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You can read the recommendations in the user guide, the technical guide or the installation guide for SENNHEISER S1 DIGITAL. You'll find the answers to all your questions on the SENNHEISER S1 DIGITAL in the user manual (information, specifications, safety advice, size, accessories, etc.). Detailed instructions for use are in the User's Guide.

User manual SENNHEISER S1 DIGITAL
User guide SENNHEISER S1 DIGITAL
Operating instructions SENNHEISER S1 DIGITAL
Instructions for use SENNHEISER S1 DIGITAL
Instruction manual SENNHEISER S1 DIGITAL



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Manual abstract:

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. 6 Overview of the control unit

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..... 7 Putting the S1 DIGITAL into operation

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.... 8 Connecting the headset to the intercom

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) may sound different to you. Before operating any aircraft, make sure that, with NoiseGard™/digital switched on, you can hear and recognize these sounds. Set the volume to safe levels that do not interfere with your ability to hear informational sounds and warning alarms. The product is capable of producing sound pressure exceeding 85 dB(A). In many countries 85 dB(A) is the maximum legally permissible level for continuous noise exposure during the working day. Do not listen at high volume levels for long periods of time to prevent hearing damage. Preventing damage to the product and dysfunctions Always keep the product dry and do not expose it to extreme temperatures (hairdryer, heater, extended exposure to sunlight, etc.) to avoid corrosion or deformation. Only use the product in environments where wireless Bluetooth transmission is permitted. Only clean the product with a soft, dry cloth.

Never repair or attempt to repair a defective product yourself. Contact your Sennheiser partner or the Sennheiser Service Department. 2 | S1 DIGITAL Important safety information Only replace parts of the product whose replacement is described in this instruction manual. All other parts of the product must be replaced by your Sennheiser partner. Information on active and passive noise attenuation The S1 DIGITAL is a headset with digital adaptive noise compensation.

As with any complex electronic device, it is possible for the electronics of the headset to fail during operation. However, the S1 DIGITAL is designed to reduce the effects of such failures and to allow for continued use of NoiseGard™/digital. NoiseGard™/digital is active when the headset is switched on and the Power LED H lights up. Switch the headset off if you experience loud tones, distortion, or loss of communications. You can then continue to use the S1 DIGITAL as a passive noise attenuation headset.

Intended use Intended use of the product includes · having read and understood this instruction manual, especially the chapter "Important safety information", · using the product within the operating conditions and limitations described in this instruction manual. "Improper use" means using the product other than as described in this instruction manual, or under operating conditions which differ from those described herein. S1 DIGITAL \ 3 The S1 DIGITAL headset The S1 DIGITAL headset The S1 DIGITAL aviation headset incorporates the latest in digital technology. Featuring NoiseGard™/digital noise compensation and excellent passive noise attenuation, the headset is currently the only one on the market that provides optimum protection against cockpit noise over the entire frequency range. The S1 DIGITAL has been designed for use in noisy single- and multi-engine propeller aircraft and helicopters. The headset is characterized by its high-quality appearance and offers outstanding wearing comfort. With ear pads specially designed for spectacle wearers, a contact pressure that is individually adjustable and a two-piece headband, the headset is always comfortable to wear even on long flights. In addition, the headset has been designed with an emphasis on well-balanced weight distribution. Bluetooth The S1 DIGITAL complies with the new Bluetooth 2.1 standard.

Via its Bluetooth interface, it can be connected to a wide variety of Bluetooth enabled devices. Bluetooth wireless technology allows the S1 DIGITAL to communicate with your Bluetooth enabled device (e.g. mobile phone, MP3 player, PC or PDA) within a range of up to 10 meters. Features · Pilot's headset with NoiseGard™/digital, offering digital adaptive noise compensation · Superb passive noise attenuation · Extremely comfortable to wear due to adjustable contact pressure and ear pads specially designed for spectacle wearers · Well-balanced low weight · Foldable ear cups · Excellent audio quality · Crystal clear speech intelligibility due to 3-step treble boost/equalizer function · Peak level protection safeguards your ears from volume peaks above 110 dB ·

Control unit with Bluetooth technology for controlling audio devices and mobiles phones · "Auto shut-off" extends battery life · Power supply for NoiseGard™/digital via on-board DC power supply system (optional) · Fail safe operation the headset can be used as a conventional, passive headset in case of power failure · Made in Germany · Microphone BIAS independent power supply for your headset allows for communication outside the aircraft 4 | S1 DIGITAL Delivery includes Delivery includes S1 DIGITAL headset Transport case for headset and accessories Cable clip Wind and pop screen Belt clip S1 DIGITAL Setup \ Inbetriebnahme \ Mise en service Switching the operating control on/off \ Bedienteil ein-/ausschalten \ Bedienteil ein-/ausschalten OFF ON Andruckkraft einstellen \ Andruckkraft einstellen \ Andruckkraft einstellen Smart-Update nutzen \ Smart-Update nutzen \ Smart-Update nutzen Quick Guide S1 DIGITAL Manual 45° Quick Guide Kurzanleitung Guide rapide S1 DIGITAL Manual Instruction manual A list of accessories can be found on the S1 DIGITAL product page at www.sennheiser-aviation.com or www.sennheiser.com. For information on suppliers, contact your local Sennheiser partner: ·

www.

[sennheiser-aviation.com](http://www.sennheiser-aviation.com) > "Purchase Information" · www.



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2 Carefully slide the new wind screen over the microphone. 1 2 28 | S1 DIGITAL If a problem occurs .

.. If a problem occurs ...

Problem Possible cause Solution Charge the rechargeable batteries or replace the batteries. Check the aircraft fuse. Switch the headset and the Bluetooth function on. Pair the headset with a Bluetooth device. Switch the Bluetooth function on. Page 9 Power LED H The batteries/recharge does not light able batteries are flat. up on switch-on The aircraft fuse is defective. No audio signal during Bluetooth connection The headset is switched off. The headset is not paired with a Bluetooth device. The Bluetooth function is switched off.

17 12 17 30 Headset cannot The pairing does not work. Check if the audio source be paired supports the A2DP profile. If not, use one of the optional stereo audio transmitters. The audio source is switched off. Headset does The operation of the not react to any headset is faulty. @@The aircraft fuse is defective.

@@Switch NoiseGardTM/ digital on. @@Increase the volume. @@the headset. @@The Master VOLUME slide control I is misadjusted.

Set the headset to mono operation. @@@@No. @@@@This is the "classic" NoiseGard strategy used in most headsets with analog NoiseGard technology. FB-NoiseGard works especially well in the low-frequency range. Feedforward (FF) ANR, on the other hand, uses microphones mounted on the outside of the ear cups to directly pick up the unwanted noise.

The FF control circuit then calculates the required "anti-sound" and outputs it via the loudspeaker. The FF control circuit cannot become unstable at higher frequencies, and therefore allows for a strikingly increased NoiseGard performance in the upper frequency range. NoiseGardTM/digital uses both ANR strategies. Each ear cup features its own inner and outer microphones and a loudspeaker, allowing the advantages of both the FB and FF strategies to be combined. As a result, the NoiseGard performance is outstanding both in terms of the amount of noise attenuation and the wide range of frequencies over which it is effective.

S1 DIGITAL | 31 Valuable information on NoiseGardTM/digital The NoiseGardTM/digital technology of the S1 DIGITAL uses an innovative approach. The sound captured by the sensing-microphones is analyzed to calculate the optimum control circuit settings. This calculation is carried out by a highperformance signal processor using a fully-adaptive algorithm. This fully-adaptive algorithm is the core of the NoiseGardTM/digital technology and ensures that the currently dominant sound components are particularly well attenuated. The attenuation curve resulting from the adaptation is therefore always optimised for the current situation. The dominant sounds components at the ear depend not only on the noise of the aircraft but also on the user's position in the cockpit and, above all, on how the sound is transmitted through the headphones to the ear. This, in turn, depends on the fit of the headphones, head and ear anatomy and on whether or not spectacles are worn. e id is ou inside noise anti noise Adaptation e is no FF FB 32 | S1 DIGITAL Valuable information on NoiseGardTM/digital When compared with other adaptive technologies that are on the market, the particular strength of the fully-adaptive FF-NoiseGard is its ability to cancel broadband noise and not just individual tonal components. Cockpit noise consists of a mixture of broadband noise components and individual tonal components (e.g.

the fundamentals and harmonics of propeller rotation). If only the tonal components are canceled, the broadband noise remains unaffected and no significant noise reduction can be achieved in practice. Because it is fully adaptive, the NoiseGardTM/digital technology is able to simultaneously cancel both broadband and tonal sound components, resulting in excellent performance at all times. Overall noise compensation (principle) The attenuation curves of the passive attenuation and of the digital FB-ANR are fixed, whereas the attenuation of the digital adaptive FF-ANR depends on the situation. This reveals the powerful effect of adaptivity, which always provides the greatest attenuation of the loudest noise components. dB 0 -5 -10 -15 -20 -25 -30 -35 Noise Attenuation Passive Dig. FB Dig. Adaptive FF 0,1 1 10 kHz S1 DIGITAL | 33 Specifications Specifications Headset Transducer principle Ear coupling Frequency response Impedance active/passive Characteristic SPL Max. SPL THD Contact pressure, adjustable Microphone incl. preamplifier Type Transducer principle Frequency response Output voltage Terminating impedance Supply voltage General data Ambient temperature Weight without cable Cable length Power supply for operation with NoiseGardTM/digital dynamic, closed circumaural 20 16,000 Hz mono: 130 passive/180 active stereo: 260 passive/360 active 98 dB SPL at 1 kHz, 1 Vrms 90 dB SPL at 1 kHz, 1 mW 115 dB SPL at 1 kHz < 1% at 98 dB SPL approx.

5 7 N BKE S1-P pre-polarized condenser microphone, noise-compensating 100 Hz 10 kHz 20 80 mV/Pa, adjustable 35 mV/Pa (factory preset) 150 2,200 8 16 VDC Operating time (NoiseGardTM/digital only) operation: 15°C to +55°C storage: 55°C to +70°C approx. 410 g approx. 1.90 m 2.4 3.

0 VDC (batteries/rechargeable batteries), 4 VDC / max. 250 mA (via Adapter-P-XLR-3 or -P-CIG adapter cable, at 12 35 VDC on-board DC power supply) Alkaline batteries/rechargeable batteries: approx. 25 hrs Lithium batteries: approx. 40 hrs 34 | S1 DIGITAL Specifications Bluetooth Bluetooth Range Transmission frequency Transmission power Profiles Codec version 2.1 + EDR up to 10 m 2.

4 GHz 2.48 GHz 8 dBm HSP, HFP, A2DP, AVRCP SBC Connector assignment 5.25 mm jack plug (PJ-068 equivalent) 1 Not assigned 2 Microphone High 3 Microphone Low ¼" (6.35 mm) jack plug 1 Audio High left 2 Audio High right 3 Audio Low Hollow jack socket on the Adapter-P-XLR-3 and -P-CIG adapter cable 1 Power supply (4 VDC) 2 Ground XLR 3-pole socket (optional accessory) 1 Power supply for NoiseGardTM/digital (1235 VDC) 2 Ground 3 Not assigned S1 DIGITAL | 35 Manufacturer declarations Manufacturer declarations Warranty Sennheiser electronic GmbH & Co. KG gives a warranty of 5 years on this product. @@@@This symbol indicates that electrical and electronic equipment must be disposed of separately from normal waste at the end of its operational lifetime. Please dispose of this product by taking it to your local collection point or recycling centre for such equipment. This will help to protect the environment in which we all live. In compliance with: USA Canada Europe FCC ID: DMOS1CW3011 IC: 2099A-S1CW3011 Trademarks Sennheiser and NoiseGardTM/digital are registered trademarks of Sennheiser electronic GmbH & Co. KG.

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and any use of such marks by Sennheiser electronic GmbH & Co. KG is under license. @@@@This device complies with Part 15 of the FCC rules. @Responsible Party: John Falcone This device complies with Part 15 of the FCC rules and RSS-210 of Industry Canada. Operation is subjected 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. 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 and RSS-210 of Industry Canada. 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: · Reorient or relocate the receiving antenna. · Increase the separation between the equipment and receiver. · Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. · Consult the dealer or an experienced radio/TV technician for help. Changes or modifications made to this equipment not expressly approved by Sennheiser electronic Corp. may void FCC authorization to operate this equipment. This Class B digital apparatus complies with Canadian ICES-003. S1 DIGITAL \ 37 Manufacturer declarations RF Radiation Exposure Information Since the radiated output power of this device is far below the FCC radio frequency exposure limits, it is not subjected to routine RF exposure evaluation as per Section 2.1093 of the FCC rules. This device complies with the US and Industry Canada portable device RF exposure limits set forth for an uncontrolled environment and is safe for intended operation as described in the user manual. Further RF exposure reduction can be achieved if the device can be kept as far as possible from the user's body or set to lower output power if such provision is available. The base portion of this device should be installed and operated at least 20 cm away from the user's body. Use of other accessories not verified by the manufacturer may not ensure compliance with FCC and Industry Canada RF exposure guidelines. This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter. Industry Canada statement This device complies with RSS-210 of Industry Canada. Operation is subjected 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. 38 \ S1 DIGITAL Sennheiser electronic GmbH & Co. KG Am Labor 1, 30900 Wedemark, Germany Instruction manual Notice d'emploi www.sennheiser-aviation.com | www.

sennheiser.com Printed in Germany, Publ. 07/11, 545306/A01 Bedienungsanleitung Instrucciones de uso Istruzioni per l'uso Gebruiksaanwijzing .



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