SOUND METRICS

ARIS EXPLORER 3000

GETTING STARTED

soundmetrics.com

DIDSON TECHNOLOGY

ARIS EXPLORER 3000 GETTING STARTED

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1 INTRODUCTION

THE NEXT GENERATION IN CLARITY

With 128 beams operating at 3MHz, the ARIS Explorer 3000 collects more data than any other imaging sonar in its class. Users get unmatched image clarity, even in turbid waters. For longer-range applications, there are the Explorer 1800 and 1200 models.

The entire ARIS line is built to deliver in the most challenging situations. A smaller size, newly developed software and more efficient power usage, makes the ARIS Explorer family ideal for ROV integration. The ARIS Explorer 3000 works in zero visibility and operates in waters from the arctic to the equator.

ARIS EXPLORER 3000

IDENTIFICATION FREQUENCY: 3.0 MHz
DETECTION FREQUENCY: 1.8 MHz
DEPTH RATING: 300m

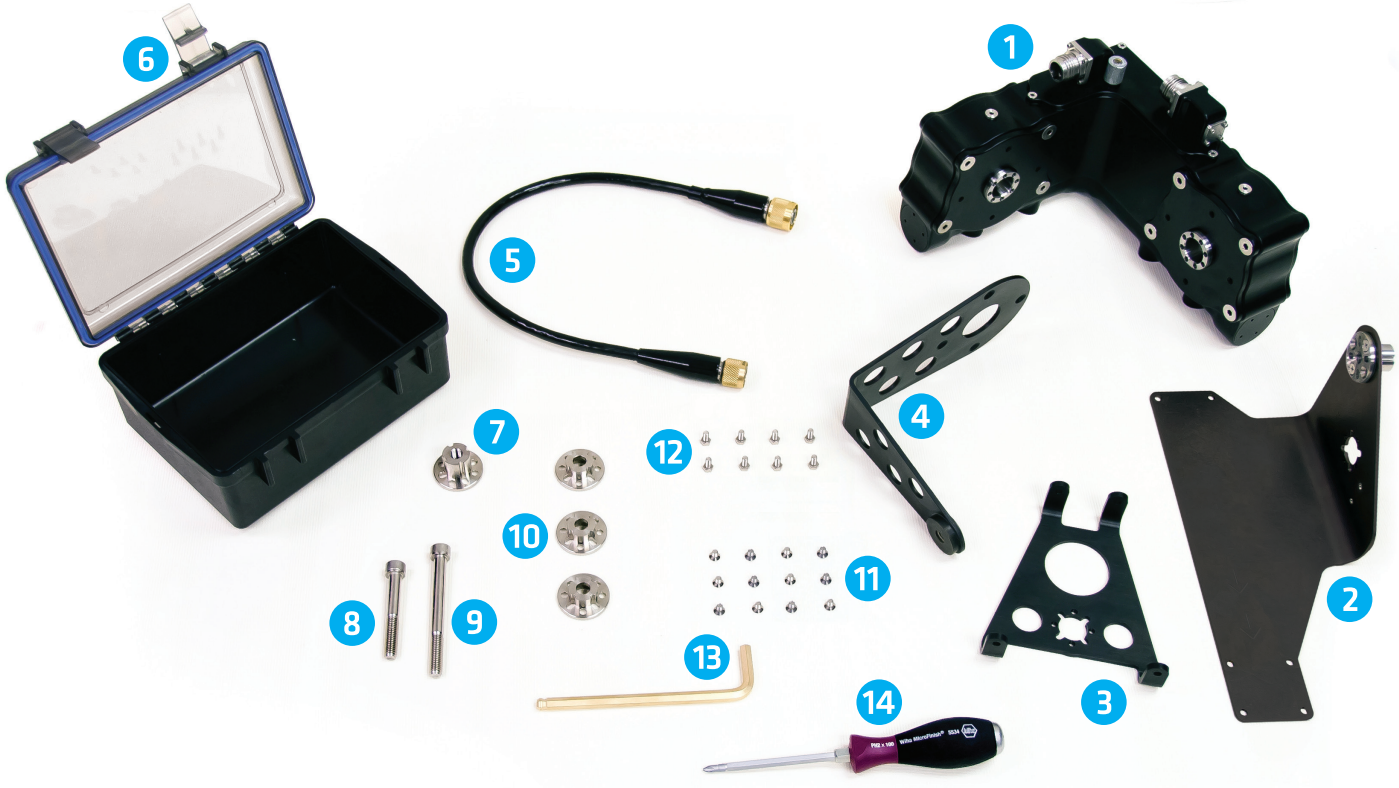
- Compact and lightweight
- Reliable and Durable
- Export capability to common video file format
- Ethernet communication interface
- Windows recording and playback software
- Real-time system data record, display and control
- Built-in compass and depth gauge
- Pan and tilt controller available as an option

2 WHAT'S IN THE ARIS BOX?

1. GETTING STARTED HANDBOOK
   #012269
2. ARIS SONAR
   #013702
3. ARIS CABLE
   # (Dependent on Length)
4. WATERPROOF BOX
   #013410
5. COMMAND MODULE
   #013470
6. POWER SUPPLY
   #014384
7. ETHERNET CABLE
   #014512
8. USB DRIVE & SOFTWARE
   #014385

2 WHAT'S IN THE ARIS BOX?

3 WHAT'S IN THE X2 BOX?

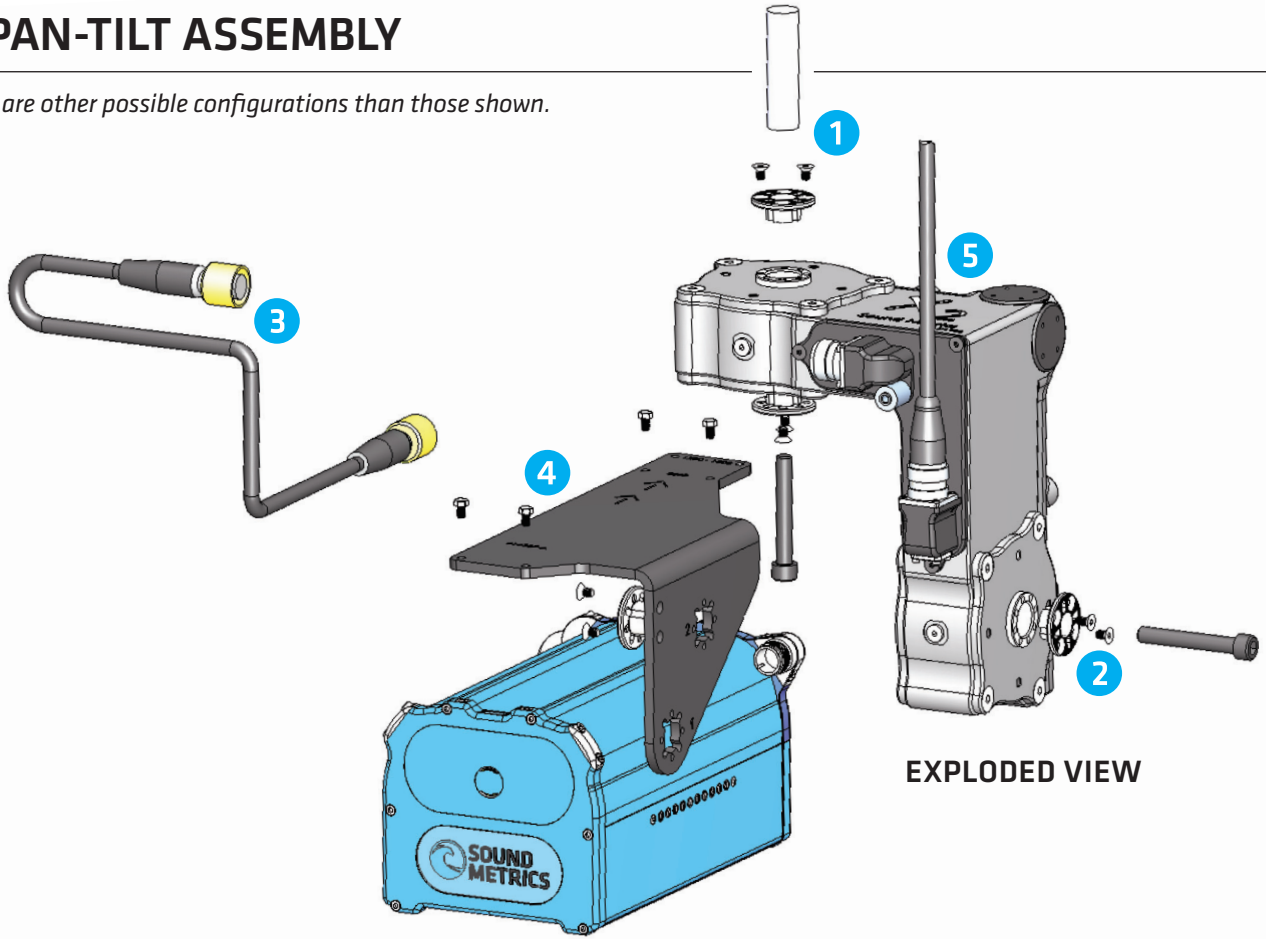


3 WHAT'S IN THE X2 BOX?

1. X2 ROTATOR
   #014471
2. PAN-TILT BRACKET
   #014337
3. ROLL BRACKET
   #014266
4. TILT BRACKET
   #012337
5. X2 CABLE
   #014361
6. WATERPROOF BOX
   #013410
7. MOUNTING NUT (2)
   One pre-installed on Pan-Tilt Bracket
   #012473
8. 10mm x 70mm BOLT
   #012506
9. 10mm x 100mm BOLT
   #012505
10. MOUNTING WASHER (3)
    #012475
11. FLAT-HEAD 5mm x 8mm SCREWS (12)
    #012358
12. HEX-HEAD 5mm x 10mm SCREWS (8)
    #014386
13. 8mm HEX DRIVER
    #013549
14. PHILIPS SCREW DRIVER
    #013156

4 PAN-TILT ASSEMBLY

There are other possible configurations than those shown.



EXPLODED VIEW

4 PAN-TILT ASSEMBLY

STEP 1

Attach Mounting Nut and Mounting Washer to shaft with Flat-Head 5mm x 8mm Screws. Using 10mm x 100mm Bolt attach X2 Rotator to the customer supplied Pole.

STEP 2

Attach Mounting Washer to shaft with 5mm x 8mm Screws. Attach Pan-Tilt Bracket to shaft by slipping the Mounting Nut into the shaft and tightening with the 10mm x 70mm Bolt. Make sure the arrows on the Bracket are pointing away from the Connectors on the X2.

STEP 3

Attach Cable to the ARIS and to the Connector on the X2.

STEP 4

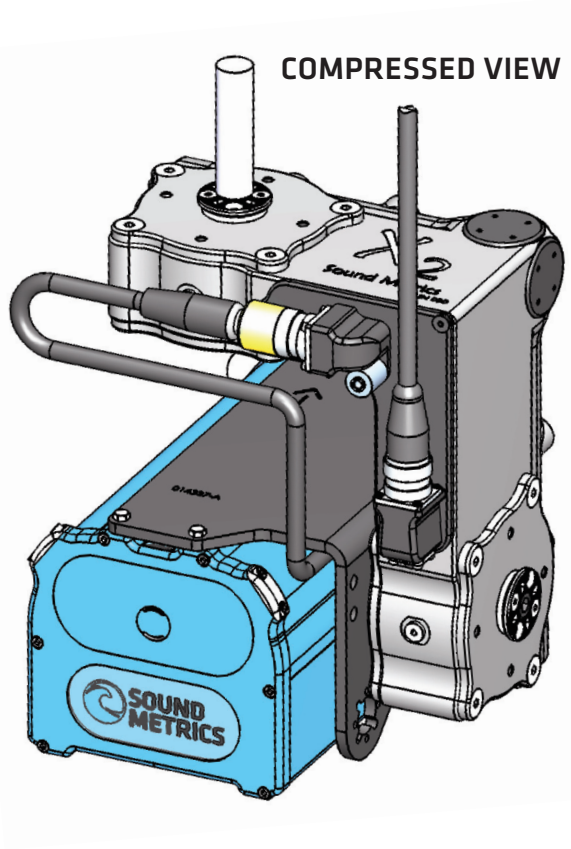
Attach ARIS to Pan-Tilt Bracket using Hex-Head 5mm x 10mm Screws.

STEP 5

Attach Cable from Topside Box to the X2 Rotator.

NOTE

"Home" position is re-set at every power up. To ensure maximum movement limits are acceptable, manually move the sonar before power up or with the control buttons after power up to a horizontal position (or your chosen "Home"), then click the "Set Zero" in the X2 Settings menu in the ARIScope Software.



5 TILT-ROLL ASSEMBLY

STEP 1
Attach Mounting Nut to Roll Bracket using Flat-Head 5mm x 8mm Screws.

STEP 2
Attach Roll Bracket to ARIS using the Hex-Head 5mm x 10mm Screws.

STEP 3
Attach Tilt Bracket to X2 Rotator using Flat-Head 5mm x 8mm Screws.

STEP 4
Attach the Mounting Washer to the X2 Rotator using the Flat-Head 5mm x 8mm Screws. Attach the ARIS and Roll Bracket to the X2 using the 10mm x 70mm Bolt.

STEP 5
Attach the X2 Cable to the ARIS and X2 Rotator.

STEP 6
Using the 10mm x 100mm Bolt, Mounting Screw and Mounting Nut attach the X2 shaft to the customer supplied mount.

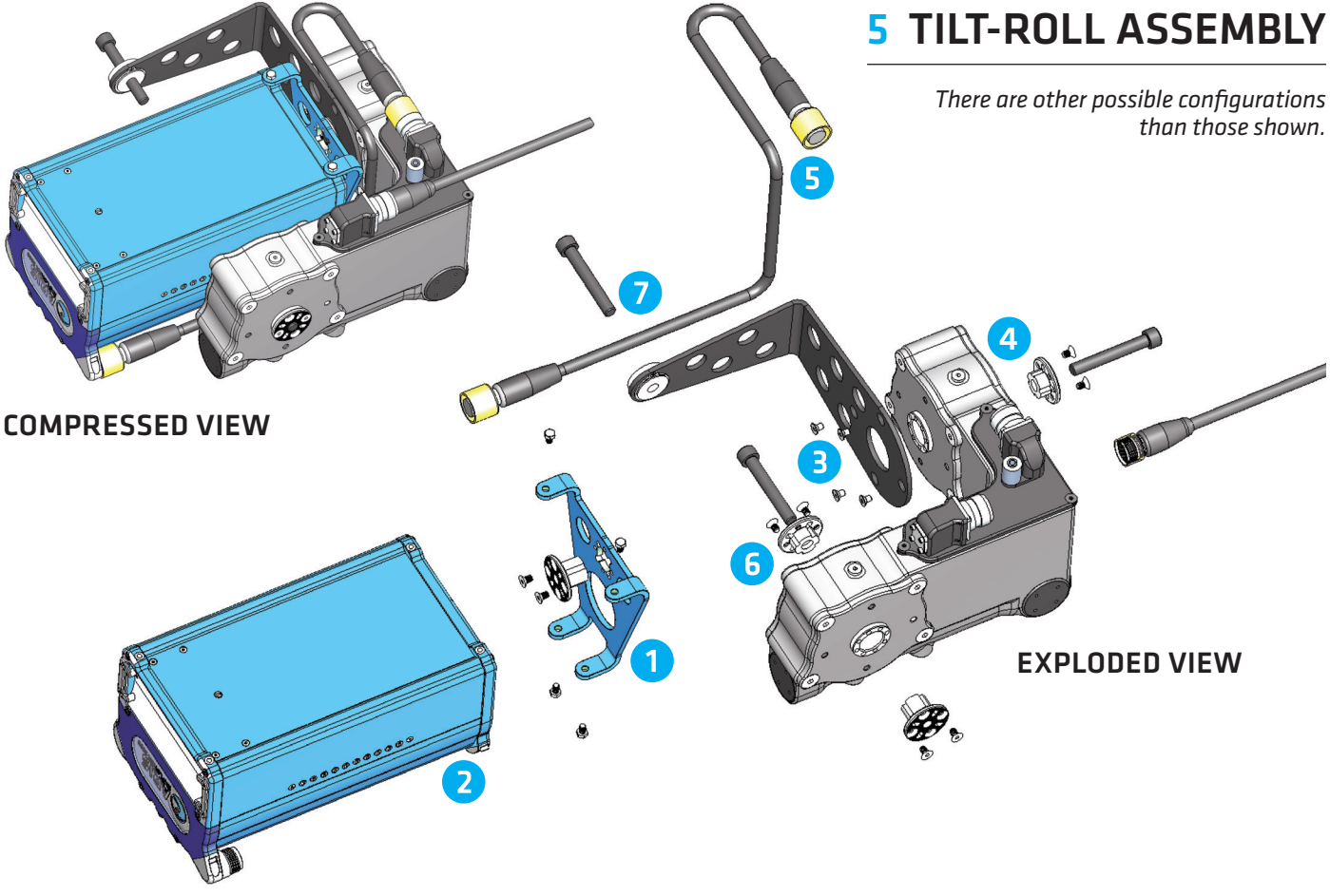
STEP 7
Using customer supplied 10mm Bolt attach Tilt Bracket to customer supplied mount.

STEP 8
Attach Cable from the Topside box to the X2 Rotator.

NOTE
"Home" position is re-set at every power up. To ensure maximum movement limits are acceptable, manually move the sonar before power up or with the control buttons after power up to a horizontal position (or your chosen "Home"), then click the "Set Zero" in the X2 Settings menu in the ARIScope Software.

5 TILT-ROLL ASSEMBLY

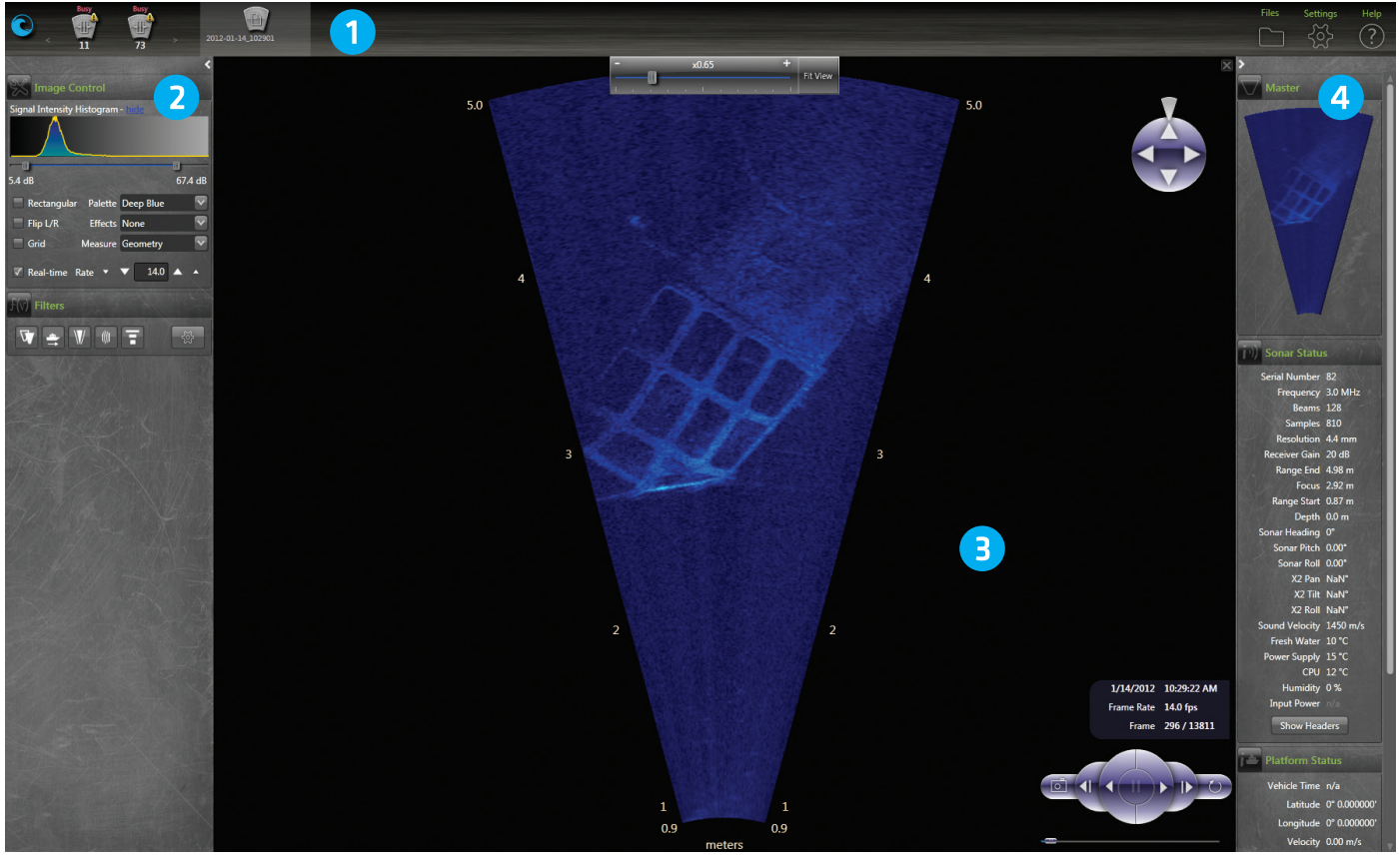
There are other possible configurations than those shown.



COMPRESSED VIEW

EXPLODED VIEW

6 ARIScope SOFTWARE



6 ARIScope SOFTWARE

1 TOP BAR

- SMC Logo
- Sonar Icon
- Icon Scroll Buttons
- Open File Icon
- Files Icon
- Settings Icon
- Help Icon

2 CONTROL PANEL

- Panel Expand/Collapse Button
- Sonar Control Button
- X2 Settings Button
- Image Control Button
- Filters Button

3 IMAGE DISPLAY

- Range Control
- Zoom Control
- Orientation Control
- Acoustic Image
- X2 Control

4 STATUS PANEL

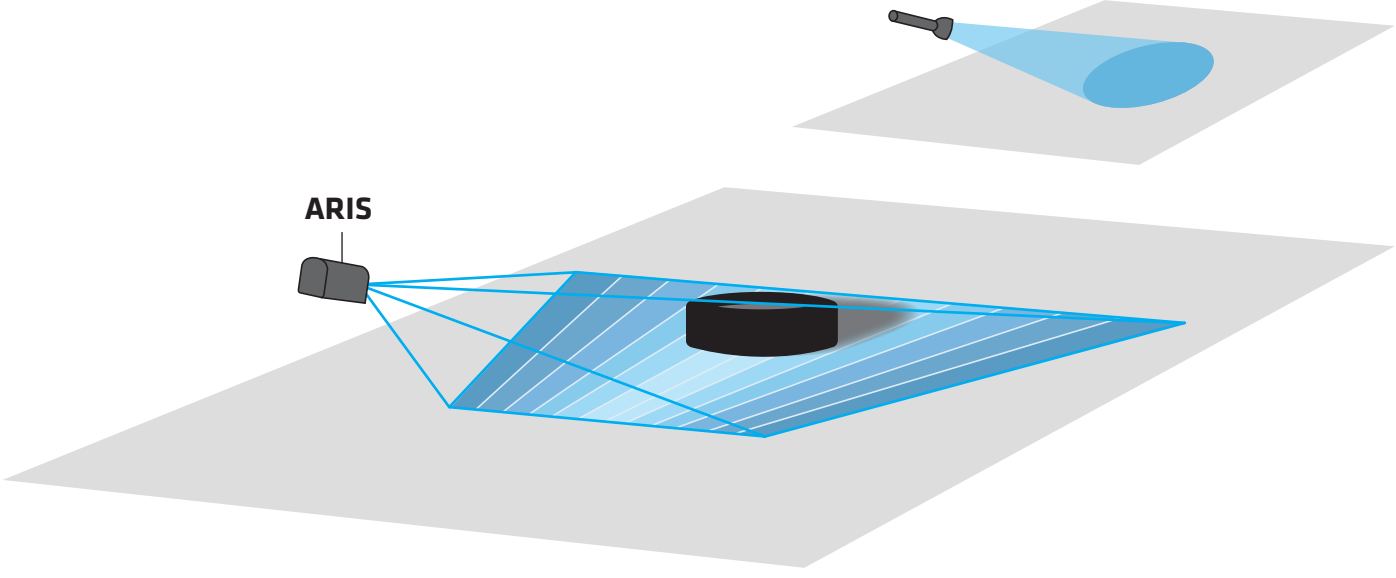
- Panel Expand/Collapse Button
- Master
- Sonar Status
- Platform Status

7 CAPTURING QUALITY IMAGES

The following illustrations demonstrate how to image a flat object lying on a flat bottom.

ACOUSTIC VOLUME

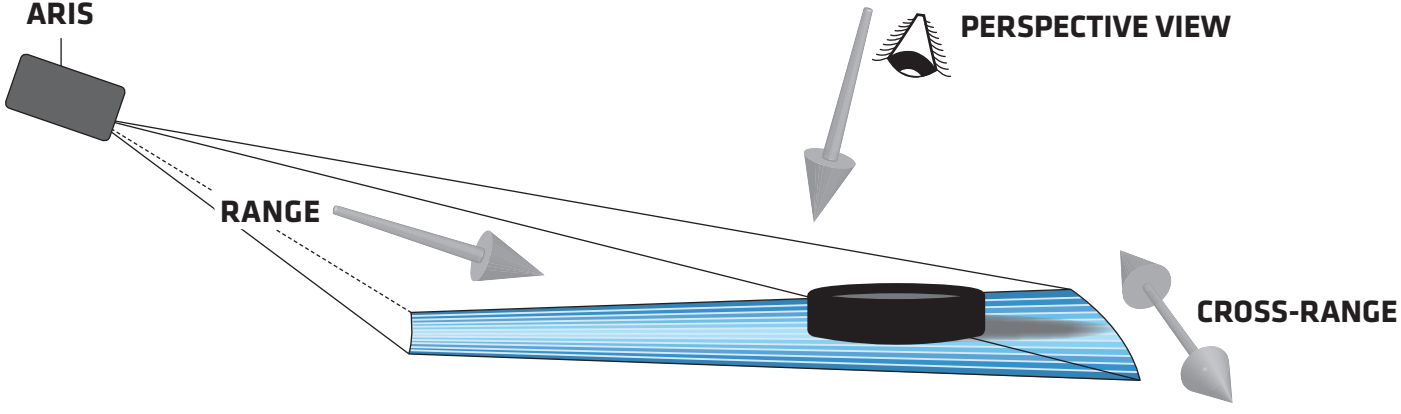
The ARIS multi-beam sonar projects a wedge shaped volume of acoustic energy much like a flashlight projects a cone shaped volume of light.



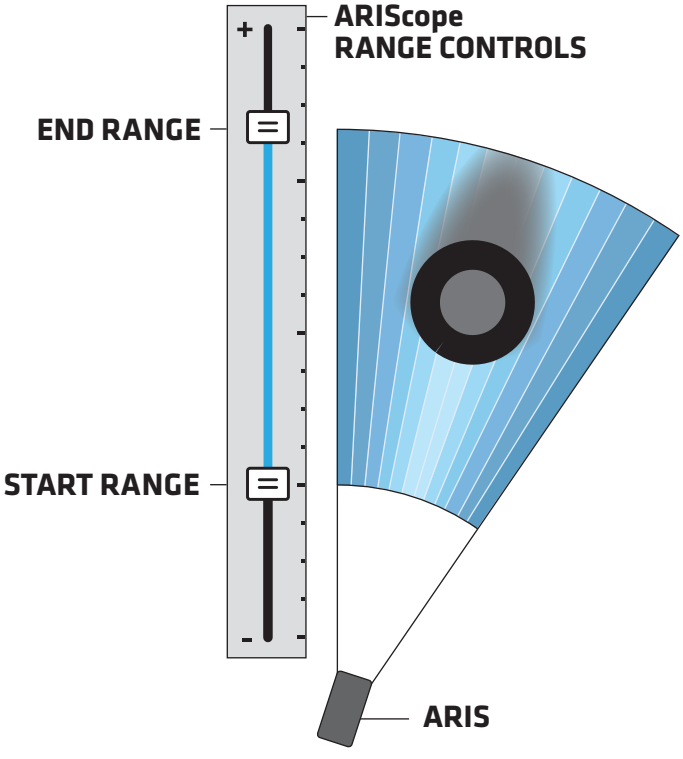
7 CAPTURING QUALITY IMAGES

RANGE, CROSS-RANGE & IMAGE PERSPECTIVE

Three terms concerning distance and direction relative to the acoustic wedge are Range, Cross-Range, and Image Perspective. Each of these are at 90 degrees to the other two, much like the 3 edges that come together at the corner of a box. Range refers to distance away from the ARIS along the length of the wedge. Cross-Range speaks to distance directly across the width of the wedge. Image Perspective speaks to direction coming from above viewing directly down on the wedge.



7 CAPTURING QUALITY IMAGES



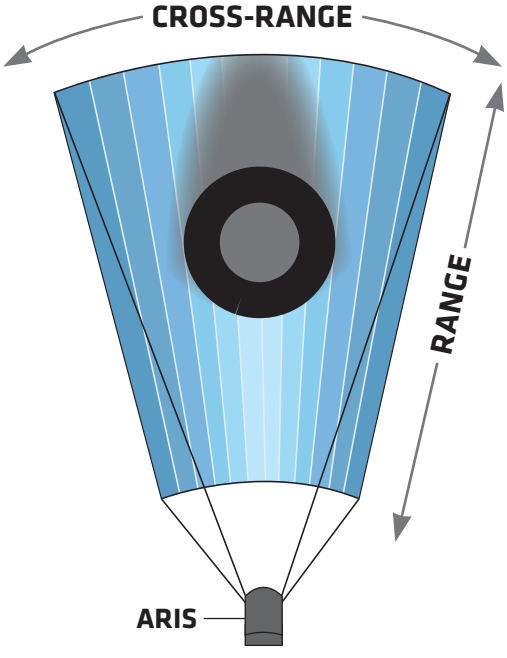
The width of the acoustic wedge is a fan of narrow slices. Each slice from a beam of ARIS produces a thin strip of the image aligned with range which is placed appropriately with neighbors in cross range to produce the entire image.

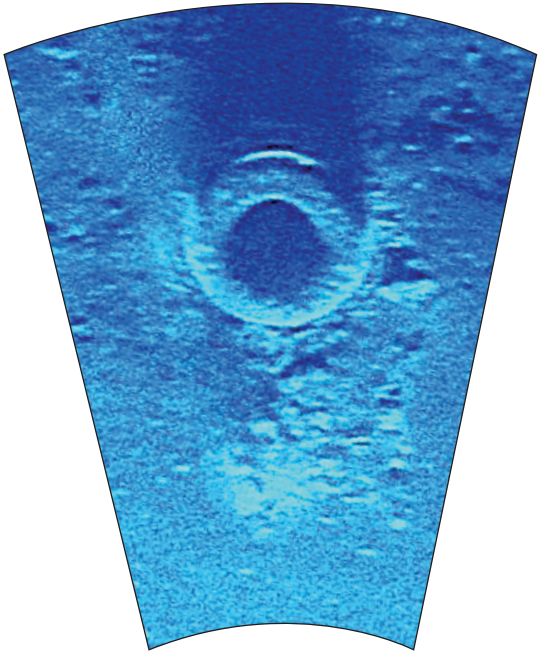
RANGE SETTING

Orient the ARIS such that the acoustic wedge impacts the object so that the surface is shown in range and cross-range. Keep in mind that the aim of ARIS is 90 degrees from the image perspective. Along with aiming the unit, drag the sliders in ARIScope to set the start and end ranges of the image window.

7 CAPTURING QUALITY IMAGES

The ARIS image is from the perspective view showing Range and Cross-Range information.





8 COMPUTER REQUIREMENTS

MINIMUM PC REQUIREMENTS[1]

- Windows 7 32-bit SP1
- DirectX 10 compatible graphics
- 1.8 GHz Dual-Core CPU
- 2 GB RAM
- 256 MB Video RAM
- 20 GB Free disk space (for recording)

RECOMMENDED PC CONFIGURATION[2]

- Windows 7 64-bit Professional SP1
- DirectX 11 compatible graphics
- 2.2 GHz quad-core CPU
- 4 GB RAM
- 512 MB Video RAM
- 200 GB free disk space (for recording)

RECOMMENDED PC UPGRADES[3]

- SSD C:\ Drive (Solid State Disk)
- 8 GB RAM
- 1 GB Video RAM

[1] For good performance using ARIScope software, and limited functionality for future image processing

[2] For great performance using ARIScope software, and good performance on future image processing

[3] For great performance using all present and planned ARIS software

9 WARRANTY INFORMATION

WHAT TO DO IN CASE OF A PROBLEM WITH THE ARIS EXPLORER

Sound Metrics Corp. (SMC) warrants the ARIS Explorer for one year according to the terms of the official warranty document. If the sonar appears to be defective please contact SMC by email or phone to discuss your options. In many cases we can help resolve issues without having to return the unit, but if not, SMC pledges to repair your sonar as quickly as possible. For sonar returns, you need to contact SMC for a "Case Number" and provide details of the problem(s) - this allows us to prepare so your sonar can be repaired and returned to you quickly. We ask that you ship the sonar in its original protective storage case. If still under warranty the unit will be repaired and returned to you at no cost; otherwise you will be charged for parts, labor and return shipping. We will provide you with an estimate of any repair and wait for approval before proceeding with the work.

In most cases, it is not advisable to open or attempt to repair the sonar in the field. However, this may be the only option if time is critical. SMC is best qualified to make that determination and our personnel can provide step-by-step instructions if that is determined to be the best course of action. Your warranty may be void if you attempt such servicing without first contacting SMC.

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9 WARRANTY INFORMATION

ARIS EXPLORER LIMITED WARRANTY

Sound Metrics Corp. (SMC) warrants that the ARIS Explorer ("Product") will be free from defects in materials and workmanship under normal usage for one year from the date the Product is shipped to the first purchaser of the Product ("Warranty Period"), unless SMC has agreed in writing to alter any of the foregoing terms.

Any implied warranties, including without limitation the implied warranties of merchantability and fitness for a particular purpose, shall be limited to the duration of this limited warranty, otherwise the repair, replacement, or refund as provided under this express limited warranty is the exclusive remedy of the consumer, and is provided in lieu of all other warranties, express or implied. In no event shall SMC be liable, whether in contract or tort (including negligence) for damages in excess of the purchase price of the product, or for any indirect, incidental, special or consequential damages of any kind, or loss of revenue or profits, loss of business, loss of information or data, software or applications or other financial loss arising out of or in connection with the ability or inability to use the product to the full extent these damages may be disclaimed by law.

Some states and jurisdictions do not allow the limitation or exclusion of incidental or consequential damages, or limitation on the length of an implied warranty, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights that vary from state to state or from one jurisdiction to another. This warranty extends only to the first purchaser of the Product, and is not transferable.

This limited warranty is your exclusive remedy, and applies to new Product purchased in the United States or Canada, which are accompanied by or sold with this written warranty.

If the Product proves defective during the warranty time period, please contact SMC by email or phone to discuss options for repair or replacement at the sole option of SMC. SMC will, in a timely manner, provide you an option for repair or replacement but that, in any event, SMC will repair or replace your Product in a commercially reasonable time. For warranty work, you must first contact SMC for a "Case Number" and provide details of the problem(s) - this allows preliminary preparation so your Product can be repaired or replaced as necessary. We ask that you ship the Product to SMC or SMC's designated repair depot in its original protective storage case. The Product will be repaired or replaced and returned to you at no cost. SMC reserves the right to use functionally equivalent conditioned/refurbished/pre-owned or new parts in the case of repair or replacement. In most cases, it is not advisable to open or modify the Product in any manner. However, this may be the best initial action if time is critical. SMC is best qualified to make that determination and their personnel can provide step-by-step instructions if that course of action is determined best at SMC's sole discretion. Any attempt to alter the Product in any manner or the misuse or abuse of the Product may void your warranty.

LAST REVISION 07-03-2013

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