

# VarioPro 80 (NOR)



## User's manual

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BAUM Retec AG  
In der Au 22,  
D-69257 Wiesenbach  
Germany  
Tel.: +49 6223 4909-0  
Fax: +49 6223 4909-399  
Email: [info@baum.de](mailto:info@baum.de)  
Website: [www.baum.de](http://www.baum.de)

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## 2 Introduction: VarioPro 80

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

VarioPro is a Tactile Computer Display according to ISO 9999:2011 code is 22 39 05.

**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
- Serial – the standard communication channel/port (even for older laptops)

The highly robust casing is made from massive anodized aluminium 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 BAUM Pronto. They allow us to construct very elegant, stable and robust equipment.

The new 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 About this manual

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 5 contains a description of the device and its power supply, and Chapter 6 contains general information and the System Menu settings.

Chapter 7 describes the installation process and gives details on how to connect VarioPro to various communication channels/ports.

Chapter 8 describes the Braille key functions under various screen readers. The screen reader determines which functions are assigned to the Braille keys, and thus how VarioPro works with such applications.

Chapter 9 contains hints and tips to help sort out minor errors yourself.

Chapter 10 describes the various additional modules, their connection and application.

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 hope you enjoy working with your new Braille display.

BAUM Retec AG.

## 4 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.

### 4.1 What's in the box:

- 1 VarioPro braille display
- 1 power adaptor
- 1 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.

VarioPro may only be used in home and office environments.

### 4.2 Compliances

See end of Manual for compliance declarations.

Electronic assistive devices need special precautions regarding Electro Magnetic Compatibility (EMC). It must be installed and serviced according to the EMC guidelines.



**WARNING:** Use of accessories, transducers and cables other than those specified and sold with the device by the manufacturer as replacement parts may result in increase of emissions or decrease of immunity of the device.

#### **Environmentally friendly disposal according to EC-Directive 2002/96/EG**



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 life-time, 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.

### 4.3 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, 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.

#### **4.4 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.

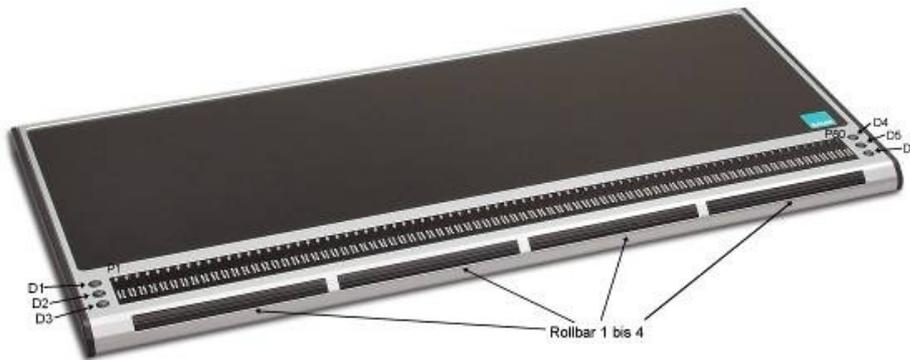
Parts replaced during repair are transferred into ownership of BAUM Retec AG and will not be returned to the customer.

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.

## 5 Description of the device

### 5.1 Keys and operators



VarioPro 80 does not require its own on/off switch and is powered from the PC or from the mains. As soon as VarioPro receives power it switches itself on and emits a corresponding tone.

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

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 'Roll-bars' - four with VarioPro 80. 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, Window Eyes or other screen readers, such as VoiceOver for Mac).



The communications channels/ports are located in the recess at the rear of the device on the right, approximately 2 cm deep. On the far left is the round socket for the serial 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 black plastic cover on both sides can be unscrewed to allow additional modules to be connected seamlessly, 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 11).

## **5.2 Mains adapter and power supply**

VarioPro Braille displays are powered from the PC with a USB cable connection. When using the serial 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 rear of the device and then plug the adapter into a mains outlet. Please use only the original power supply for VarioPro to avoid possible damage.



### **WARNING:**

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

## **5.3 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 made of massive anodize aluminium 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 370 kg 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.

## 6 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 lines of the System Menu appear 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 keys above the display. 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.

### **Note:**

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.



### 6.1.3 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

## 6.2 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 both outer cursor routing/position keys, and then both upper display keys (P1, P80, D1, D4, or P1, P64, D1, D4). Hold 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.

### 6.2.1 Fourth Line: protocol/emulation

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

default (the new BAUM protocol)  
vario80 (old BAUM protocol)  
ht (Handy-Tech)  
pb1 (PowerBraille)  
pb2 (PowerBraille)

Menu 4: Protocol

Protocol: default vario80 ht pb1 pb2

Protocol: default v a r i o 8 0 h t p b 1 p b 2

The appropriate protocol (emulation) for your particular screen reader must be selected.

### 6.2.2 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

### 6.2.3 Sixth line: Auto-power-off

Set the length of time after which the Braille display will shut down automatically, when no more data are to be 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 length).

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

### 6.2.4 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

### 6.2.5 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

### 6.2.6 Ninth line: Restore 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 9: 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.

### 6.2.7 Tenth line: Quit menu and save settings

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 10: “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.

### **6.3 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.

### **6.4 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 serial port connection, or via a USB cable if VarioPro 80 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'.

## **6.5 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 the update program 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.

If once there is an update available, you can download it together with the installation program from the BAUM homepage [www.baum.de](http://www.baum.de)

## 7 Installation and connection

### 7.1 Connection types

Depending on the operating system used VarioPro 80 can be connected to a variety of communication channels/ports.

#### 7.1.1 Serial connection

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

Operating system:

- Windows 2000/XP

VarioPro 80 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 rear end of the device at the right-hand side.

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 rear end of the device at the right-hand side, and plug the other end into a mains outlet.



#### **WARNING:**

If your computer (Notebook) has Power Management we recommend that it be switched off in BIOS and/or Windows, otherwise communication problems between VarioPro 80 and the computer may arise.

#### 7.1.2 USB port

Operating system:

- Windows 2000/XP/VISTA/Windows 7 (32 and 64 bit) and higher.

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 will appear once again – let the PC search for, and automatically load the appropriate driver again.

**Note:**

Installation of the two drivers is absolutely essential so that VarioPro 80 can talk to the PC via the USB port. One of the drivers installs the correct USB access (the virtual COM-port), and the other the Braille display.

During installation you may receive a warning that the driver is not certified by Microsoft - install it anyway.

When VarioPro 80 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 serial port. This has the advantage that VarioPro can be used with screen readers that can only support serial Braille displays.

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.

USB ports do not talk to all operating systems. We recommend Windows 7, VISTA or XP SP2 or above. Windows 2000, Me and 98 support USB, but DOS, Windows 3.11, 95 and NT do not.

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.

## **7.2 COBRA**

The latest COBRA version directly supports VarioPro 80. There is no COBRA driver required.

COBRAs Braille server automatically detects a VarioPro connected to the PC via USB (plug&play).

After connecting VarioPro 80 we recommend restart of PC.

A list of COBRA Hotkeys for VarioPro 80 is provided in chapter 8.1

### 7.3 Connecting to VIRGO 4

Virgo 4.6 and later versions provide for direct operation of the Braille display. Open the Virgo menu, select Braille/Braille display (or Braille options/Braille display) and then select 'VarioPro 64' or 'VarioPro 80'. From the dropdown list headed "Connection:" select the serial port in current usage (USB will be treated as a virtual serial port). Before making the connection make sure that the protocol in the System Menu has been set to "default" (new BAUM protocol [see Chapter 6.2.1])

### 7.4 Other screen readers

A driver is under development for Blindows, but in the meantime VarioPro can be used in the VarioPro 80 emulation.

Apple VoiceOver for Mac automatically recognises a VarioPro if it is setup for BAUM protocol and connected through USB.

A driver is already available for JAWS should you not wish to use the emulation of another Braille display. The JAWS driver is in the JFWDRV directory of the VarioPro installation CD supplied. It also contains the "Readme-JFWDRV-ENG.txt" file with information on the current version of the driver.

Windows Eyes supports VarioPro with its own driver. Please find the latest version of Windows Eyes at [www.gwmicro.com](http://www.gwmicro.com)

Feldfunktion geändert

SuperNova and HAL will provide their own driver for VarioPro in the near future. Please look for that at [www.yourdolphin.co.uk](http://www.yourdolphin.co.uk)

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" (Vario80), "Handy-Tech" 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).

## 8 Key assignment

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

### 8.1 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

**Note:** You can change all hotkeys according to your own preferences.

## 8.2 VIRGO 4

D1 = Previous element, or upwards  
D2 = Braille display scroll left  
D3 = Next element, or downwards  
D4 = Upwards in hierarchy  
D5 = Braille display scroll right  
D6 = Downwards in the hierarchy  
D1D3D6 = Display attribute with dots 7,8 on/off  
D3D5D6 = Cursor with all dots set/underlined  
D2D3D6 = Switch between 6/8-dot Braille  
D2D5 = Speech on/off  
D1D4 = Go to beginning of foreground window  
D3D6 = Go to end of foreground window  
D1D3D4D6 = Read out current foreground window  
D1D2D3 = Continuous reading  
D4D5 = Shift navigation to mouse pointer  
D5D6 = Shift navigation to focus  
D1D2 = Cursor up  
D2D3 = Cursor down  
D1D3 = Shift-Tabulator  
D4D6 = Tab key  
D1D2D3D5 = Return  
D3D4 = Simulate Alt+F4  
D1D3D4 = Minimise all windows  
D2D3D4 = Launch Start menu  
D1D2D3D4D5 = Quick menu on/off  
D1D2D3D6 = Switch Virgo menu on/off  
D1D2D4 = Update Virgo files  
D1D2D5 = Window-specific Help  
D2D3D5 = Display "Program Wizard"  
D2D5D6 = De/activate "Screen Wizard"  
D1D6 = Navigation to Bookmark No. 1  
D1D2D6 = Navigation to Bookmark No. 2  
D1D4D6 = Navigation to Bookmark No. 3  
D1D4D5D6 = Navigation to Bookmark No. 4  
D1D5D6 = Navigation to Bookmark No. 5  
D1D2D4D6 = Navigation to Bookmark No. 6  
D1D2D4D5D6 = Navigation to Bookmark No. 7  
D1D2D5D6 = Navigation to Bookmark No. 8  
D2D4D6 = Navigation to Bookmark No. 9

## 8.3 Other protocols

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

### **8.3.1 As Handy-Tech (HT)**

In 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

### **8.3.2 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

## 9 Help with malfunctions

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.

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

Check that the device is switched on.

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?

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

Check the cable connection to the computer.

### 3. 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 80 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.

### 4. VarioPro 80 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.

## Defects and Repair

If VarioPro 80 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.

## **10 Technical specifications**

### **10.1 VarioPro 64 (Discontinued)**

Desktop 64-cell Braille display for universal connection

Dimensions: 458 x 23.9 x 260 mm (width x height x depth)

Mass: 3010g

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

Ports: USB, serial

Screen Readers: with COBRA, JAWS, Window Eyes, VoiceOver for Mac, or other screen readers.

Power supply: via the USB port, or mains adapter with a serial connection

### **10.2 VarioPro 80**

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 Roll-bars on the front edge; designed for various functions and optimised usage.

Ports: USB, serial

Screen Readers: with COBRA, JAWS, Window Eyes, VoiceOver for Mac, or other screen readers.

Power supply: via the USB port, or mains adapter with a serial connection

Declaration of conformity / compliance

CE – see appendix.



## Declaration of Conformity



We, **BAUM Systeme GmbH**  
In der Au 22  
69257 Wiesenbach  
Germany

declare in our sole responsibility, that our braille displays (tactile computer displays code 22 39 05 according to ISO 9999:2011)

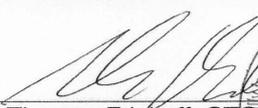
**VarioUltra 20 (NOR),  
VarioUltra 40 (NOR),  
SuperVario2 40 (NOR),  
VarioPro 80 (NOR),  
Taso Module (NOR),  
Taso Horizontal Slider (NOR),  
Status Module (NOR),  
Switchboard Operating Module (NOR)**

complies with the essential requirements of  
93/42/EEC, 2007/47/EC Medical Devices Directive

and conforms to the following normative documents

General	EN 12182:2012	technical aids for disabled persons
Safety	EN 60601-1:2013	safety of medical electrical equipment
EMC	EN 60601-1-2:2015	electromagnetically compatibility of medical electrical equipment
Risk	EN ISO 14971:2012	risk management of medical devices

Wiesenbach, 6/10/2016

  
Thomas Friehoff, CTO

A circular stamp with the text "BAUM Systeme GmbH - Products and services for the blind and visually impaired" around the perimeter and the BAUM logo in the center.

## **11 Additional function modules**

### **11.1 Overview**

VarioPro 80 acts as the base module for 'docking' various additional function 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 80 so that any unintentional loosening of the modules when working is avoided.

The function modules and their operators are described below. Which functions these operators perform depends on the individual functions loaded onto the modules themselves by the screen reader. These are usually application- and user-specific and depending of the screen reader used. For this reason a more detailed description cannot be given here.

**Note:**

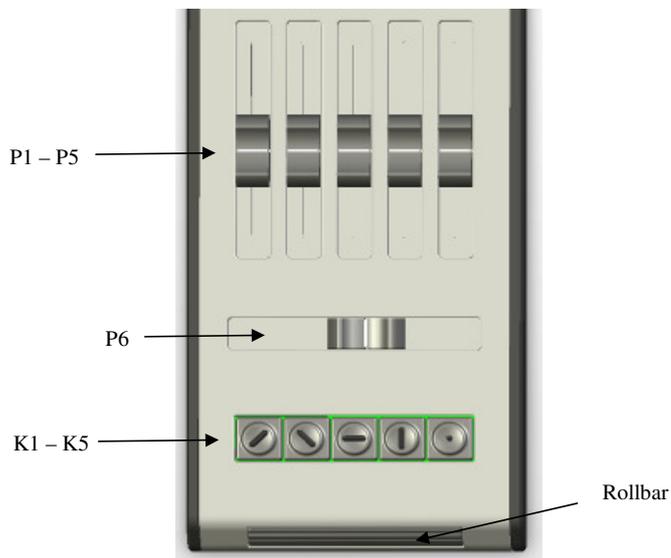
Some function modules can only work with MS Windows and COBRA or VIRGO 4.7 screen reader and probably in combination with specific tailor-made COBRA- or VIRGO-scripts. In case of any doubt, please consult your BAUM dealer or BAUM Retec AG prior to purchase and installation.

### 11.1.1 Audio module (discontinued)

This module was discontinued in 2015. It was designed specifically to merge audio files simply. The easy-to-use sliders simplify the control and regulation of the position of 5 channels and the balance. This function module only works with COBRA and VIRGO 4.7 screen reader and in combination with specific tailor made COBRA- or VIRGO-scripts.

Operators, top down:

- 5 vertical sliders P1 to P5
- 1 horizontal slider P6
- 5 keys K1 to K5 with tactile identifiers
- 1 roll-bar

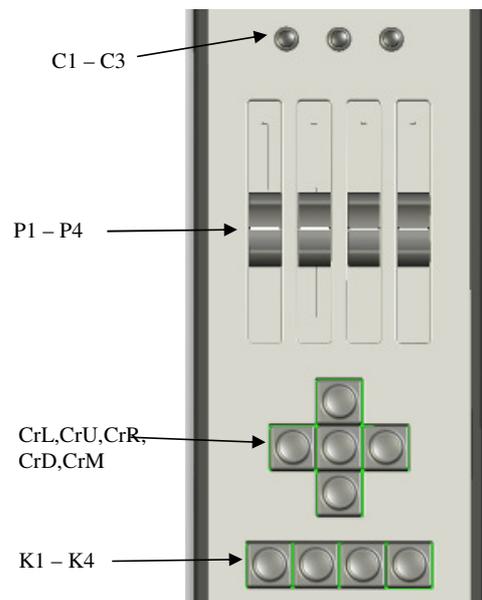


### 11.1.2 Speech module (discontinued)

This module was discontinued in 2015. It provided an efficient way of adjusting the various speech settings of your screen reader. This function module only works with COBRA and VIRGO 4.7 screen reader and in combination with specific tailor made COBRA- or VIRGO-scripts.

Operators, top down:

- 3 keys, C1 to C3
- 4 sliders P1 to P4
- 5 cursor keys CrL (left), CrU (up), CrR (right), CrD (down), CrM (middle)
- 4 control keys K1 to K4

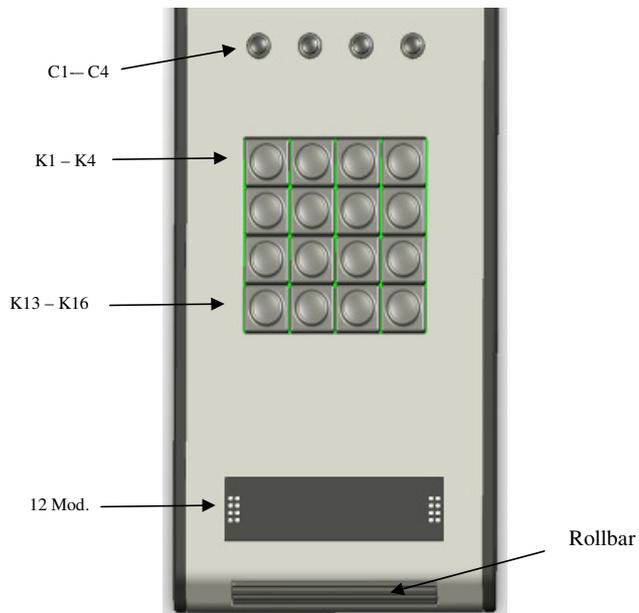


### 11.1.3 Switchboard operating module

This is a special module for use by PBX-Attendants, operator consoles and call centre agents. It can also be set up as an advanced status module. This function module only works with COBRA and VIRGO 4.7 screen reader and in combination with specific tailor made COBRA- or VIRGO-scripts.

Operators, top down:

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

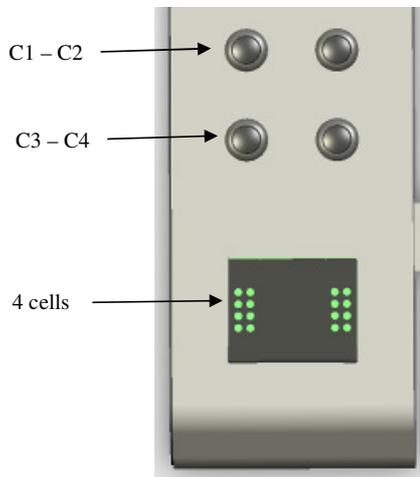


### 11.1.4 Status module

Displays status information on 4 Braille cells. This function module works with most screen readers. In case of any doubt, please consult your BAUM dealer or BAUM Retec AG prior to purchase and installation.

Operators, top down:

- 4 keys C1 to C4
- 4 Braille cells



### 11.1.5 Magnification module (discontinued)

This module was discontinued in 2015. It allowed screen magnification settings to be adjusted and the applications to be driven with the built-in trackball. This function module works with most screen magnification softwares. In case of any doubt, please consult your BAUM dealer or BAUM Retec AG prior to purchase and installation.

Operators, top down:

- 4 screen magnification keys (1x, smaller, bigger, inverse)
- 3 mouse keys
- 1 trackball



## 11.1.6 TASO Module

### Note:

These function modules only works 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 80.

All TASO modules can also be used without a Braille display and in combination with COBRA Zoom screen magnification software, version 9 and higher.

BAUM TASO®-Module - Navigate accurately and quickly around the screen.

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 7, Vista or XP, USB interface, audio output.





## 11.2 Connecting the modules to VarioPro 80

Undo the screws on the left or right sides of VarioPro 80 (depending on which side the modules are to be connected) and remove the black plastic facing.



The above image shows a side view of a VarioPro. On the left and right are the deep-set screws which hold the black plastic 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 80 with attached status module.



## **12 Information for the Re-use of VarioPro 80**

### **12.1 Product description:**

Tactile Computerdisplay (Braille display) Code 22 39 05 according to ISO 9999:2011.

### **12.2 Specific purpose:**

Braille displays are assistive devices used to display textual information in tactile form (Braille). Blind people use these devices to compensate their loss of vision or eye-illnesses.

### **12.3 Product life time:**

Average of 5 to 7 years from manufacturing date, provided that the recommended service and maintenance intervals have been complied with.

### **12.4 Re-use / Installation and Maintenance:**

The device may only be repaired, technically refurbished and reconditioned by BAUM service personnel or by service technicians authorized by BAUM Retec AG. Further use or re-use is only allowed after a thorough technical cleaning and disinfection in combination with a safety check.

### **12.5 Safety checks (§6 MP-BetreibV):**

The carry out of safety checks must explicitly only be done by BAUM Retec AG or by an organization authorized by BAUM Retec AG!

BAUM Retec AG does not stipulate certain intervals or deadlines for safety checks. The statements made in §6 Medizinprodukte-Betreiberverordnung regarding intervals and deadlines are however recommended (at least every two years).

### **12.6 Special advice for transport and storage:**

For safety reasons it is necessary to store and transport this device in its original packaging. This device must be stored in its original packaging in a dry and closed storage space. The following conditions for storage and transport must be respected:

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

### **12.7 Power cable:**

Please use only the original power cable from the available power supply for VarioPro 80 that has been supplied by BAUM Retec AG.



**WARNING:** Using other accessories than those specified and sold with the device by the manufacturer as replacement parts may result in increase of emissions or decrease of immunity of the device.

### 13 Product Identity Sheet VarioPro (NOR)

- Type:**  VarioPro 64 (discontinued)  
 VarioPro 80  
 VarioPro Status module  
 VarioPro Switchboard Operator module  
 VarioPro Audio module (discontinued)  
 VarioPro Speech module (discontinued)  
 VarioPro Magnification module (discontinued)  
 TASSO module  
 TASSO 64 Horizontal Slider (discontinued)  
 TASSO 80 Horizontal Slider

**Serial nr.:** \_\_\_\_\_

**Manufacturer:** BAUM Systeme GmbH, D-69257 Wiesenbach, Germany.

**Supplier:** \_\_\_\_\_

**Year of purchase:** \_\_\_\_\_

- User\* :**
1. \_\_\_\_\_
  2. \_\_\_\_\_
  3. \_\_\_\_\_
  4. \_\_\_\_\_
  5. \_\_\_\_\_

**Final examination:** \_\_\_\_\_

**Delivery date / Shipping date:** \_\_\_\_\_

**Power supply:** 5V DC, 100mA.

**Power consumption:** 0.5W

**Installed by:** \_\_\_\_\_

**First safety check\*\* :** \_\_\_\_\_

\* In case of an other Customer or user, the next user must be mentioned on next line.

\*\* In case of re-using a device a new safety check is required!

## 14 Contact details

### **Sales and Support:**

Baum Retec AG,  
In der Au 22  
D-69257 Wiesenbach  
Germany.

Tel. +49 6223 4909-0

Email [support@baum.de](mailto:support@baum.de)  
Website [www.baum.de](http://www.baum.de)



### **Manufacturer:**

BAUM Systeme GmbH  
In der Au 22  
D-69257 Wiesenbach  
Germany

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