get a video poor / teletext poor message, check if you VCR is on, and that the cable from the vcr to the decoder is ok.

When video is ok, but teletext is poor, the channel you have chosen does not transmit teletext information.

Also check the

A word about I2C-bus timing  
section

before banging the decoder :-))

Ajusting your V1.10 board

=====

If you have already build the 'old' design (V1.10), don't panic.

You can easily add the extra components.

You'll need to get D1 (1N4001), U4 (7805) and a 7V5 DC adapter see

List of components  
for more information.

Connect the + wire of the DC adapter to the anode of D1 (side without the white stripe). Connect the cathode of D1 to the left pin of U4.

(U4 lies with the text above and the pins pointing towards you).

The - wire of the DC adapter goes to the middle pin of U4.

This middle pin is also to be connected to the GND pin (to one near the crystal X1 or X2) on the PCB board.

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The right pin of U4 goes to the +5V pin (near D2P) of the 'old' V1.10 board.

## 1.7 Installation

Software:

-----

Start the Install script by double-clicking the Install Icon. This script will install reqtools.library, tele.font and the catalogs for TeleText and Reqtools.

Manual installation:

Copy TeleText/Fonts/ FONTS: all  
Copy TeleText/Catalogs/ Locale:Catalogs/ all  
Copy TeleText/Libs/ LIBS:

Copying Catalogs is only necessary if you have WB2.1 or higher and want to use TeleText localized.

Hardware:

-----

Plug the 25p-subd male (this is the female subd when you have a A1000) connector into your Amiga's parallel port.

ONLY DO THIS WHEN THE POWER OF BOTH THE AMIGA AND THE TELETEXT HARDWARE IS SWITCHED OFF !!!!

If you make this connection with the power on, you will most definitely destroy the CIA (complex interface adapter) in your Amiga !

Connect the video-source to the TeleText decoder.

Note: only do this when the TeleText decoder and the video-source are both switched off !! You could destroy the SAA5246 chip if you don't.

## 1.8 Software

Startup

ToolTypes

Commandline parameters

A word about I2C-bus timing

Menu's of TeleText

Gadgets and control

## 1.9 Startup

When TeleText is started it first checks if a preference file is present. ↵

It will check ENV:TeleText.prefs first, then ENVARC:TeleText.prefs. If no preference file is present it will use it's defaults.

After that the

Tooltypes  
(Workbench start) or  
Commandline parameters  
(CLI start) will be checked. These will override the preferences.

Then TeleText will check for a keyfile (TeleText.Key) in it's homedirectory. If this keyfile is present and valid, TeleText will be fully functional. If not, some functions will be blocked. E.g. saving files is not possible.

TeleText also tries to open it's own font, called 'tele.font', it should be present in FONTS: When this font is not found, TeleText will pop up a warning requester. The pages will then be shown as ASCII, so no graphics characters etc. are displayed.

If TeleText is started by a default tool of an icon, it will attempt to load that file into catalog 1. When multiple icons are selected, TeleText will attempt to load the first four into catalogs 1..4.

## 1.10 ToolTypes / I2C-bus timing

TIMEOUT=[0..300]

Value in seconds, to wait until a page arrives (default = 30 sec.)

RETRYDELAY=[0..1000]

Value in milli-seconds (1/1000 seconds) between checking if a page has arrived (default = 100 ms)

I2CDELAY=[0..2^32]

Delay value to control the timing on the I2C bus (default = 0)

TIMER=[YES/NO]

Use timer.device for controlling timing on the I2C bus  
(I2CDELAY will be ignored, default = NO)

Note on timing:

On a plain A500/A600/A2000 (68000 at approx. 7MHz) you can set I2CDELAY=0 and TIMER=NO (or leave out).

For fast Amiga's (e.g. A4000/040) you should set TIMER=YES.

Generally spoken: first try TIMER=YES, when the speed of reading pages from the hardware is acceptable, do not change anything.

If everything gets very slow, choose TIMER=NO (or leave out) and specify I2CDELAY=0. If the pages are read ok, leave it that way. If not increase I2CDELAY until pages are read ok.

This ugly way was necessary, because using the timer.device on slow amiga's

(as my own.. :-( ) causes so much overhead, that it slows down the performance of the I2C bus a lot. A plain Amiga (500/600/2000) can never reach the maximum speed allowed on a I2C bus, therefor I made it possible to ignore the timer.device.

## 1.11 Commandline parameters

See  
Tooltypes

example: TeleText TIMEOUT=10 TIMER=YES  
Starts TeleText with a Timeout of 10 sec. and I2C timing is done with timer.device

## 1.12 Menu's of TeleText

Project Menu

-----

Open...	This menu-item pops up a file-requester, allowing you to select a TT-file. The file will be loaded in the current catalog.
Save as TT	Saves the page (and all subpages in it) from the current catalog using the TT-format. These files can later be loaded back into TeleText using Open...
Save as ASCII	Saves the page (and all subpages in it) from the current catalog using the ASCII-format. All graphics characters will be blanked (replace be spaces).
Save as IFF	Saves the page (only the currently displayed one) in IFF graphics format.
About	Diplays information about TeleText, registration info and some info about the current settings and the decoder chip that is being used.
Quit	Quits the program (an 'Are you sure ?' requester will pop up before quitting)

TT Menu

-----

Show Status of CCT	Reads the status of the teletext decoder chip (CCT) This status will appear in the box below the teletext page.
Initialize	Clears all pages from memory and resets the decoder chip.
Clear Catalogs	Allows you to selectively clear the catalogs. The memory used by the catalogs that are cleared, will be freed.
Time->Amiga	Will attempt to get a valid time from the decoder

and sets the Amiga software clock to that time.  
 (uses c:date for that purpose)  
 Note that only the software clock is changed !

Update Pageno. Determines whether the status box (below the teletext page) will show pagenumbers during a page-search or not.

Set Retry Delay See  
 Tooltypes  
 section

Set I2C delay See  
 Tooltypes  
 section

Set Timeout See  
 Tooltypes  
 section

#### Settings Menu

-----

Create Icons Determines whether the save operations (See Project Menu) create an icon for the saved file or not.  
 as soon as a page is read into that catalog.

Default Tool » Allows you to set the default tool for the TT, ASCII and IFF Icons.  
 Defaults: TT: TeleText  
 ASCII: SYS:Utilities/More  
 IFF: SYS:Utilities/Display

Save Settings Saves all settings to ENV:TeleText.prefs and ENVARC:TeleText.prefs  
 Saved are: Timer Yes/No, I2Cdelay, RetryDelay, TimeOut, Update Pageno, CreateIcons and the default tools.

## 1.13 Gadgets and control

The teletext-page is displayed in a box in the middle of the TeleText screen. Below this box, there is a small box, called the status-box. This box contains, information about pages, status of the decoder etc.

To the left of the teletext-page there are three gadgets. Two boolean gadgets for stepping through the subpages of a teletext-page and one numeric gadget for directly displaying any subpage. These gadgets are active only when the current teletext-page has subpages (thus exists of more than 1 page). One can also step through the subpages, using the Cursor Left (decrease subpagenumber) or Cursor Right (increase subpagenumber) keys.

A window, displaying which subpages are present, will be opened below the subpage-gadgets when subpages are present.

To the right of the teletext-page there are several gadgets, starting with four gadgets which allow you to choose one of the four catalogs. A catalog can contain one teletext-page (with a maximum of 50 subpages), so a maximum of four teletext-pages with subpages can be stored.

Behind the catalog gadget, there are 3 characters containing the number of the teletext-page that is present in that catalog (e.g. 100). When the catalog is empty three dashes (---) will be shown. Selecting a different catalog can also be done with the Cursor Up (previous catalog) or Cursor Down (next catalog) keys.

Below these four gadgets, there is a numeric gadget. This gadget allows you to enter a pagenumber (allowed are 100-899). After pressing return/enter this page will be searched for.

The stop-gadget (just below the Page-gadget) allows you to interrupt this search-process.

The last gadget is the Reveal-gadget. This gadget allows you to view hidden characters in the teletext-page. This feature is useful for puzzles etc.

## 1.14 Acknowledgements

Acknowledgement

-----  
This program uses Reqtools.library (c) by Nico François.  
It requires at least version 38 of that library.  
A recent version of reqtools.library is included in the distribution archive.

Special thanx to (in random order)

- 
- Brian Ipsen for all the hints/tips and Danish translation
  - Raymond Penners for the support on Amiga C-programming, hints/tips and beta-testing
  - Richard Schiffelers for the support on Amiga C-programming, hints/tips and beta-testing
  - Bert Stronks for beta-testing
  - Robert Udo for having such a great Amiga BBS
  - Paul Kolenbrander for bug-reports and hints/tips

## 1.15 Future enhancements

\* AREXX support

This will allow you to write Arexx scripts, that can fetch specified pages, save them, etc.

It will also include the ability to request a specific sub-page instead of all sub-pages of a given page.

- \* The ability to click on a number on a page, so that that page is being looked for. Handy for index-pages etc., just click on the pagenumber you want to read.
  - graphics-hardcopy of currently displayed page ?
  - improved docs: more technical details about how the teletext system works, how the I2C-bus works etc.
-



If you have ideas/hints for additional features and/or improvements, please let me know (see  
How to reach the author  
).

The features marked with \* will only be available to registered users. Features marked with - will be available to all users.

I also plan to move the I2C-interface routines to a shared library. This will make the I2C-bus available for other programs.

## 1.16 How to reach the author

If you have FIDO, NLA (Netherlands only) or AMY\_NET access, you can reach me by netmail at:

2:283/402.14 (FIDO)  
14:105/2.14 (NLA)  
39:157/101.14 (AMY\_NET)

If you cannot send/receive netmail, you can leave a message for me in the local areas of "The Amiga Workbench" (+31-5430-24097) or "DLA Network" (+31-5430-23561).

You can also send me snail-mail, but you will only get a reply if you send an envelope with your adress and sufficient stamps on it, with it.

My adres is:

Jan Leuverink  
Esweg 2-B  
7151 ZM Eibergen  
Holland

## 1.17 Version information

V1.01B first release to beta testers

V1.02B second release to beta testers

V1.10 first public release

V1.11 Bug-fixes:  
- the programm would crash if using the cursor-left/right keys when the page had no subpages, fixed.

!! Hardware update:  
!! - due to a modification in my Amiga, the current-limiter for  
!! the supply voltage on the parallel port did not work.  
!! Therefor the TeleText circuit worked well on my machine, but

---

```
!!      will most certainly NOT work on any other Amiga, because it
!!      draws too much power from the parallel port.
!!      Solution: an external DC adapter is now used as power-supply.
!!      This has the advantage of having enough power left to connect
!!      future devices to the I2C bus.
!!      - due to the above, the PCB design and the schematics have been
!!      updated
```

Documentation:

- on some Amigaguide viewers, the buttons were not visible, fixed (thanx Paul !)
- a better description of how to build the hardware (the previous one really was very, very bad... :-(( )
- in previous documentation I mentioned plans for making a gameport-version of TeleText. It turned out that this is not possible, because of the lack of 2 'normal' outputs on the gameport (there are 3 ports which can be used as output, but 2 of them are loaded with large capacitors :-(( ).

## 1.18 List of components

See the  
Assembling  
section for more information !

When using a SAA5246AP for U1:

```
-----
R1      10k, 1/4 Watt, 5%, resistor (color-code: brown-black-orange)
R2      10 ohm, 1/4 Watt, 5%, resistor (brown-black-black)
R3      27k, 1/4 Watt, 5%, resistor (red-purple-orange)
R4      does not exist
R5      10k, 1/4 Watt, 5%, resistor (brown-black-orange)
R6      4k7, 1/4 Watt, 5%, resistor (yellow-purple-red)
R7      3k3, 1/4 Watt, 5%, resistor (orange-orange-red)

C1      not needed
C2      10pF, ceramic capacitor
C3      not needed
C4      100nF, ceramic capacitor
C5      100nF, ceramic capacitor
C6      100nF, ceramic capacitor
C7      100nF, ceramic capacitor
C8      10 $\mu$ F/16V, electrolytic capacitor, radial
C9      100nF, ceramic capacitor
C10     15pF, ceramic capacitor
C11     1nF, ceramic capacitor

X1      not needed (replace with a wire see
           Assembling
           )
X2      27MHz crystal

L1      4 $\mu$ H coil (looks like a resistor)
```

U1 SAA5246AP teletext decoder chip  
U2 6264 RAM (min. 200ns)  
U3 74HC(T)4053 3-channel multiplexer  
U4 7805 voltage regulator  
T1 BC547 or equivalent  
D1 1N4001 diode or equivalent

J1 25p Sub-D female connector (male for A1000)  
J2 25p Sub-D male connector (female for A1000)  
J3/J4 Cinch-chassis connector

SW1 switch (make-contact)

Extras:

1 DC adapter, DC output voltage between 7.5 and 12 Volt, minimal supply current of 100mA (300mA is preferred)

1 16-pin IC-socket  
1 28-pin IC-socket  
1 48-pin IC-socket  
16 solder pins

some wiring, depending on your needs.

When using a SAA5246P for U1:

-----

R1 10k, 1/4 Watt, 5%, resistor (color-code: brown-black-orange)  
R2 10 ohm, 1/4 Watt, 5%, resistor (brown-black-black)  
R3 27k, 1/4 Watt, 5%, resistor (red-purple-orange)  
R4 does not exist  
R5 10k, 1/4 Watt, 5%, resistor (brown-black-orange)  
R6 4k7, 1/4 Watt, 5%, resistor (yellow-purple-red)  
R7 not needed

C1 22pF, ceramic capacitor  
C2 22pF, ceramic capacitor  
C3 22pF, ceramic capacitor  
C4 100nF, ceramic capacitor  
C5 100nF, ceramic capacitor  
C6 100nF, ceramic capacitor  
C7 100nF, ceramic capacitor  
C8  $10\ \mu\text{F}/16\text{V}$ , electrolytic capacitor, radial  
C9 100nF, ceramic capacitor  
C10 not needed  
C11 not needed

X1 27MHz crystal  
X2 not needed (replace with a wire see  
Assembling  
)

L1 3 $\mu$ S H coil (looks like a resistor)  
U1 SAA5246P teletext decoder chip  
U2 6264 RAM (min. 200ns)  
U3 74HC(T)4053 3-channel multiplexer  
U4 7805 voltage regulator  
T1 BC547 or equivalent  
D1 1N4001 diode or equivalent  
  
J1 25p Sub-D female connector (male for A1000)  
J2 25p Sub-D male connector (female for A1000)  
J3/J4 Cinch-chassis connector  
  
SW1 switch (make-contact)

Extras:

1 DC adapter, DC output voltage between 7.5 and 12 Volt, minimal supply current of 100mA (300mA is preferred)  
  
1 16-pin IC-socket  
1 28-pin IC-socket  
1 48-pin IC-socket  
16 solder pins

some wiring, depending on your needs

## 1.19 Registration

You can register TeleText by sending the registration fee and a filled-in registration form (See file RegistrationForm.doc) to:

Jan Leuverink  
Esweg 2-B  
7151 ZM Eibergen  
HOLLAND

Send money by EuroCheck (ammount only in Dutch guilders !!), postal(!) money order or cash !  
Currency's accepted: Dutch guilder, Deutsch Mark, English Pound, US Dollar

Registration fee:

Dutch guilders	fl.	25.-
Deutsch Mark	DM	25.-
English Pound	£	10.-
US Dollar	\$	15.-

If you send cash, note that I can only accept paper-money, because I cannot exchange coins.

If you register you will receive a keyfile, which will make your copy of

---

TeleText fully registered. New versions of TeleText will be available at my NLA/AMY boss "The Amiga Workbench" and I will try to get it distributed via the ADS/SAN network.

Newer versions will automatically be registered, if you have a valid keyfile.

"The Amiga Workbench", Winterswijk, Holland (24 hours online)

Sysop: Robert Udo

Using: Zyxel+, max. speed 19k2 bps

Telephone: +31-5430-24097

NLA node: 14:105/2

AMY node: 39:157/1

FIDO node: 2:283/410

Check out this great Amiga BBS !

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