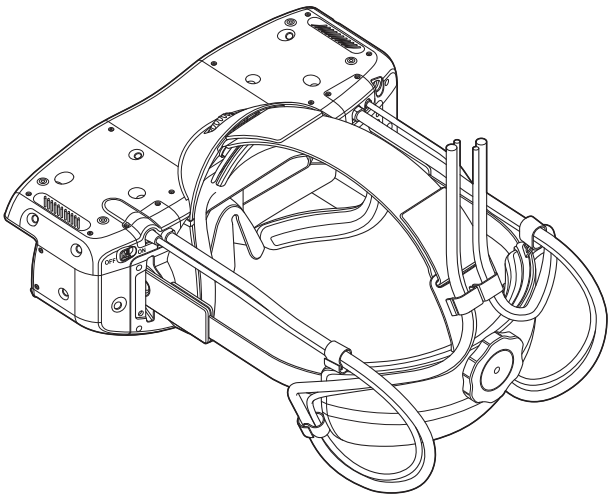
JVC

INSTRUCTIONS

Head Mounted Display

HMD-VS1W
HMD-VS1DW



Thank you for purchasing this JVC product.
Please read this “INSTRUCTIONS” prior to use to ensure proper use of this unit.
Be sure to read the (pages P. 4 to P. 8） especially for safe use of this unit.

For Customer use :
Enter below the serial No. which is located on the body.
Retain this information for future reference.

Model No. HMD-VS1W, HMD-VS1DW

Serial No.

B5A-3763-30

Contents

Getting Started
Accessories 3
Check the Accessories 3
Safety Precautions 4
Warning 8
Precautions 8
Name of Parts 12
Front 12
Rear 13

Set up
Putting on 14
Precautions during Use 14
Putting on the Head-mounted Display 14
Connection 17
Connecting with a PC 17
Connecting the Power Cord 17
Initial Configuration 18

Operate
Viewing Videos 20

Adjust/Set
About the Software 22
IPD Adjustment Software 22
HMD Configuration Software 23

Maintenance
Servicing of the HMD Unit 27
Replacement of Consumable Parts 28
Forehead and Face Pads 28
Rear Pad 28
Nose Pad 29
Adjustment Band 29
Protect Filter (HMD-VS1DW) 30
Disinfection of Product 32
Long-term Storage 33

Troubleshooting
Troubleshooting 34

Others
Use of Commands 36
List of Commands 37
Specifications 38
About Trademarks and Copyrights 39
Index 40

* The illustrations of the HMD unit used in this manual are those of HMD-VS1W. The appearance of other models may differ slightly.

Accessories

Check the Accessories

AC adapter ..... 1 piece
Power cord (for use in the U.S.) ..... 1 piece
Power cord (for use in Europe) ..... 1 piece

- This product also comes with a safety precautions guide.
- Be sure to read the “Safety Precautions” before using this equipment.

Safety Precautions

These are general Important Safety Instructions and certain items may not apply to all appliances.

Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
10. Only use attachments/accessories specified by the manufacturer.
11. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

12. Unplug this apparatus during lightning storms or when unused for long periods of time.
13. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
14. Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.
15. Do not overload wall outlets, extension cords, or convenience receptacles on other equipment as this can result in a risk of fire or electric shock.

Ces informations sont des CONSIGNES DE SÉCURITÉ IMPORTANTES et certains points peuvent ne pas s'appliquer à tous les appareils.

CONSIGNES DE SÉCURITÉ IMPORTANTES

1. Lire ces instructions.
2. Conserver ces instructions.
3. Tenir compte de tous les avertissements.
4. Respecter toutes les instructions.
5. Ne pas utiliser cet appareil à proximité de l'eau.
6. Ne nettoyer qu'avec un chiffon sec.
7. Ne pas boucher les ouvertures de ventilation.
   Installer selon les instructions du fabricant.
8. Ne pas installer à proximité de sources de chaleur telles que des radiateurs, des accumulateurs de chaleur, des poêles, ou d'autres appareils (comprenant les amplificateurs) qui produisent de la chaleur.
9. Protéger le cordon d'alimentation pour éviter qu'il ne soit piétiné ou ne se coince, tout particulièrement au niveau de la fiche, de la prise de courant et du point où il sort de l'appareil.
10. Utiliser uniquement des équipements/accessoires spécifiés par le fabricant.
11. N'utiliser qu'avec le chariot, le stand, le trépied, le support ou la table spécifié par le fabricant, ou vendu avec l'appareil. Lorsqu'un chariot est utilisé, faire attention pour déplacer la combinaison chariot/appareil pour éviter des blessures causées par un basculement.

12. Débrancher cet appareil pendant un orage ou quand il n'est pas utilisé pendant une longue durée.
13. L'entretien ou la réparation de l'appareil doit être effectué par du personnel qualifié uniquement. Un dépannage est nécessaire lorsque l'appareil a été endommagé d'une façon ou d'une autre, telle que lorsque le cordon d'alimentation ou la fiche est endommagé, si du liquide a été renversé ou si des objets sont tombés à l'intérieur de l'appareil, si l'appareil a été exposé à la pluie ou à l'humidité, ne fonctionne pas normalement ou a fait une chute.
14. Ne jamais insérer d'objet d'aucune sorte à l'intérieur de cet appareil à travers les ouvertures car ils pourraient toucher des points de tension dangereuse ou créer un court-circuit qui pourrait entraîner un incendie ou une électrocution.
    Ne jamais verser de liquide d'aucune sorte sur l'appareil.
15. Ne surchargez pas les prises murales, les cordons prolongateurs ou les prises de courant sur les autres appareils car cela pourrait entraîner un risque d'incendie ou d'électrocution.

CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION:
TO REDUCE THE RISK OF ELECTRIC SHOCK.
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

ATTENTION

RISQUE D'ELECTROCUTION
NE PAS OUVRIR

ATTENTION:
POUR EVITER TOUT RISQUE D'ELECTROCUTION NE PAS OUVRIR LE BOITER. AUCUNE PIECE INTERIEURE N'EST A REGLER PAR L'UTILISATEUR. SE REFERER A UN AGENT QUALIFIE EN CAS DE PROBLEME.

Le symbole de l'éclair à l'intérieur d'un triangle équilatéral est destiné à alerter l'utilisateur sur la présence d'une "tension dangereuse" non isolée dans le boîtier du produit. Cette tension est suffisante pour provoquer l'électrocution de personnes.

Le point d'exclamation à l'intérieur d'un triangle équilatéral est destiné à alerter l'utilisateur sur la présence d'opérations d'entretien importantes au sujet desquelles des renseignements se trouvent dans le manuel d'instructions.
Ces symboles ne sont utilisés qu'aux Etats-Unis.

CAUTION:
The mains plug shall remain readily operable.
- Remove the mains plug immediately if the product functions abnormally.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.

NOTES:
- The rating plate and safety caution are inside and/or the back of the main unit.
- The rating information and safety caution of the AC adapter are on its upper side.

Attention:
La prise secteur doit être opérationnelle.
- Débranchez immédiatement la fiche secteur si le produit ne fonctionne pas normalement.

AVERTISSEMENT : POUR EVITER LES RISQUES D'INCENDIE OU D'ELECTROCUTION, NE PAS EXPOSER L'APPAREIL A LA PLUIE NI A L'HUMIDITE.

L'appareil ne doit pas être exposé à de l'eau ou à des éclaboussures et les objets remplis de liquide, tels que des vases, ne doivent pas être placés sur l'appareil.

REMARQUES :
- La plaque signalétique et les consignes de sécurité se trouvent à l'intérieur et/ou à l'arrière de l'unité principale.
- Les informations de classification et les consignes de sécurité de l'adaptateur secteur se trouvent sur sa partie supérieure.

Warning

- As the power plug (main plug) is used to disconnect the unit from the wall outlet (mains), connect the unit to an easily accessible AC outlet.
- Should you notice an abnormality in the unit, disconnect the power plug (main plug) from the AC outlet (mains) immediately.
- The set is not disconnected from the AC power source (mains) as long as it is connected to the wall outlet (mains), even if the set itself has been turned off.

Precautions

Power Supply

Position the AC adapter near the wall outlet (mains) used. In case of strange noises, fumes, or smoke from the system, immediately unplug the AC power cord (mains lead) to turn all power off. Only turning the power switch of the head mounted display off will not turn the system off completely.

AC Adapter

- Use the attached AC Adapter and power cable.
- Do not use any unspecified adapter. It may cause failure of the product.
- Performance and safety are not guaranteed if any other AC power cord (mains lead) than those exclusive to this system is used.
- Do not disassemble or modify the AC adapter.
- Do not touch metal parts of the AC adapter. Especially keep in mind that touching it with a metal tool may cause a short-circuit, damaging the AC adapter.

Installation Environment

Avoid installation in the following environments.

- This device is not suitable for use in places where children are
- In direct sunlight, or where it is very hot or humid
- Places that are extremely cold

Operation Environment

Use this product in a safe place.

- Use this product by paying close attention to people and obstacles around you.
- Do not use this product in a place where your body is unstable. Doing so may cause the user to fall or result in injury.
- Do not walk while wearing this product.
- Use this product by wearing it appropriately. For details on how to wear this product, refer to “Wearing This Product”.
- Before using this product, adjust the distance between the pupils of your eyes. Failure to do so may cause fatigue or discomfort to your eyes.

Health Concerns

- Please refrain from using the devices when you feel tired, unwell or if you feel any other discomfort.
- Persons with photosensitivity, any kind of heart disease, or weak health should not use the equipment.

Supplier's Declaration of Conformity

Model Number:	HMD-VS1W, HMD-VS1DW
Trade Name:	JVC
Responsible party:	JVCKENWOOD USA Corporation
Address:	1440 Corporate Drive, Irving, TX 75038
Telephone Number:	678-449-8879

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 that may cause undesired operation.

Changes or modifications not approved by JVC could void the user's authority to operate the equipment. This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.
This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Déclaration de conformité du fournisseur

Numéro de modèle :	HMD-VS1W, HMD-VS1DW
Nom de marque :	JVC
Personne responsable :	JVCKENWOOD USA Corporation
Adresse :	1440 Corporate Drive, Irving, TX 75038
Numéro de téléphone :	678-449-8879

Cet ensemble se conforme à la partie 15 des règles de la FCC (Federal Communications Commission). Le fonctionnement est sujet aux deux conditions suivantes : (1) Cet appareil ne peut pas causer d'interférences nuisibles, et (2) cet appareil doit accepter toute interférence reçue, comprenant des interférences qui peuvent causer un mauvais fonctionnement.

Des changements ou modifications non approuvés par JVC peuvent annuler le droit de l'utilisateur de faire fonctionner l'appareil. Cet appareil a été testé et il a été reconnu qu'il se conforme aux limites concernant l'appareillage informatique de classe A correspondant à la partie 15 des règles de la FCC. Ces limites sont conçues pour fournir une protection raisonnable contre les interférences dangereuses lorsque l'équipement est utilisé dans un environnement commercial.
Cet appareil génère, utilise et peut émettre de l'énergie des fréquences radio et, s'il n'est pas installé et utilisé selon les instructions du fabricant, peut causer des interférences nuisibles en communications radio. L'utilisation de cet équipement dans une zone résidentielle est susceptible de causer des interférences néfastes, auquel cas l'utilisateur devra prendre des mesures à ses propres frais.

WARNING:
This equipment is compliant with Class A of CISPR 32. In residential environment this equipment may cause radio interference.

CAUTION:
Where there are strong electromagnetic waves or magnetism, for example near a radio or TV transmitter, transformer, motor, etc., the picture and the sound may be disturbed. In such case, please keep the apparatus away from the sources of the disturbance.

Dear Customer

This apparatus is in conformance with the valid European directives and standards regarding electromagnetic compatibility and electrical safety.
European representative of JVCKENWOOD Corporation is:
JVCKENWOOD Deutschland GmbH
Konrad-Adenauer-Allee 1-11
61118 Bad Vilbel
GERMANY

Sehr geehrter Kunde, sehr geehrte Kundin, dieses Gerät stimmt mit den gültigen europäischen Richtlinien und Normen bezüglich elektromagnetischer Verträglichkeit und elektrischer Sicherheit überein.
Die europäische Vertretung für die JVCKENWOOD Corporation ist:
JVCKENWOOD Deutschland GmbH
Konrad-Adenauer-Allee 1-11
61118 Bad Vilbel
DEUTSCHLAND

ATTENTION :
Cet équipement est conforme aux exigences de la classe A de la CISPR 32. En environnement résidentiel, cet appareil peut être à l'origine d'interférences radio.

Précaution:
Dans les endroits où il y a des ondes électromagnétiques puissantes ou du magnétisme, par exemple près d'un émetteur radio ou d'un téléviseur, d'un transformateur, d'un moteur, etc., l'image et son peuvent être déformés. Dans ce cas, veuillez éloigner l'appareil des sources de perturbations.

Cher(e) client(e),
Cet appareil est conforme aux directives et normes européennes en vigueur concernant la compatibilité électromagnétique et à la sécurité électrique.
Représentant européen de la société JVC KENWOOD Corporation:
JVCKENWOOD Deutschland GmbH
Konrad-Adenauer-Allee 1-11,
61118 Bad Vilbel,
ALLEMAGNE

ENGLISH

Information for Users on Disposal of Old Equipment and Batteries

Products

Battery

[European Union only]

These symbols indicate that equipment with these symbols should not be disposed of as general household waste. If you want to dispose of the product or battery, please consider the collection systems or facilities for appropriate recycling.

Notice: The sign Pb below the symbol for batteries indicates that this battery contains lead.

FRANÇAIS

Informations relatives à l'élimination des appareils et des piles usagés, à l'intention des utilisateurs

Produits

Pile

[Union européenne seulement]

Si ces symboles figurent sur les produits, cela signifie qu'ils ne doivent pas être jetés comme déchets ménagers. Si vous voulez jeter ce produit ou cette pile, veuillez considérer le système de collecte des déchets ou les centres de recyclage appropriés.

Notification: La symbole Pb en dessous du symbole des piles indique que cette pile contient du plomb.

ESPAÑOL / CASTELLANO

Información para los usuarios sobre la eliminación de baterías/pilas usadas

Productos

Baterías/pilas

[Sólo Unión Europea]

Estos símbolos indican que el equipo con estos símbolos no debe desecharse con la basura doméstica. Si desea desechar el producto o batería/pila, acuda a los sistemas o centros de recogida para que los reciclen debidamente.

Atención: La indicación Pb debajo del símbolo de batería/pila indica que ésta contiene plomo.

DEUTSCH

Benutzerinformationen zur Entsorgung alter Geräte und Batterien

Produkte

Batterie

[Nur Europäische Union]

Diese Symbole zeigen an, dass derartig gekennzeichnete Geräte nicht als normaler Haushaltsabfall entsorgt werden dürfen. Wenden Sie sich zur Entsorgung des Produkts oder der Batterie an die hierfür vorgesehenen Sammelstellen oder Einrichtungen, damit eine fachgerechte Wiederverwertung möglich ist.

Hinweis: Das Zeichen Pb unterhalb des Batteriesymbols gibt an, dass diese Batterie Blei enthält.

ITALIANO

Informazioni per gli utenti sullo smaltimento delle apparecchiature e batterie obsolete

Prodotti

Batteria

[Solo per l'Unione Europea]

Questi simboli indicano che le apparecchiature a cui sono relativi non devono essere smaltite tra i rifiuti domestici generici. Se si desidera smaltire questo prodotto o questa batteria, prendere in considerazione i sistem i o le strutture di raccolta appropriati per il riciclaggio corretto.

Nota: Il simbolo Pb sotto il simbolo delle batter ie indica che questa batteria contiene piombo.

NEDERLANDS

Informatie voor gebruikers over het verwijderen van oude apparatuur en batterijen

Producten

Batterij

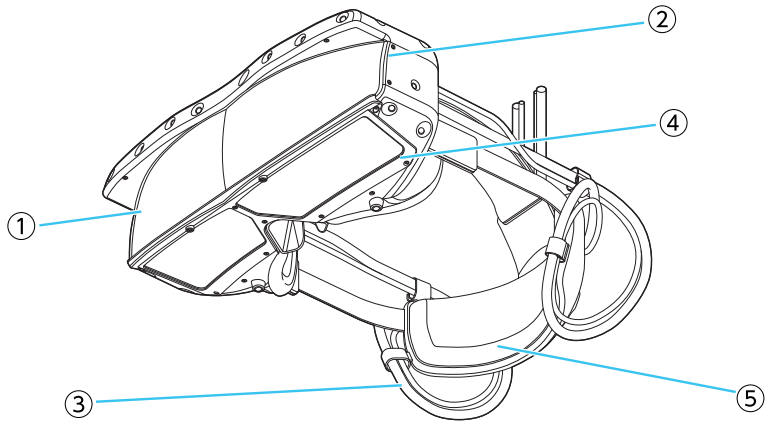
[Alleen Europese Unie]

Deze symbolen geven aan dat apparatuur met dit symbool niet mag worden weggegooid als algemeen huishoudelijk afval. Als u het product of de batterij wilt weggooien, kunt u inzamelsystemen of faciliteiten voor een geschikte recycling gebruiken.

Opmerking: Het teken Pb onder het batterijsymbool geeft aan dat deze batterij lood bevat.

Name of Parts

Front



① Half-mirror

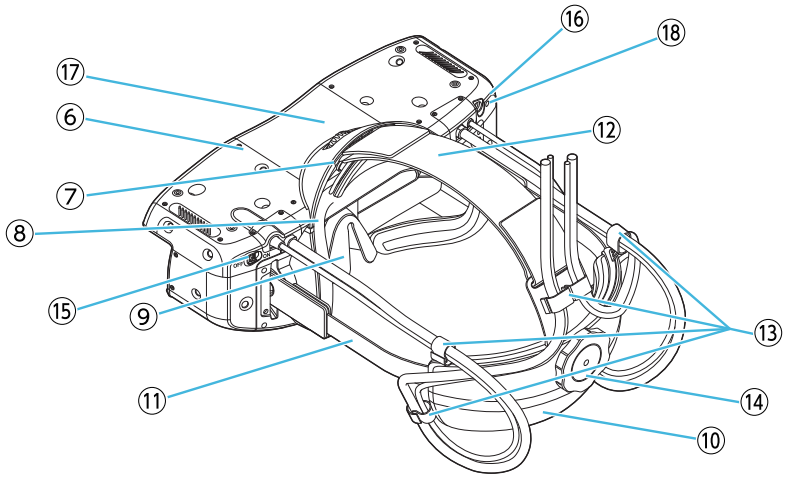
② Sensor Cover

③ Cable

④ Smoke Panel

⑤ Rear Pad

Rear



⑥ **Sensor Unit**

⑦ **Forehead Pad**

⑧ **Face Pad**

⑨ **Nose Pad**

⑩ **Rear Cover**

⑪ **Side Belt**

⑫ **Adjustment Band**

⑬ **Cable Hook**

⑭ **Belt Adjustment Dial**

⑮ **Power Switch**

⑯ **Audio Output Terminal**

⑰ **Forehead Adjustment Dial**

⑱ **Firmware Update Button**

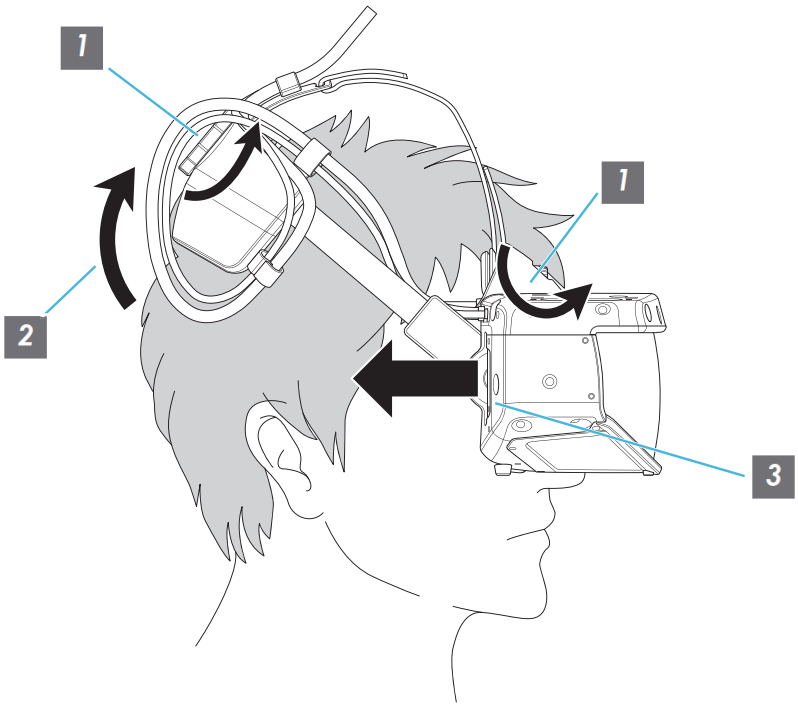
Putting on

Precautions during Use

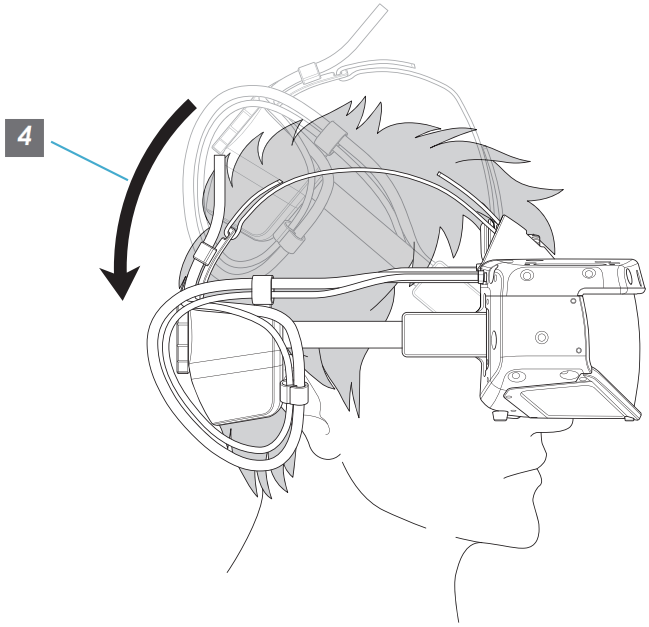
This unit is a precision device. Please refrain from using it at locations that are subject to humidity, dust or oily smoke. Otherwise, it may cause fire or malfunction.

Putting on the Head-mounted Display

1. Loosen by turning the belt adjustment dial and forehead adjustment dial in the anti-clockwise direction.
2. Lift the rear cover as illustrated in the diagram, followed by tilting the side belt upward.
3. Put on the unit from the front of the face and hold it.



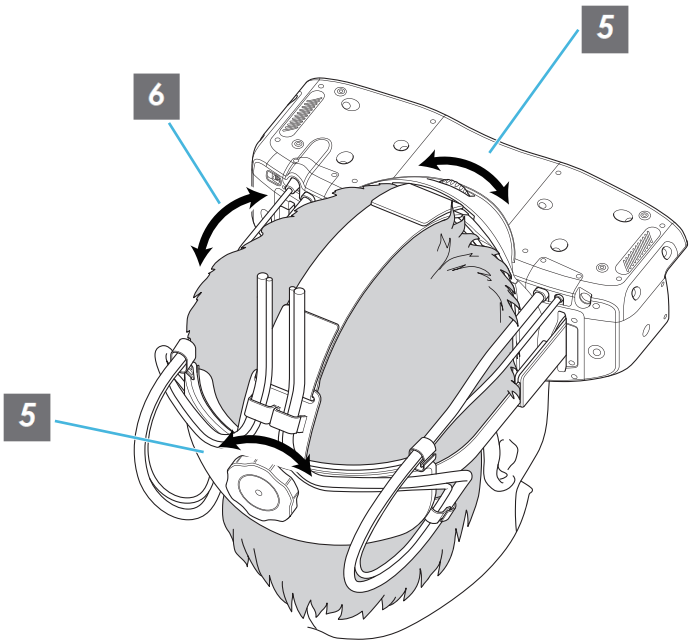
4 Lower the rear cover until the side belt is level as illustrated in the diagram.



5 Turn to adjust the belt adjustment and forehead adjustment dials until the headset fits snugly.

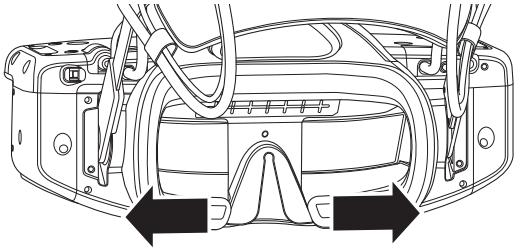
6 Adjust the hook-and-loop fastener of the adjustment band until it fits snugly on the top of the head.

* The adjustment band is elastic. Tightening the band can help to achieve greater comfort.



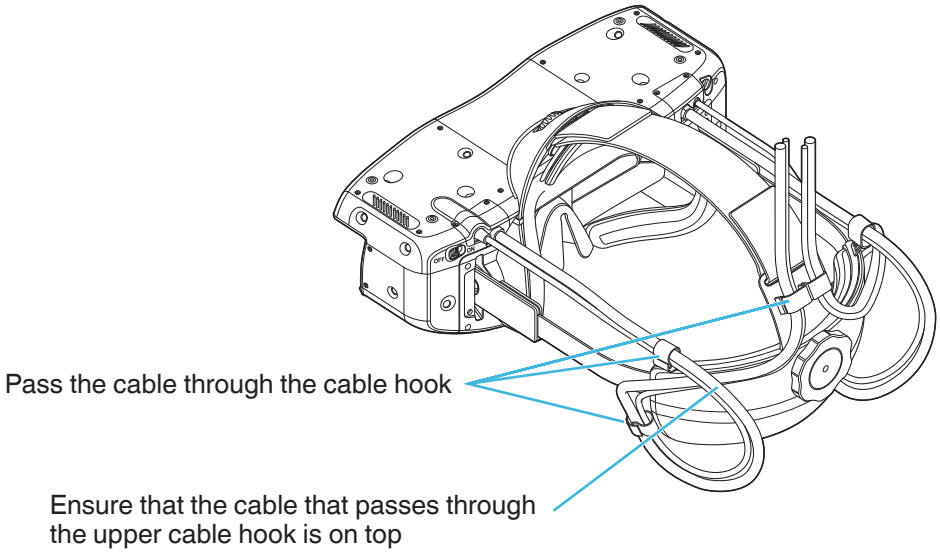
MEMO

- If you are wearing glasses, open the face pad slightly wider as illustrated in the diagram for greater comfort when wearing the unit.
- Although the design of this product has taken the use of glasses into consideration, it does not guarantee compatibility with all types of glasses.
  The glasses you are using may not be compatible with this product depending on the shape and size.



When cable is disconnected

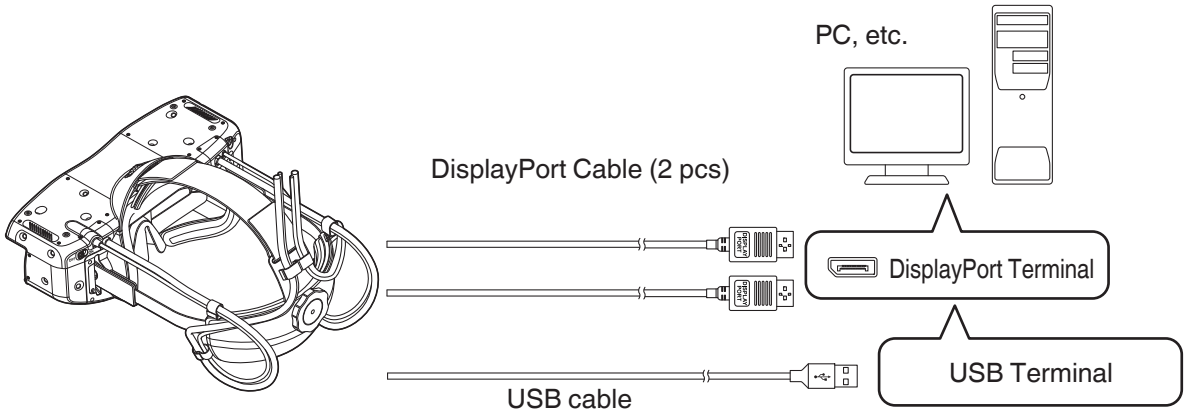
If the cable is disconnected, follow the illustration below to connect it.



Connection

- The connection procedures differ according to the device used. For details, please refer to the instruction manual of the device to be connected.
- Some cables cannot be connected to this unit due to the size of their connector cover.

Connecting with a PC

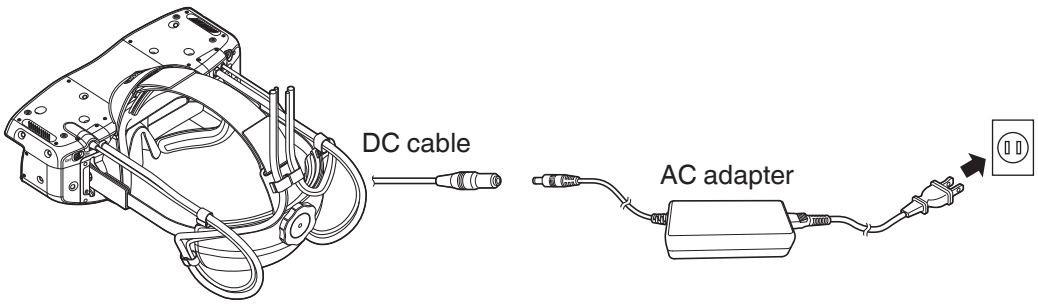


- Connect the two DisplayPort cables connected to this unit to the DisplayPort terminals of the PC.
- Connect the USB cable connected to this unit to the USB terminal of the PC.

*1 For more details on the recommended operating system requirements on the PC, please refer to “Specifications” (P. 38).

*2 When switching the system, do not connect a SteamVR Tracking System 2.0 equipment other than this unit to the USB terminal.
Doing so may damage the data on the equipment. (Refer to “Software” P. 22)

Connecting the Power Cord



① Connect the DC cable of the supplied AC adapter and the DC cable connected to this unit

② Connect the power cord to the AC adapter (use a power cord according to the environment in which the unit is used)

③ Insert the power plug into the wall outlet.

Precautions to prevent fire and electric shock

- When you are not using the HMD, please unplug the power cord from the outlet.
- Connect it using only the power cord supplied.
- Do not use a voltage other than the indicated power voltage.
- Do not damage, break or modify the power cord. Do not place a heavy object on the power cord, or heat or pull it. Doing so may damage the power cord.
- Do not unplug the power cord with wet hands.

Initial Configuration

1 Download and install the software programs

The following software programs are needed for the use of this unit.

- NVIDIA GeForce driver

Download and install NVIDIA GeForce Game Ready Driver 461.72 or a later version from the official NVIDIA website.

- Steam

Go to the official Steam website, click on “Install Steam” to download the setup file, followed by running the file and following the instructions on the screen to install the Steam software.

https://store.steampowered.com/

- SteamVR

Launch Steam and log in. Click on the Steam icon display in the task tray on the PC, and select SteamVR to install.

*1 To use SteamVR, you need to log in to Steam. Log in with an existing account, or do so after creating a new account.

*2 The URL link to the official Steam website and installation steps for Steam and SteamVR may be subject to changes.

- HMD-VS1W driver

Go to our website below to download and install the HMD-VS1W driver installer.

https://www3.jvckenwood.com/english/download/hmd-vs1w_software/

* The “IPD adjustment software” and “HMD configuration software” will also be installed together with the HMD-VS1W driver.

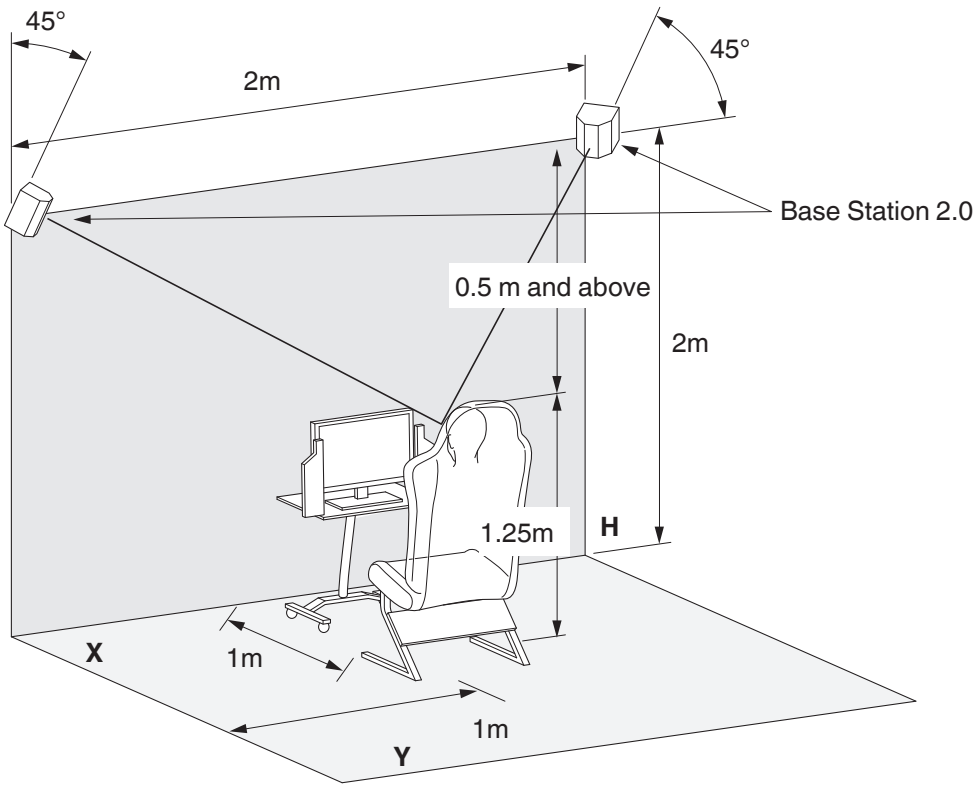
2 Connecting with a PC

Refer to “Connection” (P. 17) to connect the power cord. Connect this unit to the PC.

3 Installing SteamVR Base Station 2.0

As illustrated in the diagram below, install two SteamVR Base Station 2.0 units at a height of 2 m and a distance of 2 m from each other at the two corners in front of the space for using the system.
Use this unit at a seated position (height of approx. 1.25 m) that is 1 m away from the center of the two SteamVR Base Station 2.0 units.

* Ensure a height difference of at least 0.5 m between this unit and the SteamVR Base Station 2.0 units during use.

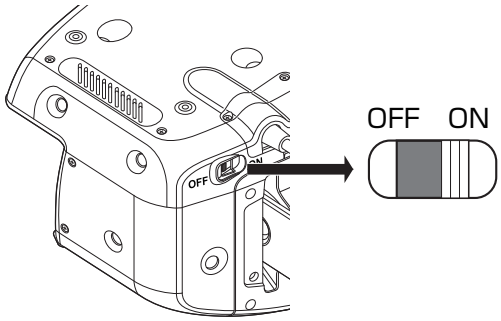


Viewing Videos

Initialization of the settings is needed before using this unit.
Before using this unit, refer to “Initial Configuration” (P. 18) to initialize the settings.

1 Turn on the power

Turn on the power switch of this unit.



2 Launch the SteamVR app

Room setup is needed during the first startup.
Upon launching the SteamVR app, a video image is displayed.

3 Adjust the volume level

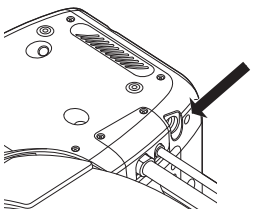
If you are using headphones or earphones, connect the unit to the audio output terminal, followed by adjusting the volume.

* This unit does not come with a volume control function. Adjust the volume on SteamVR.

① Set the volume output of SteamVR to 0

* The volume is configured to the maximum level in the default setting. Be careful of the volume when you are using headphones or earphones.

② Connecting the headphones/earphones



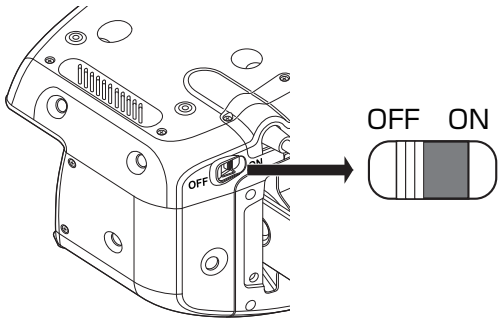
③ Adjust the volume output of SteamVR

4 Put on this unit

Refer to “Putting on” (P. 14) to put on this unit.

5 Turn off the power

After using, exit the SteamVR app before turning off the power switch.



*1 Do not power on or off by disconnecting the AC adapter.

*2 To power on again after turning off the power, allow a time interval of at least 5 seconds before doing so.

*3 If the power of the unit is turned off or the AC adapter is disconnected while SteamVR is running, a message prompting you to restart the HMD-VS1W driver will appear on the PC screen.

About the Software

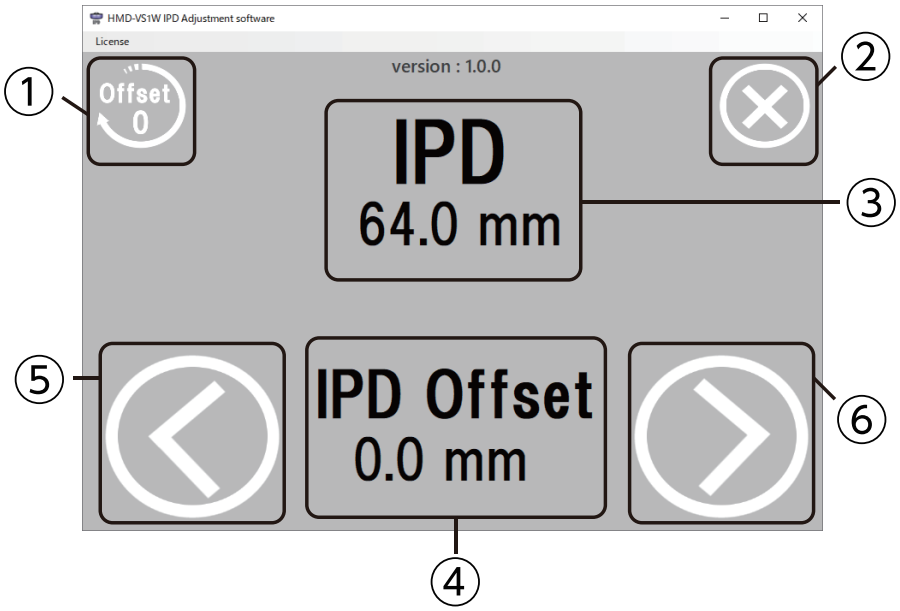
The IPD adjustment software and HMD configuration software will also be installed together with the HMD-VS1W driver. (Refer to P. 18 “Initial Settings”)

Before using the software, make sure to refer to “Initial Settings” (P. 18) and initialize the settings.

IPD Adjustment Software

Below are the functions for adjusting the interpupillary distance (IPD).
Note that the image may appear out of focus or it may cause strain to the eyes if the IPD is not correctly set.
Measuring the IPD in advance and applying the measurements to the settings of the IPD adjustment software helps to deliver a more pleasant experience when using this product.
Use the IPD software after powering on this unit and launching SteamVR.
The IPD value cannot be adjusted if SteamVR is not running.

* There are different ways to measure the IPD, such as consulting an eye specialist or measuring using a ruler and mirror.



① IPD Value Reset Button

Resets the IPD value to the default value (64.0 mm).

② Exit Software Button

Exits the IPD adjustment software program.

③ IPD Value Display

Displays the current IPD value. (Adjustable range: 55 mm to 75 mm)

④ Offset Value +/- Display

Displays the amount of increase or decrease from the default value of 64.0 mm to the current IPD value.

⑤ IPD Decrease Button

Decreases the IPD value in 0.5 mm intervals.

⑥ IPD Increase Button

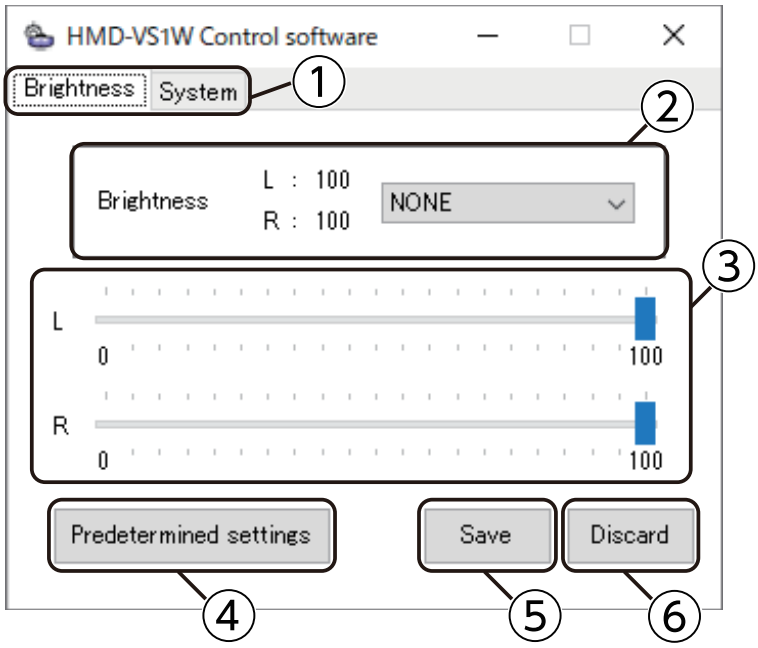
Increases the IPD value in 0.5 mm intervals.

HMD Configuration Software

Use the HMD configuration software after connecting this unit to a PC and turning on the power.

Brightness

Below are the functions for configuring the brightness.



① Brightness/System Tab

For switching between Brightness and System.

② Brightness Settings Display/Preset Switching

Displays the brightness settings of the left and right panels on the head-mounted display.
The preset values selected from the drop-down list are reflected in the head-mounted display.
Press “Save” to apply the settings.

③ Brightness Settings Lever

For configuring the preset brightness values available for selection from the drop-down list.
Selecting preset reflects the current brightness for L and R on the lever display.

④ Predetermined settings

For displaying a screen for configuring the name of the preset brightness.
Up to 8 ASCII characters can be used for the name.

⑤ Save

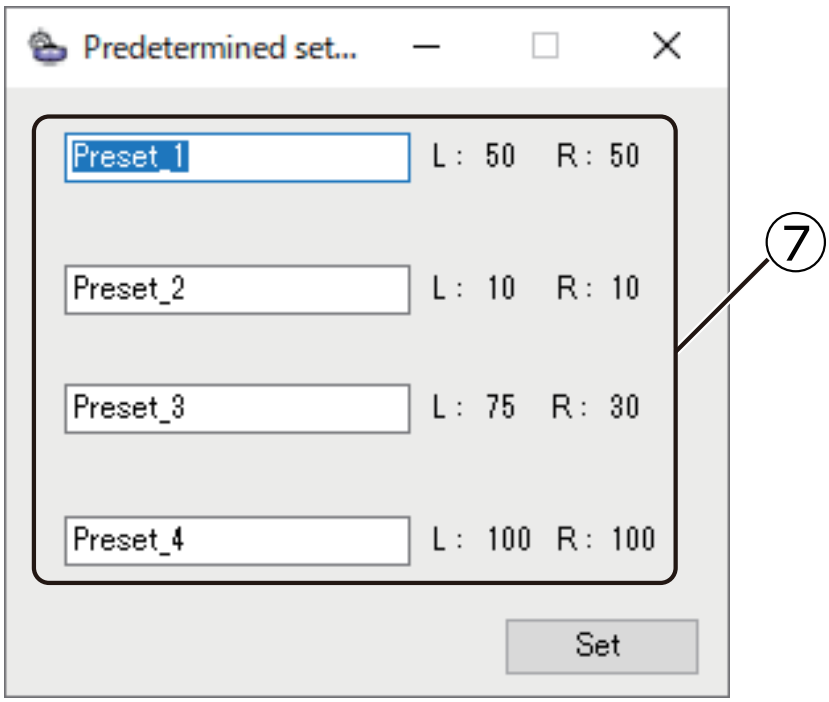
Saves the displayed settings to the head-mounted display.

⑥ Discard

Discards the displayed settings and displays the current head-mounted display settings in the software program.

Predetermined settings

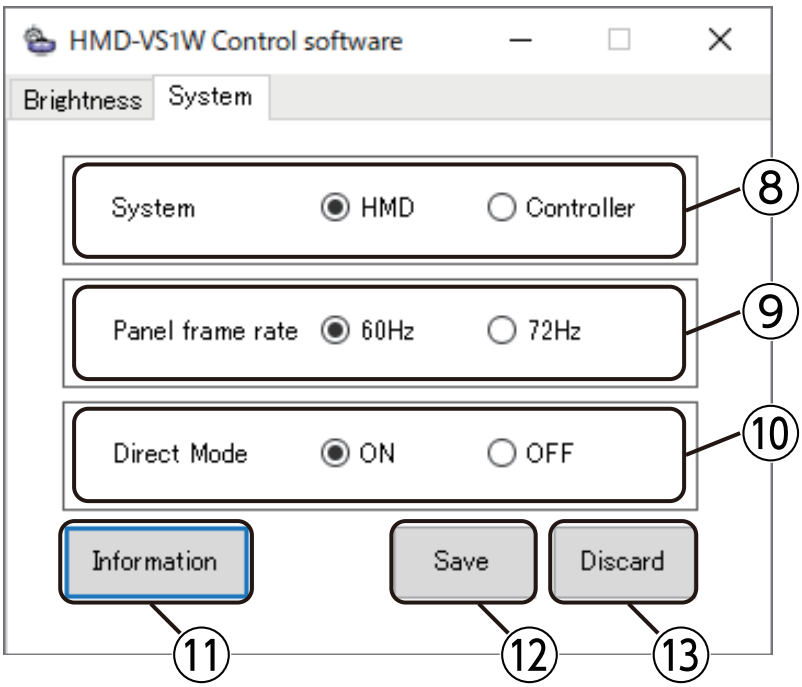
Below are the functions for configuring the name of the preset brightness.



⑦ Preset Name Settings

For configuring the name for each of the presets from 1 to 4.
The brightness configured for each of the presets is displayed in the respective fields.
Pressing Set reflects the configured preset name.

System



⑧ Switch System

For configuring whether for this unit to recognize SteamVR as a head-mounted display (HMD) or as a controller.

Pressing “Save” at the bottom reflects the settings.

* When switching between HMD/Controller, do not connect a SteamVR Tracking System 2.0 equipment other than this unit to the USB terminal. Doing so may damage the data on the equipment.

⑨ Switch Refresh Rate

For switching the refresh rate for the panel of the head-mounted display.

Pressing “Save” at the bottom reflects the settings.

* Do not switch the refresh rate while SteamVR is running.
  If the refresh rate is changed, SteamVR needs to be rebooted for video images to be displayed.

⑩ Direct Mode ON/OFF

For switching Direct Mode to ON/OFF when using GPU (NVIDIA).

Pressing “Save” at the bottom reflects the settings.

* Direct Mode is a mode for the NVIDIA driver to recognize the VR headset not as a typical desktop monitor, but as a special display that allows access only by VR applications. Turn on the Direct Mode when using SteamVR. When using other VR apps, follow the instruction manual to configure the Direct Mode accordingly. To display Windows images on the HMD-VS1W/HMD-VS1DW, turn off the Direct Mode.

⑪ Information

Displays information on the head-mounted display.

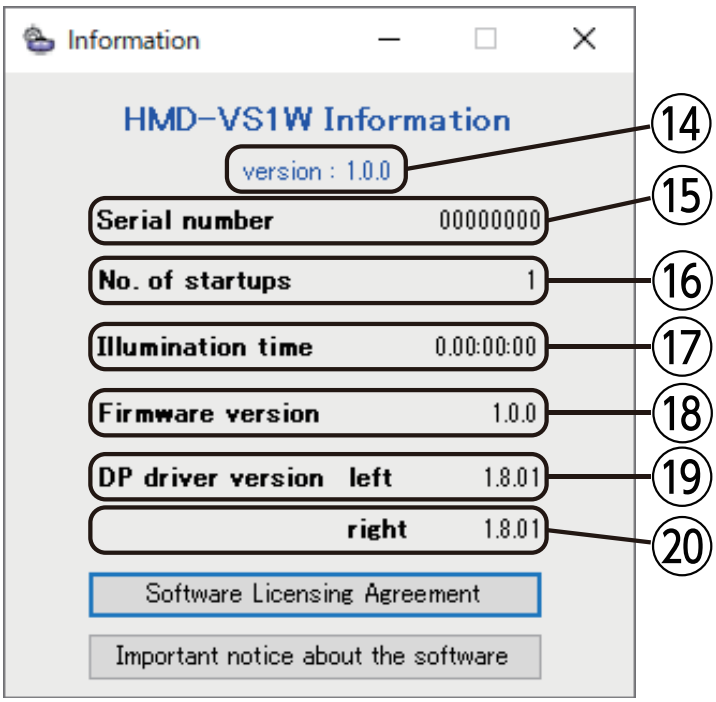
⑫ Save

Saves the displayed settings to the head-mounted display.

⑬ Discard

Discards the displayed settings and displays the current head-mounted display settings in the software program.

Information



⑭ version

Displays the version of this software.

⑮ Serial number

Displays the serial number of this unit.

⑯ No. of startups

Displays the number of times the power of this unit has been turned on.

⑰ Illumination time

Displays the panel display time of this unit.

⑱ Firmware version

Displays the firmware version of this unit.

⑲ DP driver version left

Displays the firmware version of the IC (left) inside this unit.

⑳ DP driver version right

Displays the firmware version of the IC (right) inside this unit.

Servicing of the HMD Unit

- Always keep the product clean.
- Because lenses such as half mirrors are coated, rubbing with a hard object may cause scratches.
- If the product becomes dirty, follow the procedure below.

  1) Blow off the dust on the surface

     Use a manual pump-type air blower or a soft-bristle brush for lenses to remove dust on the surface.

     Do not use a spray can type air duster. The gas may affect the performance of this product.

     As with glasses, you don't have to worry about fine small dust.

  2) Removing Contaminates

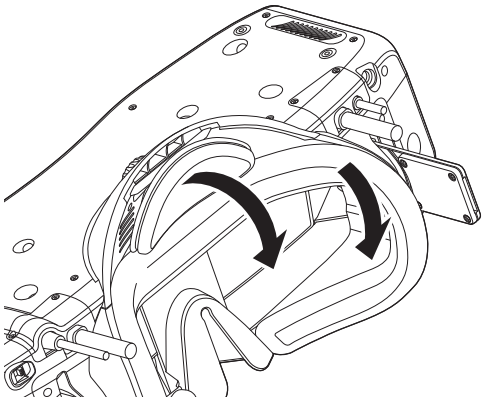
     Use a clean, soft cloth or a lens cleaning cleaning paper lightly moistened with IPA (isopropyl alcohol) with a purity of 90% or higher.

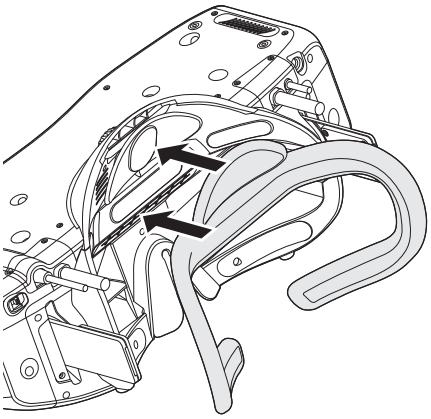
     When cleaning, wipe from the center to the outside with a light force. If you rub it too hard, it may be scratched.
- To replace the half-mirror, please contact our service center.
- Replace the consumable parts periodically.
- For purchase of consumable supplies, please consult our authorized dealer or customer service center.

Replacement of Consumable Parts

Forehead and Face Pads

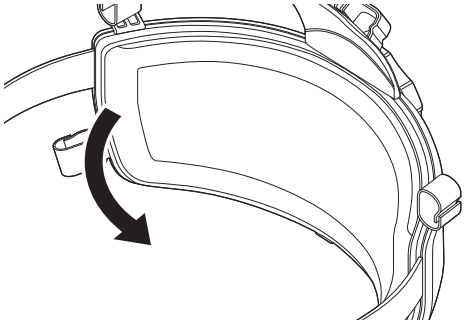
- The forehead and face pads can be attached to this unit using a fastener. Lift the pad carefully at the edge of the soft portion to detach it from the unit.
  To attach a new forehead or face pad, press gently while ensuring that the fastener on the pad coincides with the fastener on the unit.

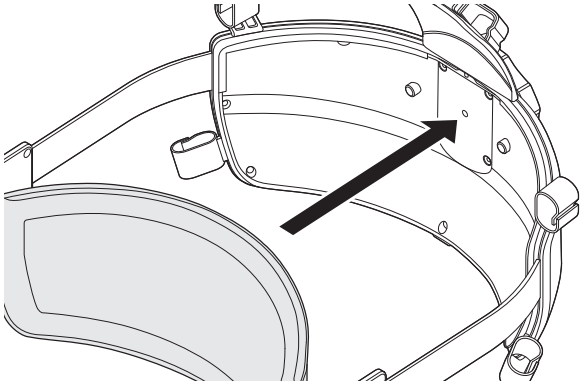




Rear Pad

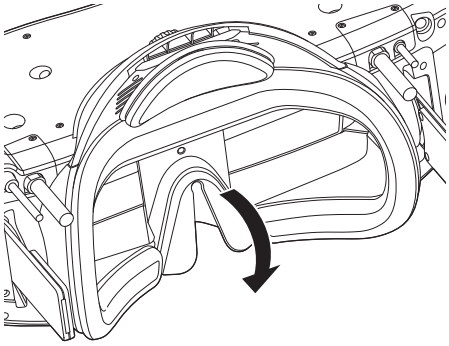
- The rear pad can be attached to the rear cover unit using a double-sided tape. Lift the pad carefully at the edge of the soft portion to detach it from the unit.
  To attach a new rear pad, do so by pressing the rear pad gently while ensuring that it coincides with the contour of the rear cover unit.

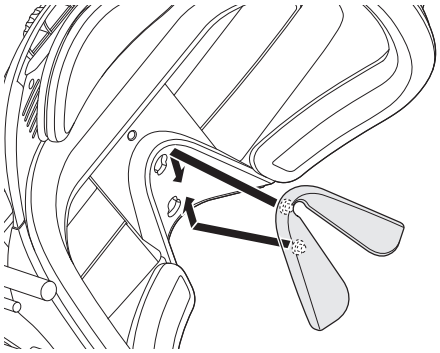




Nose Pad

- The nose pad can be attached to this unit using a hook. Lift the pad carefully at the edge of the soft portion to detach it from the unit.
  To attach a new nose pad, hook the protruded part of the nose pad to the hole on the unit.

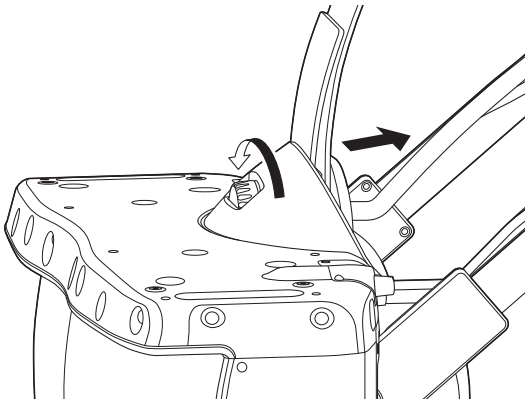




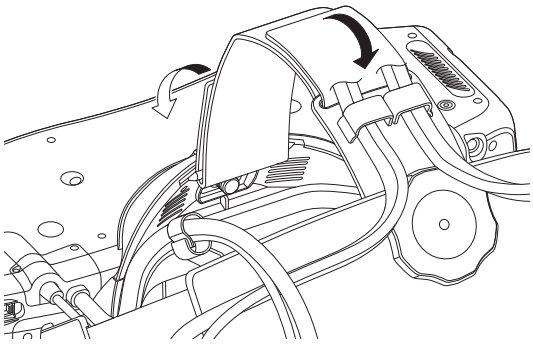
Adjustment Band

- To replace the adjustable band, do so after removing the forehead pad.

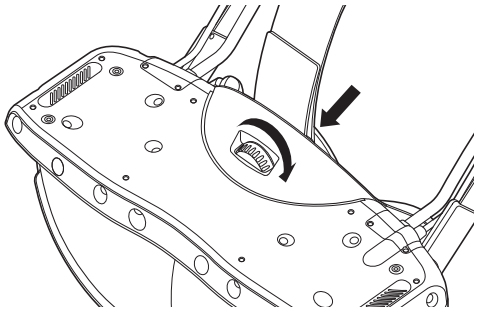
1 Turn the forehead adjustment dial counterclockwise to detach the forehead pad along with the base of the forehead pad.



2 Detach the hook-and-loop fastener of the adjustment band and replace it.



3 After attaching the new adjustment band, press the forehead pad and turn the forehead adjustment dial clockwise to attach it.



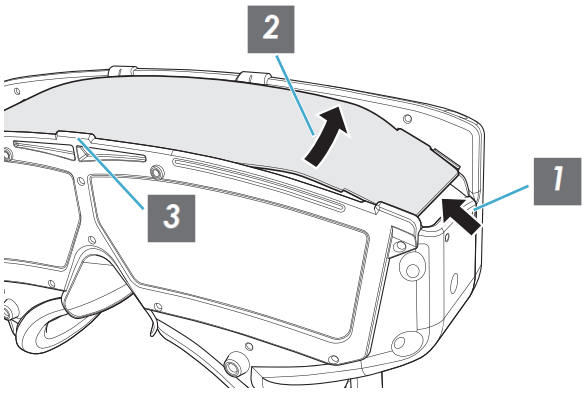
Protect Filter (HMD-VS1DW)

Removing the Protect Filter

1 Push the edge of the Protect Filter in the direction indicated by the arrow.

2 The Protect Filter will be raised. Pull the raised portion.

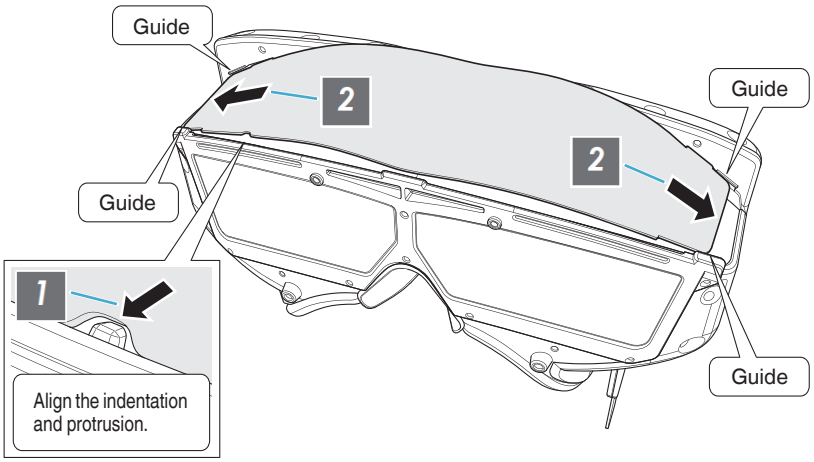
3 Perform the same steps for the opposite edge of the Protect Filter and the lock at the lower end will be disengaged.



Attaching the Protect Filter

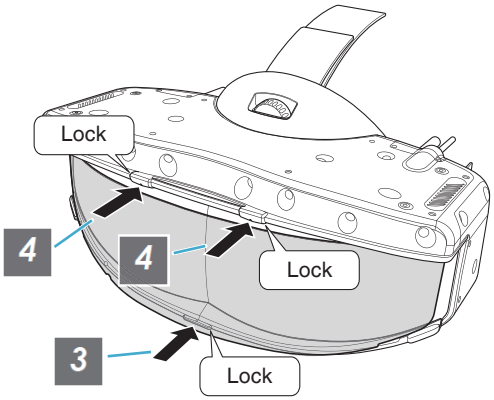
1 Align the indentation on the Protect Filter with the protrusion on the main unit.

2 Bend the Protect Filter and insert both edges of it into the guide of the main unit.



3 Push the Protect Filter toward the lower lock.

4 Push the Protect Filter towards the upper two locks.



* When the Protect Filter is attached, you may see little reflected light from the combiner, but this is not malfunction.

Parts	Parts No.
Face Pad	G1D-0441-00
Forehead Pad	G1D-0442-00
Nose Pad	G1D-0443-00
Rear Pad	G1D-0444-00
Adjustment Band	J6B-0070-00
Protect Filter	B1B-0258-00

Disinfection of Product

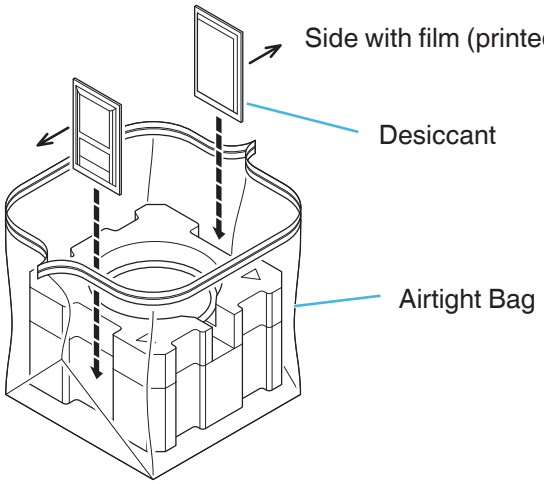
“Alcohol (ethanol) disinfectants” and “alcohol-type (ethanol) wet tissues” available commercially can be used if the following precautions are complied with.

- Do not wet the openings (external connection terminals, vents, etc.), gaps inside this unit and the interior face of the rear cover with disinfectants.
- Use disinfectants and wet tissues that do not contain chlorine or chlorine-based additives.
  Penetration of chlorine or chlorine-based additives into this product may cause corrosion of the metallic parts and result in malfunction.
- Dampen a soft cloth or wet tissue with a small amount of disinfectant liquid such that it is not dripping from cloth or tissue, and use it to wipe the surface of the unit.
  Do not spray disinfectants directly onto the product or immerse the unit in the disinfectant liquid. Doing so may cause the unit to malfunction.
- Do not power on the unit while it is still wet after wiping with the disinfectant. Doing so may cause the unit to malfunction.
- The sterilization or disinfection effect varies with the disinfectant or wet tissue in use. Before using, check with the seller or manufacturer of the disinfectant or wet tissue for more information.
- We do not guarantee the compatibility of this product with all types of disinfectants and wet tissues. Try out the disinfectant in advance at a less noticeable spot on this unit to check whether there is any abnormality after use. Note that in the event that the product is damaged or malfunction occurs as a result of alcohol disinfection, users shall be responsible for any costs incurred from the necessary repairs, including replacement of the parts.
- Do not wipe the printed parts. Doing so may cause the printed information to disappear or fade in color.
- When using a commercially available sterilizer, please check with the seller or manufacturer of the device for more information before using.
  Note that in the event that the product is damaged or malfunction occurs as a result of the sterilizer, users shall be responsible for any costs incurred from the necessary repairs, including replacement of the parts.

Long-term Storage

- For prolonged storage of the unit at a place with an indoor temperature of 35°C and humidity of 60% or higher, it is recommended that you keep it in an airtight bag together with desiccants.
- Replace the desiccants once a year. The desiccants will need to be replaced at shorter intervals if the storage environment is extremely humid.

* For more information on the desiccants and airtight bag to be used, please consult our authorized dealer or customer service center.



Parts	Parts No.
Airtight Bag	C43435-004A
Desiccant	LC43436-001A

Troubleshooting

Power is not supplied

Check	Action	Reference Page
Is the power cord disconnected?	Insert the power cord (plug) properly.	P. 17

Video image does not appear or appears distorted

Check	Action	Reference Page
Is the power of the devices (PC, etc.) turned on?	Turn on the power of the devices (PC, etc.).	P. 17
Are the devices (PC, etc.) properly connected?	Connect the devices (PC, etc.) properly.	P. 17
Are the correct signals being output from the device (PC, etc.)?	Configure the devices (PC, etc.) correctly.	P. 17
Does the PC meet the recommended operating system requirements?	Check the recommended operating system requirements for PCs.	P. 38
Are the “HMD”/“Controller” settings correct?	If the video images are also using the resources of SteamVR, configure “System” to “HMD”.	P. 25
Are the IDs for the two base stations correctly configured?	Configure the IDs (configure to different IDs) correctly. For more details, please refer to the instruction manual of SteamVR Base Station 2.0.	-
Are the Direct Mode settings correctly configured?	Turn on the Direct Mode when using SteamVR. When using other VR apps, follow the instruction manual to configure the Direct Mode accordingly. To display Windows images on the HMD-VS1W/HMD-VS1DW, turn off the Direct Mode.	P. 25

Video image is dark or blurry

Check	Action	Reference Page
Is the half-mirror dirty?	If dirt is attached to the surface of the half-mirror, wipe it off using a piece of dry and soft cloth.	P. 27
Are you wearing the unit correctly?	Adjust the belt adjustment dial, forehead adjustment dial and adjustment band to wear the unit properly.	P. 14

No sound is heard

Check	Action	Reference Page
Are the headphones correctly connected?	Connect the headphones or earphones correctly to the audio output terminal.	P. 20
Are the correct signals being output from the device (PC, etc.)?	Configure the devices (PC, etc.) correctly.	P. 17

Unable to change the IPD value using the IPD adjustment software

Check	Action	Reference Page
Is the power of the unit turned on?	Turn on the power of the connected devices.	P. 20
Is SteamVR running?	Start up SteamVR.	P. 20

Use of Commands

It is possible to control this unit by connecting it to a PC using a USB cable.

Required environment

Windows10

Terminal software

1 Connect this equipment and PC with USB cable

For the first connection, the driver will be installed automatically. (For Windows10)
Make sure you have “USB Serial Device (COMx)” in “Ports (COM and LPT)” in Device Manager.

- “x” changes depending on the environment.

2 Start the terminal software

Connect to “USB serial device (COMx)” with any terminal software.

Recommended settings	
Speed	115200
Data	8 bit
Parity	none
Stop bit	1 bit
Flow Control	none

3 Use commands

You can operate this unit and acquire the status by entering commands on the terminal.

ex.

state [arg1]

[arg1] l Gets the status of the left panel.

r Gets the status of the right panel.

*1 “state” can be abbreviated as “st”

*2 Please leave a “space” between “state” and “arg1”

Result	Meaning
STATE_NONE	The power switch is off.
STATE_WAITCABLE	The power switch is ON and the DisplayPort cable is not connected.
STATE_CONNECTING	The DisplayPort cable is connected and waiting for the connection to stabilize.
STATE_NORMAL	The connection with the DisplayPort cable is stable.

List of Commands

* r…Right panel operation, l…Left panel operation

Command	Abbreviation	arg1	arg2	arg3	arg4	Output	Description
state	st	r/l	-	-	-	STATE_NONE STATE_WAITCABLE STATE_CONNECTING STATE_NORMAL	You can get the status of each panel. STATE_NONE: The power switch is off. STATE_WAITCABLE: The power switch is ON and the DisplayPort cable is not connected. STATE_CONNECTING: The DisplayPort cable is connected and waiting for the connection to stabilize. STATE_NORMAL:The connection with the DisplayPort cable is stable.
framerate	fr	-	-	-	-	60/72	Shows the current refresh rate settings.
		60/72	-	-	-	-	Change the refresh rate settings.
directmode	dm	-	-	-	-	off/on	Shows the current NVIDIA Direct Mode settings. off : Direct Mode Off on : Direct Mode On
		on/off	-	-	-	-	Change the NVIDIA Direct Mode settings. off : Direct Mode Off on : Direct Mode On
time	tm	-	-	-	-	12h34m	Displays the panel display time. Over 60,000 hours will be displayed as 60000h +.
count	cnt	-	-	-	-	123	Displays the number of times the power is turned on. It is displayed as 5000000+ after 5 million times.
version	ver	-	-	-	-	ver.0.0.0	Displays the HMD-VS1W/HMD-VS1DW firmware version.
name	nm	-	-	-	-	HMD-VS1W/HMD-VS1DW	Displays the product name.
serialnumber	sn	-	-	-	-	00000000	Shows the serial number.
brightness	br	-	-	-	-	l:100 r:100	Displays the brightness.
		(NONE)/l/r	0 - 100/+/-	-	-	-	Change the brightness. You can specify the brightness by entering a numerical value (0 to 100). You can increase / decrease the brightness by 1 with +/-. Perform the same operation on the left and right without specifying l / r.
preset	pr	None	-	-	-	0 - 4	Displays the preset number being set.
		all/now	-	-	-	num:NUM br_L: 0 - 100 br_R: 0 - 100 Name:NAME	Displays preset information. all:View information for all presets. now: Display information about presets being set.
		num	l/r/n/all			num:NUM br_L: 0 - 100 br_R: 0 - 100 Name:NAME	Display the preset specified by the argument “num” (1-4). l: Left panel brightness is displayed. r:Left panel brightness is displayed. n:Display preset name. all:Show all of the above.
		num	0 - 100	0 - 100	NAME	None	Sets the preset specified by the argument “num” (1-4). arg2: Brightness (left) arg3: Brightness (right) arg4: Preset name
ocm	None	(NONE)/l/r	-	-	-	-	Displays the firmware version of the DP-mipi conversion chip. Show both panels without l or r.
reset	rst	-	-	-	-	-	Initialize preset settings, refresh rate, and Direct Mode set
dfu	-	-	-	-	-	-	Reboots in the DFU Mode (mode for updates).
powerswitch	pwrsw	-	-	-	-	Off/On	Indicates the status of the power switch (Off/On).
power	pwr	-	-	-	-	off/on	Indicates the status of the power (Off/On).
		on/off	-	-	-	-	For switching the power to On/Off.

Specifications

Product Name		Head Mounted Display
Model Name		HMD-VS1W, HMD-VS1DW
Display Device/Resolution		5.5", 2560 × 1440 × 2
Refresh Rate		60 Hz / 72 Hz
Color Gamut		sRGB 100% (area ratio)
Optical System		Half-mirror + Combiner
Angle of View		H: 120° V: 45° (V: 72° with open view)
Interpupillary Distance		Adjustable using IPD adjustment software
Input Compatibility Signal		1440×2560(WQHD) 60Hz/72Hz
Input/Output	Video/Audio Input Terminal	PC: DisplayPort 1.2 × 2 (Supports HDCP2.2)
	Audio Output Terminal	Stereo mini plug x 1
	Control Terminal	PC: USB 2.0 (USB Type-A) × 1
Cable Length		3 m (DisplayPort, USB, power cable bundled)
Power Requirements		AC 100 to 240 V, 50/60 Hz (AC adapter)
		DC 12 V (Main Unit)
Power Consumption		6 W
Operation/Storage Environment	Allowable Operating Temperature Range	0 °C to + 35 °C
	Allowable Storage Temperature Range	-15 °C to +70 °C
	Allowable Relative Humidity Range	20 % to 80 %
External Dimensions (W x D x H)		280 x 135 x 134 mm (excluding head band and cable)
Mass		HMD-VS1W 640 g (excluding head band and cable) 1270 g (including head band and cable) HMD-VS1DW 690 g (excluding head band and cable) 1320 g (including head band and cable)
Accessories		Refer to P. 3.

Recommended Operating System Requirements for PC	
CPU	Intel Core i9 9900K or higher
GPU	NVIDIA GeForce RTX 2080 or RTX 3070 (or higher)
Memory	32 GB and above
Video Output	DisplayPort 1.2 (or higher) × 2
USB Port	USB 2.0 or higher x 1
OS	Windows 10 64-bit

- Design and specifications are subject to change without prior notice.
- Please note that some of the pictures and illustrations may have been abridged, enlarged or contextualized in order to aid comprehension.
  Images may differ from the actual product.
- Fine black spots may be seen on the outer surface of the half-mirror. These do not have any impact on the video images during actual use.
- The display device is manufactured using extremely high-precision technology with a pixel effectiveness of 99.99%. Only 0.01% or less of the pixels are either missing or would remain permanently lit.

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Index

A AC adapter....3
Accessories....3
Adjust the volume level....20
Adjustment Band....13
Airtight Bag....33
Audio Output Terminal....13

B Belt Adjustment Dial....13
Brightness....23
Brightness - Discard....23
Brightness - Save....23
Brightness Settings Display/Preset Switching....23
Brightness Settings Lever....23
Brightness/System Tab....23

C Cable....12
Cable Hook....13
Connecting the Power Cord....17
Connecting with a PC....17
Connection....17

D Desiccant....33
Direct Mode ON/OFF....25
Disinfection of Product....32
DisplayPort cable....17
DisplayPort Terminal....17
Download and install the software programs....18
DP driver version left....26
DP driver version right....26

E Exit Software Button....22

F Face Pad....13
Firmware Update Button....13
Firmware version....26
Forehead Adjustment Dial....13
Forehead Pad....13

H Half-mirror....12
HMD Configuration Software....23
HMD-VS1W driver....18

I If you are wearing glasses....16
Illumination time....26
Information....25, 26
Initial Configuration....18
Installing SteamVR Base Station 2.0....19
IPD Adjustment Software....22
IPD Decrease Button....22
IPD Increase Button....22
IPD Value Display....22
IPD Value Reset Button....22

L Launch the SteamVR app....20
List of Commands....37
Long-term Storage....33

N No. of startups....26
Nose Pad....13
NVIDIA GeForce driver....18

O Offset Value +/- Display....22

P Power Cord....3
Power Switch....13
Predetermined settings....23, 24
Preset Name Settings....24
Protect Filter....30
Put on this unit....21
Putting on the Head-mounted Display....14

R Rear Cover....13
Rear Pad....12
Recommended Operating System Requirements for PC....38
Replacement of Adjustment Band....29
Replacement of Consumable Parts....28
Replacement of Face Pad....28
Replacement of Forehead Pad....28
Replacement of Nose Pad....29
Replacement of Rear Pad....28

S Sensor Cover....12
Sensor Unit....13
Serial number....26
Servicing of the HMD Unit....27
Side Belt....13
Smoke Panel....12
Specifications....38
Steam....18
SteamVR....18
SteamVR Base Station 2.0....19
Switch Refresh Rate....25
Switch System....25
System....25
System - Discard....25
System - Save....25

T Troubleshooting....34
Turn off the power....21
Turn on the power....20

U USB cable....17
USB Terminal....17
Use of Commands....36

V version....26
Viewing Videos....20

W When cable is disconnected....16

HMD-VS1W/HMD-VS1DW
Head Mounted Display

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1222KSH-SW-XX