The Benefits of AIRMAR’s Chirp-ready Transducers

- One broadband transducer covers up to 117 kHz of bandwidth – greater opportunities to detect fish in the water column
- Superior resolution – precise separation between baitfish and gamefish represented on the display with crisp images
- Enhanced bottom fishing – resolve targets close to the bottom or near structure/wrecks
- Amazing detail – recognize haloclines and thermoclines
- Improved signal to noise ratio – find fish and track bottom at high boat speeds

Benefits of Thru-Hull Transducers with High Performance Fairing

Thru-hull installations provide best performance compared with other installation options for many reasons.

- The best performance on vessels 25 feet and up because the transducer face is in “clean” water below the boundary layer (bubbles running down the hull)
- The fairing compensates for hull deadrise and reduces turbulence over the transducer face, which allows tracking at speeds over 30 knots (35 MPH)
- When mounted in clean water (forward of propellers and running gear), thru-hulls produce the most effective signal return since nothing on the vessel interferes with the transducer’s active surface
Selecting the best frequency for your specific application is very important. The good news is that once you know what frequency will work best for the type of fishing you do, there’s an AIRMAR transducer designed to maximize the performance of your sounder.

AIRMAR Chirp transducers are available in various frequency combinations:

- **Dual Band:**
  - Low/High (LH)
  - Low/Medium (LM)
  - Low/High Wide (LHW)
  - Low Wide/Medium (LWM)

- **Single Band:**
  - Low
  - Medium
  - High
  - High Wide

**Low Frequency = Greater Depth (ex. 42-65 kHz)**

- Sound waves will not present as clear a picture of the bottom on the display, but will sound down in very deep areas where high frequency sound waves cannot reach
- Provides greater depth range, wider beamwidth, and ultimately more coverage under the boat
- Chirp signal processing technology used with AIRMAR broadband, Chirp-ready transducers provides more detail at greater depths and is less susceptible to noise
- Great for operating at high boat speeds

**High Frequency = Greater Detail (ex. 130-210 kHz)**

- More sensitive to small targets and will send back detailed information which will display as crisp, high-resolution images on the echosounder screen
- Best for shallower water and popular with anglers fishing at depths less than 1500 feet

**Medium Frequency = The Best of Both Worlds (ex. 80-130 kHz)**

- Provides the ability to sound deeper than the high frequency, along with better resolution than the low frequency
- Wider beam than the high frequency, achieving more coverage under the boat and greater opportunity to find fish
- Clear images at higher boat speeds

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**Why does frequency matter?**

**1 kW**

- Max depth 3000'

**2 kW**

- Max depth 6000'

**2-3 kW**

- Max depth 10000'
Thru-Hull
1 kW

Features:
• Depth & fast-response water-temperature sensor
• Bronze transducer housing with High-Performance Fairing
• Boat Size: 8 m (25') and above
• Hull Type: Fiberglass or wood
• Engine Type: Inboard, Outboard or I/O
• For use on hulls up to 20° deadrise

B265LH
Low & High Frequency
• Low—42 kHz to 65 kHz
  25° to 16° beamwidth
  Maximum depth 3000 ft
• High—130 kHz to 210 kHz
  10° to 6° beamwidth
  Maximum depth 1000 ft
• 103 kHz of total bandwidth from one transducer

B265LM
Low & Medium Frequency
• Low—42 kHz to 65 kHz
  25° to 16° beamwidth
  Maximum depth 3000 ft
• Medium—85 kHz to 135 kHz
  16° to 11° beamwidth
  Maximum depth 1500 ft
• 73 kHz of total bandwidth from one transducer

B275LHW
Low & High Wide Frequency
• Low—42 kHz to 65 kHz
  25° to 16° beamwidth
  Maximum depth 3000 ft
• High—150 kHz to 250 kHz
  25° constant beamwidth
  Maximum depth 500 ft
• 123 kHz of total bandwidth from one transducer

Bottom Coverage
Relative to Frequency and Depth

<table>
<thead>
<tr>
<th>Depth</th>
<th>Beam Coverage at High Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B265LH 130 kHz-210 kHz</td>
</tr>
<tr>
<td>50 ft</td>
<td>10 ft</td>
</tr>
<tr>
<td>100 ft</td>
<td>20 ft</td>
</tr>
<tr>
<td>300 ft</td>
<td>53 ft</td>
</tr>
<tr>
<td>600 ft</td>
<td>104 ft</td>
</tr>
<tr>
<td>1000 ft</td>
<td>174 ft</td>
</tr>
<tr>
<td>1500 ft</td>
<td>Too Deep</td>
</tr>
<tr>
<td>2000 ft</td>
<td>Too Deep</td>
</tr>
</tbody>
</table>

This chart compares the high and medium ceramic elements inside the transducer, showing the difference in bottom coverage under the boat.

The low frequency in each of these transducer models is the same (42 kHz - 65 kHz). The maximum depth range sounds to 3,000 ft.
Features:
- Depth & fast-response water-temperature sensor
- Urethane transducer housing with High-Performance Fairing
- Boat Size: 12 m (40') and above
- Hull Type: Fiberglass, wood, or metal
- Engine Type: Inboard, Outboard or I/O
- For use on hulls up to 22° deadrise

R109LH
Low & High Frequency
- Low–38 kHz to 75 kHz
  19° to 10° port/starboard
  10° to 5° fore-aft beam
  Max. depth 6000 ft
- High–130 kHz to 210 kHz
  8° to 4° beam
  Max. depth 1500 ft
- 117 kHz of total bandwidth from one transducer

R109LM
Low & Medium Frequency
- Low–38 kHz to 75 kHz
  19° to 10° port/starboard
  10° to 5° fore-aft beam
  Max. depth 6000 ft
- Medium–80 kHz to 130 kHz
  13° to 8° beam
  Max. depth 3000 ft
- 87 kHz of total bandwidth from one transducer

R109LHW
Low & High Wide Frequency
- Low–38 kHz to 75 kHz
  19° to 10° port/starboard
  10° to 5° fore-aft beam
  Max. depth 6000 ft
- High–150 kHz to 250 kHz
  25° constant beam
  Max. depth 500 ft
- 137 kHz of total bandwidth from one transducer

R409LWM
Low & Medium Frequency
- Low–40 kHz to 60 kHz
  40° constant beamwidth
  Max. depth 4000 ft
- Medium–80 kHz to 130 kHz
  13° to 8° beam
  Max. depth 3000 ft
- 70 kHz of total bandwidth from one transducer

Bottom Coverage Relative to Frequency and Depth

<table>
<thead>
<tr>
<th>Depth</th>
<th>R109LH 130 kHz-210 kHz</th>
<th>R109LM 80 kHz-130 kHz</th>
<th>R109LHW 150 kHz-250 kHz</th>
<th>R409LWM 40 kHz-60 kHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 ft</td>
<td>6 ft</td>
<td>10 ft</td>
<td>22 ft</td>
<td>36 ft</td>
</tr>
<tr>
<td>100 ft</td>
<td>14 ft</td>
<td>24 ft</td>
<td>46 ft</td>
<td>73 ft</td>
</tr>
<tr>
<td>300 ft</td>
<td>42 ft</td>
<td>70 ft</td>
<td>134 ft</td>
<td>220 ft</td>
</tr>
<tr>
<td>600 ft</td>
<td>84 ft</td>
<td>136 ft</td>
<td>266 ft</td>
<td>440 ft</td>
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<tr>
<td>1000 ft</td>
<td>140 ft</td>
<td>226 ft</td>
<td>Too Deep</td>
<td>730 ft</td>
</tr>
<tr>
<td>1500 ft</td>
<td>210 ft</td>
<td>340 ft</td>
<td>Too Deep</td>
<td>1092 ft</td>
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<tr>
<td>2000 ft</td>
<td>Too Deep</td>
<td>456 ft</td>
<td>Too Deep</td>
<td>1456 ft</td>
</tr>
</tbody>
</table>

This chart compares the high and medium ceramic elements inside the transducer, showing the difference in bottom coverage under the boat.

Low frequency in each of these transducers models is the same (38-75 kHz) except the R409LWM. This low frequency can range to 6,000 ft.
Thru-Hull
2-3 kW

Features:
- Depth & fast-response water-temperature sensor
- Epoxy transducer housing with High-Performance Fairing
- Boat Size: 12 m (40’) and above
- Hull Type: Fiberglass, wood, or metal
- Engine Type: Inboard, Outboard or I/O
- For use on hulls up to 25° deadrise

25-Internal Broadband Ceramic Assemblies

R509LH
Low & High Frequency
- Low–28 kHz to 60 kHz
  23° to 9° port/starboard
  11° to 5° fore-aft beamwidth
  Maximum depth 10000 ft
- High–130 kHz to 210 kHz
  8° to 4° beamwidth
  Maximum depth 1500 ft
- 112 kHz of total bandwidth from one transducer

R509LM
Low & Medium Frequency
- Low–28 kHz to 60 kHz
  23° to 9° port/starboard
  11° to 5° fore-aft beamwidth
  Maximum depth 10000 ft
- Medium–80 kHz to 130 kHz
  13° to 8° beamwidth
  Maximum depth 3000 ft
- 82 kHz of total bandwidth from one transducer

R509LHW
Low & High Wide Frequency
- Low–28 kHz to 60 kHz
  23° to 9° port/starboard
  11° to 5° fore-aft beamwidth
  Maximum depth 10000 ft
- High–150 kHz to 250 kHz
  25° constant beamwidth
  Maximum depth 500 ft
- 132 kHz of total bandwidth from one transducer

Bottom Coverage Relative to Frequency and Depth

<table>
<thead>
<tr>
<th>Depth</th>
<th>R509LH 130 kHz-210 kHz</th>
<th>R509LM 80 kHz-130 kHz</th>
<th>R509LHW 150 kHz-250 kHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 ft</td>
<td>6 ft</td>
<td>10 ft</td>
<td>20 ft</td>
</tr>
<tr>
<td>100 ft</td>
<td>14 ft</td>
<td>24 ft</td>
<td>46 ft</td>
</tr>
<tr>
<td>300 ft</td>
<td>42 ft</td>
<td>68 ft</td>
<td>132 ft</td>
</tr>
<tr>
<td>600 ft</td>
<td>84 ft</td>
<td>136 ft</td>
<td>264 ft</td>
</tr>
<tr>
<td>1000 ft</td>
<td>140 ft</td>
<td>228 ft</td>
<td>Too Deep</td>
</tr>
<tr>
<td>1500 ft</td>
<td>208 ft</td>
<td>340 ft</td>
<td>Too Deep</td>
</tr>
<tr>
<td>2000 ft</td>
<td>Too Deep</td>
<td>456 ft</td>
<td>Too Deep</td>
</tr>
<tr>
<td>2500 ft</td>
<td>Too Deep</td>
<td>570 ft</td>
<td>Too Deep</td>
</tr>
</tbody>
</table>

This chart compares the high and medium ceramic elements inside the transducer, showing the difference in bottom coverage under the boat.

Low frequency in each of these transducer models is the same (28 kHz - 60 kHz).
The maximum depth range sounds to 10,000 ft.
**The Chirp Advantage**

Traditional sounders operate at only two discrete frequencies – typically 50 kHz and 200 kHz. This results in limited depth range, resolution, and ultimately what targets can be detected in the water column.

In contrast, AIRMAR’s game-changing Chirp-ready transducers provide over 70+ kHz of bandwidth. Transmitting over a wide frequency band results in a greater opportunity to detect what is in the water column. As a result, all targets detected in the entire bandwidth will be seen on the display—even those fish holding close to the bottom—ultimately improving target detection, detail, and range resolution.

Most Chirp transducers vary their beam width as they sweep through their frequency range (low, medium, and high). At the lowest frequency the beam is the widest and it narrows as the frequency increases.

AIRMAR’s new wide beam Chirp transducers are the exception to this rule and have a fixed beam width of either 25° or 40° across the frequency band. This translates into even more coverage under the boat, revealing more fish in the water column than ever before.

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**Additional Mounting Options**

Choosing your mounting option depends on the design of the hull as well as the material it’s manufactured with, the boat’s intended use, and the desired level of performance.

**Need Help Choosing the Right Transducer?**

Download the free, award-winning iNstall app! It’s a great tool that takes the guesswork out of selecting the right transducer for your application. Based on frequency, mounting, housing, and cable options, iNstall will reveal the available option(s) and give you instant access to their specifications. Designed for iPhone, iPad, and iPod smart phones and tablets running iOS 6.1 and newer.

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