



SONUS

Sonus XT Ultrasonic Detector

Operating Manual



Distribution: IRISS Inc.
Model: Ultrasonic Detector
Type: Sonus XT Multifunction device for leak detection, tightness control and other maintenance tasks

IRISS Inc.	Phone: +1 (941) 907-9128
10306 Technology Terrace	E-mail: info@iriss.com
Bradenton, FL 34211	Web: http://www.iriss.com

© 2017 IRISS Inc. All rights reserved

The contents of this manual are copyrighted property. Duplication and distribution in any form, particularly reprinting, photographic, mechanical or electronic reproduction, or in the form of storage in data processing systems or data networks, is prohibited without the consent of the copyright holder.

Revision: 1.0, Date: 2017-03-15 Subject to technical modifications!

Contents

1	Notes On The Operating Manual	04
1.1	General	12
1.2	Symbols Used	17
2	Safety	21
2.1	Safety Information	24
2.2	User Qualifications	04
3	Device Description and Probes	07
3.1	Designated Use	07
3.2	Measuring Method and Functioning	07
3.3	Device Construction	07
3.4	Display and Operating Buttons	08
3.5	Accessories	08
3.6	Airborne Sound Probe AP50	09
3.7	Acoustic Horn (Attachment For Airborne Sound Probe AP50)	09
3.8	Directional Tube With Tip (For Probe AP50)	09
3.9	Structure-Borne Sound Probe CP52	10
3.10	Airborne Ultrasonic Probe FP53 (Flexible Probe)	10
3.11	Parabolic Probe PD55	10
4	Commissioning and Installing	11
4.1	Inserting The Batteries	11

Contents Cont.

4.2	Plug in Headphones	11
4.3	Installing Probes	11
4.4	Uninstalling Probes	12
5	Operating The Sonus XT	13
5.1	Switching The Sonus XT On and Off	13
5.2	Setting The Volume	13
5.3	Switch On Maximum Value Detection	13
5.4	Switch On The Display Lighting	13
5.5	Adjust Display Contrast Settings	13
6	Cleaning and Care	14
7	Maintenance and Troubleshooting	14
8	Technical Data	15

1 Notes On The Operating Manual




1.1 Notes On The Operating Manual

Thank you for choosing the Sonus XT.

This manual forms part of the Sonus XT and should therefore be stored in the immediate vicinity of any operator and should be accessible at any time. It contains all the information needed to ensure proper and efficient use, along with all the instructions to ensure safe operation of the Sonus XT.

1.2 Symbols Used

Hazards or special information are indicated as follows:

	<p>Warning!</p> <p>This information warns of possible personal injury and damage to property.</p>
	<p>Caution!</p> <p>This information warns of possible damage to property.</p>
	<p>Note</p> <p>This symbol provides information or draws attention to special features.</p>

2 Safety

2.1 Safety Information

The Sonus XT corresponds to state-of-the-art technology and complies with safety regulations. The manufacturer has taken every possible action to guarantee safe operation. The user must ensure that safe use is not impaired. The device is factory tested and was delivered in a safe operating condition.



Warning!

Incorrect operation and use of the Sonus XT and its accessories may present a hazard for the user.

- The Sonus XT may only be operated with power sources in the operating voltage range specified in the technical data.
- Operation and storage of the Sonus XT outside the temperature ranges specified in the technical data is not permitted.
- The Sonus XT may not be immersed in liquids.
- The Sonus XT may only be exposed to limited risks due to mechanical factors. If there is visible damage, the Sonus XT must be taken out of operation immediately.
- Check the headphone cable regularly for damage and avoid bending, crushing or tugging the cable.
- Opening the Sonus XT and its accessories or performing repair work on them without authorization is not permitted. This may only be carried out by the manufacturer.
- You should always be able to see the device and the probes clearly while at work. Never work with the probes near exposed live parts or without visual contact in unfamiliar areas.
- When locating ultrasonic signals on electrical systems, a sufficient safety distance must be observed in order to avoid electrical flashovers.

2.2 User Qualifications



Warning!

The Sonus XT may only be installed and operated by users who have read and understood the entire operating manual.

3 Device Description and Probes

3.1 Designated Use

The Sonus XT is used to detect ultrasound. Any use other than the designated use is prohibited and can result in personal injury or damage to property. IRISS Inc. accepts no liability for damage, including damage to third parties, caused by improper handling of the device.

3.2 Measuring Method and Functioning

Using the Sonus XT, faulty components can be localized in different systems and their potential risk for the process can be assessed. It is based on ultrasonic signals which can be caused by friction on defective parts, for example.

Ultrasound can be created during a wide range of processes, including:

- at leaks in compressed air, steam and vacuum systems,
- during the operation of steam traps,
- at leaking valves, gates, barriers or taps in pipe systems,
- during the normal function of rolling bearings
- during cavitation caused by pumps and compressors, as well as
- in the event of arcing, tracking or corona discharges in electrical systems

The ultrasonic signals created during the specified processes are detected with the Sonus XT, converted into audible sound and output in their intensity through the headphones. At the same time, the ultrasound level is reported on the display.

3.3 Device Construction



Item Number	Function
1	Slot for ultrasonic probes
2	Display and operating buttons
3	Headphones port
4	Battery compartment

Table 1: Sonus XT device elements

Fig 1: Sonus XT ultrasonic detector

3.4 Display and Operating Buttons

Description of the display elements:

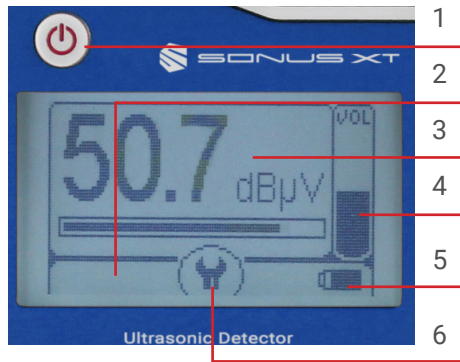


Fig 2: Sonus XT display

Item Number	Function
1	Device: On/Off switch
2	Maximum sound level display: Maximum value detection On Max XX.X / Off (no display)
3	Sound level display XX.X dBµV
4	Volume display
5	Battery status view
6	Function of the enter key in the menu

Table 2: Sonus XT description of the display elements

Description of the operating buttons:

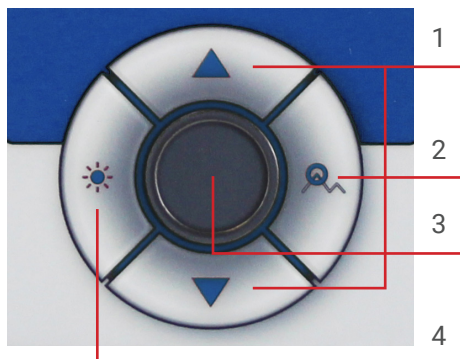


Fig 3: Sonus XT operating buttons

Item Number	Function
1	1. Changing the volume 2. Settings in the menu: Increase or decrease value
2	Maximum value detection: On/Off In the menu: Cancel
3	Enter key: Switch to menu or confirm value
4	Display lighting On/Off

Table 3: Sonus XT description of the operating buttons

3.5 Accessories

Batteries
Operating manual

Probes*

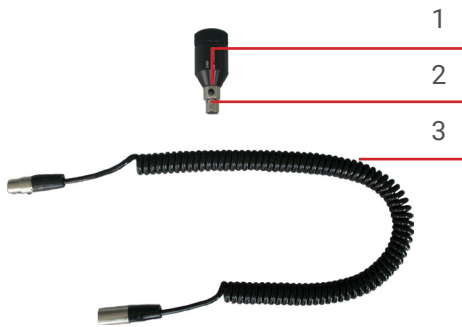
- Airborne sound probe AP50
- Directional tube with tip (for airborne sound probe AP50)
- Acoustic horn (attachment for airborne sound probe AP50)
- Structure-borne sound probe CP52*
- Airborne ultrasonic probe FP53 (flexible probe)*
- Parabolic probe PD55*
- Extension cable for ultrasonic probes

Other Accessories*

- Carrying case
- Headphones
- Carrying strap

*According to the order

3.6 Airborne Sound Probe AP50



Item Number	Function
1	Button for unlocking
2	Connector
3	Extension cord (optional)

Table 4: Elements of the airborne sound probe

3.7 Acoustic Horn (Attachment for Airborne Sound Probe AP50)



3.8 Directional Tube With Tip (for Probe AP50)



Caution!

Slip the rubber grommet carefully over the L50. Avoid exerting pressure on the probe; this may damage the probe grid!



3.9 Structure-Borne Sound Probe CP52



3.10 Airborne Ultrasonic Probe FP53 (Flexible Probe)



3.11 Parabolic Probe PD55



4 Commissioning and Installing

4.1 Inserting The Batteries



Caution!

Make sure you install the batteries in the correct position. The device may be damaged by incorrect insertion.

The correct position for installing the batteries is shown on the device.

- Unscrew the battery compartment cover.
- Insert the batteries (2 AA 1.5 V) into the battery compartment according to the illustration on the bottom of the device.
- When the device is operational, the battery status (1.5 V) is shown on the display.

Appropriate accumulators can also be used to operate the device. The charge status for the accumulators (1.2 V) is then shown approximately.

4.2 Plug in Headphones



Caution!

Malfunctions in device may occur:

- Only connect headphones with a 3.5mm stereo plug.
- When connecting the headphones, make sure both plugs (on the device and the headset) are fully inserted into the socket.
- A splitter may be used to allow headphones and a recording device (e.g. smartphone with app) to operate simultaneously.

4.3 Installing Probes



Caution!

Make sure the probe connector is in the correct position. The device and the probe may be damaged during installation.

The slot for probes is provided with a notch which indicates the correct position for insertion.

- Install the required probe in the specified position. You must feel the connector click into place.
- The probe is installed and ready to use.

4.4 Uninstalling Probes



Caution!

Do not turn the probe to remove it!
The device and the probe may be damaged during installation.

- Press the button to unlock the connector.
- Pull the probe carefully in a straight line to remove it from its slot.

5 Operating The Sonus XT

5.1 Switching The Sonus XT On and Off

- Switch the device on or off by pressing the On/Off button.
- The device is ready to use and displays the current sound level during operation.

5.2 Setting The Volume

The volume can be varied in regular steps of 2 between -42 dB and 0 dB. The factory setting is -22 dB.

- Press the arrow buttons to increase or decrease the volume .
- The current volume is shown on the display.

5.3 Switch on Maximum Value Detection

- Press the button for maximum value detection to switch the function on and off.
- The value is displayed on the bottom left of the display.

Max XX.X Maximum value detection on

5.4 Switch On The Display Lighting

- Press the Light button to switch the display lighting on and off.

The lighting automatically switches off after approx. 20 seconds.

5.5 Adjust Display Contrast Settings

To adapt the view to individual ambient conditions, the display contrast can be altered. The factory setting is 50 %.

- Press the Enter key 1x to select the contrast.
- Select a contrast value using the arrow keys.
- Confirm the value with the Enter key to return to the main menu.

6 Cleaning and Care



Caution!

Incorrect cleaning of the Sonus XT and its parts may damage the device. It must not be cleaned

- With abrasive and aggressive cleaning agents
- By immersion in liquids.

7 Maintenance and Troubleshooting



Caution!

In the event of errors or problems, it is not permitted to open the Sonus XT or accessories or to undertake repair work on them without authorization. This may only be carried out by the manufacturer.

The Sonus XT is practically maintenance free. If errors or problems do occur, please contact the manufacturer.

8 Technical Data


Sonus XT, Version 1.0 Ultrasonic Detector	
Operating Frequency	About 40 kHz
Functionality	Detection and conversion of ultrasonic signals: <ul style="list-style-type: none"> • Making ultrasound audible • Report of sound level on the display • Auto Power Off function
Display	Illuminated LC display
Connections	For different ultrasonic probes; Stereo jack plug (3.5mm)
Power Supply	2 AA batteries or accumulators
Operating Voltage	2x 1.5 V battery or 2x min. 1.2 V accumulator
Running Time	Approx. 24 hours with battery operation
Operating Temperature	-10 °C ... +60 °C
Storage Temperature	-20 °C ... +60 °C
Protection Type	Device: IP54 Probe: IP20
Directives	 2014/30/EU, electromagnetic compatibility; 2011/65/EU, on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)
Dimensions	Without probe: LWH 130 x 85 x 30 mm With L50 probe: Length ~170 mm Probe: Length ~ 52 mm, Ø ~ 22 mm
Items Supplied	Ultrasonic detector, probes as specified in the order, stereo headphones, carrying case, user manual

Table 5: Technical data for the Sonus XT

