CYBERMIND

hi-Res800™

TECHNICAL MANUAL

VERSION 1.0

INTERNATIONAL

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hi-Res800™

HIGH QUALITY VGA/SVGA HEADSET

PRODUCT
WARNING

Your failure to follow these operating instructions may result in eye fatigue, eye damage, or other injury.

Carefully read this instruction manual and become familiar with all safety instructions for this product.

This product should not be used by children aged 15 or younger.
If you have been diagnosed with eye disease or eye injury, consult your Doctor before use and do not use without your doctor's approval.

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the unit; refer all servicing aspects to qualified personnel only.

The hi-Res800™PC have been designed with precision optics to minimize the potential for motion sickness, however certain individuals may experience nausea or disorientation while viewing certain games or videos. If you feel a sense of dizziness or light-headedness discontinue use.

Warning: Consult your physician before using the hi-Res800™PC if you or anyone in your family has an epileptic condition.

The optics assembly fitted inside the hi-Res800™PC headset 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 that may cause undesired operation.*

PRECAUTIONS
Picture/Sound distortion may occur if the hi-Res800™PC is positioned in close proximity to any equipment emitting electromagnetic radiation.

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1.1 USE RESTRICTIONS

WARNING: It is not recommended for use by Children AGE 15 or Younger.
This product is designed for adult use. The eyes of children are still developing and may be adversely affected by use of this product, and it may cause eye fatigue, eye damage, or loss of visual functions. In addition, this product may not be adjusted to fit a child's head.

WARNING: Eye Disease/Eye Injury/Glaucoma.
If you have been diagnosed with or are susceptible to eye disease, eye injury, or glaucoma, consult your doctor before use and do not use without your doctors approval. Use of this product by individuals with conditions such as glaucoma may cause conditions to worsen.

Caution: Heart Disease/High Blood Pressure.
If you have a history of heart disease or high blood pressure, consult your doctor before use and do not use without your doctor's approval. Use of this product allows the viewer to feel they are in the action, which may result in increased anxiety or heart injury. If during viewing any increased anxiety is experienced, stop using the product immediately and rest. If the symptoms persist after rest, consult your doctor.

Caution: Seizures
If you have a history of temporary spasms, unconsciousness, or epileptic seizures from light stimulation, consult your doctor before use and do not use without your doctors approval. Use of this product by such individuals may cause spasms, unconsciousness, or seizures, if you experience such symptoms during use, stop using the product immediately and consult your doctor.

1.2 HEALTH CONCERNS

Warning: Eye Fatigue/Eye Damage/Loss of Visual Functions.
Misuse or overuse of this product may result in eye fatigue, eye damage, or loss of visual functions. Stop using if you feel tired or experience headaches or discomfort.

Caution: Sickness/Headache/Nausea.
If during use you experience any of the following symptoms, stop using this product immediately and rest. These symptoms may indicate that you are misusing or overusing the product or that you should not use the product for health reasons. If the following symptoms persist after rest, consult your doctor
- sore eyes, eye fatigue, or double vision
- headache
- inability to focus on the screen
- nausea or motion sickness
- stiff or sore shoulders or neck
After two hours continual use we recommend you take a break of minimum 15 minutes to prevent eye fatigue or eye damage.

Caution: Motion Sickness from Viewing Programmes.
Some viewers may experience motion sickness, headache, or nausea from viewing movies or video programmes, especially those with intense action and movement. If you feel any of these symptoms, stop using the product immediately. To avoid personal injury to others, do not drive a car or motorcycle, nor do anything that requires concentration until the symptoms disappear.

Caution Motion Sickness from External Motion.
Do not use this product while subject to external motion - for example, as a passenger in a car. Use of this product under these conditions may cause motion sickness.

Caution: Accidents.
Do not use this product while walking, skating, bicycling, operating a motor vehicle or other power equipment, or while engaged in any other similar activities. Use of this product under these conditions may result in an accident, injury, or death to yourself or others.

1.3 WARNINGS FOR ELECTRONIC PRODUCTS

Caution Electric Shock.
Failure to observe all operating and maintenance instructions may cause damage to your product and may result in property damage, injury or death from electric shock, fire, or other cause.

Caution Do Not Disassemble.
Any required service on this product should only be carried out by a fully trained authorised service centre. Failure to comply with this warning may result in property damage, personal injury or death from electric shock, fire, or other cause.

Caution Avoid Wet, Humid, Dusty and Smoky Environments.
This product may be adversely affected by wet, humid, dusty, and smoky conditions, which may result in property damage, personal injury or death. Do not use this product near or around water. Avoid using or storing this product under these conditions.

Caution Avoid High Temperature or Direct Sunlight/Avoid Mechanical Shock.
This product may be deformed by high temperature or direct sunlight and also by dropping the product or other mechanical shock. Avoid these conditions, as the screens may lose proper alignment and it may cause eye fatigue or eye damage.

Caution Unplug the product when Not in Use.
Always unplug this product when it will not be in use for extended periods of time or during vacations.

Viewer Only

- *hi-Res800™PC Headset*
- *Power Adapter (Output 9V at 800mA)*
- *VGA/Audio/Power Cable (connected to Headset)*
- *Cybermind Technical Supplement Manual*
- *N.B. Additional tracker documentation will be supplied with the integrated tracker if applicable.*

Getting Started

The hi-Res800_PC will accept either a VGA (640 x 480) or an SVGA (800 x 600) computer input at 60Hz. If the resolution output and refresh rate of your computer is set at something other than (640 x 480) or (800 x 600) at 60Hz, please follow the instructions below before connecting the hi-Res800_PC to the VGA port of your computer.

Computer Set-up

Step 1. Set your computer to 800 x 600 Resolution:
In Windows, go to "Display Properties" found in your control panel. When the "Display Properties" window appears, click on the "Settings" tab. When the "Display Settings" window appears adjust your "Desktop Area" control to 800 x 600 pixels. When you have selected the desired screen resolution, click on "Apply" to accept the change.

Step 2. Set Color Resolution:
For best results, make sure that your computer is set for a minimum of 16 Bit color resolution. The color resolution settings are found in the "Settings" tab of "Display Properties". (See Step 1 for instructions on finding "Display Properties" in your control panel.) Again, click "Apply" once the desired color resolution has been selected.

Step 3. Set Refresh Rate:
Set your refresh rate to 60Hz. For Windows NT and 2000 users, this is done on the same screen in Display Properties as display Resolution (see Step 1). For Windows 95/98/ME/XP users, go to the "Settings" tab (as outlined in Step 1) then click on "Advanced" then "Adaptor". Set the refresh rate to 60Hz and then click "Apply" to accept the change.

Step 4. Connect the hi-Res800_PC to your computer:
Connect the hi-Res800_PC to your computer's VGA port. If you only have a single VGA port, you will need to disconnect your regular monitor first and then connect the hi-Res800_PC.

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Connecting the hi-Res800_PC to a VGA source

Before attempting to connect the headset it is important to make sure that the PC is switched off.

You can connect the hi-Res800_PC to any desktop PC, laptop computer or other VGA source. Before doing so, make sure your VGA source is set for 800 x 600 resolution output at 60Hz. The hi-Res800_PC cable is an integrated VGA / Audio / Power cable. See Figure 1.
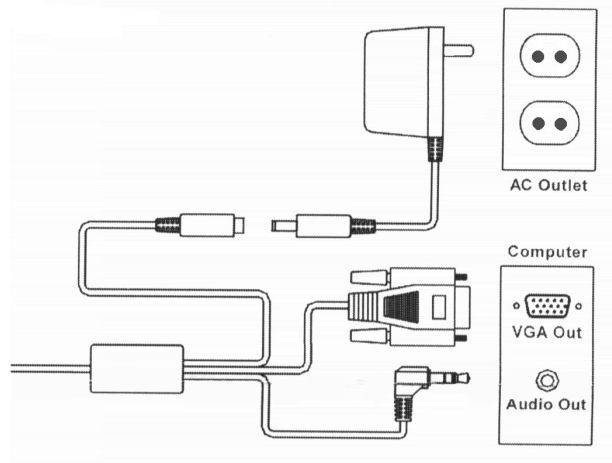

Figure 1.

1. *Connect the VGA plug on the hi-Res800_PC cable to the VGA output port on your computer.*
2. *Connect the power supply plug on the hi-Res800_PC cable to the power supply cube. Plug the power cube into an AC electrical socket.*
3. *Connect the audio plug on the hi-Res800_PC cable to the audio output source on your computer*
4. *If the headset has been integrated with a tracking device it will need to be connected to the tracker card/serial device input or USB port - for further information on this connection please refer to the supplied tracker documentation.*
5. *Switch on your PC*
6. *Follow the instructions relating to the usage of the device.*

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Using the hi-Res800_PC

Before using the hi-Res800_PC, make sure your computer is adjusted to 800 x 600 resolution output at 60Hz and connected to your computer according to the instructions.

Step 1. Turn on the hi-Res800_PC:
Press and release the round POWER button located on the top right-hand of the headset. This will illuminate the LED next to the POWER button and, within a few seconds, an image will appear on the headset. Your hi-Res800_PC headset has been preset at the factory and no further adjustments should be required.

Step 2. Adjusting Audio:
If you have an audio source, you can increase or decrease the volume level using the ADJUST (+ / -) buttons on the top right side of the headset.

Accessing the On-Screen-Display Menu (OSD)

Access to the On-Screen-Display (OSD) allows the user to make additional image corrections and adjustments to the image quality. Changes that can be made include:
> *BRIGHTNESS, CONTRAST, COLOR, AUDIO BALANCE, HORIZONTAL CENTERING as well as a FACTORY RESET option.*

If you have the hi-Res800_PC-3D model, you can activate and deactivate the 3D mode by accessing the OSD at any time. To access the OSD, press and hold down the POWER button for approximately 3 seconds and then release. The On-Screen-Display window will appear on your screen.

Use the ADJUST (+ / -) buttons to select the icon for the display function you would like to activate. Notice that the selected icon is highlighted. Once you have highlighted the desired icon, press and release the POWER button once to activate. Once activated, a new screen will open.

Use the ADJUST (+ / -) buttons to increase or decrease the setting between 0 and 100%. Once you are satisfied with the new setting, depress the POWER button to save the changes and the main OSD menu will appear. To select another display function icon, use the ADJUST (+ / -) buttons to scroll between icons.

On-Screen Display (OSD) Menu Options

A. Brightness:

Selecting the Brightness icon allows you to make adjustments to the display brightness. When the Brightness submenu is displayed, you may change the setting between 0-100% by pressing the ADJUST (+ / -) buttons. Once the desired brightness level has been determined, you may press the POWER button once to save the setting. Alternatively, you may save the setting by simply waiting for about 5 seconds. The main OSD screen will reappear and you can then make additional adjustments to any display function.

B. Contrast:

Selecting the Contrast icon allows you to make adjustments to the display contrast. When the Contrast submenu is displayed, you may change the setting between 0-100% by pressing the ADJUST (+ / -) buttons. Once the desired level of contrast has been determined, you may save by pressing the POWER button once or by simply waiting about 5 seconds. The main OSD screen will reappear and you can then make additional adjustments to any display function.

C. Audio Balance:

Audio Balance allows you to adjust the sound between the left and right earphones. When the Audio Balance submenu appears, you may change the balance by pressing the ADJUST (+ / -) buttons until you achieve the desired balance. Press the POWER button to save any changes you have made to the settings

D. Centering Screen:

If the image on the screen appears to be off center, you can make adjustments by selecting this function. Again, use the ADJUST (+ / -) buttons to position the image on the screen as desired. Press the POWER button to save any changes you have made to the settings.

E. RGB Color Balance:

Selecting the RGB (Red / Green / Blue) Color Balance icon allows you to make individual changes in the primary colors in each eye. From the main OSD menu select the RGB icon, which brings up the next sub-menu. Use the ADJUST (+ / -) keys to select which eye (LEFT or RIGHT) you want to adjust (or EXIT to return to the main OSD menu). Then use the ADJUST (+ / -) keys to select one of the RGB colors, notice that the color name (Red, Green, Blue) toggles as you press one of the Up (+) or Down (-) keys. Press the POWER button to go into the next sub-menu. Using the ADJUST (+ / -) keys, make the necessary adjustments to the color you have chosen. Once you have made the adjustments, press the POWER button to save the setting and return to the main OSD menu.

F. Factory Reset Option:

To reset all settings to the original, factory preset levels, highlight the Factory Reset icon and select YES.

For hi-Res800_PC-3D only

G. 3D modes:
Selecting this icon allows you to switch your hi-Res800_PC-3D between 2D and 3D modes. Please Note: Before switching to 3D mode, you will want to increase the refresh rate to a minimum of 60Hz. A Refresh Rate of 100Hz is preferable. (Please see the Set Refresh Rate" instructions on page 6) Once the hi-Res800_PC is set to 3D mode, the user cannot make changes to the refresh rate or the resolution settings without first going back into 2D mode.

3D Modes: 3D1 and 3D2
The hi-Res800_PC-3D supports two 3D modes. In both modes, full resolution frame sequential image input is required.

Mode 1: DDC Line Protocol
The DDC line protocol is used principally by the nVIDIA Stereo drivers. If nVIDIA stereo drivers are active and outputting a 3D signal, the headset will automatically detect the DDC line and stay locked on the signal. Note: The DDC Line Protocol is the highest priority 3D function. If this signal is present, the headset will function correctly in either 3D1 or 3D2 modes.
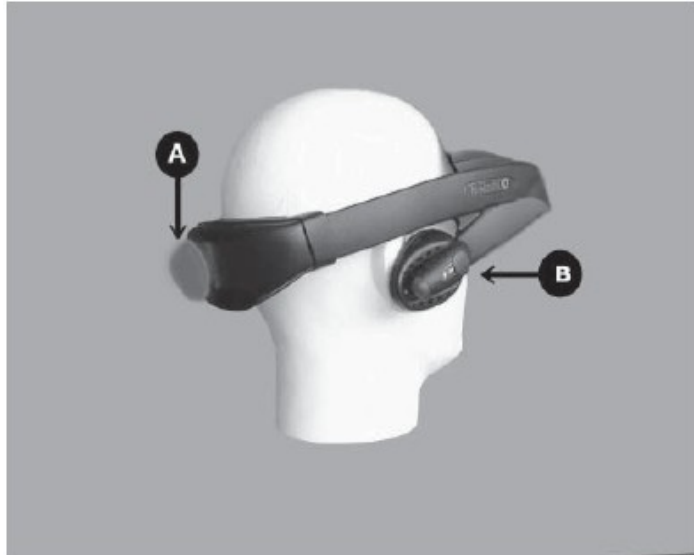
Mode 2: Frame Sequential Stereo
With frame sequential stereo input the user can select either 3D1 or 3D2 to activate the frame swapping function. However, if the image on the headset is in reverse stereo, simply switch to the opposite mode,

Line Interlaced Stereo
The hi-Res800_PC-3D will also support Line Interlaced Stereo but only if the line blanking is done by I-0 Display's proprietary Cruiser or MM Gamer VGA dongles. Please contact Cybermind for additional information.

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*1. Fully loosen the headset by unscrewing the ratchet (Item A).
Place the headset over your head and tighten the ratchet until
the headset is firmly in position.*

2.The stereo earphones (Item B) are in a fixed position.

*Users of prescribed eyeglasses do not have to remove them
before fitting the headset.*

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TROUBLESHOOTING

The table below provides an overview of the maintenance measures to be carried out. Some of them may be carried out by the operating personnel or authorized experts, some only by the service technician in the context of the maintenance contract agreed.

SYMPTOM	*CAUSE*	*REMEDY*
The picture does not appear	*Connections are incorrect*	*Connect the equipment correctly*
	The signal output is not set to 800 x 600 @ 60Hz	*Select the correct output in the display property of your PC*
	When you connect the hi-Res800_PC to a Laptop type PC, the display mode is set to the local display, (LCD Panel of the Laptop)	*Change the display mode. For specific details refer to the instruction manual of the Laptop*
The Picture is too dark or dim	*The micro-display used in the hi-Res800_PC may darken in color as they heat up over time*	*Minor adjustments can be made by accessing the OSD functions.*
		Please make sure that you are using the hi-Res800_PC in an environment within the operating tolerances of the unit.
	The inside window (where the picture is displayed) is dirty	*Clean the display unit with a soft, dry cloth*
The Picture suddenly disappears	*You continued using the hi-Res800_PC for a long period without turning it off*	*The micro-displays have overheated.* *Please Note: The micro displays will NOT be damaged if they do overheat during operation.*
	The battery pack or batteries are dead	*Recharge the battery pack or replace with new ones*
The Image Rolls, has Static or is Jumpy	*The hi-Res800_PC is looking for a very precise 800 x 600 input signal at 60Hz*	*Try raising or lowering your refresh rate slightly to see if this solves the problem.*
The Image flickers in 3D mode	*The hi-Res800_PC-3D model operates at a refresh rate that is DOUBLE the input refresh rate UP TO 60Hz*	*If you experience image flicker, make sure the input refresh rate is 60Hz or less. Alternatively, reset the refresh rate on your computer to a minimum of 85Hz, preferably 100Hz or higher.*
	The headset will operate at the input refresh rate if the input rate is ABOVE 60Hz.	
The picture has no sound. *The sound is noisy* *The Volume does not get any louder*		*Adjust the sound setting on the PC*
	The equipment is not connected properly	*Connect the equipment correctly*
The battery pack discharges quickly	*The battery pack is not charged enough*	*Charge the battery pack fully or use a new one*

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SYMPTOM	CAUSE	REMEDY
The black, red and green dots do not appear	The LCD is made with high precision technology. However black points or bright points of light (red, green or blue) may appear constantly on the LCD screen. This is not a malfunction.	
The picture colour is different	The colour intensity is not adjusted	Adjust the colour intensity in the on-screen display menu screen
The picture position gets out of position	The external display output signal of the connected computer does not match the supported input signal.	Change the screen resolution and the vertical frequency on your PC to match the supported output frequency. Refer to the instruction manual of your PC
Noises appear on the picture	The input signal does not match the supported specification.	Change the screen resolution or the vertical frequency of the external display output signal on your PC to match the supported vertical frequency. Refer to the instruction manual of your PC
	The horizontal frequency of the signal does not match the supported specification. In this case , the flicker may appear on the right edge of the picture.	Change the display mode on your PC to the external monitor only
The POWER switch does not function		Disconnect the mains lead from the mains. After three minutes, reconnect the mains lead

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Display Type	2 x 0.47"LCoS
Signal System	VGA/SVGA
Resolution	800(H) x 600(V) x RGB
Virtual Image Size	70" at 13' (approx. 2m at 4m)
Field of View	± 26.5º degree diagonal
Eye Relief	25mm
Exit Pupil	17mm(H) x 6mm(V)
Control Function	BRIGHTNESS
	CONTRAST
	COLOR
	AUDIO BALANCE
	VOLUME
PC Input	RGB
Connectors	PC input: D-sub 15PIN
	A/V input: Stereo Mini Jack
Power Supply	Adapter supplied Output 9V at 800mA
Power Consumption	4W
Operating temperature	0C to 50C
Storage temperature	0C to 60C
Humidity	10-95% non-condensing
Weight	Headset 800g untracked

PC

DISPLAY MODE	Resolution	Refresh Rate
VGA	640 – 480	60 – 100Hz
SVGA	800 – 600	60 – 100Hz

Refresh Rate
Double the input refresh rate up to 60Hz. Above 60Hz the input refresh rate equals the input refresh rate.
NB. For the best image quality set your computer input at 60Hz

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9.1 USE

Operate the product only with the supplied AC Power adaptor. If you use a different power adaptor it may cause a malfunction and invalidate your warranty. Should any liquid or solid object fall into the cabinet, unplug the product and have it checked by qualified personnel before attempting to operate it further.

Always turn the product off when you do not use it, Unplug the product from the mains if you are not going to use it for several days or more. To disconnect the cord, pull it out by the plug. Never pull the cord itself.

Do not overload mains, extension cords,, or convenience receptacles beyond their capacity, since this can result in fire or electric shock.
Do not use attachments not recommended by the manufacturer, as they may cause hazards.

Avoid using earphones at high volume. Hearing experts advise against continuous, loud, and extended play. If you experience a ringing in your ears, reduce volume or discontinue use.

Do not touch the AC power adapter or power supply with wet hands. If you fail to observe this, it may cause electric shock. Do not drop or give a mechanical shock to the product.

9.2 Installation

To prevent internal heat build-up, do not block the ventilation openings. Avoid operating the product at temperatures below 41F (5C)
Do not subject the product to high temperature or direct sunlight. If you do not observe the above instructions, the product may become deformed and the screens may become impossible to align. If you keep watching misaligned screens, you may develop eye fatigue. If you find the screens misaligned, have the product repaired.

Do not place the product in locations where it is wet, humid, dusty, smoky, or steamy.
Do not use this product near or around water. It may cause fire or electric shock. Especially, do not use this product in the bathroom. If the product is transported directly from a cold room to a warm location, or if the room temperature has changed suddenly, the picture may be blurred or show poor colour. This is because moisture has condensed on the mirror or lenses inside. If this happens, let the moisture evaporate before using the product

Do not place the product on an unstable cart, stand, table or shelf. The product may fall causing serious injury to a child or an adult, and serious damage to the product. Do not allow anything to rest on or roll over the main lead, and do not place the product where the main lead is subject to wear or abuse.

9.3 Others

Unplug the product from the mains and refer servicing to qualified service personnel under the following conditions:

    1)   When the main lead or plug is damaged or frayed
    2)   If liquid has been spilled into the product
    3)   If the product has been exposed to rain or water
    4)   If the product has been subjected to excessive shock by being dropped, or the cabinet has been damaged.

If the product does not operate normally when following the operating instructions. Adjust only those controls that are specified in the operating instructions. Improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation. When the product exhibits a distinct change in performance - this indicates a need for a service

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10.1   DETAILS

Your hi-Res800™PC has been subjected to various tests prior to delivery. However, as is generally the case with mechanical appliances your hi-Res800™PC is subject to natural wear and tear. Please check at regular intervals whether all screws and connections of your hi-Res800™PC are intact, and have the service technician replace damaged components! Changes made to the appliance will result in loss of type approval.

10.2   TERMS AND CONDITIONS

Cybermind warrants that Products distributed under its own brand names will be free of defects in materials and workmanship for a period of one year from the date of shipment to Customer (the Warranty Period"). Other Products delivered to Distributor under other brand names are not covered by this warranty and instead will be subject to the warranty or warranties granted by the Manufacturers. As its sole obligation Cybermind will, at its option, either repair or replace the defective Product. Before returning any Products to Cybermind Nederland, Customer must obtain a return to manufacturer authorization number (RMA#).

Customer will be responsible for the costs of returning Products under a warranty claim and, if it is determined that a returned Product is not covered by this warranty, Customer will pay for the costs of inspecting, repairing (if necessary), and return of the Product from Cybermind Nederland. This warranty does not cover any damage, defect, inoperability, or incorrect performance of a Product due to misuse abuse, accident, neglect or unauthorized alterations or repairs.

The above warranty by Cybermind Nederland is made only to Customer and may not be passed on to any third party.

Manufactured at:
CYBERMIND Interactive Nederland
Forum 55 [MECC]
6229 GV Maastricht
Netherlands
Web: www.hi-res800.com
Email: info@hi-res800.com
Support: support@hi-res800.com
Tel : +31 43 3618 300
Fax : +31 43 3618 394