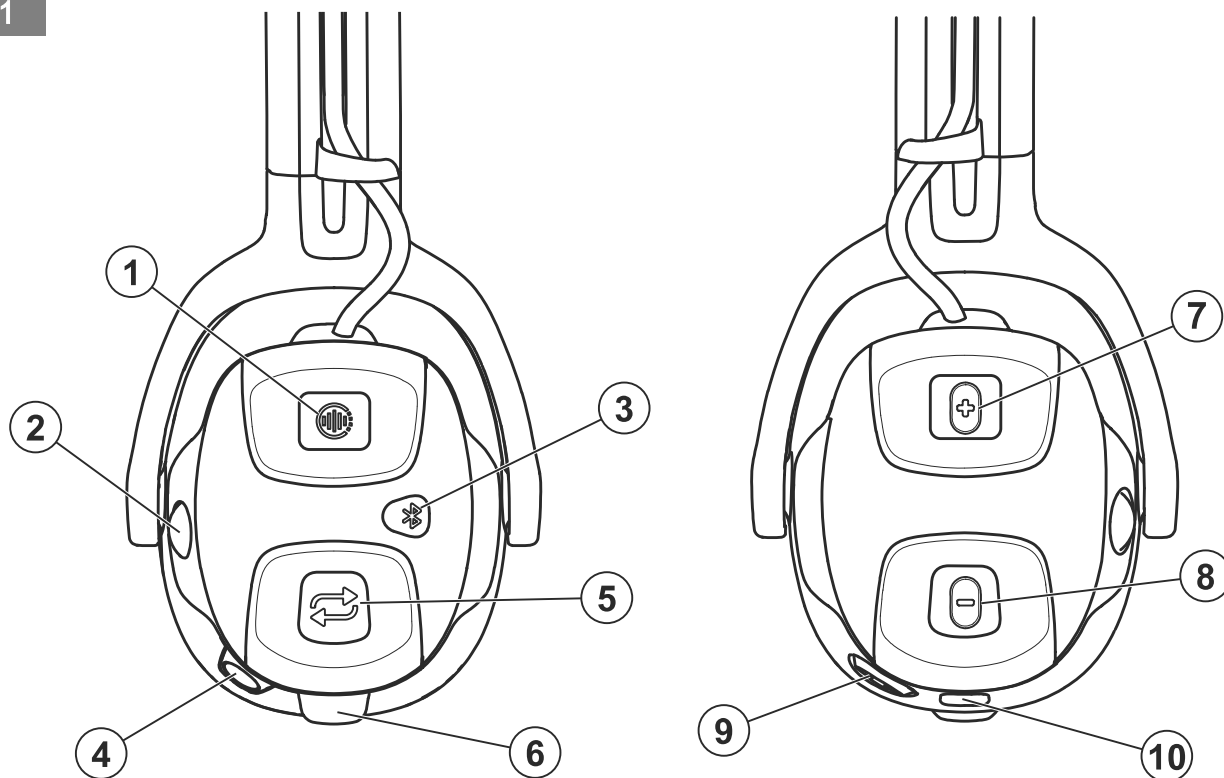




X-SYNC (HP500BT-01, HP500BT-02)

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1



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HP500BT-01												
$f(H_z)$	63	125	250	500	1000	2000	4000	8000	H	M	L	SNR
Mf (dB)	19.3	17.7	24.6	32.3	36.7	37.4	39.0	39.9	38.0	32.8	25.1	34.7
Sf (dB)	3.3	2.6	3.0	3.6	3.3	3.3	3.3	3.0	2.5	2.0	2.0	1.9
APV (dB)	16.0	15.1	21.6	28.7	33.4	34.1	35.5	36.9	36	31	23	33



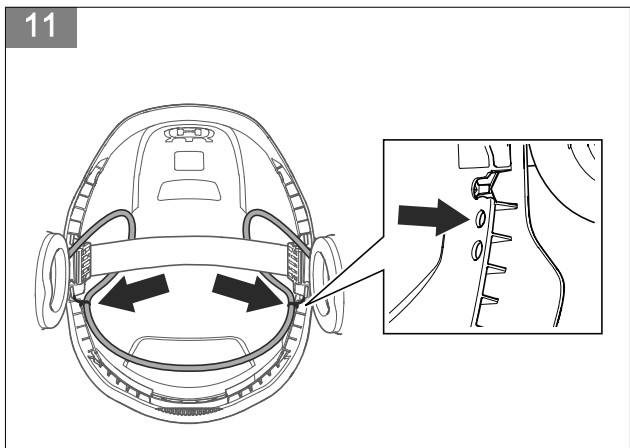
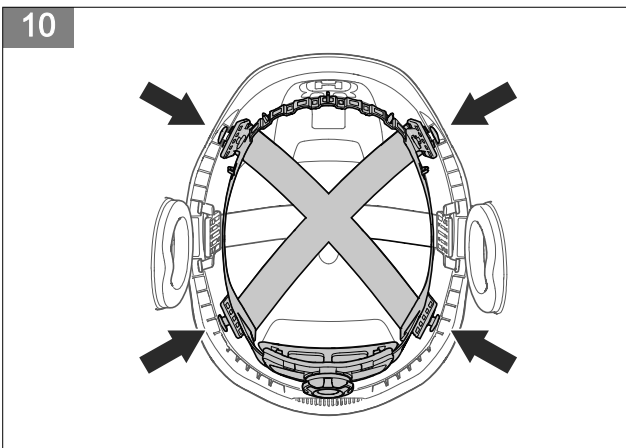
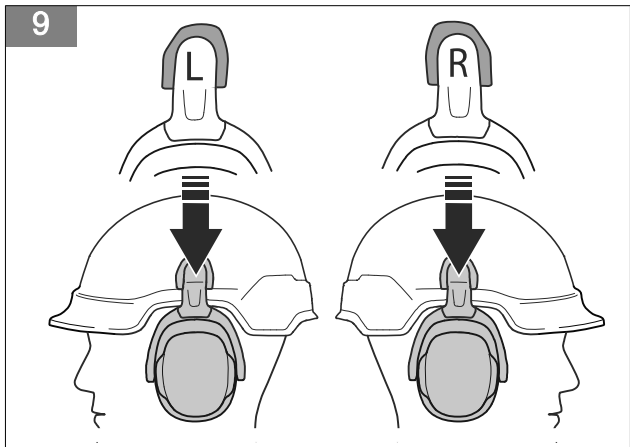
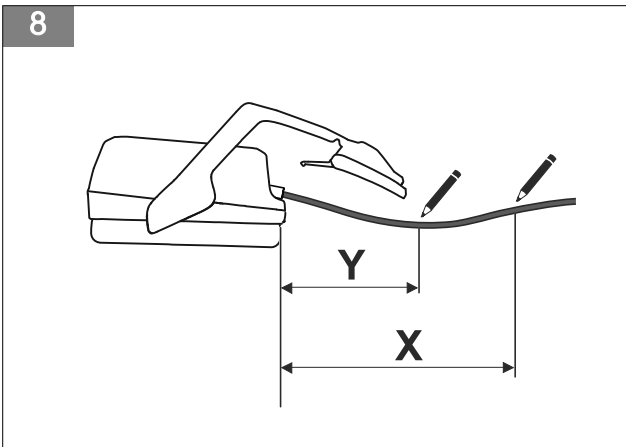
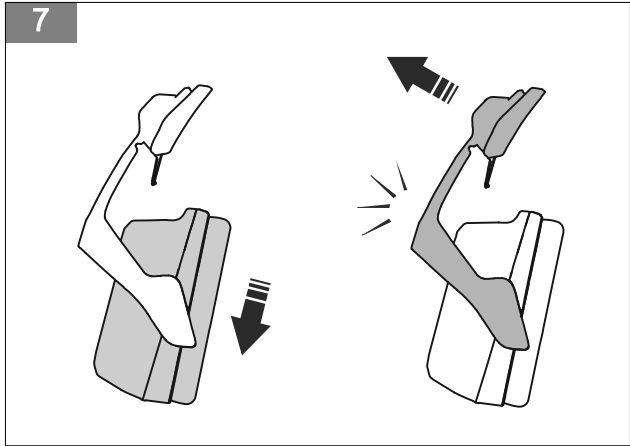
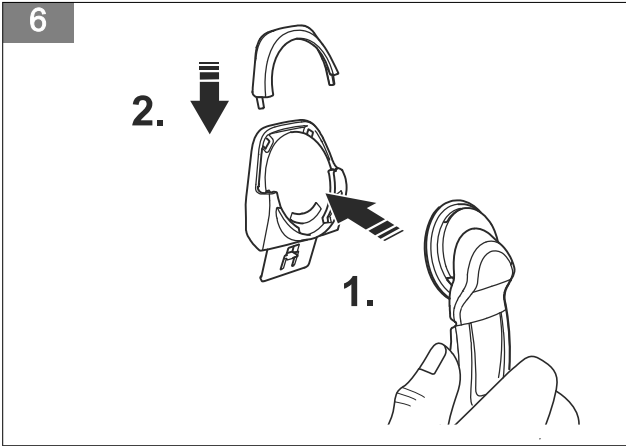
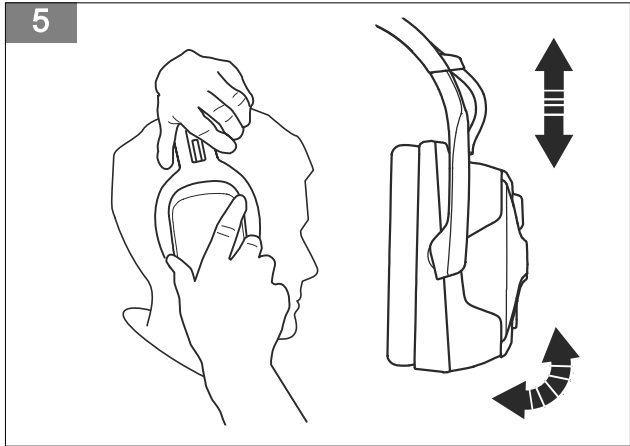
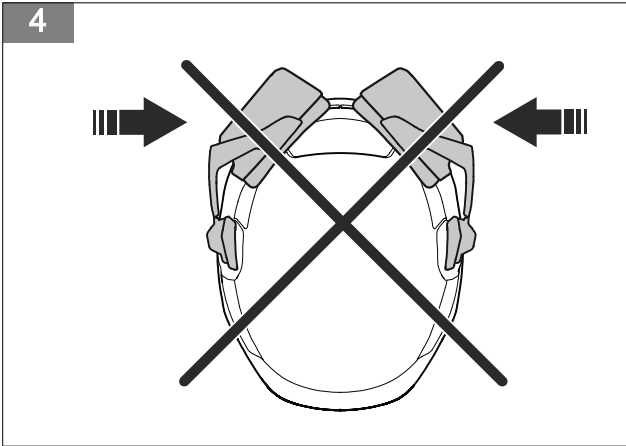
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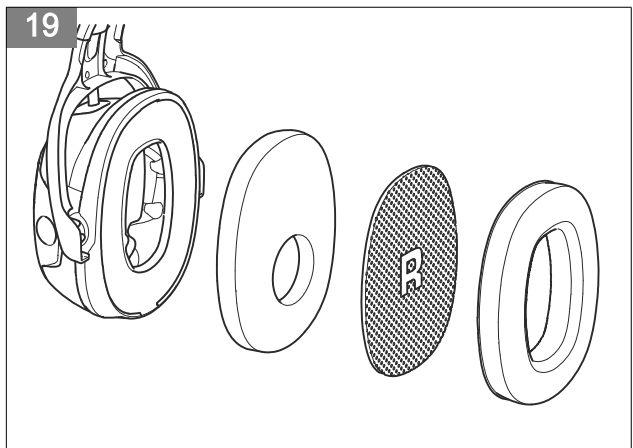
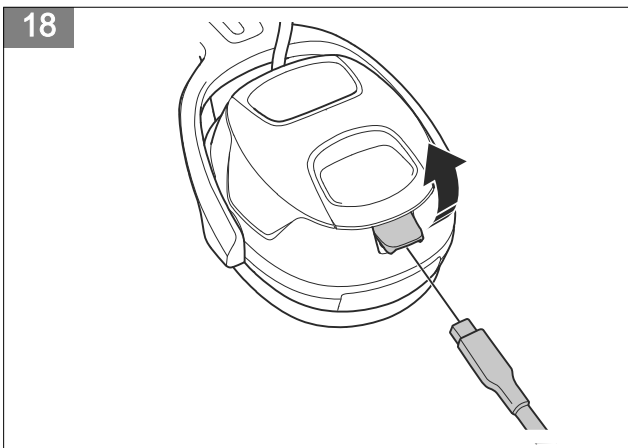
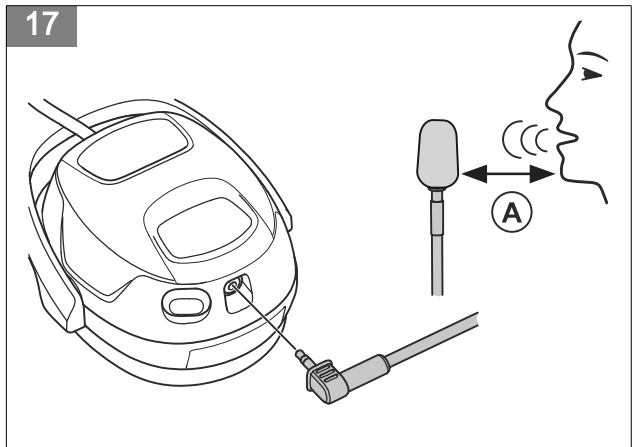
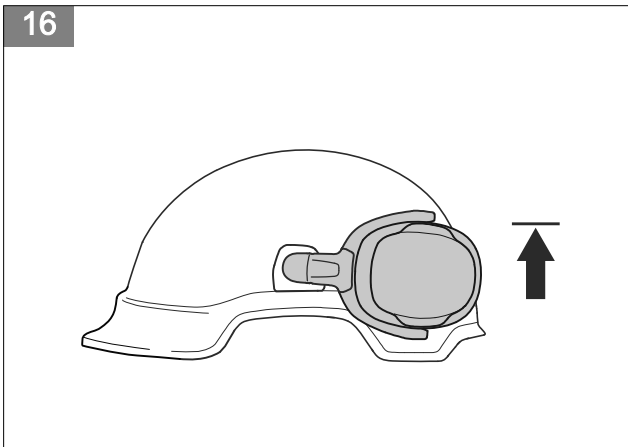
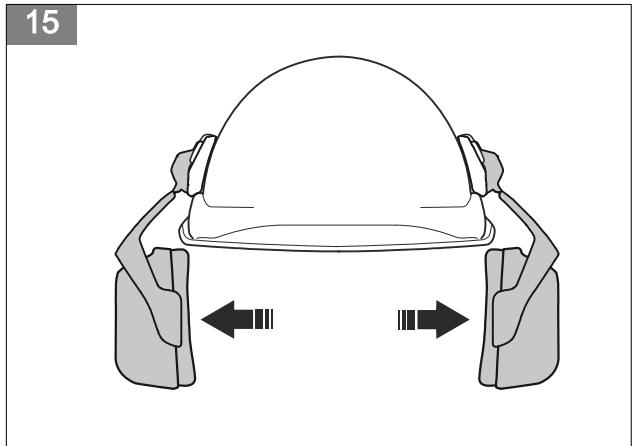
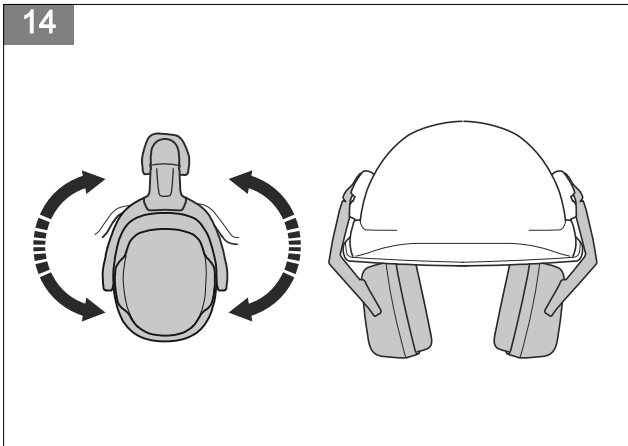
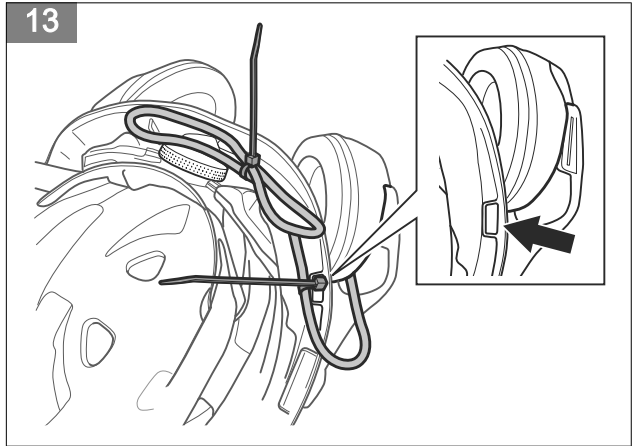
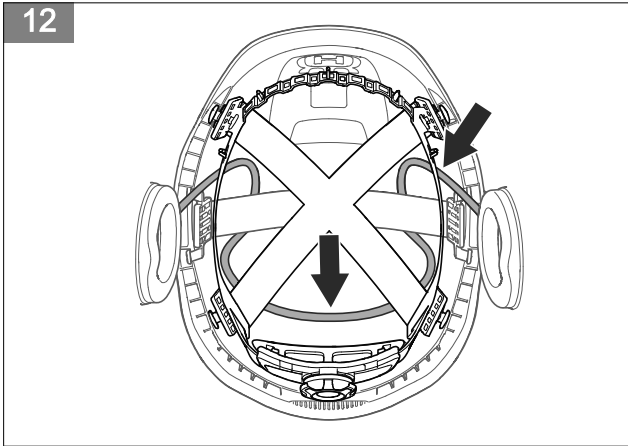
3

HP500BT-02												
$f(H_z)$	63	125	250	500	1000	2000	4000	8000	H	M	L	SNR
Mf (dB)	17.1	18.3	22.5	29.0	36.1	37.5	39.7	41.6	38.0	31.3	24.5	33.7
Sf (dB)	5.0	2.8	2.8	2.9	2.6	3.5	4.1	2.8	2.5	2.0	2.3	1.9
APV (dB)	12.1	15.5	19.7	26.1	33.5	34.0	35.6	38.8	36	29	22	32

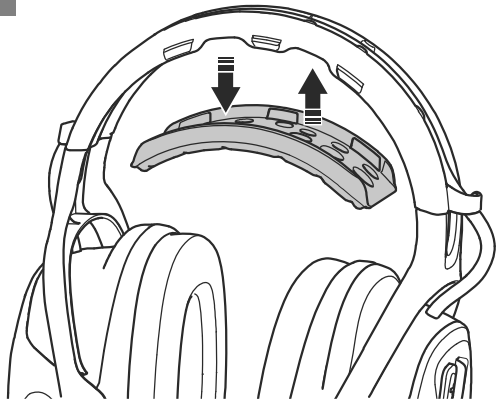


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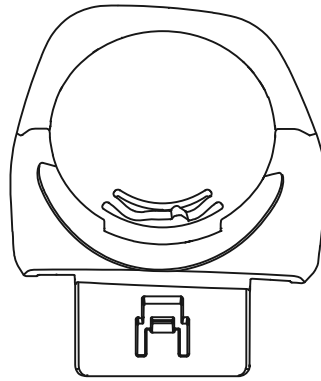




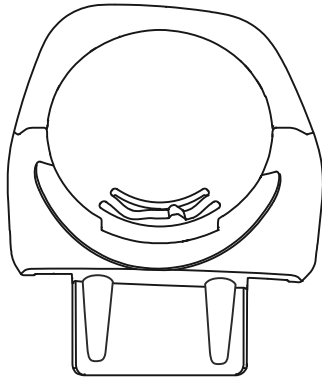
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Introduction

Product description

The product X-SYNC (HP500BT-01, HP500BT-02) is a hearing protection with integrated full-duplex communication, *Bluetooth® wireless technology* and FM

radio. The model HP500BT-01 is a hearing protection with headband and the model HP500BT-02 is a hearing protection for a helmet. The product gives protection from harmful noise.

Product overview

(Fig. 1)

1. Ambient sound button
2. Level dependent microphone
3. Bluetooth® button
4. Speech microphone
5. Mode button
6. USB-C charger cable outlet
7. Volume up button
8. Volume down button
9. On/Off button
10. Boom microphone outlet

UK Importer:
Husqvarna UK Ltd
Preston Road, Co. Durham
DL5 6UP

FCC ID: ZASHP500BT, IC: 23307-HP500BT

FCC Compliance Statement:

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 expressly approved by the party responsible for compliance 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 B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. 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. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Increase the separation between the equipment and receiver.
- Consult the dealer for help.

Compliance and approvals

Hereby, Husqvarna AB, SE-561 82 Huskvarna, Sweden, tel: +46-36-146500, declares that the radio equipment type HP500BT-01 and HP500BT-02 is in compliance with 2014/53/EU, 2011/65/EU and the regulation (EU) 2016/425. The full text of the EU declaration of conformity is available at the following internet address: www.husqvarna.com; search for X-SYNC, HP500BT-01, HP500BT-02.

The product attenuation values and noise levels are tested and approved according to: EN 352-1:2020 (headband), EN 352-3:2020 (helmet mounted), EN 352-4:2020, EN 352-6:2020 and EN 352-8:2020.

Notified body involved in the conformity assessment is: Notified body number 1974. PZT GmbH, Bismarckstraße 264 B, 26389 Wilhelmshaven, Germany.

Certification and Monitoring by PZT.

The battery is certified according to IEC62133 edition 2.



Marking on the product is found on the label on the right earmuff.

ISED Canada Compliance Statement

This device contains licence-exempt transmitter(s)/ receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

- This device may not cause interference.
- This device must accept any interference, including interference that may cause undesired operation of the device.

CAN ICES-3 (B)/NMB-3(B)

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation,

Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

- L'appareil ne doit pas produire de brouillage.
- L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

CAN ICES-3 (B)/NMB-3(B)

Registered trademarks

The *Bluetooth*[®] word mark and logos are registered trademarks owned by *Bluetooth SIG, inc.* and any use of such marks by Husqvarna is under license.

Safety

Safety definitions

Warnings, cautions and notes are used to point out specially important parts of the manual.



WARNING: Used if there is a risk of injury or death for the operator or bystanders if the instructions in the manual are not obeyed.



CAUTION: Used if there is a risk of damage to the product, other materials or the adjacent area if the instructions in the manual are not obeyed.

Note: Used to give more information that is necessary in a given situation.

General safety



WARNING: Read the warning instructions that follow before you use the product.

- Use and save these instructions.
- For optimal fit and function, make sure that you have selected the correct product for your use.
- Do not change or remove parts on the product. Only do changes that are given in this operator's manual.
- The noise attenuation of the product will be severely impaired if you do not follow the instructions in this operator's manual. Ear-muffs, and in particular cushions, may deteriorate with use and should be examined at frequent intervals for cracking and leakage. Refer to *Maintenance on page 10*.

- This product may be adversely affected by certain chemical substances. Further information should be sought from the manufacturer. Keep away from aggressive substances and clean the product regularly. Use a cloth with water and soap. Do not wash or put fully into water.
- All service and repair work must be done by an approved service workshop. Only use Husqvarna original spare parts.
- Never use the ear-muffs longer than 10 years from the manufacturing date stated on the packaging.
- The functionality of the product may deteriorate with battery consumption.

Safety instructions for operation

- The wearer should ensure that the ear-muffs are worn at all times in noisy environments.
- Be more careful and listen for warning signals when you use the product. The noise from warning signals can be decreased when you use the product.
- The audibility of warning signals at specific workplace may be impaired while using the entertainment facility.
- Make sure that the product is not hit during transportation and use.
- Only use the product between temperatures -20°C and +55°C/-4°F and +131°F. If you use the product in other temperatures, this can cause damage to the electronics, battery and mechanical parts.
- Make sure that you know how to use the product before use. Speak to your servicing dealer if there is damage on the product. Do not open the casing!
- The fitting of hygiene covers to the cushions, may affect the acoustic performance of the ear-muffs. Always use original accessories.

- Do not push the earmuffs against the helmet shell. If you do that, it can cause cracks around the side of the helmet.

(Fig. 4)

- Do not put the product in storage at temperatures above +55°C/+131°F, for example on a dashboard. Do not put the product in storage at temperatures below -20°C/-4°F.
- The wearer should ensure that the ear-muffs are fitted, adjusted and maintained in accordance with this operator's manual.
- The ear-muff is provided with safety-related audio input. The user should check correct operation before use. If distortion or failure is detected, the user should refer to the manufacturer's advice for maintenance.

Battery safety

- The earmuff is provided with level-dependent attenuation. The user should check for correct operation before use. If a malfunction or fault is detected, the user should follow the manufacturer's instructions for maintenance.
- The product contains battery and electrical components that may cause ignition in flammable or explosive atmospheres. Do not use in environments where sparks may cause a fire or explosion.
- Only charge the product within temperature range 0°C to +40°C/+32°F to +104°F. Charging outside temperature range can damage the electronics and battery.

Assembly

Introduction



WARNING: Move your hair to the side before you assemble the product. Make sure that the sealing rings are tight against your head and around your ears before you operate the product.



CAUTION: Make sure that the cable is not twisted or has a small bend radius. Make sure that the cable can move smoothly into the opening of the helmet.

To put on the earmuffs with headband

1. Put the headband across the top of your head.
2. Move the earmuffs up or down to adjust the height. (Fig. 5)

To assemble the earmuffs to a helmet

1. Assemble the correct adapter attachment type to the helmet shell. Refer to *Approved helmets on page 11*.
2. Assemble the helmet fork on the attachment adapter. (Fig. 6)

Note: Refer to *Approved helmets on page 11* for more information about which helmet attachment is applicable to your helmet.

3. Move the earmuffs to the lowest position.
4. Lift the earmuffs out and up until they lock in standby position. (Fig. 7)
5. Do a mark on the cable.
 - a) For helmet H300, do a mark 27 cm/11 in (X) from each earmuff.
 - b) For helmet Spire Vent X, do a mark 14.5 cm/6 in (Y) from each earmuff. (Fig. 8)
6. Put the helmet attachment in the slot on the helmet. (Fig. 9)
7. Continue to assembly instructions for your approved helmet.

To assemble the earmuffs to the helmet H300

1. Release the head harness from the helmet. (Fig. 10)
2. Attach the cable to the holes with the cable ties or clips. (Fig. 11)
3. If you attach the cable with cable ties, cut the cable tie and push the cable tie lock into the side slot.
4. Make a loop of the cable and attach the head harness and neck protection. Make sure that the cable is between the helmet shell and the head harness. (Fig. 12)

To assemble the earmuffs to the helmet Spire Vent X

1. Put the cable in a loop rearward.
2. Attach the cable to the head harness with cable ties. Attach the cable tie through the backstrap of the headband.
3. Cut the cable tie.
4. Put the remaining part of the cable in a loop rearward, behind the rear headband. (Fig. 13)

To put the earmuffs in operation position

1. Put the helmet on your head.
2. Adjust the earmuffs until they are tight around your ears and tight against your head. (Fig. 14)

To put the earmuffs in standby position

- Lift the earmuffs out and up until they lock in standby position. (Fig. 15)

To put the earmuffs in parking position

1. Put the earmuffs in standby position. Refer to *To put the earmuffs in standby position on page 8.*
2. Turn the earmuffs rearward along the side of the helmet until they lock in the parking position. (Fig. 16)

To connect the boom microphone

Use a boom microphone in environments with much noise.

1. Attach the wind filter on the boom microphone.
2. Connect the boom microphone to the microphone outlet on the right earmuff. (Fig. 17)
3. Put the boom microphone 1 cm/0.4 in. (A) from your mouth.

Operation

Introduction



WARNING: Before you operate the product, you must read and understand the safety chapter.

To charge the product

1. Connect the USB-C connector on the charger cable to the outlet on the left earmuff. (Fig. 18)
2. Connect the USB connector on the charger cable to a USB charger or other USB power outlet.

Note: The output of the power outlet must be 5 V and 2 A to charge at maximum capacity.

Note: The LED indicator on the Bluetooth® button flashes slowly green when the battery is charging. The LED indicator on the Bluetooth® button is solid green when the battery is fully charged.

To start the product

- Push and hold the on/off button for 1 second.

Note: A beep sound tells you that the product is on. An audio message tells you the battery status and the quantity of devices that are connected with Bluetooth® wireless technology.

Audio message
BATTERY HIGH
BATTERY MEDIUM
BATTERY LOW
BATTERY CRITICAL

Audio message	LED indicator on the Bluetooth® button
ONE BLUETOOTH DEVICE CONNECTED	LED is blue.
TWO BLUETOOTH DEVICES CONNECTED	

To change between FM radio mode and Bluetooth® mode

- Push the mode button quickly 2 times to change between FM radio mode and Bluetooth® mode.

Note: An audio message tells you which mode you have selected. Refer to the table below.

Audio message
RADIO
BLUETOOTH

FM radio mode

In FM radio mode you get access to FM radio in urban areas or other areas with a strong FM radio signal. The performance of the FM radio may be impacted by rough terrain or dense vegetation.

To change FM radio station

- Push and hold the volume up button or the volume down button for 1 second to change FM radio station.

Bluetooth® mode

In Bluetooth® mode you can connect your product to a device with Bluetooth® wireless technology.

To do a Bluetooth® pairing operation

1. Push and hold the Bluetooth® button for 2 seconds to start the pairing operation on your product.

Note: The pairing operation starts when you hear a beep sound and the Bluetooth® button flashes blue. The pairing operation is on for 30 seconds.

2. Start the pairing operation for Bluetooth® wireless technology on the device.
3. If it is necessary, select Husqvarna X-COM Active in the list of units on your device.

Note: An audio message tells you about the product status. Refer to the table below.

Audio message	LED indicator on the Bluetooth® button	Information
BLUETOOTH DEVICE CONNECTED	Solid blue.	The product is connected to a device with Bluetooth® wireless technology.
BLUETOOTH CONNECTION FAILED	Solid red for 2 seconds.	The product is not connected to a device with Bluetooth® wireless technology.

Note: A device with Bluetooth® wireless technology that is connected to your product, connects automatically to your product the next time the product is used with the device.

To change audio streaming

- Push and hold the volume up button for 0.5 seconds to select the next audio streaming.
- Push and hold the volume down button for 0.5 seconds to go back to the previous audio streaming.

To stop or start the audio streaming

- Push the mode button to stop or start the audio streaming.

To accept, end or dismiss a phone call

If your mobile device is connected to the product with Bluetooth® wireless technology, a signal is heard in the earmuffs when there is an incoming phone call.

- Push the mode button to accept or end the phone call.
- Push the mode button for 1 second to dismiss an incoming phone call.

Note: A beep sound tells you when the phone call is accepted or dismissed.

Audio message	Information
CALL ENDED	The phone call has ended.

To adjust the volume

- Push the volume up button or volume down button to adjust the volume. A beep sound tells you when the volume is at the minimum or maximum level.

To set to ambient sound mode

Ambient sound mode lets you hear the sounds around you.

- Push the ambient sound button.

Note: An audio message tells you the status of the ambient sound mode.

Audio message
AMBIENT LEVEL HIGH
AMBIENT LEVEL MEDIUM
AMBIENT LEVEL LOW
AMBIENT LEVEL OFF

To stop the product

- Push and hold the on/off button for 1 second.

Note: An audio message tells you the battery status and the LED indicators go out. A beep sound tells you that the product is off.

To stop the product by force

- Push and hold the on/off button for 12 seconds.

Maintenance

To do maintenance on the product



CAUTION: Do not flush or put the product fully into water.



CAUTION: Spray, liquids or other cleaning agents that contain solvents and/or alcohol can decrease the protective function.



CAUTION: Use Husqvarna original spare parts.

1. Clean the product regularly. Use a cloth and a weak soap solution.
2. Do a check of the condition of the sealing rings and the foam rubber inserts before each use.
3. Replace the sealing rings and the foam rubber inserts each 6 months or more frequently if it is necessary. Make sure that the air hole on the sealing ring points down during assembly. Use the original hygiene kit that includes the sealing rings and the foam rubber inserts. Refer to www.husqvarna.com for more information about the hygiene kit. (Fig. 19)
4. Replace the membrane for the speech microphone if it is damaged.
5. Replace the wind filter for the level dependent microphone if it is damaged.
6. Replace the wind filter on the boom microphone if it is damaged.
7. Replace the Comfort Pad of the headband if it is necessary. (Fig. 20)

Note: If the earmuffs are wet on the inner side, let them dry in parking position. Refer to *To put the earmuffs in parking position on page 9.*

Transportation, storage and disposal

Transportation and storage



CAUTION: During transportation and storage, put the earmuffs in operation position to decrease wear on the plastic material.

- Put the earmuffs in operation position. Refer to *To put the earmuffs in operation position on page 8.*
- Make sure that the sealing rings are not compressed.
- Put the product in a dry and clean space.
- Keep the product away from sunlight during storage.
- Charge the battery each 6 weeks to keep the quality of the battery.

- Put the product in a safe space during transportation.

Disposal

- Obey national regulations.
- Use the local recycling system.
- The product or package of the product is not domestic waste. Recycle it at a recycling station for electrical and electronic equipment.



Accessories

Approved helmets

Use the product with the helmets below only.

Model	Helmet attachment type	Adapter graphic	Approved dimensions
Husqvarna Technical, H300	Adapter H300	(Fig. 21)	M/L
Husqvarna Spire	Adapter Spire	(Fig. 22)	L
KASK Zenith X			

Technical data

Refer to the illustrations that follow for technical data on each product. For more technical data, refer to the technical data appendix sheet in this operator's manual.

(Fig. 2)

(Fig. 3)

For more information about the contents of the technical data, refer to the list that follows:

- F = Frequencies at which attenuation is measured.
- Mf = Mean value.
- Sf = Standard deviation.
- APV (Mf-Sf) = Assumed Protection Value.
- H = High frequency attenuation value (predicted noise level reduction for noise where $L_C-L_A = -2$ dB).
M = Medium frequency attenuation value (predicted noise level reduction for noise where $L_C-L_A = +2$ dB).
L = Low frequency attenuation value (predicted noise level reduction for noise where $L_C-L_A = +10$ dB).

- SNR = Single Number Rating (the value that is subtracted from the measured C-weighted sound pressure level, L_C , in order to estimate the effective A-weighted sound level inside the ear.

Responsible manufacturer: Husqvarna AB, SE-561 82 Huskvarna, Sweden, tel: +46-36-146500.

Sound level

The FM radio mode and Headset mode have a maximum equivalent sound level of 82 dB (A).

Materials

Part	Material	Part	Material
Inner ear cup	ABS	Headband	POM+TPE
Outer ear cup, left	ABS	Helmet fork	POM
Outer ear cup, right	ABS+TPE	Helmet fork spring	Steel
Inserts	PUR	Screws	Steel
Sealing rings	PVC and foam		

Bluetooth® and DECT for the US

Technical data	
Frequency spectrum for Bluetooth® wireless technology	
Bluetooth® wireless technology output power	

352-4. Criterion level EN 352-4:2020 H=114 dB, M=111 dB, L=99 dB.

352-6					
Bluetooth® wireless technology relationship between sound output level and input signal level					
Sound pressure level, dB(A)	60	65	70	75	79.7
Maximum sound pressure level ¹ , dB(A)	<82				
Input signal level, dBFS	-37.9	-32.8	-27.8	-22.4	-14.0
Maximum input signal level, dBFS	79.7 dB(A) at -14 dBFS				

¹ No criterion level calculated.

Usage time for the maximum input signal that corresponds to an equivalent sound output level of 82 dB(A) over 8 h	8.0 h
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The output level of the audio circuit of this hearing protector may exceed the exposure limit.

352-8

- The product is equipped with an entertainment audio facility.

- The earmuffs provides audio signal sound pressure level limitation and limits the entertainment audio signal to 82 dB(A).

Sound pressure level	
Bluetooth® wireless technology maximum sound pressure level, dB(A)	80.1 at -10 dBFS
FM radio sound pressure level, dB(A)	78.2

Technical data for the US

Helmet mounted											
Headband force 2.9 lbs											
ANSI S3.19-1974											
Frequency, Hz	125	250	500	1000	2000	3150	4000	6300	8000	NRR	CSA class
Mean attenuation, dB	19.4	25.3	28.4	33.1	34.8	39.1	37.4	40.4	36.6	24	Class A
Standard deviation, dB	3.4	3.1	3.3	3.3	2.9	2.9	3.8	4.7	4.4		

Headband style											
Headband force 2.5 lbs											
ANSI S3.19-1974											
Frequency, Hz	125	250	500	1000	2000	3150	4000	6300	8000	NRR	CSA class
Mean attenuation, dB	19.4	24.8	33.1	38.8	37.9	40.8	39.5	41.5	38.8	27	Class A
Standard deviation, dB	2.9	2.6	3.8	2.8	3.2	4	3.8	3.6	5.2		

The level of noise entering a person's ear, when hearing protector is worn as directed, is closely approximated by the difference between the A-weighted environmental noise level and the NRR.

Example:

- The environmental noise level as measured at the ear is 92 dB(A).
- The NRR is 21 decibels (dB).

- The level of noise entering the ear is approximately equal to 92 dB(A) - 21 dB(A).



CAUTION: For noise environments dominated by frequencies below 500 Hz the C-weighted environmental noise level should be used.

Improper fit of this device will reduce its effectiveness in attenuating noise. Consult the enclosed instructions for proper fit (in example this manual).

Although hearing protectors can be recommended for protection against the harmful effects of impulsive noise,

the Noise Reduction Rating (NRR) is based on the attenuation of continuous noise and may not be an accurate indicator of the protection attainable against impulsive noise such as gunfire.

Technical data for AU/NZ

Helmet mounted									
Mean headband force 11.1 N									
Au/NZs 1270									
Frequency, Hz	125	250	500	1000	2000	4000	8000	SLC 80	Class
Mean attenuation, dB	15.9	20.4	26.2	34.8	38.2	34	35.9	26.2	Class 5
Standard deviation, dB	5.3	5.4	7.9	5.7	4.2	5.6	8.1		
Mean - standard deviation	10.6	15	18.3	29.1	34	28.4	27.8		

Headband style									
Mean headband force 11.1 N									
AS/NZS 1270									
Frequency, Hz	125	250	500	1000	2000	4000	8000	SLC 80	Class
Mean attenuation, dB	21	24.2	30.1	35.1	37.4	35.8	37.8	32.1	Class 5
Standard deviation, dB	3.4	3.3	3.4	2.3	2.7	2.5	3.9		
Mean - standard deviation	17.6	20.9	26.7	32.8	34.7	33.3	33.9		

Hearing protection Class 5 tested to AS/NZS 1270. When selected, used and maintained as specified in AS/NZS 1269, these protectors may be used in noise up to 110 dB(A) assuming an 85 dB(A) criterion. A lower criterion may require a higher protection class. Testing according to ANSI S3.19 1974, AS/NZS 1270:2002 and CSAZ94.2-2014 by Michael & Associates, Inc., 2766 W. College Ave, Suite 1, State College, PA USA16801.