



# VarioPro 80

## User Guide

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# About BAUM

BAUM Retec AG has been a leading provider of products and services for blind and visually impaired people for more than 35 years. The high quality and innovative braille products, desktop magnifiers, reading machines, and software solutions are developed and manufactured in Germany, and are ideal for educational, professional and private use.

## Our Mission

“We believe in independence for every person who is blind or visually impaired. We passionately apply our skills and experiences toward developing solutions that reinforce success at school and work, and improve quality of life.

We always question the way things have been done in the past. We explore new and innovative ways to solve problems. Our approach includes ergonomics, thoughtful design, and materials that meet the highest quality standards. We care deeply about our customers, and help and support them as much as we can. We care about our employees too, and support them to reach their highest potential, ensuring a secure and lasting working environment.

We develop innovative technology solutions that provide independence for people who are blind or visually impaired. Our high-quality solutions allow visually impaired people to magnify their world, and blind people to access electronic and print content with speech or braille output.”

A handwritten signature in blue ink, appearing to read 'W. Baum', with a stylized flourish at the end.

Wolfgang Baum, Chief Executive

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# 1 About this user guide

This manual addresses to end users of VarioPro. The device was shipped to you as a completely assembled and tested device. In this manual you will find all information required to use your VarioPro.

The manual is a part of your device. Please read this manual with care and attention as it contains important instructions and tips with regard to operating the device and its safety. Please keep the manual always within reach of your device and do pass it on to a next owner.

Chapter 4 contains a description of the device and its power supply, and Chapter 5 contains general information and the System Menu settings.

Chapter 6 describes the installation process and gives details on how to connect VarioPro to various communication channels/ports.

Chapter 7 describes the Braille key functions under various screen readers.

At the end of the manual you will find details of our branches and our Hotline number which you are welcome to ring with questions and suggestions.

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

We hope you enjoy working with your new Braille display.

BAUM Retec AG.

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## 2 About VarioPro 80

Congratulations on buying your new VarioPro. You have just acquired a new Braille display which offers a new dimension in functionality, flexibility and adaptability.

**VarioPro** is a Braille display with 80 Braille cells designed primarily for workstation usage.

The display has universal and simple connections:

- USB: a straightforward cable connection
- COM: the standard communication channel/port for older PCs

The highly robust casing is made from light metal with an integrated non-slip plastics upper surface for installation of the keyboard. Such techniques are found in modern camera bodies and are already used in Pronto. They allow us to construct very elegant, stable and robust equipment.

The VarioPro Braille displays allow additional modules to be attached – a new milestone in the development of useful equipment for blind PC users. Their outstanding feature is the combination of the most up-to-date technology with a tried-and-tested simple design.



## 3 Before you start

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

### 3.1 What's in the box

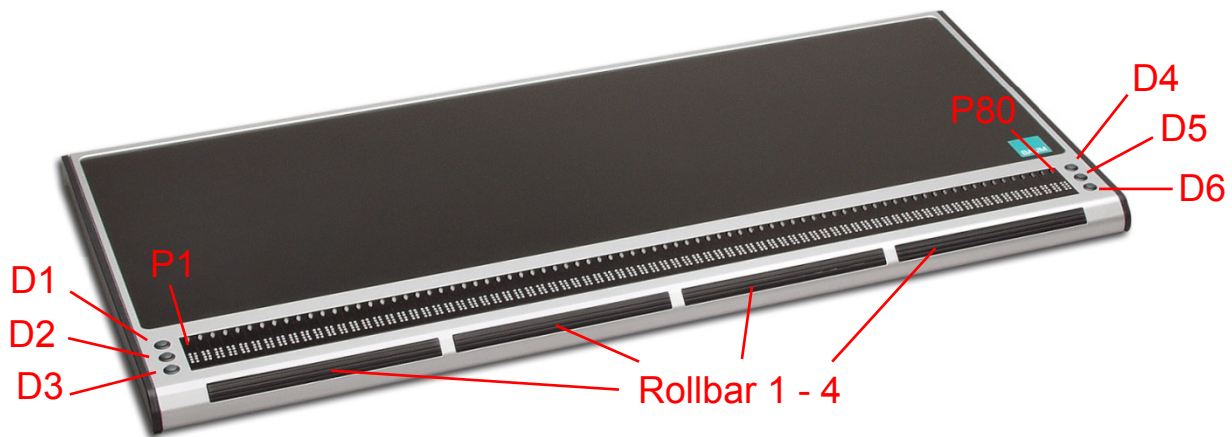
- 1 VarioPro Braille display
- 1 power adaptor
- 1 mini USB cable
- 1 Serial cable
- 1 users guide

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

Carefully read manual and safety instructions before you use VarioPro.

## 4 Description of the device

### 4.1 Keys and operators



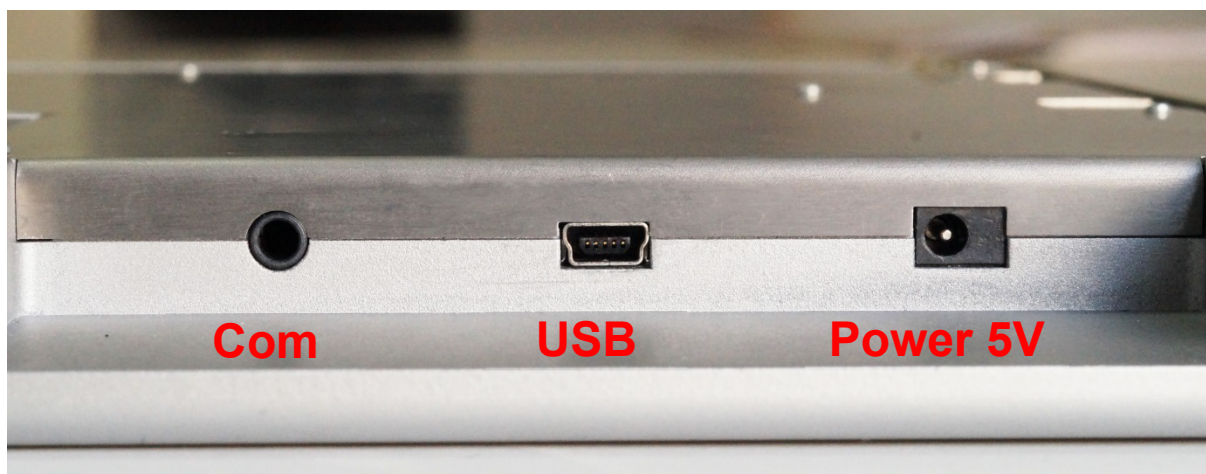
VarioPro does not require its own on/off switch and is powered from the PC or from the mains adapter. As soon as VarioPro receives power it switches itself on and emits a corresponding tone.

On the front are the 80 Braille cells of VarioPro 80. Above each cell is a cursor routing- or positioning-key P1 – P80).

On both the left and right of the Braille cells are three small round keys, known as Display keys. On the left they are numbered D1 to D3 from top to bottom, and on the right D4 to D6 from top to bottom (cf the numbering of the Braille dots) and can be pressed individually or in combinations.

On the front edge there are wide cylindrical 'Rollbars'. They are easy to use with the thumb and allow upward and downward movement with perceptible and quiet switching movements.

The functions of the operators vary according to the screen reader used (COBRA, JAWS or other screen readers).



The communication channels/ports are located in the recess at the back of the device on the right, approximately 2cm deep. On the far left is the round socket for the COM port; in the middle the square socket for the USB port (mini-USB port) and on the far right the mains adapter socket (5 volt).

The non-slip plastics upper surface is an ideal support for the PC keyboard.

The cover on both ends can be unscrewed to allow additional modules to be connected, thus allowing VarioPro to be adapted to suit your needs. The modules can be connected to the left or right of VarioPro. Several can be connected together (see Chapter 9).

## 4.2 Mains adapter and power supply

VarioPro Braille displays are powered from the PC with a USB cable connection. When using the COM port the mains adapter must be used to acquire the correct level of power: insert the adapter's small plug into the right-hand socket on the back of the device and then plug the adapter into a mains outlet. Please use only the original 5VDC mains adapter for VarioPro to avoid possible damage.

**NB!**

Under no circumstances should the adapter from an older Vario40 or Vario80 be used, as they work at a much higher voltage which will almost certainly damage your VarioPro.

## 4.3 Theft protection (Kensington Desktop MicroSaver)

To protect VarioPro from theft, particularly where it is used in a public area, the optional Kensington MicroSaver can be installed. VarioPro's casing has been specially designed so that it can be installed.

Kensington is the industry standard anti-theft device for computers (it can be bought in specialist shops).

**It consists of the following:**

- MicroSaver (1.8m steel cable with a locking mechanism and 2 keys)
- 3 stick-on anchor plates which can withstand 370kg of pull
- Fixing kit (cleaning pad, special glue).

**Install as follows:**

- On the underside of the main VarioPro module there is a circular recess with a positioning stud where the anchor plate is to be stuck
- Instructions for sticking the plate are included with the Kensington MicroSaver
- The steel cable threaded through the anchor plate is then pulled out through a gap at the back of the casing.

## 5 The VarioPro System Menu

As soon as VarioPro receives power, either by plugging in the mains adapter or connecting it to a PC with the USB cable, the first line of the System Menu appears on the Braille cells. This menu contains information relating to the Braille display.

If necessary, the settings can be changed on the advanced System Menu.

Usually you will pay no attention to the System Menu, as it disappears as soon as data are transferred from the PC to the Braille display or your screen reader reads out some text, so that you can work with the Braille display.

The basic System Menu consists of three lines giving the name of the device, its serial number, the communication channel/port being used, and the protocol/emulation used.

It will often prove necessary to install special settings or values, which must be done on the advanced System Menu which can be accessed directly with its own key combination.

The lines in the System Menu can be accessed upwards with D1 (top left), and downwards with D3 (bottom left). Whenever the System Menu is called up the first line will be displayed.

Items can be selected in the advanced System Menu by pressing one of the cursor routing/position buttons above the displayed option. The active or selected item is indicated with Braille dots 7 and 8.

The lines of the System Menu will be described below.

To quit the advanced menu, browse through to the “Menu off” option and press a cursor routing/position key over the word “off”; this is done automatically as soon as data has been exchanged between the PC and the Braille display.

All settings are automatically saved when quitting the System Menu and remain active until next amended.

**NB:**

How do you open the System Menu when VarioPro is connected to the computer? Interrupt the power supply briefly by pulling out the USB cable or mains adapter cable and plugging it back in.

The connection between VarioPro and the computer application will thus be lost and the System Menu will appear. Then simply move the cursor to quit the System Menu and return to the previous application.

If the System Menu keeps disappearing because the screen reader is constantly exchanging data, either close the screen reader down or interrupt the USB connection and connect the mains adapter.

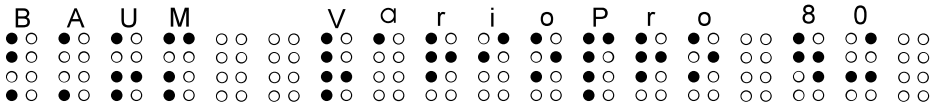
## 5.1 The basic System Menu

### 5.1.1 First line: Name of the Braille display

This is the first entry in the System Menu. It displays the name of the Braille display.

**Menu 1: Device Name**

BAUM VarioPro 80



## 5.1.2 Second line: Status

This shows the communications channel/port in use, the protocol (emulation) and the version number of the software.

### Menu 2: Status

Status: ccc pppp ver.xxx

S t a t u s : c c c p p p p v e r . x x x

ccc = communication channel (auto, USB or serial (COM))

ppp = active protocol

ver.xxx = software version

## 5.1.3 Third line: Serial number

This shows the serial number of the Braille display

### Menu 3: Serial number

Serial number: xxxxxxxx

S e r i a l n u m b e r : x x x x x x x x

## 5.2 The advanced System Menu

The additional options here allow you to optimise the set-up of your Braille display. You can select the communication channel/port and protocol (emulation), change the values of the auto-power-off and volume, or restore the factory settings.

All settings are saved as soon as you quit the System Menu.

All current and selected settings are indicated by Braille dots 7 and 8 underneath the relevant value.

To select, simply press one of the cursor routing/position keys above the relevant value.

Open the advanced System Menu by first pressing and holding both outer cursor routing/position keys, and then both upper display keys (P1, P80, D1, D4). Keep holding all four keys for at least 5 seconds or until the device beeps.

The menu will open at the last entry “Menu off”; use D1 and D3 to browse through the menu options.

### 5.2.1 Fourth Line: Protocol / Emulation

The protocol (emulation) can be set here. The following protocols are available:

default (the new BAUM protocol)

vario 80 (old BAUM protocol)

ht (Handy-Tech)

pb1 (PowerBraille)

pb2 (PowerBraille)



## **Menu 4: Protocol**

Protocol: default vario80 ht pb1 pb2

P r o t o c o l : d e f a u l t v a r i o  
8 0 h t p b 1 p b 2

Usually, use default. If your Screenreader does not support VarioPro, try one of the other protocols.

### **5.2.2 Fifth line: Communications Channel**

Select the port to be used for data transfer between the PC and the Braille display. 'Auto' is the default setting which means that the correct port will be selected automatically.

## **Menu 5: Comm. Channel**

Comm. channel: auto usb serial

C o m m . C h a n n e l : a u t o u s b  
s e r i a l

### **5.2.3 Sixth line: Auto-power-off**

Set the duration after which the Braille display will shut down automatically, when no more data are transferred and no keys pressed. The options are: 5 minutes, 15 minutes, 1 hour, 2 hours, never. Press the cursor routing/position key above the desired setting (15 minutes is the standard).

## **Menu 6: Auto-power-off**

Auto-power-off: 5min 15min 1h 2h never

A u t o p o w e r o f f : 5 m i n 1 5  
m i n 1 h 2 h n e v e r

### 5.2.4 Seventh line: Sound volume

Here the sound volume can be adjusted, and the tones can be switched on and off. A sample tone will be emitted after changes to the volume are made.

## **Menu 7: Sound volume**

Sound volume 0 1 2 3 4 5

S o u n d v o l u m e : 0 1 2 3 4  
5

### 5.2.5 Eighth Line: Dot strength

The strength with which the pins in the Braille cells are set can be amended here, i.e. set them to feel hard and sharp, or soft and round.

## **Menu 8: Dot strength**

Dot strength: 1 2 3

D o t s t r e n g t h : 1 2 3

## 5.2.6 Ninth Line: Rollbars

Here you can switch off the Rollbar function.

### **Menu 9: Rollbars**

Rollbars on off

R o l l b a r s   o n   o f f

## 5.2.7 Tenth line: Factory settings

This option allows the Braille display settings to be restored to their status at the time of delivery. Click on one of the cursor routing/position keys above a word.

### **Menu 10: Restore factory settings**

Restore factory settings

R e s t o r e   f a c t o r y   s e t t i n g s

#### **The factory settings are as follows:**

- Comm. Channel to PC: (auto)
- Protocol: default (new BAUM protocol)
- Auto-power-off: after 15 minutes
- Dot strength: 3
- Sound volume: 3
- “BAUM VarioPro (xxxxxxx)”,  
where xxxxxxxx is the serial number.

## 5.2.8 Eleventh line: Quit menu

Press one of the position keys above the word “off”. When quitting the menu all changes will be saved automatically, and the Braille display will resume its normal user status.

### **Menu 11: Menu off**

Menu off

```
M e n u   o f f
●● ●● ●● ●● ○○ ●● ●● ●● ○○
○○ ○● ○● ○● ○○ ○○ ○● ○● ○● ○○
●○ ○○ ●○ ●○ ○○ ●○ ○○ ○○ ○○
●○ ○○ ○○ ○○ ○○ ○○ ○○ ○○ ○○
```

**All settings will now be saved automatically.**

Press one of the cursor routing/position keys above the word ”off” to execute this command. Options are saved and VarioPro is back to normal operation.

## 5.3 Self-test

The Self-test function can only be accessed from the advanced System Menu.

In the System Menu, press the first two and the last two cursor routing/position keys on the Braille display together to launch Self-test. The dots of each Braille cell will be activated one after the other and then cleared; the pressed keys will also be displayed. As soon as data have been transferred from the PC to the Braille display the Self-test will end and the display will return to normal.

Once Self-test has been launched, dot B1 then B2, B3, B7, B4, B5, etc. will be set on each cell until all 8 dots are set. They will then be cleared one by one until all are cleared. This process is then repeated.

Press and hold the keys as follows:

- D1 to set dots B2B5 in the first cell
- D2 to set dots B3B6 in the first cell

D3 to set dots B7B8 in the first cell  
D4 to set dots B2B5 in the last cell  
D5 to set dots B3B6 in the last cell  
D6 to set dots B7B8 in the last cell

Turning a roll bar moves a pattern of B2B3B5B6 to the left or right depending on the direction.

Pressing a roll bar produces a dash with B7B8 above this roll bar.

Pressing a cursor routing/position key sets B1B4 in the Braille cell underneath.

## 5.4 Switch on/off, Reset

The Braille display switches on when power is supplied to it, and switches off when the power supply is disconnected. Power is supplied either through the mains adapter with a COM port connection, or via a USB cable if VarioPro is connected to the PC's USB port. Appropriate tones are emitted when the display is switched on and off. There is no on/off switch.

When communication ceases with the PC and no keys are pressed on the Braille display, the device will switch off automatically once the 'auto-power-off' time span has elapsed. The elapsed time will be reset to 0 whenever a key is pressed or data transferred from the PC.

When the device is switched on and either a USB or serial connection established, if the connecting cable is pulled out or the PC switched off, the device will switch off after 1-2 minutes provided no valid signal is transmitted.

When the device is switched off and the USB cable is inserted, the device will 'wake up'.

## 5.5 Firmware updates

So that you can prepare yourself for the future and always acquire the latest VarioPro developments, it is now possible to update the Braille display's software. All you have to do is to connect the Braille display to the PC and then run the update program which will automatically bring the display up-to-date. This program is so designed that the Braille display can still be used and a new update attempted should an update fail.

The update can be launched with both USB and serial connections.

During a software update the Braille display beeps every second and a status bar appears on the Braille cells.

## 6 Installation and connection

Please note that drivers and screen readers are constantly updated. Find the latest drivers at [www.BAUM.de](http://www.BAUM.de) or directly at the screen reader website. There you will also find the latest instructions and user guides.

### 6.1 Connection types

Depending on the operating system used VarioPro can be connected to a variety of communication channels/ports.

#### 6.1.1 Serial connection

Before connecting, make sure that the power supply to the computer is switched off.

VarioPro can be connected to one of the serial ports COM1 to COM4 with the cable supplied.

One end of the serial cable has a 9-pole so-called SUB-D plug which plugs into the serial port on the PC. It has the same trapezoidal shape as the port itself to avoid any confusion. Make sure that the power supply is cut off before plugging it in.

The other end of the cable has a 3-pole round plug, similar to that found on headphones. This end goes into the left-hand round serial socket in the recess at the back of the device on the right.

To provide power to the Braille display plug in the mains adapter. Insert the adapter cable plug into the right-hand socket in the recess at the back of the device on the right, and plug the other end into a mains outlet.

If your computer (Notebook) has Power Management we recommend that it be switched off in BIOS and/or Windows, otherwise communication problems between VarioPro and the computer may arise.

## 6.1.2 USB port

The widely-used USB port, now present on every PC and Notebook, has almost completely superseded the serial port. The main advantages of USB are its plug-and-play facility and its speed. USB devices may be plugged into, and unplugged from active devices without fear of damage. A live screen reader may not necessarily continue to drive a Braille display, however, without being restarted.

When the Braille display is connected to the PC, the new hardware will be recognised immediately and the PC will search for a driver. Insert the driver CD and let the PC search for the new driver on it. This will then be installed automatically – follow any instructions as appropriate.

The driver installation dialog may appear once again – let the PC search for, and automatically load the appropriate driver again.

### **NB:**

Installation of the driver is absolutely essential so that VarioPro can talk to the PC via the USB port.

### **NB:**

You will find the latest version of the driver for download from [ww.baum.de](http://ww.baum.de).

When VarioPro has been connected to the USB port and the driver installed from the CD supplied, the Braille display will be contacted as though connected to a serial port; the driver is simulating a so-called virtual COM port. This has the advantage that VarioPro can be used with screen readers that can only support serial Braille displays. The driver also allows for direct access to the braille display, like COBRA does.

Installing this driver means that in future a USB port on the computer will be regarded as a serial port, e.g. as COM3. To ascertain which virtual COM-port has been created, go to the Start menu on the PC, select Settings > Control Panel > System; on the 'Hardware' tab select 'Device manager' and look through the list of ports.

Insert the rectangular plug of the USB cable into the USB port on the computer.



The other end of the cable has a small square plug which fits into the USB port on VarioPro, i.e. the middle socket in the recess at the back of the device on the right.

When connecting the Braille display simultaneously to USB and serial ports, and the Com. channel setting “auto” is selected, the USB port will only supply power to the Braille display, and data will be transferred via the serial port.

## 6.2 COBRA and VarioPro (USB)

COBRA directly supports VarioPro. There is no special COBRA driver required. The device driver (see 6.1) however is required.

Make sure the communication port in VarioPro is set to USB and Protocol is Default.

Since COBRA 10 you can install a braille display while installation with the first run wizard or afterwards in COBRA menu in Braille, Braille Device.

The separate Program “Braille Control Panel” is no longer required and should therefore not be used.

To add or change a braille display do the following:

- Open COBRA menu with double left Shift key rapidly pressed.
- With cursor right go to 'Braille' and press Enter.
- With Cursor down go to 'Braille Display' and press Enter again.
- COBRA will show which Braille Displays are currently recognized.
- To add or change a braille display TAB to 'Manual Device Configuration' and press Enter.
- In the new Dialog press TAB to get to the list with all supported Braille Devices.
- Now select VarioPro 80 from the list.
- Now press TAB to select the communication port.
- Please select the port where the braille display is connected to.

- Now click on 'Add Device'.
- After some seconds you'll be taken back to the Braille Device dialog again.
- The Braille Display should automatically work with COBRA.
- If not please shut down the computer completely and restart it.
- With a click on 'OK', you'll leave this Dialog.
- And with ESC you'll close COBRA menu.

## 6.3 VarioPro and OSX

This chapter describes how to use a VarioPro with OSX Yosemite or later via USB.

VoiceOver directly supports VarioPro. You do not need a special driver. Not even a device driver has to be installed.

Proceed as follows:

1. On the Mac: open System Preferences > Accessibility and select "Open VoiceOver Utility..."
2. In VoiceOver Utility Dialog move cursor down to "Braille" and select this option.
3. In "Braille" change from tab "Layout" to tab "Displays". To do this, press TAB as often until you hear "Layout" and then move cursor right to "Displays" and select with SPACE.
4. Press TAB until you reach Braille Display Tables. Press TAB until you hear "Add" and select with SPACE.
5. Now MAC searches for devices. When VoiceOver says a new display is found, use CTRL-OPTION-SHIFT and Arrow down to "BAUM VarioPro". Press "Select" to connect.

## 6.4 VarioPro and JAWS (USB)

The latest JAWS driver is available for download from a number of different BAUM web sites, including BAUM (USA).

The download link for BAUM (USA) is

[https://www.dropbox.com/s/ecbwietdhaytmz3/BaumJfwUni\\_15.52.exe?dl=0](https://www.dropbox.com/s/ecbwietdhaytmz3/BaumJfwUni_15.52.exe?dl=0)

You can also visit our *JAWS Screen Reader* page at

<http://www.baumusa.com/support/jaws-drivers.html>

to find this and other earlier versions of the driver

If you don't install the driver, you will not find VarioPro listed among supported braille displays.

To use VarioPro with JAWS using a USB connection:

1. Install the VarioPro driver for JAWS.
2. Open the JAWS menu and go to menu Options > Braille. A dialog window appears labeled Braille Basic Settings.
3. Enter ALT+B to select Add Braille Display. You can also tab through the buttons to find and select it.
4. A new Select Components dialog window appears. Scroll down the long list of supported braille displays to find VarioPro 80. Press space to check the box for whichever display option you choose, and then press enter to move to the next window.
5. Make sure the output port is set to USB. If you specified more than one braille display you may be prompted with the same question for each display.
6. Next, select your primary device. For our example, we will pick VarioPro 80.  
Then select the Finish button.
7. Restart JAWS if prompted to do so. VarioPro should start working immediately.

## 6.5 Other screen readers

Please check the BAUM Website and the screenreaders website for a driver or an updated screen reader version supporting VarioPro first.

To use the Braille display with a screen reader for which there is currently no driver, switch VarioPro to one of the emulations for other Braille displays. In the advanced System Menu, select a suitable Braille display emulation and apply this display to your screen reader. Emulations for “Baum” (Vario 80), “Handytech” and “PowerBraille” are available. Under “port”, give the serial port to which the Braille display is currently connected (USB will be treated as a virtual serial port).

# 7 Key assignment

Standard assignments for commands and screen navigation, depending on the screen reader program.

Please use the latest list from your latest screen reader or driver version!

## 7.1 COBRA

This is a list of the most used VarioPro Hotkeys for COBRA:

D1=Navigate upwards

D2=Scroll Braille display to the left

D3=Navigate downwards

D4=Shift + Tab

D5=Scroll Braille display to the right

D6=Tab

D1D2=Cursor up

D1D2D3=Read from Cursor

D1D2D3D4=show/hide application list

D1D2D3D4D5=open/close COBRA-Quickmenu

D1D2D3D5=Return

D1D2D4=update COBRA-Data

D1D2D4D5=Grade2 on/off

D1D2D5=Help for COBRA-Command keys on/off

D1D3=show/hide unknown Graphics

D1D3D4=open/close COBRAMenu

D1D3D5=run COBRA OCR

D1D3D5D6=Focus tracking in line mode

D1D3D6=Attributes on/off

D1D4=go to top of foreground window

D1D5=switch focus tracking between element- and line mode

D2D3=Cursor down

D2D3D4D6=Navigation in line mode

D2D3D5=toggle 6-/8-dot Braille

D2D3D6=Cursor show/hide - Status

D2D4=toggle navigation between element- and line mode

D2D5=Speech on/off  
D2D5D6=Screen viewer on/off  
D3D4=Alt + F4  
D3D5D6=focus tracking on/off  
D3D6=Go to end of foreground window  
D4D5=Navigate to mouse  
D4D6=Next reading voice  
D5D6=Navigate to focus

**NB:**

You can change all hotkeys according to your own preferences.

## 7.2 JAWS

D1	BraillePriorLine
D2	BraillePanLeft
D3	BrailleNextLine
D4	BrailleToggleCursor
D5	BraillePanRight
D6	RouteBrailleToActiveCursor
D1+D3	BrailleShiftTab
D1+D4	TopOfFile
D1+D5	BrailleEscape
D1+Routing	BrailleDescribeFont
D2+D4	RouteJawsCursorToPC
D2+D5	BrailleToggleMode
D2+D6	BrailleEnter
D3+D4	StartMenu
D3+D6	BottomOfFile
D3+Routing	BrailleSelectText
D4+D5	JAWSDelete
D4+D6	BrailleTab
D5+D6	BrailleBottom
D1+D2+D3	SelectALink
D1+D2+D4	SelectAFrame
D1+D2+D5	HotKeyHelp
D1+D3+D4	MenuBar
D1+D3+D5	OpenListBox
D1+D3+D6	MuteSynthesizer
D1+D4+D5	MinimizeAllApps
D2+D3+D4	StartJAWSTaskList
D2+D3+D5	BrailleToggle8Dots
D2+D3+D6	SelectaHeading
D2+D4+D5	JawsWindow
D2+D4+D6	CloseListBox
D2+D5+D6	CloseDocumentWindow
D3+D5+D6	HotKeyHelp
D1+D2+D3+D4	PreviousDocumentWindow
D1+D2+D3+D5	BrailleAutoAdvance

D1+D2+D3+D6	SetBrailleVerbosity
D1+D2+D4+D5	BrailleGrade2Translation
D1+D2+D5+D6	BrailleGrade2ExpandCurrentWord
D1+D3+D4+D5	NextDocumentWindow
D1+D3+D4+D6	BrailleTurnMarkingOff
D1+D3+D5+D6	SaySystemTime
D2+D3+D4+D5	BrailleAltTab
D2+D3+D4+D6	ReadBoxInTabOrder
D2+D3+D5+D6	ListTaskTrayIcons
D2+D4+D5+D6	WindowKeysHelp
RollBar1 up	BraillePriorLine
RollBar1 down	BrailleNextLine
RollBar1	SayLine
D1+RollBar1	JAWSFind
D1+RollBar1 down	JAWSFindNext
D1+RollBar1 up	JAWSFindPrior
D2+RollBar1 down	JAWSPageDown
D2+RollBar1 up	JAWSPageUp
D3+RollBar1 down	DecreaseVoiceVolume
D3+RollBar1 up	IncreaseVoiceVolume
RollBar2 up	LeftWhizWheelUp
RollBar2 down	LeftWhizWheelDown
RollBar2	PressLeftWhizWheel
D1+RollBar2 down	DownCell
D1+RollBar2 up	UpCell
D2+RollBar2 down	NextCell
D2+RollBar2 up	PriorCell
D3+RollBar2 down	DecreaseVoiceRate
D3+RollBar2 up	IncreaseVoiceRate
RollBar3 up	BraillePriorLine
RollBar3 down	BrailleNextLine
RollBar3	RouteBrailleToActiveCursor
D3+RollBar3 down	DecreaseVoicePitch
D3+RollBar3 up	IncreaseVoicePitch
D4+RollBar3 down	MoveToNextSameElement
D4+RollBar3 up	MoveToPriorSameElement
D5+RollBar3 down	MoveToNextHeading



D5+RollBar3 up	MoveToPriorHeading
D6+RollBar3	SelectAPlaceMarker
D6+RollBar3 down	MoveToNextPlaceMarker
D6+RollBar3 up	MoveToPriorPlaceMarker
RollBar4 up	ShiftTab
RollBar4 down	Tab
RollBar4	SayLine
D4+RollBar4 down	MoveToNextSameElement
D4+RollBar4 up	MoveToPriorSameElement
D5+RollBar4 down	MoveToNextDifferentElement
D5+RollBar4 up	MoveToPriorDifferentElement
D6+RollBar4	SelectAPlaceMarker
D6+RollBar4 down	MoveToNextPlaceMarker
D6+RollBar4 up	MoveToPriorPlaceMarker
Control buttons of the Vario Pro StatusModule	
C1	BrailleToggle8Dots
C2	BrailleToggleMode
C3	BrailleToggleCharactersAndAttributes
C4	SetBrailleVerbosity
Control buttons of the other modules Tm = PhoneModule, Taso = TasoModule)	
Tm C1	BrailleToggle8Dots
Tm C2	BrailleToggleMode
Tm C3	BrailleToggleCharactersAndAttributes
Tm C4	SetBrailleVerbosity
Taso C1	BrailleToggle8Dots
Taso C2	BrailleToggleMode
Taso C3	BrailleToggleCharactersAndAttributes

## 7.3 Emulation of other protocols

When switching to another display protocol the key assignments are coordinated with the currently simulated display type or screen reader.

### 7.3.1 As Handy-Tech (HT)

In the Handy-Tech emulation the keys are assigned as follows:

D1 = HT-key up  
D2 = HT-key B1  
D3 = HT-key down  
D4 = HT-key B2  
D5 = HT-key B3  
D6 = HT-key B4

### 7.3.2 As PowerBraille (PB)

In the PowerBraille emulation the keys are assigned as follows:

D2 = Left PB-key  
D5 = Right PB-key  
D1 = left rocker up  
D3 = left rocker down  
D4 = right rocker up  
D6 = right rocker down  
D2D6 = convex PB-key  
D3D5 = concave PB-key

## 8 VarioPro Rollbars

Rollbars are a unique feature of VarioPro. They allow for a comfortable and efficient use of VarioPro. You can move the Rollbar and thus navigate the screen while your reading fingers never leave the braille cells. This speeds up your reading and is less distraction and thus higher efficiency.

This helps a lot while reading documents, filling in forms, navigating tables and all situations where you want to leave your fingers on the braille.

The Rollbar commands are not restricted to simple navigation. There are much more options, the Rollbars can even be programmed specifically to the application running.

### 8.1 Rollbars and COBRA

VarioPro 80 has 4 Rollbars R1 to R4. Each may be programmed individually. Each roll has three movements:

- Roll up (U),
- Roll down (D),
- Press roll (C).

Press on roll 3 is described as R3C for example.

#### **Default Rollbar commands in COBRA:**

R1C -Navigate to focus

R1D -Navigate downwards, skip blank lines, stay in same column

R1U -Navigate upwards, skip blank lines, stay in same column

R1 navigates the screen without changing it. Skipping blank lines avoids unnecessary finger movements.

R2C -Enter

R2D -Cursor down

R2U -Cursor up

R2 is the normal cursor movement. Very helpful in lists, in Explorer, Outlook, Word.

R3C -Esc  
R3D -TAB  
R3U -Shift-TAB

R3 jumps with TAB forward and backwards through forms, dialogues, check boxes.

R4C - Enter  
R4D - Win TAB  
R4U - Shift-Win-TAB

R4 allows for fast task switching. (Under Win 10 program to Alt-TAB)

## 8.2 Programming Rollbars

The default settings allow fast access to commands for advanced users. Beginners may prefer having the same commands on all four Rollbars. Having the commands for R1 on all four Rollbars would allow for fast navigation.

Open the COBRA menu by double tapping the Shift key. In menu “Extras” select “Key assignments”. There you find options to “Modify command”, “Modify key” and “Add”.

To see the current command on a Rollbar, select “Braille keys” from the listbox in the upper left. Then click somewhere in the list below. Now, press or move a Rollbar. The list will focus the command assigned.

Now, you may select “Modify command” or “Modify key”.

## 8.3 Disable Rollbars

Some users may not like the Rollbars at all. Use the advanced system menu of VarioPro to switch them on or off.

## 9 Additional modules

VarioPro acts as the base module for 'docking' various additional modules.

These modules expand the functionality of VarioPro and allow optimum use of different applications according to the user's personal preferences.

Various modules are available whose keys, buttons and functionality allow the various system requirements to be coordinated in the most efficient manner. The modules' 'building block' principle allows several modules to be attached to each other or on both sides of VarioPro. They are screwed firmly to VarioPro so that any unintentional loosening of the modules when working is avoided.

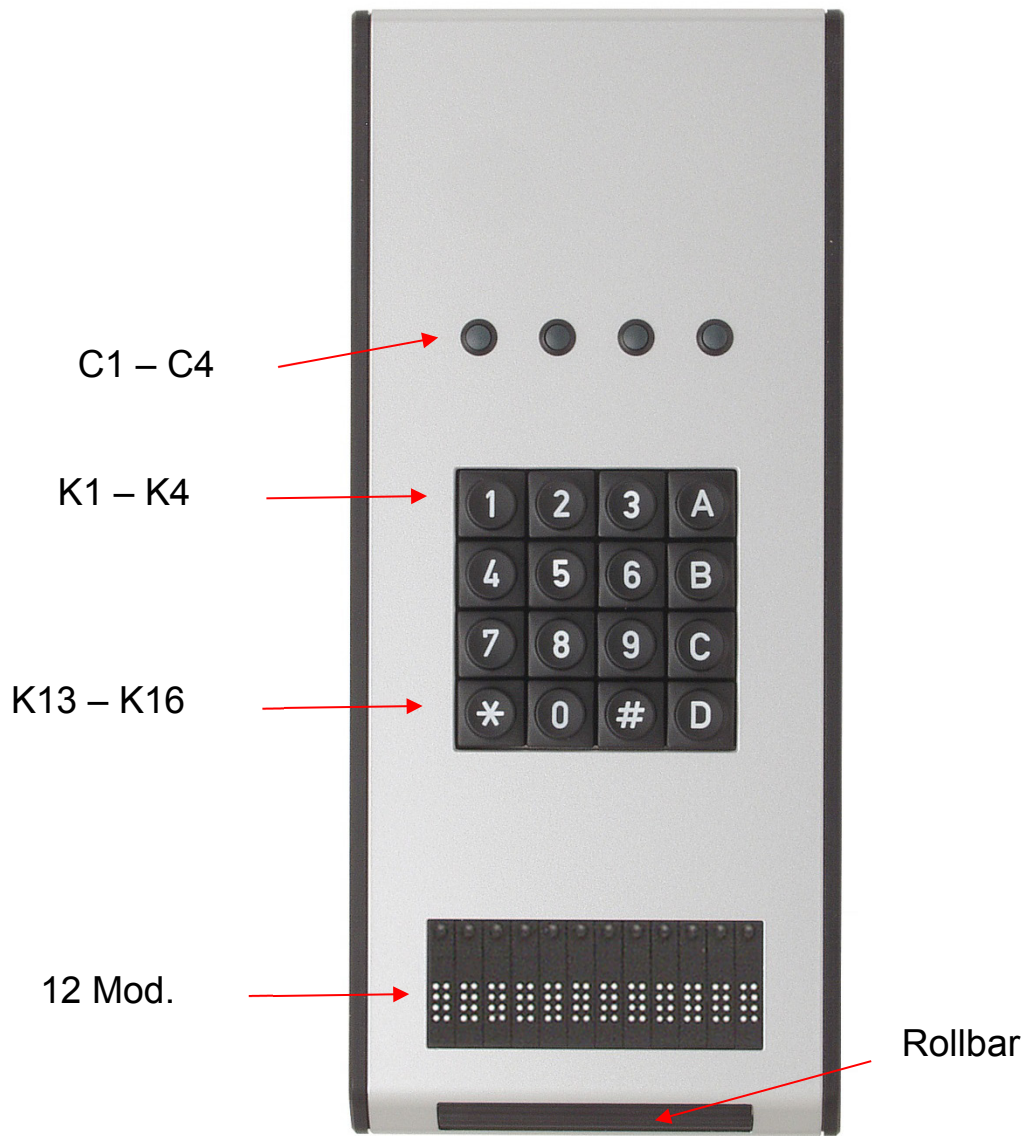
Some of the additional modules like TASO can be used as stand-alone devices without being linked to VarioPro. In such cases the appropriate driver from the installation CD must be loaded.

### 9.1 Telephony module

This is a special module for use by telephonists. It can also be set up as an advanced status module.

#### **Operators, top down:**

- 4 keys C1 to C4
- Keypad with 16 keys K1 to K16
- 12 Braille cells
- 1 Rollbar

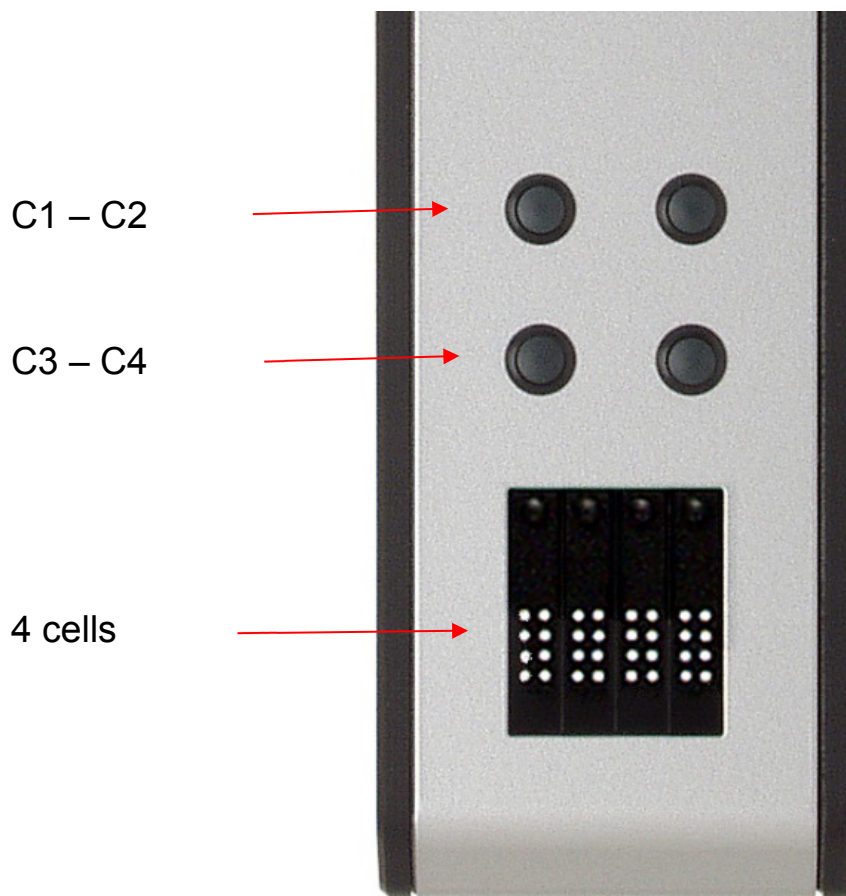


## 9.2 Status module

Displays status information on 4 Braille cells.

### Operators, top down:

- 4 keys C1 to C4
- 4 Braille cells



## 9.3 TASO Module and Column Slider

These function modules work in combination with COBRA 9 and higher. All TASO modules can also be used with another BAUM Braille display, but then lack the seamless fitting to VarioPro.

All TASO modules can also be used without a Braille display and in combination with COBRA Zoom screen magnification software.

Users of the well proven Tactile-Acoustic Screen Orientation (TASO® for short) will always know the locations and contents of the screen. The position of the sliders directly corresponds to the position on the screen. This two dimensional orientation with audio signals helps you to rapidly navigate around the screen. With the TASO module you can always control the magnification, Braille and speech outputs.

#### Technical Specifications:

Size: 104 × 260 × 23.9 mm (appr. 4.1 x 10.2 x 0.9 in.)

Functions: volume control, programmable functions, mouse clicks, shortcuts, hotkeys.

Controls: numeric keypad, rotary wheel, line slider, three configurable keys.

Requirements: COBRA 9.0 or higher for Windows 10, 8,7, USB interface, audio output.







## 9.4 Connecting the modules to VarioPro

Undo the screws on the left or right ends of VarioPro (depending on which side the modules are to be connected) and remove the black facing.



The above image shows a side view of a VarioPro. On the left and right are the deep-set screws which hold the facing on. Once these screws have been taken out the black facing can be removed. Small metal blocks are delivered with the modules which are used to secure the modules with these same screws.



The red plugs are electrical contacts between the Braille display and the module. The ribbon-cable supplied with the module is inserted into this connector. Finally, the facing can then be screwed onto the module.

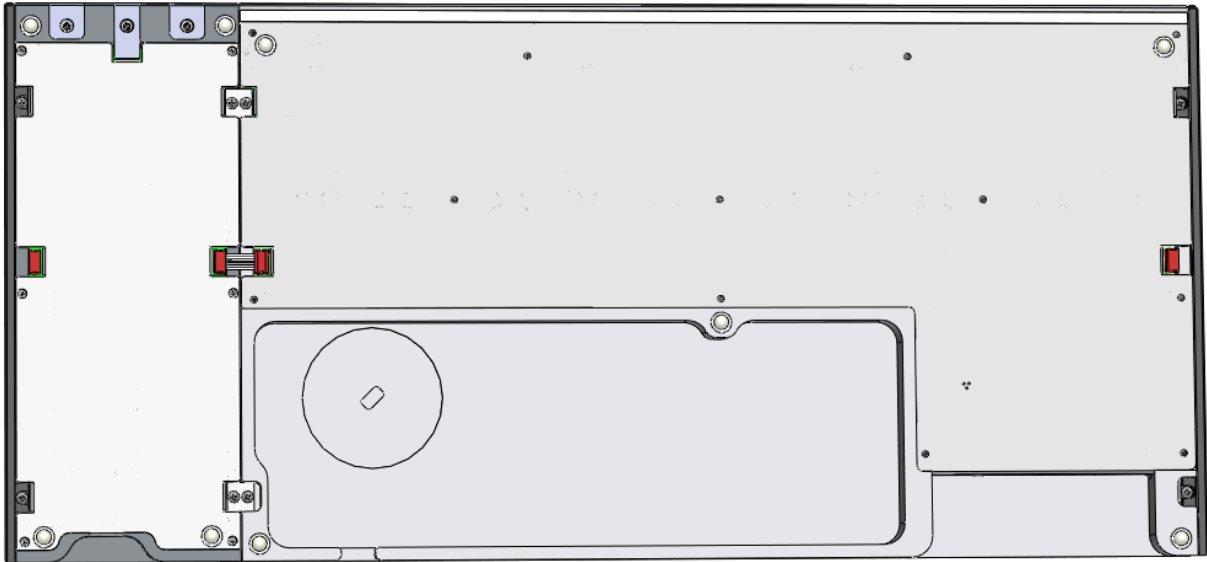
Further modules can be attached in the same manner.

The image shows a VarioPro with attached status module.



## 9.5 Assembling TASO / Column slider on VarioPro

The TASO may be mounted at right or left side on VarioPro or on further also mounted function modules.

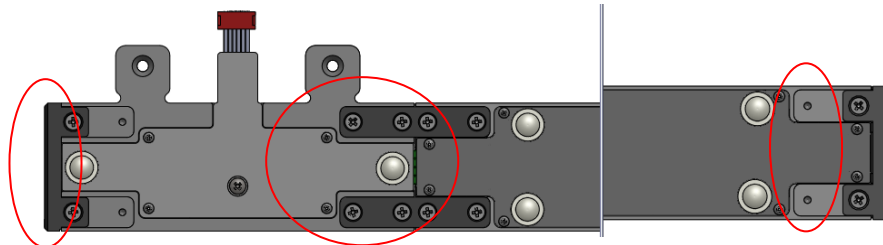


Remove corresponding side-covers from VarioPro and TASO and instead of this make the mechanical connection with the “Connector” (accessory TASO) by using the same screws. Make the electrical connection by plug-in the delivered “Module-bridge” (accessory TASO).

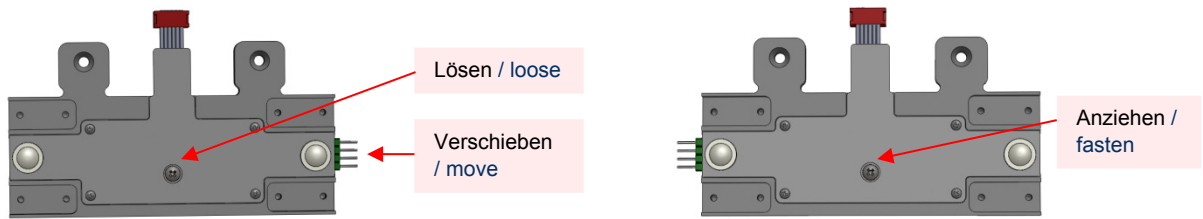
### Column slider on TASO

The Column slider may be mounted on TASO at right or left side. To change the mounting side please follow the mounting steps below.

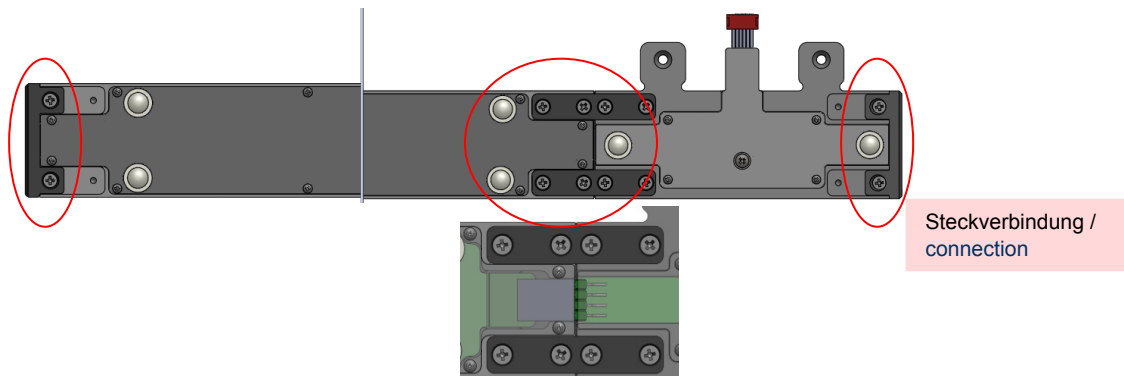
- Unmount the connection-piece, hole-strips and side-covers by loosening the 12 marked cross recess screws.



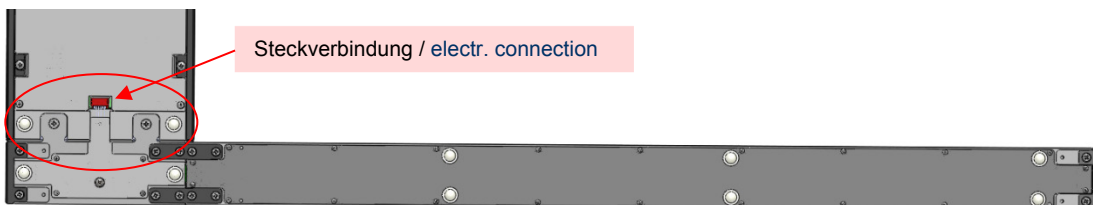
- Change the side of the pin-connector by temporary loosening the cross-recess screw and moving board.



- Connect the electrical connection between connection-piece and housing. Assembling the connection-piece, hole-strips and side-covers by fastening the 12 marked cross recess screws.



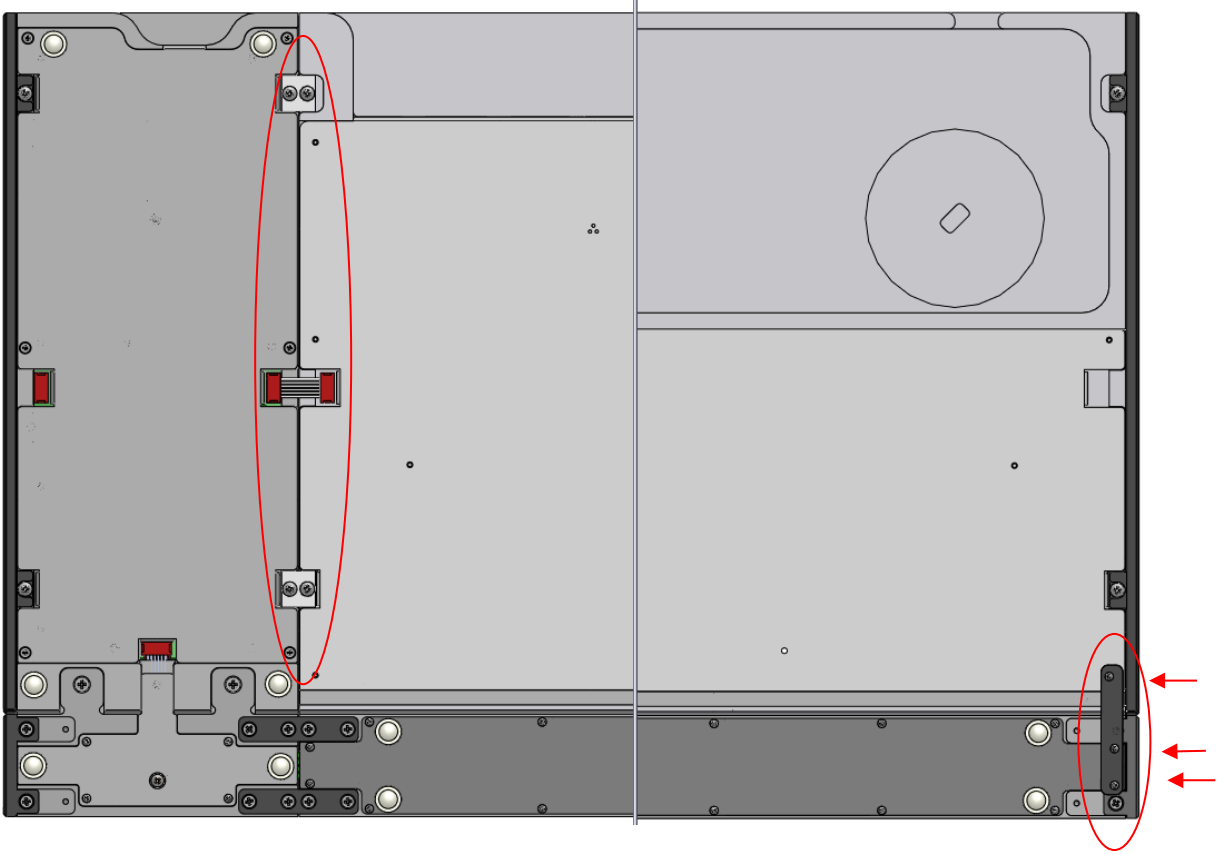
Remove the blind-caps from the TASO by loosening the cross-recess screws and instead of this screw on the Horizontal slider. Plug in the connector for electrical connection.



### TASO with Horizontal slider on VarioPro

TASO with Horizontal slider could also be mounted on VarioPro at right or left side. Only mount the TASO directly on VarioPro without other function modules between.

Please follow the steps from 2: TASO on VarioPro. Additional screw on the “connector-strip” (accessory TASO) between Horizontal slider and VarioPro by using the marked cross-recess screws from the particular sheet metal bottoms.



# 10 Common problems and solutions

Minor things can happen which visibly affect the performance of a Braille display but which cannot be called a “real malfunction. A few examples and hints are described below.

## **The Braille display shows no characters.**

Is the power supply connected to both, the VarioPro and a life wall outlet? Or is the USB cable connected to a life PC?

Has a program been launched which is accessing the Braille display’s port?

Check that the correct protocol has been loaded.

Was the correct port selected when the screen reader was loaded?

## **The display is seemingly showing the wrong characters.**

Check the cable connection to the computer.

## **After switching on there is no reaction from the display either when the System Menu is called up or a computer application is launched.**

If VarioPro does not react, turn off the power supply, pull out all plug connections and reinsert them after ca. 2 minutes. If the System Menu is still not displayed or the pins flicker quickly, please contact the Service department.

## **VarioPro is switched on and the display suddenly stops reacting.**

You have not used the display for longer than the auto-power-off time limit. Move the cursor to ‘wake up’ the display.

# 11 Defects and Repair

If VarioPro is broken – what to do?

- Did you check all settings and connections according to the manual?
- Are you sure the mains outlet is live?

Do not use a broken device! Unplug broken device from mains! Please do not hesitate to contact your local BAUM dealer or BAUM Retec AG.

You can reach BAUM Retec AG at telephone number +49 6223 4909-0 in Germany. We will help you check your VarioPro and in case it is broken we can mail a service box for shipping VarioPro to our service department. Show this manual to the person who will help you packing VarioPro in the service box.

# 12 Compliances

## 12.1 CE Conformity

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



**RoHS**

## 12.2 FCC Conformity

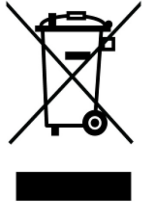
1. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
  - (1) This device may not cause harmful interference, and
  - (2) This device must accept any interference received, including interference's that may cause undesirable operation
2. Changes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



## 12.3 Environmentally friendly disposal according to EU-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 Erklärung der Konformität



Wir, **BAUM Systeme GmbH**  
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Deutschland  
info@baum.de  
+49-6223-4909-0

erklären in unserer alleinigen Verantwortung, dass unsere Braillezeile und die Erweiterungsmodule mit den Bezeichnungen

### **VarioPro 80, Statusmodul, Telefonmodul Tasomodul und Querschieber 80**

den folgenden harmonisierten Vorschriften der Europäischen Union entsprechen:

2014/35/EU	Niederspannungsrichtlinie
2014/30/EU	EMV Richtlinie
2011/65/EU	RoHS Richtlinie

Es werden folgende harmonisierten Standards angewendet

Sicherheit	EN 60950-1:2006+A11:2009+A1:2010+A12:2011+AC:2011+A2:2013
EMV	EN 55022:2010/AC:2011
	EN 55024:2010+A1:2015

Meckesheim, 13.04.2017

  
\_\_\_\_\_  
Thomas Friehoff, Geschäftsführer



# 13 Warranty

BAUM Retec AG 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. BAUM Retec AG reserves the right to repair or replace with a similar or better product. In no event shall BAUM Retec AG 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. BAUM Retec AG 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 BAUM Retec AG 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 BAUM.

# 14 For your safety



## **WARNING:**

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 can cause loss of warranty. In case you need a new shipping box, we can send you one.

Please carefully read the user's 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.

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 BAUM dealer as soon as possible.

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

Do not attempt to repair, to disassemble or to modify the device yourself or to open any compartment. Opening or removal of housing may cause damage or injury and will void the product warranty. This device contains no serviceable parts by the end user.

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.  
Avoid liquids and food near the device.

Do not use in locations where strong radio waves are emitted or where there is radiation. Keep a distance of at least 30 cm (approx. 12 in.) to mobile phones.

Only use original accessories. Use of second source accessories may damage 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 for VarioPro with other devices.

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

- Inside cars 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 (bathroom), 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 dry and well-tempered to room temperature before use.

Unplug before cleaning.

Wipe dust and dirt from the housing (stay clear of the Braille cells and Roll-bars!) of the device with a soft cloth dampened with a diluted neutral

detergent, and then wipe dry with a cloth. Do not bring in contact with water. Do not attempt to clean the Braille cells and/or Roll-bars yourself.

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 of the power supply for VarioPro 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 of the power supply for VarioPro out by the lead when removing the power plug.

Avoid shock. Do not throw or let fall. Do not put any other objects on top of VarioPro other than a computer keyboard or a laptop computer. Do not sit, eat, drink, or sleep on top of VarioPro.

Repairs may only be carried out by BAUM service personnel or by service technicians authorized by BAUM Retec AG.

## **Care and maintenance**

Avoid damp and water.

Use only a clean, dry cloth to clean the housing of the device. Do not use any cleaning fluids or solvents. Wipe dust and dirt from the housing of the device with a soft cloth dampened with a diluted neutral detergent (stay clear from the Braille cells and Roll-bars!), then wipe dry with a cloth. Do not attempt to clean the Braille cells and/or Roll-bars yourself.

Contact your dealer for intensive and professional cleaning of your device.

Protect the device from extreme heat, e.g. from the sun, heating units, hot cars etc.

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.

Use only the power supply for VarioPro provided.



# 15 Technical details

Desktop 80-cell Braille display for universal connection

**Dimensions:** 561 x 23.9 x 260 mm (width x height x depth)

**Mass:** 3720g

**Function keys:** three keys on both the left and right of the Braille display, one key above each Braille cell and four rollbars on the front edge; designed for various functions and optimised usage.

**Ports:** USB, serial

**Screen Readers:** with COBRA, JAWS, VoiceOver, NVDA, Window Eyes or other screen readers.

**Power supply:** via the USB port, or mains adapter ( if used with a serial connection





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74909 Meckesheim  
Germany

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Web: [www.baumuk.com](http://www.baumuk.com)

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