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tions, Visio 500 is the best
most ergonomic solution f

Visio 500

User Guide

User guide version: 3.1

English 07/2020

VisioBraille - see with different eyes

We continue the products of BAUM Retec AG!

The company VisioBraille is convinced of the CCTV readers from the VISIO family, the VARIO Braille displays and Poet text-to-speech readers!

Encouraged by the overwhelming positive reactions of customers and distributors, VisioBraille decided to continue to produce the products of the former company BAUM Retec AG and ensure the service.

On this basis, our customers will provided with newly developed devices in the future.

With these innovative tools, we want to balance the limitations of blind and visually impaired people in the best possible way, strengthen your independence and provide assistance on the way to an independent everyday life.

We reach this aim through our strong commitment developing quality products, through years of experience in this field, through our excellent Know-how and proven expertise, using state-of-the-art technologies that significantly improve the quality of life of our customers.
Ergonomics, design and quality of the products developed and produced in Germany fulfill the highest demands.

In the private sector, as well as in education and work, you can break down barriers using our high-quality products, and continue to drive your success.

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1   About this manual

Thank you for purchasing a Visio 500 from VisioBraille GmbH. The purpose of this manual is to provide the end user and/or their service provider with details on how to use Visio 500.

Visio 500 is a high-quality, German-made desktop video magnifier, which will provide you many years of reliable service. This manual contains everything you need to know to use your new device.

As you will learn, Visio 500 is very easy to use. In addition to instructions on how to operate Visio 500, this manual also includes recommendations for how to unbox and position your device, what to do if anything goes wrong with the device, and important safety guidelines.

We suggest that you store this manual in a safe place for future reference.

Notice for End Users in Germany/Europe
This manual is a part of the Visio 500 product, and should be kept with the product at all times. In the event your Visio 500 is ever sold to a new end user, this manual must be provided to them.

2 About Visio 500

Visio 500 is the new professional, full HD video magnifier for visually impaired users. Thanks to the new design with motorized moving camera, the computer keyboard can be placed directly in front of the reading table.

The highly adjustable display allows for relaxed and fatigue-free reading in virtually any setting. A PC can be connected directly to the Visio 500, and used in conjunction with the variable split screen function.

Visio 500 displays magnified text and images in your choice of full color, black on white, or white on black and a variety of false colours. Autofocus is provided as well as optional fix focus for hand writing and filling in forms. Thanks to its image optimizer feature Visio 500 will always provide an optimum image quality, ensuring that text is always crisp and clear.

The 30x optical zoom camera can be pivoted in four positions. So besides viewing down on a sheet of paper, you may also use the mirror position of the camera. The 22" display screen can be easily adjusted to the height, angle and viewing distance you prefer.

Visio 500 will, in most cases, take documents of poor quality (e.g. faint print, crumpled or dirty paper, or the display of a mobile device etc.) and magnify them in high contrast. However, despite all of our technical efforts, there will be some documents that cannot be displayed properly. In these rare instances, you can improve readability by switching off the lights or using the full color setting.

3 Before you begin

Please read the safety instructions at the end of this manual and check the contents of the packaging.

3.1   What's in the box?

- 1 Visio 500 CCTV Reader device
- 1 power adaptor with cable to mains
- 1 users guide
- 1 cleaning cloth

4 First Steps

In this chapter we will explain how to set up Visio 500 and make it usable. Normally the device will be set up by our employees.

Additionally we will explain how to transport Visio 500. There is a special position in which the device is folded to minimum size to make transport easier.

> **Advice:**
> Please do not transport Visio 500 while holding at the reading table. The device could be damaged. **<u>Always</u>** use the locked display arms to lift Visio 500.

4.1 Unboxing Visio 500

Put the Visio 500 box on the floor in front of you. The larger surface must be on the top and the printing on the box must be readable.
Open the box and lift Visio 500 out of the box by holding it at arms, near the round covers of rear hinges.

Put Visio 500 on the table and turn it until the screen is facing towards you. The space between the front edge of the reading table and the edge of the table should be about 30 cm / 11 inches.

Now open the transport lock. The transport lock is blocking the display arms, so the device can be pulled on it. To open it, the display should be slightly pushed down below the horizontal position. You can slightly push on the display frame to lower it.

After that the slider of the transportlock can be opend. If viewed from rear, it is located to the right back of the Visio 500. It is important to move the slider towards the middle of the housing (left position when viewed from rear) to unlock.

Connect the round plug of the low voltage cable of the power supply to the power socket at the right of your Visio 500, and then plug the power supply cable into a wall outlet. The universal power supply can operate at voltages from 100- 250 VAC / 50-60Hz.

The monitor of Visio 500 still lies flat on the monitor arms. Now power on Visio 500. To do so, press the power button for a few seconds, which is the leftmost button on the control panel.

Now straighten up the screen. Tilting the screen is a little tight on purpose, it should not be tilted by accident. Now the screen should face towards you, like a screen is normally used.

Press the large lower button to either left or right back of display to release the brakes and adjust the monitor. Now pull the screen towards you. This is necessary for the camera arm to have enough space to be lifted without touching the display.
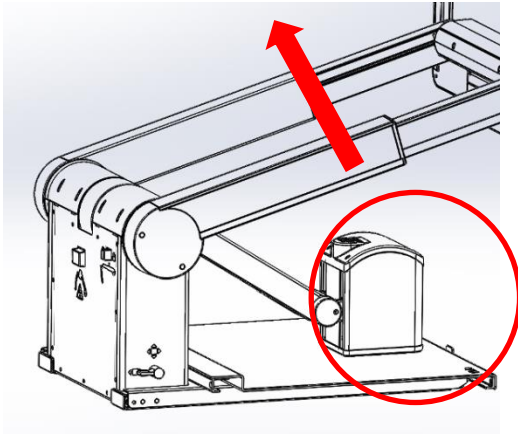
Next lift up the camera arm. The camera should lie flat on the reading table when Visio 500 is delivered. If you lift it, there is a point at which it will lock in and cannot be pushed below this point. Then tilt the camera until it is facing straight down without applying much force.

Now adjust screen in the right reading position. To do so, release the monitor arm breaks by pressing the bigger button on the back of the screen. Push the screen back and slightly tilt it until you can look at it comfortably. Position the camera in reading position.

Lastly the camera must be moved in the right position. To move the camera automatically, press the smaller buttons on the back of the screen. They are located just above the buttons to control the monitor arm brakes. The upper one of the two small buttons moves the camera away from you. The lower one towards you. Use one of the two buttons to move the camera in reading position which means it should face towards the front of the reading table.

4.2   How to position Visio 500 on your desk

Until now Visio 500 was just positioned coarsely. Visio 500 should be positioned that the reading table pulled out fully should flush with the front rim of the table.

We deliver Visio 500 with a locked reading table. To open it, pull the front lever of the reading table to the left. The reading table should now move freely in all directions. Now test if the Visio 500 is positioned correctly.

Pull out the reading table to the stop. It must not protrude your desk. Otherwise you have to adjust the position of Visio 500.

Attention:
Never move or lift Visio 500 while holding on the reading table. Always move it while lifting on the locked monitor arms. If Visio 500 is lifted on the reading table it can be damaged. See images at page 8.

If you have to adjust Visio 500 push the reading table back and the front lever to the right to lock the reading table.

Now push the monitor arms slightly below the horizontal position and lock the monitor arms with the button on the left back of the device pushed towards the outside (right if viewed from rear). If you lift Visio 500 now the arms should be locked in horizontal position and you can lift and move the device.

After that, open the lock of the monitor arms. This will only work if the monitor arms a slightly pushed below the horizontal position. After that release the reading table break by pushing the front lever of the reading table to the left.

Visio 500 is now ready to be used

If you want to bring Visio 500 back in transport position, read chapter "Transporting Visio 500"

5 Getting to know Visio 500

Visio 500 should now be positioned correctly and is ready to be used. The following chapters will explain in a logical order all the functions Visio 500 is offering.

First of all, if not happened, power on Visio 500. The power button is the leftmost button on the control panel, which is located under the screen. Press the power button for a few seconds, to power on the device. As soon as the light will turn on you can release the button.

To power off the device the power button must also be pressed more than one second. With that we make sure that Visio 500 is not powered off unintentionally.

In case you forgot to turn off your device, we implemented a standby function. After 30 minutes of not using the Visio 500 the lightning on the camera and the screen will be turned into standby. You will get a message on the screen right before it. After another two hours the device will power off completely. *(From Firmware Version V.24)*You can activate and deactivate the standby mode by pressing and holding the autofocus button. *(From Firmware Version V.25)*

After learning how to power on and off the Visio 500, let it powered on and put some reading material on the reading table of Visio 500. We recommend a coloured paper or brochure. Read the following chapters in chronological order to get familiar with all functions and learn best how to use them.

6 Adjust Display

When it comes to workstations for people with visual impairments, guidelines on ergonomics are not well defined. One factor behind this is the varying degree of visual impairments. What we do know is that looking at, or slightly down towards our reading area is more comfortable than looking up. We also know that most people will read things that are approximately 50 cm away. When things are closer or too far away, it affects our ability to read things easily.

With this in mind, we set out to develop a video magnifier that could be adjusted almost infinitely, thus allowing each individual to find a reading position that is optimized for their eye condition.

Holding the left and right lower edges of the screen with their hands, the users can move the screen up and down, adjust the tilt to a comfortable angle that is glare free, and adjust the distance of the screen by pushing it away for increased distance, or pulling it toward you for reduced distance.
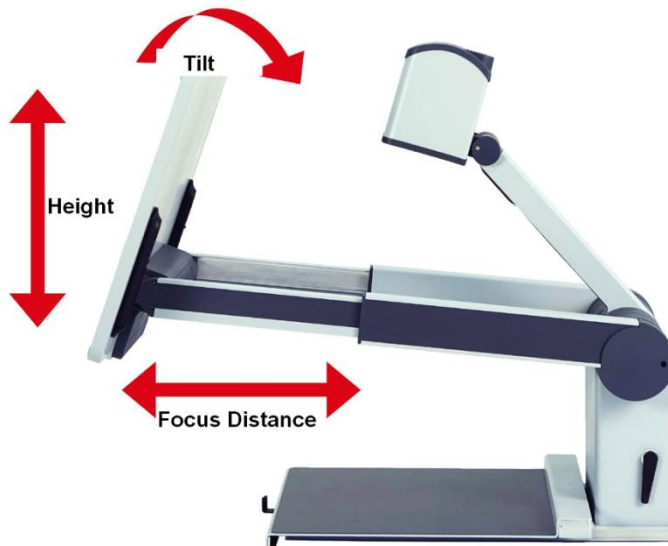
Press the large lower button to either left or right back of display to release the brakes and adjust monitor position.

7 Adjust Camera Position

The camera can be pivoted to 4 positions. This chapter explains how the different camera positions are used and how to set them.
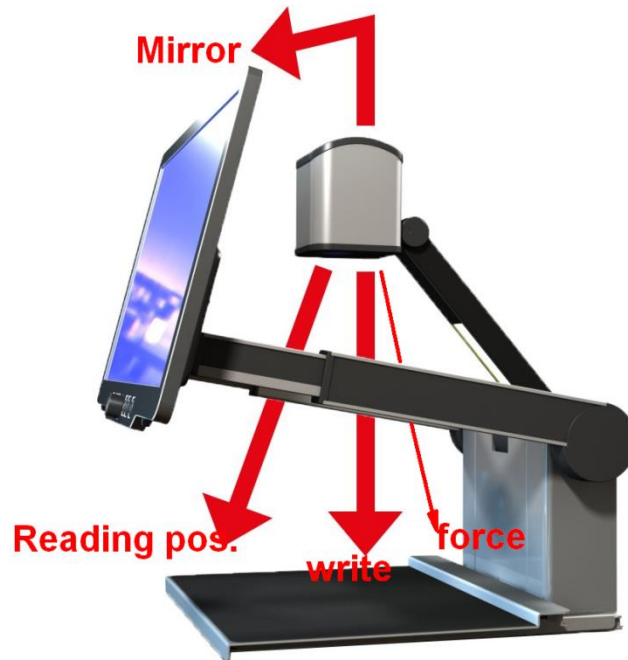
- The reading position is the normal position if you use the XY-mode of reading table. The camera unit is tilted slightly to the front. Image distortion will automatically be corrected.
- The writing position may be more comfortable for filling in forms or for viewing small objects. The camera is facing straight down.
- In force sensor position the camera looks at the top of a page (only if Y-movement of table is locked, camera moves electrically).
- The mirror position makes your Visio 500 a mirror for viewing yourself. A longer button press in mirror mode moves the camera slowly to fine tune the viewing direction.

The camera positions will be adjusted electrically. To control the movement, use the two smaller buttons on the back of the screen of Visio 500. These buttons are just above the large button to control the monitor arm brakes.

To press them, grab around the sides of the screen until you feel the buttons. A short press on the upper button moves the camera away from you, on the lower button towards you.

The camera moves sequentially to the four positions. Each press moves the camera to the next/previous position.

Mirror position	→	Reading position	→	Writing position	→	Force sensor position
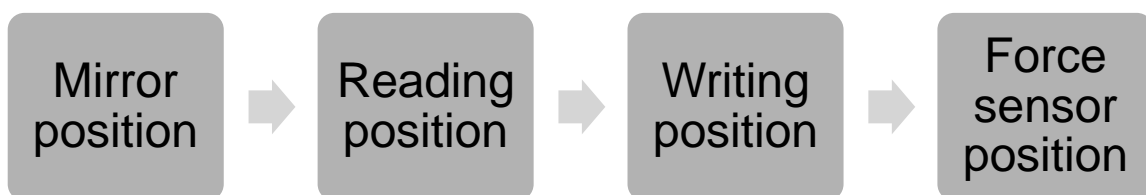
Only in force sensor mode

To get familiar with the general functions of Visio 500 we recommend using the reading position. In that position the camera is slightly tilted facing to the front of the reading table.

8 Using Visio 500 in classic CCTV mode

Generally there are two different ways to use Visio 500. We call them classic mode and the new force sensor mode. This chapter will explain how to use Visio 500 as a classic CCTV like a lot of our customers know from past devices like VISIO 22.

In classic mode the reading table can be moved freely left right and back and forth. There is a brake lever to fix it when needed.

Choose which mode you want using the lever at the left side of Visio 500. In the upright position, the reading table is in XY-mode where you can move it freely in either direction.
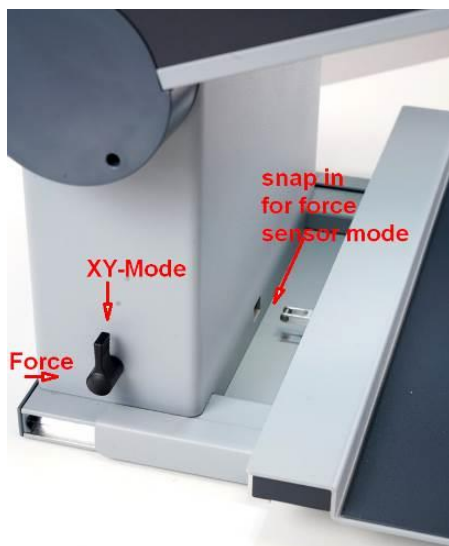
The brake is activated by the front lever of the reading table. The table can be fixed in both directions if the lever is in the rightmost position. If it should only brake in Y-direction, put the lever in the middle. In the left position, the table can be moved freely.

We recommend this mode for getting familiar with the other function of Visio 500.

9 Dampers

The Visio 500 reading table is equipped with dampers which can be engaged as necessary. Damping refers to the resistance against the table movements. The faster you move the table, the stronger the effect of the damping.

As you practice pushing and pulling against the resistance, you will find it results in a particularly uniform motion, and a more continuous reading fluency. The physical movement of the reading table in reading direction should be damped. However when moving back to the beginning of the next line quickly, the damper is not active.
Damping can be adjusted independently for both horizontal and vertical movement, each governed by a rotary switch located under the reading table.

The horizontal damper only works in the left direction, the vertical damper works in both up and down direction. Move the XY-table to the left or right, to reach the dampers which are located below it. The left damper is for the X-movement, the right damper is for the Y-movement.

Left and marked with 0 is the position without damper, right and marked with 1 is with damper. Turn the rotary switch clockwise to switch on dampers and counterclockwise to switch them off. In force sensor mode, the y-damper should be off.

Attention:
If Visio 500 is not used over a long period of time pleas deactivate the damper.

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10 Control panel & Buttons

10.1　Overview of the buttons

Power
Short press (until lights are on) will power up device
Long press will switch off

Auto Focus
Toggles Auto Focus on and off.
Auto focus on has always a sharp image.
Auto Focus off is for taking handwritten notes.

Image optimizer
Selects one of five image quality optimizer settings for viewing critical documents with low contrast or bad print.
Long press turns on/off light.

Zoom
Turn the circular dial counter-clockwise to decrease magnification, and clockwise to increase magnification.
Press to cycle through guiding line, curtain, full screen
If you push and hold the zoom button, the zoom will be minimized to give you an overview of the page. When you release it, the zoom will go back to the original zoom status.

Picture
For viewing pictures or reading documents in true colours. Also recommended for reading poor quality print and for writing.
If a PC is connected, switch back to camera image.

Text - Reverse

Use text mode for reading. Contrast is enhanced so reading is easier. Press again to toggle foreground and background colours.

If a PC is connected, press to switch back to camera image.

False Colors

In text mode: Press to cycle through 7 false colour modes. (Use Text button to reverse foreground and background). White on black is recommended for reading.

In picture mode: toggle white balance between warm reddish white, neutral white and cold bluish white.

If a PC is connected: Switch between split screen options and PC image.

Left slider

If guiding line is on: guiding line position

Right slider

If curtain is on: curtain size

If PC is connected and split screen is on: split ratio

When Visio 500 is connected to a PC, the buttons can have different functions. Please read Chapter "Using Visio 500 with a PC" for details.

10.2 General use of Visio 500

You have already learned how to position Visio 500 on your desk, and how to connect Visio 500 to the power adaptor. You can adjust height, tilt and viewing distance of the display to your preferred position so that you can comfortably view the screen.

Now, switch on Visio 500 and use it for the first time.

The **control panel** is located right below the screen. It consists of only six buttons, a circular dial and two sliders.

The **power button** is located in the lower left corner. A short press of this button will switch Visio 500 on. As soon as the lights turn on, you can release the power button. The display shows a start-up screen, after a few seconds Visio 500 shows a magnified image.

You can switch Visio 500 off by pressing the power button for more than one second. This helps avoid accidentally switching off Visio 500. Leave it switched on to proceed to the next step.

Place a document on the reading table. We suggest something colored, such as a brochure or magazine with text and images.

You can align a document horizontally by moving it against the silver rim in the back of the reading table.

Let's try the other buttons on the control panel. We have already learned the power button, which you found in the lower left corner.

Direct your attention toward the lower middle part of the control panel. There you will find a circular dial with a ridged edge. This is the **zoom control dial,** which controls magnification. Turning this dial clockwise will increase magnification, while turning it counter clockwise will decrease magnification. Turn the zoom control counter clockwise to the start position to obtain minimum magnification now. The pointer will be at the 7 o'clock position when the dial is at the start position. In the lowest magnification you can almost see a full A3 page.

The minimum zoom level is not primarily intended for reading; rather, it provides you with a better overview on the document structure. Thus you can easily find the position you want to view at higher magnifications.

If you are in a higher magnification rate, you can push and hold the zoom control dial and the zoom will be decreased to its minimum, to give you an overview of the page. After releasing the button, it will go back to the original zoom range. *(From Firmware Version V.23)*

Now, press the **picture button** . This button is located to the right of the zoom control dial. Pressing this button will set Visio 500 to true color.

The true colors are ideal for viewing images and also serves well for reading poor quality print, and for writing or filling in forms. It provides all natural colors in all shades.

If a PC is connected and you see the PC image on the screen, the picture button will switch back to the camera image.

Now, move the reading table until you see one of the images of your document appear on the screen. If the image is too small, increase the magnification by turning the zoom control clockwise. If you get lost and do not know where you are on the document, decrease magnification, find your place on the page, and then increase magnification again.

NOTE: if you are using high levels of magnification, you may find it easier to increase magnification in increments, make adjustments to the placement of your document, and then repeat. If you move quickly from the smallest to the largest magnification, what was once in the middle of the screen will have disappeared.

Move the paper to a position where you see some text on the display.

Now press the **text button** . The text button is located to the right of the picture button it is the second button to the right of the zoom control dial. The image will be displayed in high contrast now and in two false colours only.

Press the Text button again to reverse the image. In this mode, letters are much clearer and brighter with higher contrast, whereas in true colors you see all colors and shades of grey.

You see the difference? Black on white and white on black or any other false colors in Text mode will show crisper characters in higher contrast, whereas the true color mode shows you real colors and all shades of grey.

If a PC is connected and you see the PC image, the text button will switch back to the camera image.

You do not like the colours shown in text mode? No problem! Let us change them. You have a selection of seven false colour combinations and with reversing foreground and background you will have 14 different colour options. Try out by pressing the **false colour button** . This is the rightmost button on the control panel. Each time you press it, the colours will change. After you went through all 7 options it will start over again. If you want to reverse foreground and background, press the text button.

The available false colours are black-white, black-yellow, black-cyan, black-green, black-magenta, blue-white and blue-yellow.

Select the colours you prefer with the false colour button and press the text button for reversing foreground and background until you find the option you prefer.

In picture mode, the false colour button has a different function. There you may change the white balance. Press this button to toggle between a warm reddish white, especially for viewing photos, a neutral white or a cold bluish white that is good for reading coloured texts.

Now choose the setting you prefer for reading. Take all the time you need to find out the best setting for your needs. Most users prefer white characters on black background.

Note: Visio 500 remembers the last used color setting when switching between picture mode and text mode, even when you turned it off.

Note: The false color button only works as described above, if no PC is connected. In case you have connected a PC to the HDMI input of Visio 500, the false color button will function as a switch between split screen options and full PC image. If you want to change the false colors instead, press picture button and false color button at the same time.

If you are in real color mode and press the false colour button, you can adjust the color temperature. You can choose between the three modes warm, normal and cold color temperature.

10.3   Alternative set of false colors

Visio 500 comes with two sets of 7 false colors each. The standard set has very bright intense colors, with high contrast. This is appropriate for most users. The standard colors are: black-white, black-yellow, black-cyan, black-green, black-magenta, blue-white and blue-yellow.

For special needs, there is a second set of softer colors with less contrast. This is especially helpful if you are sensitive to blinding effects from high intensity light.

The alternative colors are: black-white, black-ivory, black-soft yellow, black-soft peach, black-soft pink, blue-ivory, blue-white.

To switch between the two sets, press picture button and Text button simultaneously while pressing the power button on power on. Visio 500 will remember this setting, so you only have to do this once.

Now that you have found your preferred settings, let us try to read some more complex examples with poor quality print. In most cases, the automatic contrast feature in Visio 500 will magnify your document and present it in high contrast with crisp characters. Sometimes however, the automatic contrast will not find the best setting. That may likely happen with documents where the print quality is poor, or with colored characters that are printed on a colored background. In these cases you may want to experiment with the **Image Optimiser** button to find the best settings. This is the third button from the left, directly left to the zoom knob. The image optimiser button selects one of four levels of optimisation. So if you do not get a good quality representation on Visio 500 display, simply press this button several times until you get the best result.

This button works in picture mode as well as in text mode.

> **Note:** You will often find the previous setting was the best one, so the trick to get one step back is by pressing the button three more times.

10.4   Switch off light

When reading glossy paper or self-lighted displays like such of mobile phones, then Visio 500's light may cause reflections or blinding effects on the camera image. In such cases you should switch off the light by a long press on the image optimizer button . One more long press will switch the light back on again.

10.5   Autofocus

Visio 500 has a permanent autofocus which is always active at power on. That means, no matter how thick a book or how curved a page might be, Visio 500 will always focus on the part displayed and thus always present a sharp image on the display. This feature is also helpful when reading text on a curved surface, such as a can or a medicine bottle. So this is the setting you usually will prefer.
However, sometimes you want to fill in forms or crossword puzzles or you want to paint your nails or view three-dimensional objects. This is where fixed focus comes into play.

First, let us find that button. The auto focus button is the second button from the left. Press it to toggle auto focus on and off. On the screen "AF ON" or "AF OFF" will be displayed for a few seconds respectively.

Let us test how this works. If you have already played with this button, press the Auto Focus button once or twice and check for "AF ON" being displayed to make sure, automatic focus is on. Visio 500 will magnify the document on the reading table and display a sharp image. Put your hand on the document now. Visio 500 will magnify your hand and you see the skin of your hand is focused now while the characters on your document are blurred. The same may happen when you want to fill in a form.

Instead of showing sharp letters, Visio 500 may focus on the back of your hand holding a pencil. If you remove your hand, the characters are sharp again.

So let us try the same with fixed focus now. Place a form on the reading table. If Visio 500 does not show sharp characters, press the auto focus button. "AF ON" will be displayed. Now that the characters are sharp, press the Auto Focus button again to switch it off. "AF OFF" will be displayed. If you fill in the form with a pencil now, Visio 500 will always stay in focus on the characters and not on your hand. Once finished, do not forget to turn auto focus on again by pressing the Auto Focus button.

10.6   Guiding line & curtain

Guide line
If you prefer a guiding line on the screen to help you keep track of a text line, press the zoom button until you see a colored guiding line on the screen. Use the left slider to change the line position.

If you want to choose the color of the guideline, press picture button and color mode button at the same time. The color of the guide line will be saved together with the color combination that is used. The next time you choose this combination the guideline will have the chosen color.

Press the zoom button again to cycle through curtain, full screen and guiding line.

Curtain
If you are blinded or irritated by too many text lines on the screen, press the zoom button until you see a curtain. The curtain shades the upper and lower part of the screen. Use the right slider to change the height of the text remaining. It is ideal to have it as high as one text line.

11 Using Visio 500 in force sensor mode

The other important reading table mode is the force sensor mode. In this mode the reading table is locked in the y-direction. The movement in y-direction is now done by the camera. Force sensors in the reading table control the camera movement. The reading table has to be pushed and pulled on the front to use them. The stronger you push or pull, the faster the camera will move.

A big advantage of this feature is the new space that can be used in front of the Visio 500. For example a keyboard can be placed in front of the reading table.

So how to put Visio 500 in force mode. First of all set the reading mode lever in horizontal position. Now move back the reading table to the back of the Visio 500. It should lock in now. Make sure that the brake in front of the reading table is not activated when using force sensor mode. This means the front lever is in leftmost position. Also the damper for the Y-direction should be disengaged.
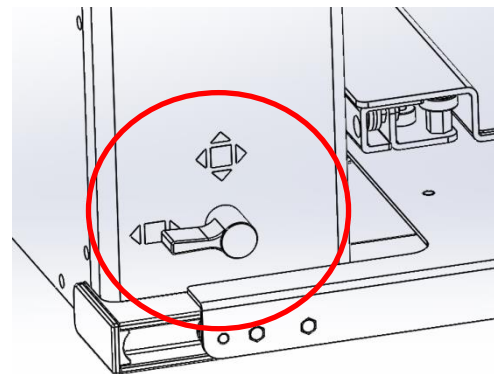
The Y-movement is blocked, the camera moves instead when you push or pull against the reading table. The faster you push or pull the faster the camera moves.

Also in force sensor mode the camera can be moved in fixed positions with the smaller buttons on the back of the screen. This is used for a faster navigation through the page especially in high magnification ratio.

For example if you want to navigate to the top of the page in a high magnification press the button on the monitor to quickly move the camera in position instead of pushing the reading table.

If you want to use the classic reading table mode again, just put the reading mode lever back in upright position.

12 Visio 500 as a PC-Workplace

Visio 500 is ideal to be used together with a PC. This means it is used best on a workplace but also at your private work space. If you connect Visio 500 to a computer as an external monitor it is a space-saving, integrated solution to work with.

The monitor of Visio 500 is now used to view the camera picture and the PC-screen at the same time. You are able to switch between the PC and the camera or use them in split screen.

In most cases the PC is used with a magnification program to magnify the PC screen, for example COBRA Zoom or ZoomText™.

12.1 Connecting a PC

Connection between a PC and Visio 500 is very easy. Just connect a HDMI cable to both devices. This means you have to use the video output port on your computer and connect it to the HDMI-Input port of Visio 500. It's now like using Visio 500 as a separate PC screen. The HDMI Ports are on the right side of Visio 500. HDMI input is the upper one.
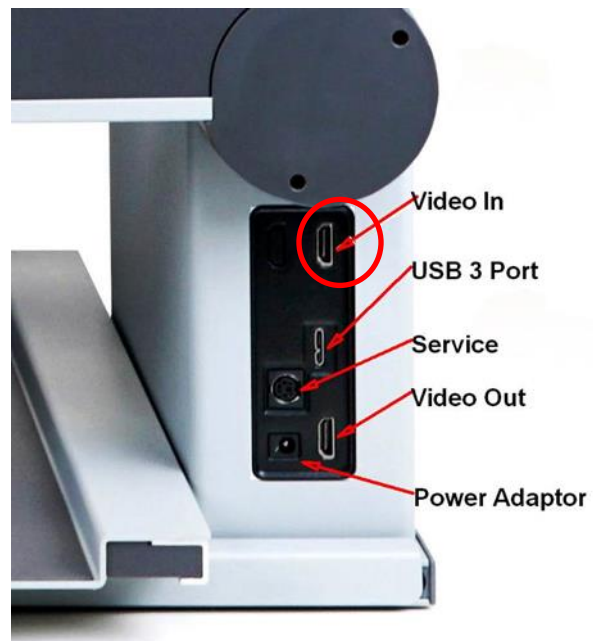
As soon as a connected device is recognized by Visio 500 a symbol on the screen is shown for a few seconds.

If a PC is disconnected or switched off, Visio 500 again shows a symbol for a few seconds.

12.2   Using Visio 500 with a PC

Split Screen
The PC screen can be shown on the Visio 500 display in either full screen or in a split screen together with the camera image. In General there are to different split screen modes: horizontal and vertical split screen. *(From Firmware Version V.24)*

You can switch between those by pressing and holding the false colour button, which is the rightmost button on the Visio 500.

If a PC is connected, a short press on the false color button does not change colors, but cycles through the three split screen modes instead.

In horizontal split screen mode the screen can be arranged in the following ways:

- Fullscreen PC image
- Spit screen (PC image on top)
- Split screen (PC image on the bottom)

The horizontal split ratio is variable and is adjusted with the right slider on the bottom of the Visio 500 display.

In vertical split screen mode the screen can be arranged in the following ways:

- Fullscreen PC image
- Spit screen (PC image on the left)
- Split screen (PC image on the right)

The vertical split ratio is variable and is adjusted with the left slider on the bottom of the Visio 500 display.

If you want to see the camera view again press the picture button.

Adjust the split screen (vertical)   Adjust split screen (horizontal)

Picture button   False color Button
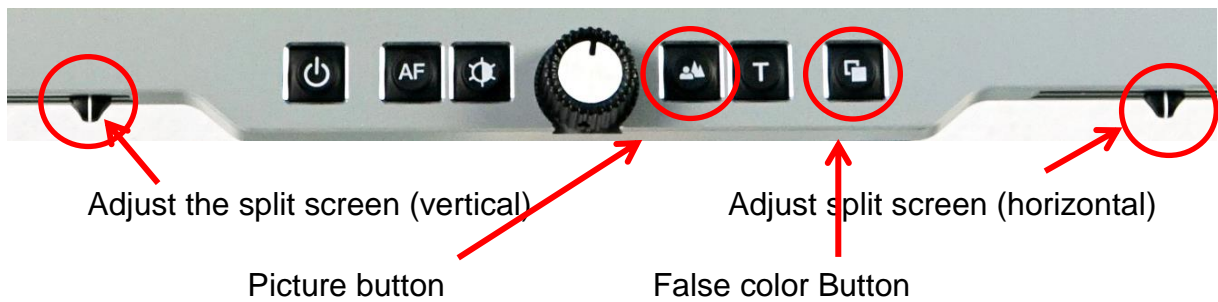
If the color combination should be changed while Visio 500 is connected to a PC, you have to press text button and false color button to switch through the different color combination. That is required because the rightmost button alone is used to change the split screen mode now.

1 + 2
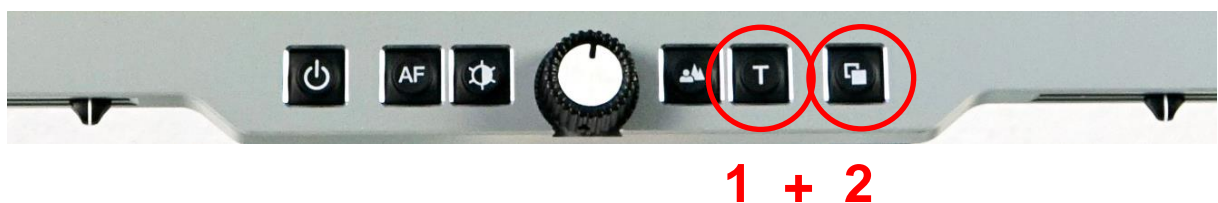
If you wish to see magnified text or images from the PC, it will be necessary to install and use a screen magnification tool such as ZoomText.

12.3 External connections

Visio 500 provides five sockets to connect external devices. All five sockets can be found at the side of Visio 500.

Video In

USB 3 Port

Service

Video Out

Power Adaptor
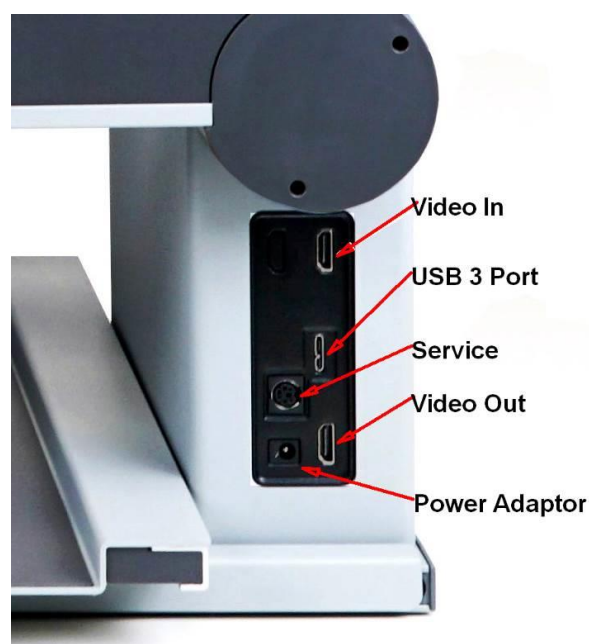
HDMI Video input

This HDMI socket is for connecting a PC or another video source like an external camera with DVI-D signal in Full HD 1920x1080 Pixel resolution at 60 full frames per second. The image will be shown on Visio 500's display. (Copy protected video signals are not supported).

Use the false colors button to cycle through external video source full screen, split screen with external source in upper part and camera in lower part of the screen or external source in lower part and camera in upper part of the screen.
Use right slider to change split ratio.
Use Picture button or Text-Reverse button to select camera full screen.

If an external source is connected or disconnected, the following icons will show on the screen for a few seconds:

  External device connected

  External device disconnected

HDMI Video output

This HDMI socket provides a DVI-D signal with a Full HD resolution of 1920x1080 pixels at 60 full frames per second. It is for connecting an appropriate display with HDMI input or – by using an adaptor – DVI-D input. The monitor must support the above resolution. The image will be shown on the external display as well as on Visio 500's display.

USB Output

This micro USB 3.0 socket is for connecting a PC and feeding the image into a PC. Use this to make snapshots. Visio 500 will be recognized as a standard camera device by Windows XP, VISTA, 7, 8, 10 and a MAC. No special drivers are required. The video signal is Full HD 1920 by 1080 pixels at a full frame rate of 60Hz. Smaller resolutions are available for slower PCs which cannot handle HD video.

You may also connect a micro USB 2 cable to the micro USB 3.0 socket, if your PC does not support USB 3. This may reduce image quality however as USB 2 cannot handle the full HD signal bandwidth.

Use a standard program like Amcap or VLC player to view images transferred from Visio 500. You may also save still images and videos. A special video software named "Visio Capture Tool" is available for free.

12.4   Connection Visio 500 via USB

Visio 500 can also connect to a PC via USB. Visio 500 will be recognized as a standard camera device by Windows XP, VISTA, 7, 8, 10 and a MAC. No special drivers are required.

You can use a standard program like Amcap or VLC player to view images transferred from Visio 500. You may also save still images and videos with external software. There is no special software delivered with Visio 500.

If connected via USB, Visio 500 can also be used as a camera together with magnification software like ZoomText™.

12.5   Using an external Display with Visio 500

To connect the Visio 500 for example to a bigger screen, there is a HDMI-Output port. This port is marked as "video out" and is the lower one of the two HDMI-ports.

Connect Visio 500 via HDMI-cable with the external screen to transfer the camera picture to the screen. You can see exactly the same picture as shown on the Visio 500 screen.

13 Common problems and solutions

In the unlikely event that Visio 500 is not working properly, first try some of the solutions below in order to address the problem. If this does not help, please switch Visio 500 off, unplug the power cable from any power source, and contact our service department.

Mechanical brakes of Monitor arms do not release. Display only moves by force.

Brakes do not release until transport lock is unlocked. If this is not the case, the monitor shows the following symbol:

To unlock, move the transport lock slider in the back of Visio 500 to the right towards the middle of the device. It moves more easily, if the monitor arms are pushed down slightly below the horizontal position.

Transport lock cannot be unlocked.

To unlock, move the transport lock slider in the back of Visio 500 to the right towards the middle of the device. It moves more easily, if the monitor arms are pushed down slightly below the horizontal position.

In force sensor mode, the camera does not stop immediately or starts moving by itself.

In force sensor mode, the reading table brakes must be released by pushing the front lever on the reading table to the leftmost position. Also, the y-damper must be disengaged. Slide reading table to the left and turn knob counter clockwise to 9 o clock position.

False colors cannot be changed.

If a PC is connected, you have to press and hold the text button and then press the false color button to change colors.

The reading table con only be moved by force.

Either the front lever brake is in right position or the dampers are engaged. The two dampers can be found under the reading table when moved to the left- or rightmost position. Turn them counter clockwise to the 9 o clock position to disengage them.

When a PC is connected, the camera image does not show in full screen.

Press the picture button.

PC image does not show.

There are two HDMI sockets. The input is the upper one. Use false color button to show PC image. Visio 500 shows a symbol if an external device is discovered.

Display and light remain dark
Please try to switch Visio 500 on again. If this does not help, make sure power adaptor is connected to both Visio 500 and wall outlet and that wall outlet is live. You may want to connect another device to the wall outlet to check.

Are all plugs seated properly in their sockets?
Are you using the correct power adaptor?

Image is blurred
Check if camera lens dirty.

Turn zoom knob in middle position.

Press Auto focus button. It must show „AF ON", else wise press again.

Document cannot be read
Turn magnification dial clockwise to make sure the problem is not magnification set to a level that is too low. Try changing the **False Colors-Picture** button to view your document in a different setting.

Try different settings of image optimiser button.

Letters are flickering

Increase the magnification by turning the magnification control clockwise.
Try different settings of the **False Colors-Picture** button.

Try different settings of the **Image optimiser** button.

If your issue is not listed here, please contact us:

VisioBraille GmbH
Ossmaritzer-Strasse 4c
D-07745 Jena
Germany

Phone: +49 (0) 3641 2816-400
Web: www.visiobraille.de
Email: info@visiobraille.de
Email Service: service@visiobraille.de

14 Defects and Repair

What to do if Visio 500 stops working properly:

- Did you check all settings and connections according to the manual?
- Did you remove the protective plastic film from the camera lens?
- Is Visio 500 plugged into a live power outlet?

If Visio 500 is not working, please disconnect from any power outlet, discontinue using the device, and contact VisioBraille GmbH or your authorized VisioBraille GmbH dealer.

To contact VisioBRaille GmbH please refer to the contact information below.

We will help you first troubleshoot your Visio 500. If we determine that your device needs to be returned to us for repair, you will need to pack the Visio 500 in its original packaging. If someone is assisting you, please show them this manual so that they can refer to the proper instructions for folding and packing Visio 500, which can be found further down this page.

Service Contact Information:

VisioBraille GmbH
Ossmaritzer-Strasse 4c
D-07745 Jena
Germany

Phone: +49 (0) 3641 2816-400
Web: www.visiobraille.de
Email: info@visiobraille.de
Email Service: service@visiobraille.de

15 Service box

For shipping Visio 500 in the service box, proceed as follows:

- Put camera and display in transport position and lock transportation lock (see chapter "Transporting Visio 500")
- Switch off Visio 500
- Unplug from any power source
- Put Visio 500 into padded service box.
- Do not forget to add power supply and cable.
- Close the box.

15.1   Transporting Visio 500

Before moving or transporting Visio 500, make sure it is properly setup for transport. That means, put camera and display back in transport positions, lock all transportation lock mechanisms and set all mechanical controls in transports positions. In transport position Visio 500 can be lifted on the locked monitor arms.

Attention:
Never lift Visio 500 at the reading table. It can be damaged!
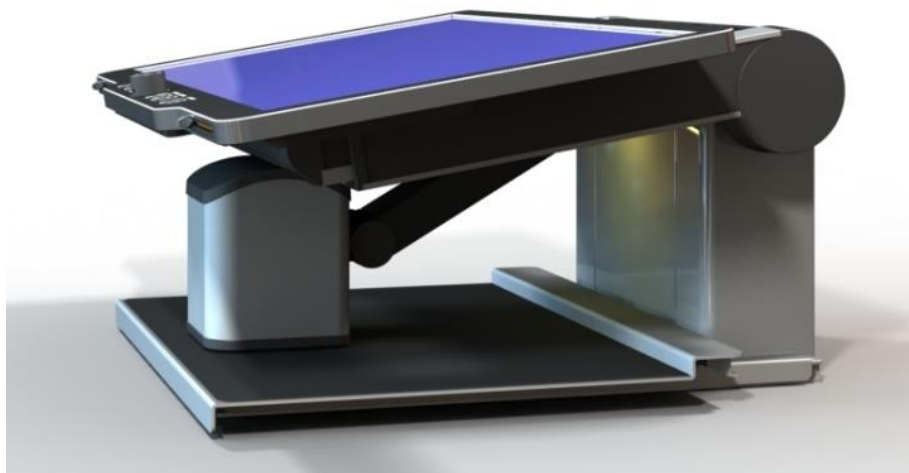
Please power on Visio 500 bevor performing the next steps

First of all make sure the device is in reading table mode, which means that the reading table can be pushed and pulled in all directions. To do this the reading table mode lever at the left side of Visio 500 must be in upright position (XY-mode).

Now move back the reading table to the back of Visio 500 and centering it. Now make sure the XY-table lever at the front is in locked position (rightmost setting). The reading Table should be fixed now.

After that, put the camera in transport position. To lower the camera arm there should be enough space between Monitor and back of the device. That's why you have to pull out the monitor a bit.

Release the monitor arm locks by pressing the big button on the back of the monitor and pull out the monitor towards you.
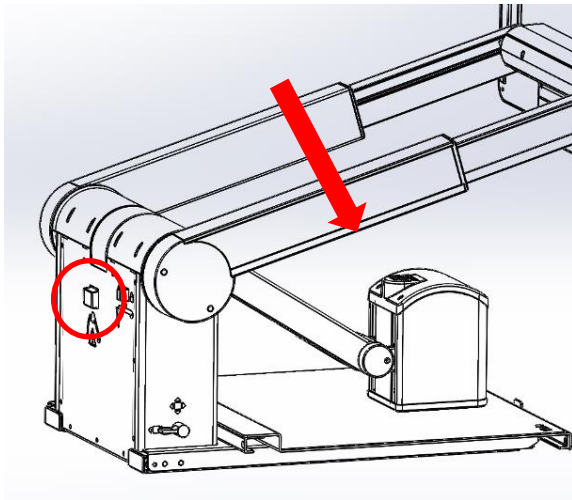
To put the camera back in transport position, slightly lift the camera and press the transport lock button on the center back of the device. Now you can move the camera arm down. The camera angle can be adjusted manually so it sits flat on the table. Do not forget to put the soft pad between camera and table.

Now we move the monitor arms back in and move them slightly down below horizontal position. Please press the buttons on the back of the monitor to release the monitor arm locks.
Now you should be able to push the transport lock for the arms into the right lock position. It is on the left side on the back of the Visio 500.
The process was successful when the monitor arms cannot be lifted beyond the horizontal position.
Now Visio 500 can be lifted at the arms.

Finally, switch off device and unplug the power adaptor. Now you can put Visio 500 into the service box. Do not forget to add the power supply.
The brake lever at the front of the reading table is in the rightmost position which fixes both movements in x- and y-direction.
The reading table mode switch at the rear left is in upright position which does not lock the y- direction.

Special Transport and Storage Precautions:
For safety reasons, this device may only be transported in its original packaging or its special service transport box. Storage must be in a dry room in its original packaging or service box. The following conditions must be met for transport and storage:

- Temperature range -10° to + 50° C
- Relative humidity 30 % to 80 %

Power cord:
Use the original power cord and power supply from VisioBraille GmbH only.

⚠ **Warning:** Use of other accessories may increase emission and/or reduce immunity.

16 Compliances

16.1 CE Conformity

This product conforms to the guidelines of the European Union and takes the CE- and ROHS Marking.

16.2 FCC Conformity

1. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
    (1) This device may not cause harmful interference, and
    (2) This device must accept any interference received, including interference's that may cause undesirable operation

2. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Roles. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

16.3   Environmentally friendly disposal according to EC-Directive 2012/19/EU
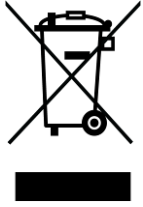
The symbol (crossed garbage can), which is also attached to the device, states that this device and its accessories, once come to the end of its lifetime, should not be regarded as household waste. An environmentally friendly way of final disposal is compulsory.

This device contains electronic components. In order to avoid risks or dangers for the environment through non-professional waste disposal, the disposal of this device and its accessories must correspond to the valid EC-Directives or other local regulations. Please check your local regulations for proper disposing of this device or consult your local distributor.

For data privacy protection reasons, please remove all personal data from the device prior to disposal.

EU Konformitätserklärung
EU Declaration of Conformity

Wir, die Firma
We, the company

VisioBraille GmbH
Oßmaritzer-Straße 4
07745 Jena
Germany

erklären in alleiniger Verantwortung, dass das weiter unten genannte Produkt
declare under our sole responsibility that the following product

Geräteart/*Type of product:*   Elektrische Lesehilfe / reading aid

Handelsmarke/*Trademark:*   VisioBraille

Modell *Model*	Artikelnummer *Article-no*	weitere Angaben *further details*
Visio500	-	keine Batterie / not battery operated

die grundlegenden Anforderungen der aufgeführten EU-Richtlinien erfüllt:

| 2014/30/EU | Richtlinie über die elektromagnetische Verträglichkeit |
| 2011/65/EU | Richtlinie zur Beschränkung bestimmter gefährlicher Stoffe in Elektro- und Elektronikgeräten |

meets the essential requirements of the following EU-Directives:

| 2014/30/EU | Directive on Electromagnetic Compatibility |
| 2011/65/EU | Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment |

angewandte Standards und Verordnungen/*applied standards and regulations:*

EN 55024:2010
EN 55032:2012/AC:2013
EN 55035:2017

EN 50581:2012

Bevollmächtigter zur Zusammenstellung der technischen Unterlagen:
Authorized person for technical documentation:

Name/*Name*, Position: Thomas Lucas, CEO

Jena, **01.07.2020**
....
Datum/*Date*

Unterschrift/Signature

17 Warranty

VisioBraille GmbH warrants the device, effective from the date of delivery, to be free of any defects in material and workmanship. Warranty is not transferable and does not apply to groups, multi users or agencies. This device has been designed for the individual purchaser to be used in home or office environments. VisioBraille GmbH reserves the right to repair or replace with a similar or better product. In no event shall VisioBraille GmbH or its distributors be liable for indirect or consequential damages. The original users' remedies are limited to replacement of devices modules/parts. This warranty is valid only when service is done in the country of original purchase and with intact warranty seals. For additional warranty claims or service during or after warranty period, please refer to your local distributor. VisioBraille GmbH does not take responsibility for use of this device other than described in this Manual.

- Warranty on new devices is 24 months.
- Warranty on used or refurbished devices is 12 months.
- Warranty on Consumable parts (Batteries, Braille Pins, Data carriers etc.) is 6 months.
- Warranty on storage media (SD-cards, CD-ROMS, DVD's, etc.) is 90 days.
- Warranty on repairs and spare parts is 12 months.

All defects caused by improper use or users fault are not covered by this warranty.

Warranty will be void if warranty seal is damaged.

Parts replaced during repair are transferred into ownership of VisioBraille GmbH and will not be returned to the customer.

In case of repair the device must be properly packed into its original shipping box.

Costs for packing, shipping and insurance are not covered by VisioBraille GmbH.

18 For your safety

Important note: Failure to observe the following warnings may invalidate the guarantee and could cause damage of the device or serious injury.

Please check contents of package before you use the device. If parts are damaged or missing, please do not hesitate to inform your dealer.

Please keep the shipping box, so you can safely pack the device in case you have to ship it for service, etc. Improper packaging could cause loss of warranty. In case you need a new shipping box, your dealer can send you one.

Please carefully read the user manual and safety instructions before you use the device for the first time.

This device may only be used in a home or office environment.

Do not place on an instable surface. It may fall causing serious damage to the device or injury to the user. Please follow the instruction on how to place the device especially in respect to avoidance of tilting and falling down by keeping proper space to edges of table.

Visio 500 contains moving parts. Please take care when adjusting the display or moving the arms to fold the device. Injury may occur if fingers or clothing are caught in the operating mechanism. If you have difficulties in operating the unit safely, please seek advice or contact your local dealer.

Connect the power supply to a grounding-type power outlet only.

Do not use the device if you find any damages at device or wires.

If the device appears to be operating abnormally, or to be damaged in any way, please contact your VisioBraille GmbH dealer as soon as possible.

If you smell smoke or an odour coming out of the device, turn off the power immediately.

Do not try to repair the device yourself. Opening or removal of housing may cause damage or injury.

Do not allow sand or dust to come into contact with the device as this may lead to serious damage and could make repair impossible.

Use the device with clean hands only.

Do not use in locations where strong radio waves are emitted or where there is radiation. Keep a distance of at least 30cm to mobile phones.

Only use original accessories. Use of second source accessories may damage the device or cause malfunction or safety issues.

Do not use a power supply not made for this device. Only use the original power supply!

Do not use the power supply with other devices.

Avoid liquids and food near the device.

Do not use or store the device in any of the following places as this may cause damage:

- Inside cars parked with the windows closed in the hot sun.
- In direct sunlight or close to heaters, radiators, etc.
- Locations subject to severe vibration such as on top of a washing machine.
- Locations subject to strong magnetism such as near loudspeakers.
- Humid places (bath room), in water, or near water.
- In rain or snow
- Do not use or store below 0°C or above 40°C.
- Humidity shall be within 20% to 80%
- Avoid fast temperature changes

If you bring the device from cold places into a warm room, humidity may condensate. Wait until the device is dry and well-tempered to room temperature before use.

Unplug from mains before cleaning.

Wipe dust and dirt from the device with a soft cloth dampened with a diluted neutral detergent, then wipe dry with a cloth. Do not bring in contact with water.

Do not insert objects into openings.

Do not use device during thunderstorms. Unplug from mains during thunderstorms. We recommend use of an overvoltage protection adapter, which can be bought from your local electro store. Please note, this does not provide a 100% protection from overvoltage.

Do not insert or remove the plug with wet hands.

Do not heat in a microwave oven, on a cooker or similar.

Never disassemble, attempt to repair or modify device yourself.

If liquids or metal fragments should enter device, switch it off and remove the power lead immediately.

Do not pull the plug out by the lead when removing the power plug.

Avoid shock. Do not throw or let fall.

Repairs may only be carried out by VisioBraille GmbH service personnel or by service technicians authorised by VisioBraille GmbH.

Care and maintenance
Avoid damp and water.

Use only a clean, dry cloth to clean the housing. Do not use any cleaning fluids or solvents.

With extreme cold and frost the device becomes inoperable and must be brought slowly back to room temperature.

Under no circumstances must the device be warmed up or "thawed out" in a conventional oven, microwave oven or any other heating device!

Avoid any mechanical damage to the housing or accessories.

19 Technical Specifications

Magnification:
- 1.1x to 55x

Color settings:
- Full natural color mode
- Two sets of 7 false color settings each with enhanced contrast and reverse image giving 14 combinations each.
- Image optimiser in 5 steps.

Display:
- 22" (55 cm) 16:9 widescreen
- LED backlight
- Anti-glare surface
- Full HD (1080p60)
- Integrated control panel.
- Reference line
- Curtain

Display adjustments:
- Height, Tilt and viewing distance
- Electrically released brakes
- Split-Screen function when connected to PC

Camera:
- Full HD camera (1080p 60Hz)
- 30x optical zoom
- Continuous auto focus
- Fix focus for handwriting

Camera positions:
- Direct down view to base, for filling in forms
- Pivoted down view to front base with auto distortion correction, for reading with XY-table
- Mirror view

Reading table:
- Standard XY-table
- X-travel 29 cm, Y-travel 30,5 cm
- 2 disengageable dampers for x- and y- movements
- Can be fixed in y-position to use force sensors for moving camera and reading across a page in y-direction.

Connections:
- Micro USB 3.0 (Standard USB camera device),
- Video-In (Full HD, HDMI) Resolution 1920x1080p60Hz
- Video-Out (Full HD, HDMI) Resolution 1920x1080p/60Hz
- External power adaptor
- Service port

Dimensions:
- Weight: 13 kg
- 52 x 48 x 25 cm (folded)
- 52 x 48 x 52 cm (Display max. high)

Power adaptor:
- Input 100-240V AC 50/60 Hz
- Output 19 VDC / 70 W
- Power consumption in operation: < 60 W
- Power consumption in standby: <0.5 W

to see with different eyes.

products for the visually impaired - Development - Production - Sales

Visio Braille

🏭 **Manufacturer:**

VisioBraille GmbH
Ossmaritzer-Strasse 4c
D - 07745 Jena
Germany

Sales and Support:

VisioBraille GmbH	Phone:	+49 3641 2816-400
Ossmaritzer-Strasse 4c	Fax:	+49 3641 2816-416
D - 07745 Jena	Email:	info@visiobraille.de
Germany	Web:	www.visiobraille.de

Please be advised that this user guide may contain errors, and is therefore subject to being changed or updated without prior notice.