Hellberg

Local 446

EN User manual 6-9

CE 1974 UKCA 0321

A. Parts

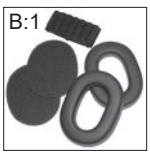




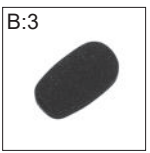




B. Accessories and spare parts

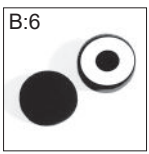








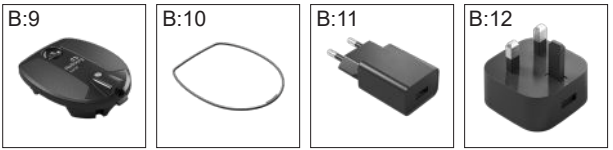




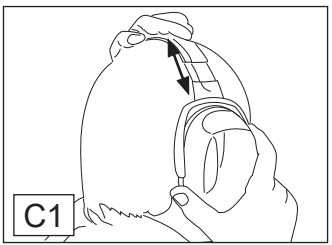


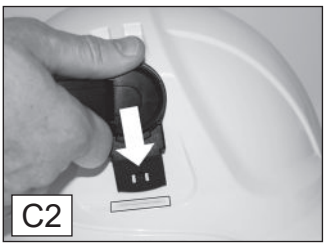


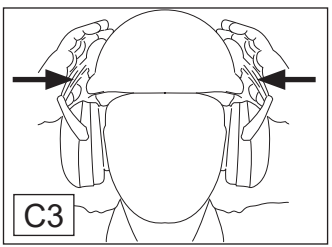
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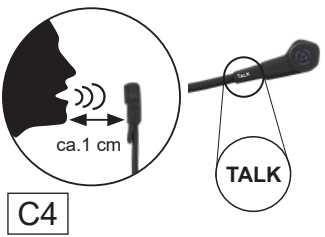


C. Fitting and adjustment

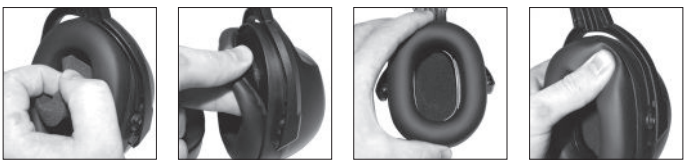








D. Change of hygiene kit



E. Approval & Technical data

85001-001 Local 446 Headband[E1], Weight 513 g[E4], EN 352-1:2020[E3]

Freq. Hz	63	125	250	500	1000	2000	4000	8000	H	M	L	SNR
Mean att.[E5]	18,5	19,1	21,7	26,2	36,6	36,1	35,6	36,5	35,3	30,0	24,0	32,1
Std. dev.[E6]	3,7	3,3	2,6	2,8	3,1	5,1	4,1	4,3	3,4	2,4	2,3	2,5
APV[E7]	14,8	15,8	19,1	23,4	33,5	31,0	31,5	32,2	**32**	**28**	**22**	**30**

85101-001 Local 446 Helmet Mount[E2], Weight 547 g[E4], EN 352-3:2002, EN 352-3:2020[E3]

Freq. Hz	63	125	250	500	1000	2000	4000	8000	H	M	L	SNR
Mean att.[E5]	18,3	17,4	20,8	23,6	33,1	35,9	37,1	38,2	35,7	28,3	23,0	31,0
Std. dev.[E6]	5,1	5,9	3,3	2,6	4,1	2,7	3,7	5,1	1,2	1,8	1,6	1,2
APV[E7]	13,2	11,5	17,5	21,0	29,0	33,2	33,4	33,1	**34**	**27**	**22**	**29**

Certification and Monitoring: PZT GmbH, Bismarckstrasse 264 B, 26389 Wilhelmshaven, Germany
Notified Body: 1974[E8], Notified by ZLS

Tested and certified to[E3]**:**
PPE regulation (EU) 2016/425 and applicable parts of European standards:
EN 352-1:2020 (Headband)
EN 352-3:2002, EN352-3:2020 (Helmet Mount)
EN 352-4:2020 (Level Dependent)
EN 352-6:2020 (Headset Profile max SPL is below 82dB(A))

Criterion level EN 352-4 H= 112,7 dB, M= 110,5 dB, L= 97,1dB
Max. SPL EN 352-6, 79,6 dB(A) at -12,5 dBm

Input level (dBm)	-37,5	-32,5	-27,5	-22,5	-17,5	-12,5
Mean (dB)	52,9	57,0	61,7	66,8	71,9	77,0
StDev (dB)	2,8	2,9	2,8	2,8	2,8	2,6
Mean + StDev	55,7	59,8	64,6	69,6	74,7	79,6

Radio Equipment Directive (RED) 2014/53/EU (Europe)
NEMKO Norway, Notified Body: 0471[E8]

English is the language examined by Notified Body. English has interpretive precedence.

Radio standard:	PMR 446 MHz (EU)
Channel separation:	12,5 kHz
Modulation:	FM
Number of Ch.:	16
Sub channel coding:	CTCSS
Number of Sub channels:	38
Transmit power:	150/50/10 mW ERP
Range:	3 km line of sight
Receiver sensibility:	Typical -120 dBm
Power supply:	2 x AA user replaceable 1,2-1,5 V
Included Batteries:	2 x NiMh 2600 mAh
Weight:	513 g Headband, 547 g Helmet Mount
Battery operation time:	12 hours normal operation
Battery standby time:	20 hours
Battery charging time:	Up to 5 hours
Water and dust resistance:	IP 56
Approvals/Compliance:	EN 352, RED, ROHS, REACH, WEEE
Operating temperature:	-20 to +55°C

G. Approved helmet combinations

Manufacturer[G1]	Helmet model[G2]	Adapter[G3]	S	M	L
Auboueix	Iris 2	30 mm	x	x	x
Bjornklader	Balance AC	30 mm			x
Cerva	Alpine Worker	30 mm			x
Gardio Safety	*Armet Mips*	30 mm			x
Irudek	Ekain	30 mm			x
Irudek	Oreka	30 mm			x
Irudek	Stilo 300V	30 mm		x	x
Irudek	Stilo 600V	30 mm			x
KASK	Zenit X	30 mm		x	x
Petzl	Vertex	30 mm		x	x
Petzl	Vertex Vent	30 mm		x	x
Petzl	Strato	30 mm		x	x
Petzl	Strato Vent	30 mm		x	x
Scott Safety	Styel 600	30 mm			x
Singing Rock	Flash Industry	30 mm			x
Singing Rock	Flash Aero	30 mm			x
Singing Rock	Flash Access	30 mm			x
Zekler	Zone	30 mm		x	x
3M Peltor	G2000	30 mm		x	x
3M Peltor	G3000	30 mm			x
3M	SecureFit X5000	30 mm		x	x
3M	SecureFit X5500	30 mm		x	x

Supplementary helmet list according to EN 352-3

Certification and Monitoring: PZT GmbH, Bismarckstrasse 264 B, 26389 Wilhelmshaven, Germany
Notified Body: 1974[E8], Notified by ZLS

Radio Channels (MHz)[E12]

Ch	Frequency	Ch	Frequency	Ch	Frequency	Ch	Frequency
1	446.0062	5	446.05625	9	446.10625	13	446.15625
2	446.01875	6	446.06875	10	446.11875	14	446.16875
3	446.03125	7	446.08125	11	446.13125	15	446.18125
4	446.04375	8	446.09375	12	446.14375	16	446.19375

Sub channels CTCSS (Continuous Tone Coded Squelch System)(Hz)[E13]

Ch	Frequency	Ch	Frequency	Ch	Frequency	Ch	Frequency	Ch	Frequency	Ch	Frequency
1	67.0	8	88.5	15	110.9	22	141.3	29	179.9	36	233.6
2	71.9	9	91.5	16	114.8	23	146.2	30	186.2	37	241.8
3	74.4	10	94.8	17	118.8	24	151.4	31	192.8	38	250.3
4	77.0	11	97.4	18	123.0	25	156.7	32	203.5		
5	79.7	12	100.0	19	127.3	26	162.2	33	210.7		
6	82.5	13	103.5	20	131.8	27	167.9	34	218.1		
7	85.4	14	107.2	21	136.5	28	173.8	35	225.7		

WARNING!
This hearing protector is intended to protect the wearer from hazardous noise levels when fitted in accordance with this user instruction. Any other use is not intended and therefore not permitted. It is important that the instructions for use are followed. Failure to do so could result in a drastic decrease of the noise attenuation and may lead to serious injury.

Read these user instructions carefully!
•The hearing protector must be worn at all times in noisy environments to provide full protection! Only 100% wear time provides full protection.
•Do not remove the headset to change settings in a noisy environment. Use menu system with guide voice while wearing the headset.
•The audibility of warning signals at a specific workplace may be impaired due to over-protection, when using a hearing protector with too high a noise attenuation performance in relation to the noise environment.
•When using hearing protection with entertainment audio features, remember to adjust the volume when working in noisy environments so that any warning signals etc. can be heard.
•In some individuals, excessive sound pressure from earphones and headphones may cause hearing loss.
•This hearing protector features the level-limiting of audio signals from the speakers to a maximum of 82 dB(A) at the ear.
•Do not use this product in a potentially explosive atmosphere.
•This product may be adversely affected by certain chemical substances. Further information should be sought from the manufacturer.
•The earmuff 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 manufacturers advice for maintenance.
•The hearing protector's noise attenuating properties can dramatically decrease when used with, for example, thick eyeglass frames, ski masks/balaclavas, etc.
•Use of perspiration/hygienic protection over the sealing rings can reduce the hearing protector's noise attenuation properties.
•Earmuffs, and in particular cushions, may deteriorate with use and should be examined at frequent intervals for cracking and leakage.
•Immediately discard the product if it shows any signs of cracking or damage.
•Hygiene kit should be changed at least twice a year. Make sure you choose the correct hygiene kit for your hearing protector.
•Clean the product with mild soap. You must be sure that the detergent you use does not irritate the skin. Do not dip the product in water.
•The hearing protector must be stored in a dry, clean environment out of direct sunlight, e.g. in its original packaging.
•Ensure battery condition and state of charge to ensure capacity is sufficient throughout a critical task. Battery capacity may deteriorate over time.
•Ensure matching configuration by testing communication before commencing critical task
•Note, on communication radio, only one unit can transmit at the same time. A unit can not receive a message while transmitting.
•Ensure that the used radio frequencies are license-free or obtain a license in the region you operate.

FITTING & ADJUSTMENT
Brush away all hair from your ears and place the earmuffs over your ears so they fit comfortably and snugly. Ensure your ears are completely enclosed by the earmuffs and that you have an even pressure around your ears.

Headband (pic. C1)
Adjust the headband size so that it rests lightly against the crown of your head.

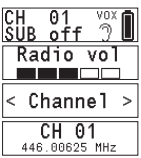
Helmet mount (pic. C2, C3)
Push the hearing protectors' helmet attachment into the helmet slot until it locks into position. Place the hearing protectors over your ears and press inwards until you hear a click. Adjust the hearing protectors and helmet so they fit comfortably.

Boom microphone (pic. C4)
The boom microphone (A:6) should be placed approximately 1 cm from the mouth for best noise suppression and clear speech intelligibility. Make sure the microphone is facing the mouth, with the TALK text imprint towards the mouth. Attach the Windshield (B:3) for use in windy environments.

USER INSTRUCTIONS FOR TWO WAY COMMUNICATION
Charge the headset prior to first use! See Charging section of the user manual.

Operation
Power ON/OFF: Press and hold the on/off button(A14) for 4 seconds. To transmit on the configured channel, press and hold the PTT button(A16). If the VOX is activated just speak into the microphone. Press the LD button(A15) to turn the LD function ON/OFF.

Configuration
•Configuration can be done both wearing the headset and with the headset in your hands. Warning! Never remove the hearing protection when exposed to noise.
•All navigation and configuration of settings are guided by and confirmed with voice messages.
•By default, the display shows a home screen with radio channel and sub channel as well as function icons and a battery indicator.
•By default, the up and down buttons (A13 >) (A12 <) change the radio volume
•Press on/off to enter the menu
•Navigate through settings with up/down buttons
•Press on/off to enter edit mode of the selected setting
•Use up/down to change value
•Confirm and exit the setting with on/off
•The menu system returns to the home screen automatically after 10 seconds of inactivity, or

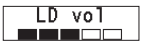


manually with a long press on the on/off button

Menu items

<Channel>	Set the radio channel, <1-16*> (*might vary per region)
<Sub Ch>	Set the sub channel for selective squelch (if activated, only transmissions with a matching sub channel will be heard) <OFF, 1-38>
<VOX>	Set the VOX threshold. A lower threshold means a weaker mic signal activates transmission <OFF, 1, 2, 3, 4, MAX>
<TX allow>	Sets when transmission is allowed. <always, channel free>
<TX power>	Set the radio's transmitting power, <LO, MED, HI>
<Sidetone>	Set volume of your own voice to be heard in the headset when transmitting, <1, 2, 3, 4, MAX>
<Battery>	The guide voice reads the battery status

Level-dependent "Active listening" function



Press the LD button (A15) to switch the level-dependant function ON. A voice message confirms the function and a symbol will show on the display home screen. The volume is adjustable in 5 levels(1, 2, 3, 4, MAX). Adjust the volume by pressing the LD button until you reach your desired volume level. The level will be indicated with a voice message and on the display. Press and hold the LD button to switch the Level-dependent function OFF. The headset remembers your last volume setting the next time you switch ON the headset or the level-dependant function.
For use in windy environments it is recommended to fit the two included windshields (B:6). Remove the peel off film and fit the windshield perfectly centered over the Level Dependant microphones (A7).
This hearing protector is provided with level-dependent attenuation. The wearer should check correct operation before use. If distortion or failure is detected, the wearer should refer to the manufacturers advice for maintenance and charging of the battery.
Warning! *The output of the level-dependent circuit of this hearing protector may exceed the external sound level.*

Radio Volume

The volume of the incoming radio can be configured with the up and down buttons (A13 >) (A12 <). The volume is adjustable in 5 levels (OFF, 1, 2, 3, 4, MAX). The Radio can be turned OFF by turning the volume down, press and hold the down button when on volume level 1. A radio off notification will be heard with 10 minute intervals. To turn the radio ON increase the radio volume.

PTT (Push To Talk)

Press and hold the PTT button (A16) to transmit on the selected radio channel. Release the button to stop transmitting

Radio channel (frequency)

Se table E:12 for available channels and frequencies. When two (or more) radios are configured on the same channel, they can communicate with each other.

Sub channel (selective squelch)

Using sub channels enables multiple groups to use the same radio channel without disturbing each other. When activated, transmissions are coded with the sub channel and only received messages on the same sub channel will be heard. A unit with sub channel turned OFF will hear transmissions from all sub channel groups. Sub channel grouping is achieved with sending units overlaying a tone to the transmitted audio which receiving units can detect and open the selective squelch. See table E:13 for available sub channels and their tone frequencies.

VOX (Voice Operated Transmission)

When the VOX is activated, radio transmission is automatically started when the speech signal from the microphone is above a certain level (threshold). Double press the PTT button or use the menu to enable/disable the VOX and set the desired threshold (OFF, 1, 2, 3, 4, MAX). A lower threshold allows a weaker speech signal to activate transmission. A higher threshold might be needed when the background noise is higher to prevent false triggering of transmission. When enabled, a VOX symbol is shown on the display home screen. Also when VOX is enabled the PTT button can be used to manually control transmission.
Note, for reliable VOX triggering and clear communication the microphone needs to be correctly rotated and approximately 1 cm from your mouth.

TX allow (busy channel lockout)

TX allow configures when radio transmission is allowed from the headset. The setting affects transmissions triggered by the PTT button as well as the VOX functionality. Two descending tones are given as feedback when transmission is prevented. TX allow can be configured in the following settings:
Always: transmission is always allowed
Channel free: transmission is allowed if the channel is free

TX power

Sets the power at which the headset transmits the radio signal (LO, MED, HI). Higher power can extend the range or improve reception for others in challenging environments. Lower power uses less battery when transmitting and extends operating time. TX power is automatically reduced from HI to LO if battery status is running low. HI TX power is not recommended when using Alkaline batteries due to reduced operating time.

Sidetone

Playback of the transmitted audio in the headset (1, 2, 3, 4, MAX). Confirms that transmission has been triggered and helps the user to speak at normal levels.

Advanced menu

When the display is in its home screen, press and hold both the up and the down buttons to enter the advanced menu

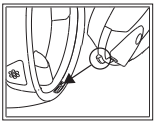
<Voice>	Deactivate voice prompts for navigation and settings, <ON, OFF>
<Version>	Version and serial number
<Squelch>	Set the squelch threshold, <1, 2, 3, 4, MAX>
<Reset>	Reset settings to factory default. Confirm with up or down button.

Squelch (radio noise suppression)
Noise from the radio reception is blocked when the incoming signal is below the set squelch threshold (1, 2, 3, 4, MAX). A lower setting can increase the radio range but might open up for more noise.

Battery save function
The headset has built in battery save function that turns the headset off when not used. When no movement has been detected for 10 minutes the headset tuns off, otherwise it turns of after 2 hours of inactivity.

Low battery warning
When the battery power is decreasing and approximately 10% of operation remains, a voice prompt “battery low” will be heard in the headset. The batteries should then be charged as soon as possible. The headset will turn OFF when the batteries are drained.

Replacement of batteries
Unscrew the thumbscrew (A18) that secures the battery pack (A17). Remove the battery pack from the earcup. Replace batteries, take note of battery orientation. The headset can run on both rechargeable (HR6 NiMh) or disposable batteries of AA type 1.5V. Alkaline batteries only for short term use due to reduced operating time. Make sure you only use specified battery types. Warning! If other battery types than specified are used, risk of explosion may occur. Dispose used batteries according to local regulations. Be careful and make sure the sealing gasket is in place around the edge of the battery pack compartment on the headset. Reinserts the battery pack making sure the bottom protruding part is inserted in its sleeve. Gently tighten the thumbscrew.



Charging of batteries
Never connect a charger to the headset if disposable batteries are used. *Charge rechargeable batteries prior to first use.*
For safety reasons, all headset functions are automatically switched OFF when charging.
The battery pack/headset will charge when connected to a USB power supply. Only use a charger that is approved to local directives for electronic devices. Use the USB charge cable supplied with the headset (B:4). Check that the charge cable is correctly connected to the charging socket (A8). The batteries must be inserted prior to inserting the charge cable.
Power supply specifications: Output DC 5V 1000 mA (Limited Power Source - LPS).
When charging, the LED (A11) will flash green. When the batteries are fully charged, the LED changes to solid green.
LED will flash green with high frequency if there is an error detected when charging.
Disconnect the charger cable when batteries are fully charged.

Important!
Use AA NiMh re-chargeable batteries as included or with similar performance.
Never use batteries with more than 1,5volt.
Never leave the battery pack/headset unattended when charging.
Do not use the headset when the batteries are charging.
Only use a power supply and cable as specified by the manufacturer.
Only charge the batteries at room temperature (10-25°C, (50-77°F)).
Do not disassemble, crush or expose the batteries to extreme heat or fire.
If storing the unit for a longer time remove the batteries from the battery pack.
If these instructions are followed, the product is unlikely to present any hazards within the meaning of EN 60950-1.

Parts (pic. A)
A1: Thermoplastic headband
A2: Thermoplastic helmet attachment
A3: Replaceable foam liner
A4: Replaceable foam filled plastic ear cushions
A5: Replaceable foam filled head cushion
A6: Boom microphone
A7: Level-dependent microphones
A8: Charging socket
A9: Socket for boom-microphone
A10: Display
A11: LED
A12: Volume DOWN and decrease setting
A13: Volume UP and increase setting
A14: On/Off button
A15: Level dependent button
A16: PTT button
A17: Battery pack
A18: Battery pack thumb screw

Accessories and spare parts (pic. B)
B:1. Hygiene kit: 99403-001
B:2. Sweat absorbers: 99900-001
B:3. Windshield boom microphone: 16999-001
B:4. USB charging cable Local: 39927-001
B:5. Boom microphone: 16982-001
B:6. Windshield level dependent microphones: 1059-001
B:7. Spare headband electronic: 26046-915
B:8. Spare helmet arm (pair): 26108-910
B:9. Battery pack AA: 17004-001
B:10. Battery pack gasket: 17112-001
B:11. Charger EU: 17193-001
B:12. Charger UK: 17193-007

Change the hygiene kit (pic. D)
•Remove the old foam liner (A3) and insert the new
•Pull off the old ear cushion (A4)
•Centre the new ear cushion over the hole
•Press with a finger along the outside of the ear cushion until it attaches all around the edges
•Pull off the old head cushion (A5) and insert the new

Approval and technical data (E)
E:1) Headband
E:2) Helmet mounted
E:3) Tested and certified to (standards)
E:4) Weight
E:5) Mean attenuation
E:6) Standard deviation
E:7) Assumed Protection Value
E:8) Tested by (notified body)
E:9) Headband force
E:10) Size: S, M & L
E:11) Additional technical data
E:12) Radio channel frequencies
E:13) Sub tone channel frequencies

Approved helmet combinations
These earmuffs attached to head protection and/or face protection devices shall be fitted to, and used only with, the carriers(s) listed in table G.
G:1) Manufacturer
G:2) Model
G:3) Adapter

Earmuffs complying with EN 352-3 are of medium size range or small size range or large size range. Medium size range earmuffs will fit the majority of wearers. Small size range or large size range earmuffs are designed to fit wearers for whom medium size range earmuffs are not suitable.

Hereby, Hellberg Safety AB declares that the hearing protector Local 446 is in compliance with PPE regulation EU 2016/425 and the RED Directive 2014/53/EU. The full text of the EU declaration of conformity is available at: www.hellbergsafety.com/declaration-of-conformity
For manufacturing date, see the date clock on the inside of the ear cup. Expected lifetime of product, excluding its batteries, is 5 years. Serial number is placed on label on the bottom of the ear cup.

This product is covered by the Waste Electrical and Electronic Equipment Directive (WEEE) 2012/19/EU.
Do not dispose of your product as unsorted municipal waste. Batteries must be disposed of in accordance with national regulations. Use local recycling system for electronic products.

UKCA
PPE regulation 2016/425 as brought into UK Law and amended.
UK Approved Body, SATRA Technology Center Limited, 0321. RED Directive 2014/53/EU and Radio Equipment Regulations 2017.
Importer UK: HULTAFORS GRUOP, Unit N3, Gate 4, Meltham Mills Ind Estate, HD9 4DS Holmfirth, UK
Approved Body UK: SATRA Technology Centre, Wyndham Way, Telford Way, Kettering, Northamptonshire, NN16 8SD, UK
UKCA declaration of conformity is available at: www.hellbergsafety.com/declaration-of-conformity

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