

Total Control Head Array

User manual | American English

Welcome to the Permobil family

We congratulate you on your choice of alternative drive for your power wheelchair. Our goal is for you to continue to feel satisfied with your choice of both vendor and product.

Before you begin using your Total Control Head Array, it is important that you read and understand the content of these operating instructions, and in particular the safety instructions and warning texts.

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1 Introduction

The Total Control Head Array is intended to be installed on Permobil power wheelchairs equipped with R-net electronics.

Permobil power wheelchairs are intended for people limited to a seated position. For additional information regarding your wheelchair, refer to any other documentation received with your wheelchair or contact your Permobil dealer.

All information, pictures, illustrations and specifications are based upon the product information available at the time these operating instructions were printed. Pictures and illustrations used in these operating instructions are representative examples and not intended to be exact depictions of the various parts of the Total Control Head Array. Permobil reserves the right to make changes to the product without prior notice.

2 Safety

Important safety instructions. Save these instructions.

Permobil is not responsible for personal injuries or property damage resulting from any person's failure to follow the warnings and instructions in this manual, or from failure to exercise good judgment.

2.1 Types of warning signs

The following types of warning signs are used in this manual:



WARNING!

Indicates a hazardous situation which, if not avoided, could result in serious injury or death as well as damage to the product or other property.



CAUTION!

Indicates a hazardous situation which, if not avoided, could result in damage to the product or other property.



IMPORTANT!

Indicates important information.

2.2 Warnings



WARNING! Vehicle seating requirements

The Total Control Head Array is not a headrest. If you use the wheelchair as a seat in a motor vehicle, you must replace the head array with a headrest approved by the wheelchair manufacturer. If you do not, it can lead to bodily injury.



WARNING! Difficulty of use increases when tilted

If the seat or backrest is tilted, you will require more strength to move your head outside the activation zones to stop the wheelchair from moving. Be sure that you can always lift your head away from the activation zones. If you are unable to do so, the wheelchair can injure you.



WARNING! Drive extra carefully when lifted or tilted

If the seat or backrest is lifted or tilted while the wheelchair is on flat ground, drive at a low speed. If the seat or backrest is lifted or tilted, do not drive the wheelchair on slopes or over obstacles. If you do, the wheelchair can become less stable and injure you.

**WARNING!** Do not remove the covers

The electronic sensors are sensitive to water and moisture. Make sure that the electronic sensors are protected by their covers. Do not remove the covers. If you do, moisture can cause the sensors to inadvertently activate the wheelchair and you can be injured.

**WARNING!** Risk of water build-up

The electronic sensors are sensitive to water and moisture. Avoid getting the covers wet. If they do get wet, for example from wet hair or rain, the covers may retain moisture that can cause an inadvertent delayed activation of the wheelchair and you can be injured.

**WARNING!** Covers must be completely dry before use

The electronic sensors are sensitive to water and moisture. Make sure that the covers are completely dry, both inside and outside, before replacing them on the sensor pads. Make sure that the covers are fitted correctly on the sensors and are not inside out. If any moisture remains in the covers, it can cause the sensors to inadvertently activate the wheelchair and you can be injured.

**WARNING!** Replace damaged or torn covers

The electronic sensors are sensitive to water and moisture. Make sure that the covers are whole. Damaged or torn covers must be replaced with Permobil parts. If the covers get damaged or torn, moisture can cause the sensors to inadvertently activate the wheelchair and you can be injured.

**CAUTION!** Cleaning requirements

For minor spot cleaning, the covers can be cleaned with a damp cloth and mild detergent. Turn off the power before cleaning. If more thorough cleaning is needed, follow the washing instructions on the cover. Make sure that the cover is dry before replacing it.

**IMPORTANT!** Scrapping and recycling

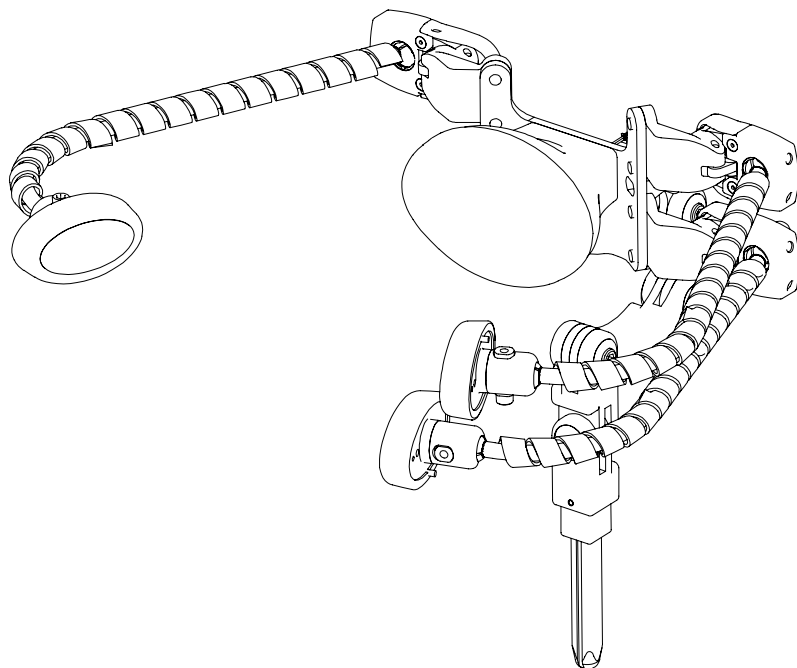
Electronics should be disposed of responsibly in accordance with local recycling regulations. Contact Permobil for information about scrapping agreements in force.



IMPORTANT! Electromagnetic fields

The electronics in a power wheelchair can be affected by external electromagnetic fields (for example mobile phones). Similarly, the electronics in the wheelchair itself also emit electromagnetic fields that can affect the immediate surroundings (for example certain alarm systems in businesses).

3 Overview



The Total Control Head Array is not a headrest. It is a device that makes it possible to operate the wheelchair with something other than a standard joystick. It can operate all the modes and functions of your power wheelchair. Your healthcare provider will tailor the operation of your head array system to meet your individual needs and then they will train you to use your Total Control Head Array.

Before you start using the Total Control Head Array in public places, we recommend that you try it out several times in an area with familiar surroundings, so that you become comfortable with operating your power wheelchair using the Total Control Head Array.

3.1 Activation zones

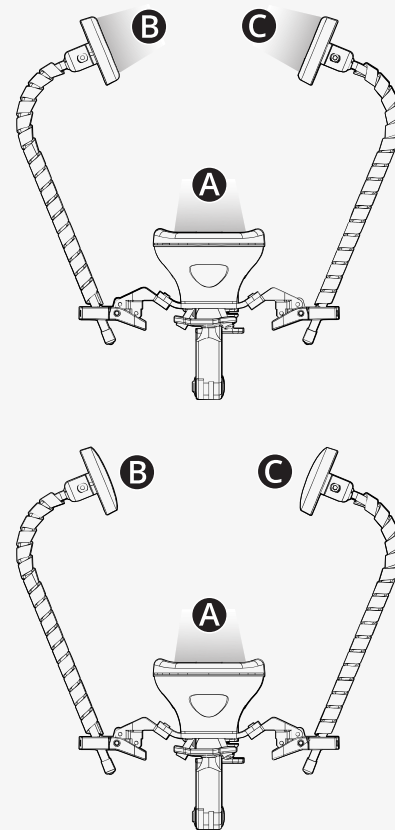
Occipital pad **A** has two proximity sensors. Control arms **B** and **C** can have either proximity sensors or egg switches.

Activation zones for proximity sensors **A**, **B**, and **C**, are shown as a gradient shading. The lesser amount of shading indicates where the sensors can begin to activate the control arms.

If your head array is configured with egg switches, pushing against egg switches **B** and **C** will activate the control arms.

For instructions on how the activation zones correspond to the default driving modes, see chapter 4.2 *Driving modes*, page 14.

If the configuration of your head array needs to be adjusted, contact your healthcare provider for assistance.



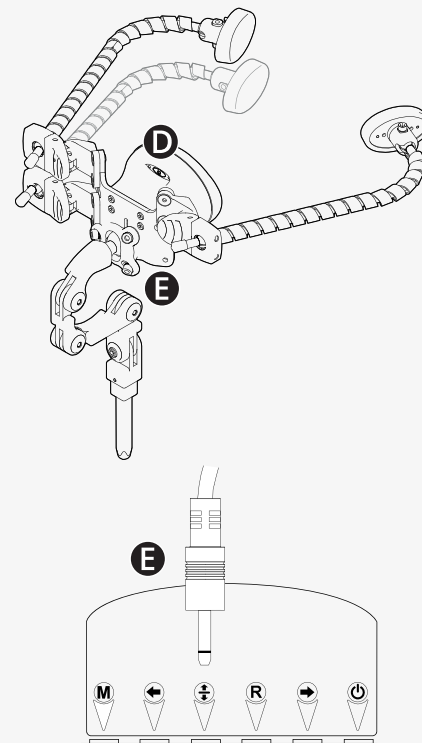
3.2 The on/off switch and cable ports

On/off switch **D** is located on the back of the occipital control module.

Additional cable ports **E** can be found on the connection panel, which is located on the underside of the occipital control module.

The functionality of the cable ports are as follows:

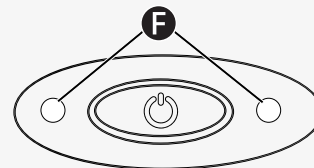
- M** mode
- ←** left
- ↕** forward/rearward
- R** rearward only
- right
- ⏻** on/off











3.3 The LED indicators

The LED indicators **F** can light up in three colors, steadily or flashing, as follows:

1. Steady green: ready for input.
2. Steady amber: one or more control is activated.
3. Flashing amber: stand-by mode.
4. Flashing red: an error has occurred.
Check that all cables are connected correctly and restart your wheelchair.
If that does not resolve the error, then report the number of flashes to your healthcare provider for assistance.



①		=	
②		=	
③		=	
④		=	

4 Usage

The Total Control Head Array is capable of operating all modes and functions of your power wheelchair.

4.1 Operation modes

The available operation modes are determined by which devices are connected to your power wheelchair and how your wheelchair is programmed.

Examples of operation modes are:

- driving
- seat functions
- mouse control
- iDevice control
- infrared control

Your healthcare provider will tailor the operation of your head array system to meet your individual needs and then they will train you to use your Total Control Head Array.

Typically, a forward command will move the highlight to the next choice and left/right commands will adjust or select the highlighted menu option.

The head array can switch between the wheelchair's operation modes in one of three ways:

1. Mode switch — OMNI:

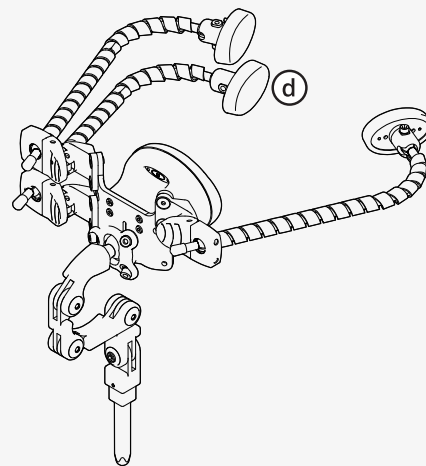
Activate mode switch or sensor **d** briefly to display the user menu screen. Navigate through the menu using sensors/switches **A**, **B**, and **C**. See chapter 3.1 *Activation zones*, page 9.

2. Timeout — OMNI:

After a period of inactivity, the user menu screen is displayed. Navigate through the menu using sensors/switches **A**, **B**, and **C**. See chapter 3.1 *Activation zones*, page 9.

3. Sequence using mode switch:

Use mode switch or sensor **d** to navigate through each operating mode directly. Each activation of the mode switch or sensor will select a new operation mode.



4.2 Driving modes

See page 9 for details about sensors/switches **A**, **B**, and **C**.

Default driving modes:

- Sensors in occipital pad **A** drive the wheelchair forward/rearward.
- Sensor/switch **B** turns the wheelchair left.
- Sensor/switch **C** turns the wheelchair right.
- Use **A** and **B** together to turn slightly left while driving.
- Use **A** and **C** together to turn slightly right while driving.

If you purposefully or accidentally give opposite commands simultaneously for 60 seconds, your head array will de-activate. To re-activate your head array, move your head to neutral (i.e. leave the activation zone of all sensors) before selecting a new command.

How you change between driving forward and rearward is determined by the configuration of the Total Control Head Array and the configuration of your power wheelchair. See below for the most common methods.



A	=	
B	=	
C	=	
A + B	=	
A + C	=	

An arrow on the OMNI display indicates the direction the wheelchair will travel when the forward command is given. After using the mode switch or auto-toggle (see below), the arrow on the display will change to the opposite direction. Driving with the forward command will be in the direction indicated by the arrow on the display.

The three most common methods to change between driving forward and rearward are:

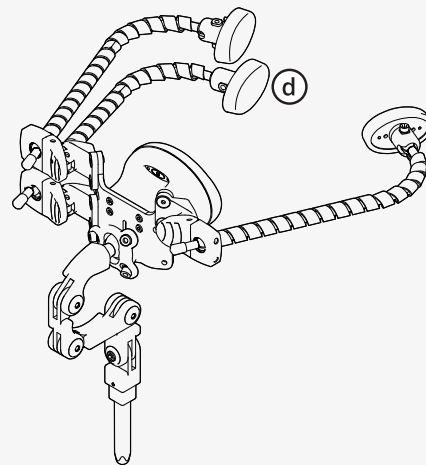
1. Mode switch — OMNI:

Briefly activate and release mode switch **d** while in driving mode.

2. Auto-toggle — OMNI:

Your OMNI interface can be programmed to automatically toggle the direction of travel linked to the forward command.

If this is the case, briefly activate and release the forward switch or sensor to change direction.

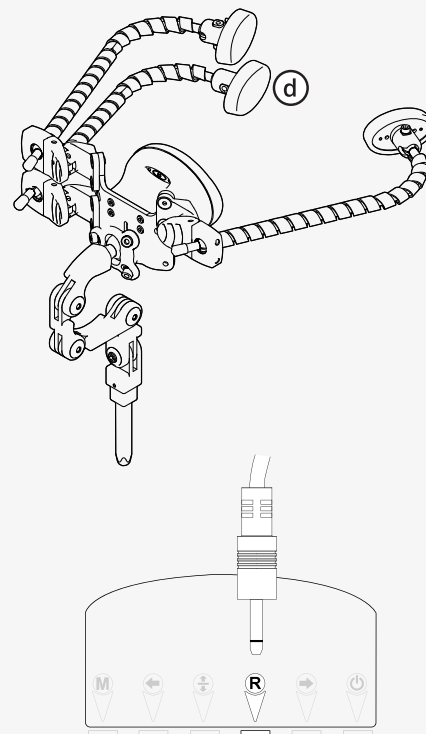


3. Dedicated reverse switch or sensor:

Connect switch or sensor ④ to cable port **R** on the underside of the occipital control module.

This is how you move your wheelchair rearward, if your Total Control Head Array is equipped with a dedicated reverse switch or sensor:

- To move the wheelchair rearward, activate dedicated reverse switch or sensor ④.
- Release the switch or sensor to stop moving rearward.

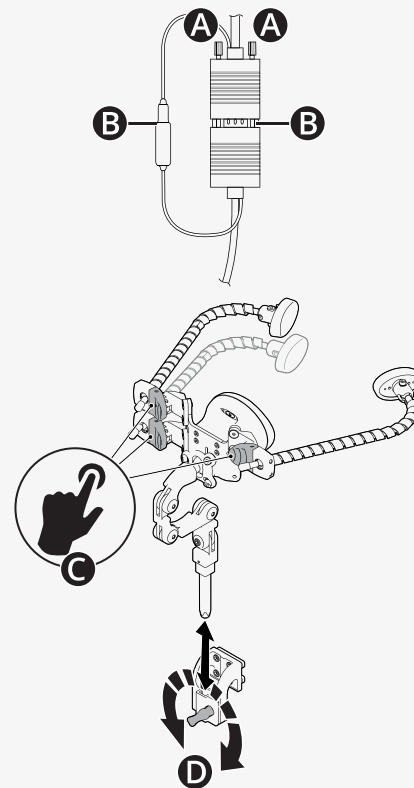


4.3 Removing the head array

This is how you remove the Total Control Head Array from your wheelchair:

- Turn screws **A** counter-clockwise to loosen them.
- Disconnect cables **B**.
- Press buttons **C** to unlock the swing-away arms and move them outward from the user.
- Turn lever **D** counter-clockwise and lift the whole head array from the wheelchair's backrest.

To re-attach the head array, assemble in the reverse order. Make sure that cables **B**, screws **A**, and lever **D** are all properly fitted and tightened.



5 Maintenance and cleaning

Turn off the power before cleaning. After cleaning and before operating the Total Control Head Array, make sure that all metal parts, pads, and covers are completely dry.

For minor spot cleaning, the covers can be cleaned with a damp cloth and mild detergent. If more thorough cleaning is needed, follow the washing instructions on the cover.

The metal parts on the head array can be cleaned using a damp cloth. If more thorough cleaning is needed, use soapy water on the surface.

Weekly maintenance:

- Clean the pads and covers using a cloth dampened with soapy water.

Daily maintenance:

- During weather conditions that cause you to sweat, the pads and covers must be cleaned every day.
- Check whether all sensors and switches are properly adjusted and in a fixed position, to ensure that all operation modes of the head array are always accessible to the user.

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