OPERATING INSTRUCTIONS

Ashby-5C and Ashby-8C

Ceiling Loudspeakers with IntelligentDC
## CONTENTS

**Chapter 1: Introduction to the Ashby Loudspeaker** .........................5

**Chapter 2: Connecting Ashby Loudspeakers** .................................7  
Into: Ashby Power and Input Panel .........................................................7  
Cable Specification ..................................................................................7  
On/Status LED .........................................................................................9  
Operating Temperature and Amplifier Cooling .....................................10  
Connecting and Powering Ashby Speakers ...........................................10  
Configuring the MPS-488HP In Compass .............................................11

**Chapter 3: Installing Ashby Loudspeakers** ..................................13  
Meyer Sound Accessories .......................................................................13  
Wiring the Speaker ..................................................................................14  
Installing Into a Standard Ceiling ..........................................................15  
Installing Into a suspended Ceiling .......................................................16  
Installing into a High Ceiling with the Pendant ....................................17

**Appendix A: Ashby Accessories** .......................................................19

**Appendix B: Assembling Phoenix-to-Phoenix Loudspeaker Cables** ....21

**Appendix C: Ashby Loudspeakers Specifications** .............................23

**Appendix D: Ashby Pendant Dimensions** .........................................25  
Into: Ashby-5C .....................................................................................25  
Ashby-8C .............................................................................................25

**Appendix E: Ashby Loudspeaker Dimensions** .................................27  
Into: Ashby-5C .....................................................................................27  
Ashby-8C .............................................................................................27

**Appendix F: Ashby Loudspeakers Declarations of Conformity** ........29
CHAPTER 1: INTRODUCTION TO THE ASHBY LOUDSPEAKER

The Ashby self-powered, ceiling-mount, installation loudspeakers provide wide-coverage and low distortion, even at high sound levels, for applications that require accurate music reproduction and intelligible voice. The Ashby speakers offer sonic performance beyond other in-ceiling loudspeakers of comparable size.

The Ashby-5C and Ashby-8C speakers are engineered to the same award-winning standards as all of Meyer Sound’s IntelligentDC loudspeakers. With their on-board amplification with sophisticated signal processing, they exhibit the flat frequency and phase responses for which Meyer Sound loudspeakers are known.

The Ashby loudspeakers receive DC power and balanced audio from a single Phoenix™ 5-pin male connector. Using IntelligentDC to power the units from an external source has several advantages:

-Eliminates the need to use conduit (Class 2 wiring).
-Allows longer, lighter-gauge cable runs.
-Preserves the advantages of self-powered systems with even more flexible installation options.

Housed in integrated metal back-cans to meet commercial fire codes, the Ashby speaker can be flush-mounted in the ceilings using a discrete low-profile grille that blends into any décor.

All Ashby drivers are designed and manufactured at Meyer Sound’s factory in Berkeley, California. The Ashby 0.75-in metal dome tweeter is concentrically mounted in an innovative configuration that maximizes the surface of the waveguides. Their incredibly smooth and consistent 100-degree coverage lets you use fewer speakers to cover a larger area, which reduces system cost while maintaining the highest sound quality.

The Ashby-5C and Ashby-8C include 5- and 8-inch cone drivers, respectively. The Ashby-8C is ideally suited for applications that require a deeper low-end and higher SPL.

The Ashby speakers can be installed in a variety of ceiling environments using Meyer Sound accessories:

- **C-Ring with Bridge Kit**: Used for suspended ceilings, the C-ring better distributes the clamping force of the speaker’s four mounting clamps while the bridges help support the weight of the speaker and provide additional safety in case the tile breaks.

  In addition, the C-ring can be used independently on brittle ceiling surfaces.

- **New Construction Bracket**: This bracket can be fastened to the ceiling and acts as a template for ceiling cutout, ensuring a neat installation.

- **Ashby Pendant**: Allows Ashby loudspeakers to hang from ceilings where a flush-mount is not practical. These elegant pendant enclosures utilize a minimalist design typically used in pendant lighting to blend discreetly into the environment.

**Meyer Sound User Guides**

Meyer Sound user guides include the following icons for notes, tips, and cautions:

- **NOTE**: A note identifies an important or useful piece of information relating to the topic under discussion.

- **TIP**: A tip offers a helpful tip relevant to the topic at hand.

- **CAUTION**: A caution gives notice that an action may have serious consequences and could cause harm to equipment or personnel, or could cause delays or other problems.

**Meyer Sound Technical Support**

Information and specifications are subject to change. Updates and supplementary information are available at www.meyersound.com.

Meyer Sound Technical Support is available at:

- **Tel**: +1 510 486.1166
- **Tel**: +1 510 486.0657 (after hours support)
- **Web**: www.meyersound.com/contact
CHAPTER 2: CONNECTING ASHBY LOUDSPEAKERS

ASHBY POWER AND INPUT PANEL

The Ashby-5C and Ashby-8C loudspeakers require an MPS-488HP IntelligentDC power supply to function properly. The MPS-488HP can power up to 24 Ashby-5C (3 per channel) or 16 Ashby-8C (2 per channel).

Ashby speakers receive DC power (-, +) and balanced audio (+, -, shield) from a Phoenix 5-pin male input connector. The pins are clearly labeled on the Ashby Power and Input panel shown below.

Speaker Attenuator Knob

All Ashby speakers powered by a single channel of an MPS-488 receive the same DC voltage and the same audio signal. To set speakers to different levels, use the Speaker Attenuation knob (on Ashby speakers equipped with this feature).

The Speaker Attenuator knob (shown below) is located on the front bezel. Possible values are: 1, 2, 3, 6, 10, and 20 dB.

Looping

Ashby speakers can be looped using the connectors on the Ashby Power and Input panel. The table below shows the maximum number of speakers that can be looped from one channel of the MPS-488HP power supply to function properly and meet compliance requirements.

<table>
<thead>
<tr>
<th>Model</th>
<th>Maximum Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ashby-5C</td>
<td>3 (2 looped)</td>
</tr>
<tr>
<td>Ashby-8C</td>
<td>2 (1 looped)</td>
</tr>
<tr>
<td>Mixed</td>
<td>1 Ashby 8C 1 Ashby 5C</td>
</tr>
</tbody>
</table>

CABLE SPECIFICATION

Each speaker ships with two Phoenix 5-pin, female cable-mount connectors for speaker cable assembly (see “Assembling Phoenix-to-Phoenix Loudspeaker Cables” on page 21).

A single composite cable (e.g., Belden 1502) can route DC power and balanced audio to the Ashby speakers (see “Belden 1502 Cable” on page 9).

It is extremely important to connect each pin correctly. Maintain proper polarity (- to -, + to +) or system performance will degrade and possibly damage the speaker (see Appendix B, “Assembling Phoenix-to-Phoenix Loudspeaker Cables”).

CAUTION: Connect the 48 VDC directly (and only) from the external power supply to the 48 VDC pins on the speaker connector.

Current Draw

DC current draw for Ashby loudspeakers is dynamic and fluctuates with changing operating levels. As the cable length increases between an Ashby loudspeaker and its external power supply, so does the resistance, which can eventually cause a voltage drop at the loudspeaker. This can compromise amplifier performance, peak SPL, and frequency response. The next section shows how to select the right cable gauge for each speaker.
Cable Length and Gauge

The maximum cable length depends on the type and number of speakers looped and the gauge of the cable. Table 1 shows the maximum cable length for Ashby speakers using 18 AWG cable with only 1 dB of peak SPL loss.

**CAUTION:** The minimum cable gauge and type of wire must conform with national and regional electrical and building codes where speakers are installed. The maximum number of speakers shown in Table 1 results in a maximum 3 second average power within Class 2 wiring limits in most countries.

Using 18 AWG wire, a single Ashby-5C loudspeaker can use up to 450 ft of cable (300 ft for Ashby-8C) from the Power Supply and lose no more than 1 dB of peak SPL. Unlike 70 V line-distributed speakers, Ashby speakers do not suffer gain loss with the long 18 AWG cables.

Table 1: Maximum cable length using 18 AWG cable

<table>
<thead>
<tr>
<th>Model</th>
<th>Number of Speakers</th>
<th>Maximum Cable Length (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ashby-5C</td>
<td>1</td>
<td>470</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>235</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>156</td>
</tr>
<tr>
<td>Ashby-8C</td>
<td>1</td>
<td>313</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>157</td>
</tr>
</tbody>
</table>

Table 2 shows the maximum cable runs for a single channel of an MPS-488HP powering up to 3 Ashby-5C or one Ashby-8C and one looped Ashby-5C, with different wire gauges. Table 3 shows the same information for European cable gauges.

**NOTE:** Some high frequency loss can occur from long analog audio cables. For lengths greater than 500 ft Meyer Sound recommends using low capacitance shielded audio cable or AES Digital audio cable. Discuss expected high frequency loss with the cable manufacturer to determine acceptability.

Table 3: Maximum cable length for different numbers of Ashby speakers using four wire gauges (m)

<table>
<thead>
<tr>
<th>Model</th>
<th>Number of Speakers</th>
<th>2.5 mm² 0.0052 (Ω/m)</th>
<th>1.5 mm² 0.01076 (Ω/m)</th>
<th>1.0 mm² 0.02087 (Ω/m)</th>
<th>0.75 mm² 0.03307 (Ω/m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ashby-5C</td>
<td>1</td>
<td>480</td>
<td>260</td>
<td>135</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>240</td>
<td>130</td>
<td>70</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>160</td>
<td>87</td>
<td>45</td>
<td>27</td>
</tr>
<tr>
<td>Ashby-8C</td>
<td>1</td>
<td>320</td>
<td>175</td>
<td>90</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td>2*</td>
<td>160</td>
<td>87</td>
<td>45</td>
<td>27</td>
</tr>
</tbody>
</table>

*Applies to one Ashby-8C with one looped Ashby-5C

**NOTE:** Some high frequency loss can occur from long analog audio cables. For lengths greater than 150 m Meyer Sound recommends using low capacitance shielded audio cable or AES Digital audio cable. Discuss expected high frequency loss with the cable manufacturer to determine acceptability.

The maximum total cable resistance between one Ashby-5C speaker and its external power supply is 6 Ω, and 4 Ω for one Ashby-8C.

When using the maximum number of speakers per channel (2 Ashby-5C or 3 Ashby-8C), it should not exceed 2 Ω.

Calculating the Maximum Cable Length

The maximum cable length for an Ashby loudspeaker can be calculated using the formulas shown below. The Wire Resistance Per Foot (WRPF) is the resistance (in Ω) for one foot of individual wire of the chosen gauge. Enter the WRPF in the equations below to determine maximum cable length. The equations compensate for round trip length.

For 18 AWG, WRPF = 0.006385 Ω

Ashby-5C: Maximum length (ft) = 3 / (WRPF x # of Ashby-5C)

Ashby-8C: Maximum length (ft) = 2 / (WRPF x # of Ashby-8C)

To calculate the maximum length in meters, substitute the Wire Resistance per Meter for the selected wire gauge.
Belden 1502 Cable

The Belden 1502 multiconductor cable is an effective, convenient way to connect an Ashby loudspeaker system. DC power and balanced audio use dedicated conductors in a single cable jacket. Table 4 shows the wiring conventions.

- The thicker red and black wires (18 AWG) are for DC power.
- The blue, white, and shield drain wires are for audio.

![Figure 3: Belden 1502 multiconductor cable](image)

<table>
<thead>
<tr>
<th>Wire</th>
<th>Signal</th>
<th>Gauge (AWG)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>DC power (–)</td>
<td>18</td>
</tr>
<tr>
<td>Red</td>
<td>DC power (+)</td>
<td>18</td>
</tr>
<tr>
<td>Shield drain</td>
<td>Audio shield</td>
<td>24</td>
</tr>
<tr>
<td>Blue</td>
<td>Audio signal (–)</td>
<td>22</td>
</tr>
<tr>
<td>White</td>
<td>Audio signal (+)</td>
<td>22</td>
</tr>
</tbody>
</table>

Table 4: Ashby loudspeaker cables with Belden 1502

Using Separate Cables for DC Power and Audio

If your installation does not allow using Belden 1502 multiconductor cable, or requires cable runs longer than 150 ft, use separate cables for DC power and balanced audio (see “Cable Length and Gauge” on page 8). Use a high-quality, balanced cable for audio. Attach the separate cables to the Phoenix connector as shown in Figure 4.

Note the orientation of the connector while assembling the cable. This view shows the screws facing you.

![Figure 4: Separate Cables for DC Power and Balanced Audio](image)

ON/STATUS LED

The LED on the Ashby connector panel is primarily intended for use at the factory and before installation since it cannot be seen when a speaker is installed.

**CAUTION:** Avoid “hot plugging” by inserting the Phoenix connector into the Ashby speaker with live 48 V present (MPS-488HP powered ON).

The MPS-488HP can supply basic information about Voltage and Load Current on its front panel LEDs. The Voltage and Load Current LEDs verify whether each channel output has voltage and whether the connected loudspeakers are receiving DC power and audio.

For more information, refer to the MPS-488HP Operating Instructions.

If you require more information about the status of the speakers connected to the MPS power supply, we recommend using RMS (Remote Monitoring System).

The On/Status LED on the Ashby connector panel indicates the loudspeaker’s operational status with three colors:

- Normal: Green
- Limiting: Yellow
- Clipping: Red

Normal

When powering on the Ashby loudspeaker, the On/Status LED indicates the following startup events:

1. Multiple colors flash during its power-on sequence.
2. When it turns solid green, the power-on sequence has completed and the speaker is ready.
Limiting
The On/Status LED turns yellow to indicate limiting. When engaged, the limiter protects the loudspeaker’s drivers and prevents signal peaks from causing excessive amplifier distortion, thereby preserving headroom and maintaining a smooth frequency response at high levels.

When source levels return to normal, below the limiter threshold, the LED turns green and limiting ceases.

The Ashby performs within its acoustical specifications when the LED is green, or when limiting is not continuous.

If limiting activity is continuous, the loudspeaker is near its operating limits where:
- Increasing the input level has no effect.
- Distortion increases due to clipping and nonlinear driver operation.
- The drivers are subjected to excessive heat and excursion, which compromises their life span and may eventually damage them over time.

⚠️ CAUTION: The On/Status LED turns yellow when the loudspeaker’s signal rises about 2 dB above the limiting threshold, indicating that a safe, optimum level has been exceeded.

Clipping
The On/Status LED lights red when the speaker’s input stage clips, causing the amplifier to overload. Reduce the source level to avoid distortion and overloading the amplifier.

OPERATING TEMPERATURE AND AMPLIFIER COOLING
Ashby loudspeakers rely solely on natural convection to cool their enclosures. Efficient amplifier design keeps temperatures low even when operated in high ambient temperatures and driven continuously at high output levels.

CONNECTING AND POWERING ASHBY SPEAKERS
To connect Ashby loudspeakers to the MPS-488HP and start the system:

1. Power off the MPS-488HP.
2. Use balanced XLR cables to connect audio sources from a mixer or audio processor to the MPS-488HP channel inputs.
3. Use the MPS-488HP Link switches to route channel inputs to the desired channel outputs.

See the MPS-488HP Operating Instructions (PN 05.205.005.01) for information on the MPS-488HP Link switches.
4. Connect Ashby speakers to the MPS-488HP channel outputs.

⚠️ CAUTION: Do not connect more than three Ashby-5C or two Ashby-8C on one channel of the MPS-488HP.

5. Power on the MPS-488HP and monitor the LEDs on the front panel to verify connections.
6. Enable output from the audio sources connected to the MPS-488HP.

💡 TIP: For complete information on using the MPS-488HP IntelligentDC power supply, see the MPS-488HP Operating Instructions (PN 05.205.005.01).
CONFIGURING THE MPS-488HP IN COMPASS

To configure the MPS-488HP in Compass Control Software:

1. Power on the MPS-488HP and RMServer(s).
2. Connect Compass and RMServer to the same local area network (LAN).
3. In Compass, click the RMServer > Inventory tab.
4. In the Device list, right-click the MPS-488HP powering the Ashby speakers and choose Edit Loudspeaker Inventory.
5. In the Edit Loudspeaker Inventory dialog box, click in the Product column and select the Ashby loudspeaker model connected to each MPS-488HP channel output.
6. Enter a name and the number of speakers looped on each channel.
7. Click OK to save and upload the MPS-488HP loudspeaker inventory.

Once the MPS-488HP is added to an RMS page, the device container can display channel labels with simple device status or a full meter bar display along with a detailed text view showing voltage and current draw for the connected Ashby loudspeakers.

CAUTION: Disconnect the mains plug or power off the MPS-488HP before disconnecting its power cord.
CHAPTER 3: INSTALLING ASHBY LOUDSPEAKERS

This chapter provides procedures to install Ashby loudspeakers into ceilings, pendants, and suspended ceilings.

MEYER SOUND ACCESSORIES

Meyer Sound provides several accessories to install Ashby speakers.

Tile C-Ring and Bridge Kit

The Tile C-Ring distributes the clamping force of the speaker mounting clamps and is highly recommended on brittle ceiling surfaces. It can be used with or without the bridges (see below).

You can order the Tile C-Ring using the part numbers below:

Ashby-8C Tile C-Ring: PN 40.260.130.01
Ashby-5C Tile C-Ring: PN 40.261.130.01

The Tile C-Ring with Bridge Kit is used for suspended ceilings. The C-ring distributes the clamping force of the speaker’s four mounting clamps and the bridges support and distribute the weight of the speaker.

You can order the C-Ring with Bridge Kit using the part numbers below:

Ashby-8C Tile C-Ring with Bridge Kit: PN 40.260.131.01
Ashby-5C Tile C-Ring with Bridge Kit: PN 40.261.131.01

New Construction Bracket

This bracket can be fastened to the ceiling and acts as a template for ceiling cutout, ensuring a neat installation. The bracket fastens to the ceiling using #10 screws.

You can order the new construction brackets using the following part numbers:

Ashby-8C New Construction Bracket: PN 40.260.140.01
Ashby-5C New Construction Bracket: PN 40.261.140.01

Meyer Sound Pendant

The Meyer Sound pendant allows Ashby loudspeakers to hang from ceilings where a flush-mount is not practical. These elegant pendant enclosures utilize a minimalistic design typically used in pendant lighting to blend discreetly into the environment.

The pendant holds an Ashby loudspeaker inside without requiring extra hardware using the same grille as a ceiling mounted Ashby to maintain a consistent appearance.
The pendant includes a top cover to hide the back of the speaker and wiring connectors making them perfect for installations where they may be viewed from above. The top cover includes:

- Holes with protection grommets for cables;
- A center hole for a threaded rod;
- Three tabs for steel wires (not included) for a single hang point. The tabs must be bent up before use.

The Ashby-5C and Ashby-8C have separate pendant models. See “Ashby Pendant Dimensions” on page 25.

You can order Ashby pendants using the following part numbers:

- Ashby-8C Pendant: PN 40.260.030.01
- Ashby-5C Pendant: PN 40.261.030.01

**WIRING THE SPEAKER**

1. Prepare the wires.

   The speaker provides a strain relief fitting for bare wires, 1/2-in flexible metal conduit, or 1/2-in 14 NPSM threaded conduit adapters.

2. For bare wires or conduit without a threaded conduit adapter, open the wiring cover, loosen the L-bracket screws, and remove the clamping screws.

   To finish wiring a conduit with a threaded conduit adapter, see the next procedure.

   1. Open the wiring cover and completely remove the L-brackets.

   2. Install the threaded adapter, insert the conduit, and connect the wires.

   3. Close and latch the wiring cover.

3. Insert the cable or 1/2-in flexible metal conduit into the input or looping connector and feed the wires through the L-bracket opening.

4. Close and latch the wiring cover, and clamp the wire or conduit with the L-brackets.
INSTALLING INTO A STANDARD CEILING

1. Locate the desired position of the speaker and mark its center on the ceiling.
2. Use the template provided with the speaker to align the hole in the center of the template with the mark.
3. Trace the perimeter of the template with a pencil.
4. Cut along the traced circle on the ceiling and remove the cutout disc.
5. Install the speaker into the ceiling and hold flush to the ceiling.
   Make sure the speaker’s clamps are flush with the speaker to allow it to pass freely into the ceiling.

   **NOTE:** if desired or required, a safety lanyard can be attached to the speaker with a carabiner before inserting the speaker into the ceiling (see below).

6. Use a #2 Phillips screwdriver to torque the four screws to hold the speaker in place.

   **CAUTION:** Do not over tighten! If using a powered screwdriver, set the torque to 0.8 N-m (7 in-lbs). If the screwdriver torques out, slowly increment the torque setting until the mounting clamps begin to move.

7. Before placing the grille frame on the speaker, choose an attenuation setting (if the speaker has this feature).
8. Place the speaker grille on the installed speaker.
   Make sure to line up the grille with the magnets on the speaker.

Figure 18: Placing the speaker grille on the speaker

INSTALLING INTO A SUSPENDED CEILING
1. Assemble the C-ring with tile bridge in the ceiling.
2. Slide the C-ring on the tile bridge until it is centered with the hole.

Figure 19: Installing the speaker into the C-ring with Bridge Kit

3. Install washers and #6 sheet metal screws (included) into the C-ring and tighten into place.
4. Install the speaker by tightening the screws on the bezel of the speaker to clamp it to the C-ring (see Figure 16 on page 15 to locate the clamping screws).

NOTE: The tile bridge acts as a fail-safe in case the tile gets damaged, so it may not contact the railings.

Safety Lanyard
Some construction codes require a secondary support system. Ashby speakers have a built-in attachment point for a load-rated carabiner with lanyard (neither included) to safely support the weight of the speaker.

Figure 20: Installing the speaker into a bridge in the ceiling

Figure 21: Attaching a safety lanyard for secondary support
INSTALLING INTO A HIGH CEILING WITH THE PENDANT

The pendant is designed to replicate flush-mounted ceiling installations, utilizing the four integrated clamps, and thus do not require extra hardware.

To install the speaker in a pendant:

1. Remove the speaker grille and make sure that the clamps are away from the front of the bezel and locked in the open position.
2. Attach the supplied lanyard using the supplied hardware onto the speaker to act as a secondary support.
3. Insert wires through the grommets and attach them to the Ashby connector panel.
4. Slide the lanyard through one of the holes.
5. Insert the Ashby loudspeaker inside the pendant and rotate the four Phillips head screws clockwise to engage the speaker clamps to the pendant.
6. Lock the speaker securely into place by tightening the mounts until the speaker is flat against the pendant.

CAUTION: Do not over tighten! If using a powered screwdriver, set the torque to 0.8 N-m (7 in-lbs). If the screwdriver torques out, slowly increment the torque setting until the mounting clamps begin to move.

7. Attach the lanyard to a secondary support point.
8. Before placing the grille frame, choose an attenuation setting, if the speaker has this feature (see Figure 17).
9. Place the speaker grille on the installed speaker. Make sure to line up the grille with the magnets on the speaker.

Figure 22: Attaching a safety lanyard

Figure 23: Installing an Ashby speaker into a Meyer Sound pendant

Figure 24: Fitting the grille frame onto an Ashby speaker in a pendant
Equalization for Pendant Installation

Ashby-8C and Ashby-5C are optimized for ceiling mounting (infinite baffle) and require some filters to achieve flat response when mounted in a pendant or free-air. These filters simulate the infinite baffle effect of the ceiling.

The simplest solution is to use a minimum-phase U-Shaping filter found in GALAXY processors. The filter is a low frequency shelf with a 580 Hz breakpoint and 6 dB/octave slope. The gain is +6 dB for the Ashby-8C and +8 dB for the Ashby-5C.

Figure 25: Filter settings Ashby-8C (top) and Ashby-5C (bottom)
APPENDIX A: ASHBY ACCESSORIES

The following Ashby accessories are available from Meyer Sound.

### Ashby Accessories

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Accessory</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>40.260.030.01</td>
<td>Ashby-8C Pendant</td>
<td></td>
</tr>
<tr>
<td>40.260.061.01</td>
<td>Ashby-8C Grille Frame Replacement (White)</td>
<td></td>
</tr>
<tr>
<td>40.260.061.02</td>
<td>Ashby-8C Grille Frame Replacement (Black)</td>
<td></td>
</tr>
<tr>
<td>40.260.130.01</td>
<td>Ashby-8C Tile C-Ring</td>
<td></td>
</tr>
<tr>
<td>40.260.131.01</td>
<td>Ashby-8C Tile C-Ring with Bridge kit</td>
<td></td>
</tr>
<tr>
<td>40.260.140.01</td>
<td>Ashby-8C New construction bracket</td>
<td></td>
</tr>
<tr>
<td>40.261.030.01</td>
<td>Ashby-5C Pendant</td>
<td></td>
</tr>
<tr>
<td>40.261.060.01</td>
<td>Ashby-5C Grille Frame Replacement (White)</td>
<td></td>
</tr>
<tr>
<td>40.261.060.02</td>
<td>Ashby-5C Grille Frame Replacement (Black)</td>
<td></td>
</tr>
<tr>
<td>40.261.130.01</td>
<td>Ashby-5C Tile C-Ring</td>
<td></td>
</tr>
<tr>
<td>40.261.131.01</td>
<td>Ashby-5C Tile C-Ring with Bridge kit</td>
<td></td>
</tr>
<tr>
<td>40.261.140.01</td>
<td>Ashby-5C New construction bracket</td>
<td></td>
</tr>
<tr>
<td>484.065</td>
<td>Phoenix 5-pin female cable mount connector</td>
<td>Connects to MPS-488HPp channel output connectors and Ashby Input connectors</td>
</tr>
<tr>
<td>524.014</td>
<td>Bulk cable, no connectors (regular)</td>
<td>500-ft spool, black</td>
</tr>
<tr>
<td>524.015</td>
<td>Bulk cable, no connectors (plenum)</td>
<td>500-ft spool, white</td>
</tr>
</tbody>
</table>

**NOTE:** Bulk cables use Belden 1502R (regular) or Belden 1502P (plenum) cable. Belden 1502 is a composite cable comprised of two 18 AWG wires for DC power, two 22 AWG wires for balanced audio, and one 24 AWG wire for audio shield. This single cable delivers DC power and balanced audio to loudspeakers at cable runs of up to 150 feet with only 1 dB of loss in peak SPL. Longer cable runs are possible using heavier gauges for DC power and separate cables for balanced audio. For more information, see “Using Separate Cables for DC Power and Audio” on page 9.
When connecting Phoenix-equipped Ashby loudspeakers to the MPS-488HPp power supply (also with Phoenix connectors), you need a Phoenix 5-pin female to Phoenix 5-pin female cable. The following procedure documents how to assemble this cable.

**CAUTION:** When wiring loudspeaker cables, it is extremely important to wire each pin correctly. Make sure the 48 V DC from the external power supply is wired directly (and only) to the 48 V DC pins on the loudspeaker connector, and that the polarity is observed (negative to negative, positive to positive) to avoid damage to the loudspeaker. In addition, make sure to wire audio pins correctly as polarity reversal on audio signals affect system performance.

To assemble a Phoenix-to-Phoenix cable:

1. If the cable has not yet been stripped, strip one end of the cable. Strip the outer shielding by 1 inch and then strip the black, red, blue, and white wires by 0.275 inch.

2. Insert the five exposed conductors into the five cable holes in a Phoenix 5-pin female cable mount connector. The wiring scheme is shown below.

3. Secure the conductors by tightening the five screws in the Phoenix cable mount connector. Torque the screws to 5–6 Nm (4.4–5.3 in-lbs).

**CAUTION:** Screws should not be inserted into the Phoenix connector while the connector rests in a mating plug. Doing so will damage the contacts. During assembly, hold the Phoenix connector in place externally.

4. Repeat the previous steps and attach the other end of the cable to another Phoenix 5-pin female cable mount connector.

5. Verify the wiring polarity is correct for both cable ends.
APPENDIX B: ASSEMBLING PHOENIX-TO-PHENIX LOUDSPEAKER CABLES
# APPENDIX C: ASHBY LOUDSPEAKERS SPECIFICATIONS

## Acoustical

Complete acoustical information is available in MAPP XT software, which functions both as an interactive data sheet and system design prediction tool. MAPP-XT provides specifications for coverage pattern, frequency response, maximum output SPL (single Ashby or complete system), speaker headroom, and the maximum level to which a speaker (or system) can be driven while maintaining linear performance.

Although broadband pink noise has been the standard input signal for acoustic measurement and prediction, it rarely represents real-world content. Our MAPP XT measurements use B-Noise, a test signal created by Meyer Sound, that ensures the predictions obtained reflect system behavior under the most common input spectrum. See [www.meyersound.com](http://www.meyersound.com) for information on MAPP XT.

## Transducers

| Low Frequency | Ashby-5C: One 5-in cone driver  
|               | Ashby-8C: One 8-in cone driver |
| High Frequency| One 0.75-in tweeter mounted concentrically in waveguide in front of low frequency driver |

## Connector Panel

| LED | Displays loudspeaker status |
| Audio/Power Connector | Two 5-pin female Phoenix (one input and a hardwired loop-out) |
| Pinout | Two pins for 48 V DC power, three pins for balanced audio |
| Power Wiring | Pin 1: DC power (–)  
|               | Pin 2: DC power (+) |
| Audio Wiring | Pin 3: Audio shield, chassis/earth  
|               | Pin 4: Audio (-)  
|               | Pin 5: Audio (+) |

## Audio Input

| Type | Differential, electronically balanced |
| Impedance | 10 kΩ balanced (AC impedance) |
| Nominal Input Sensitivity | 0 dBV (1 V rms, 4.2 V peak) continuous average is typically the onset of limiting for noise and music. Pink noise has 12 dB peak-to-RMS ratio |
| Input Source | Audio source must be capable of producing +16 dBV (6.3 V rms, 9.0 Vpk) into 600 Ω to produce the maximum peak SPL over the operating bandwidth of the loudspeaker with a sine wave. |

## Power Amplifier

| Type | High Efficiency Class D |
| Output Power | 220 W (440 W peak) |
| Cooling | Natural convection through the metal enclosure |
| DC Power | 48 V DC  
|           | Supplied from Meyer Sound MPS-488HP Power Supply  
|           | Approved for Class 2 wiring used in conjunction with MPS-488HP |
| Safety Agency Rated | 48 V DC |
| Operating Voltage | 48 V DC |
Meyer Sound power supply is required. See the datasheet for the Meyer Sound MPS-488HP IntelligentDC External Power Supply for information and specifications.

**NOTES**

1. Amplifier wattage rating based on the maximum unclipped burst sine-wave rms voltage the amplifier will produce for at least 0.5 s into the nominal load impedance: 30 V rms (42 V peak).

2. Tolerates voltage drops up to 30 percent due to long cable runs. Normal operating conditions with recommended cable gauge, length, and number of speakers assures peak SPL to remain within 2 dB of maximum SPL specification.

<table>
<thead>
<tr>
<th>Current Draw</th>
<th>Ashby-5C</th>
<th>Ashby-8C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Idle Current</td>
<td>0.16 A rms</td>
<td>0.16 A rms</td>
</tr>
<tr>
<td>Maximum Long-term</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuous Current (&gt; 3 s)</td>
<td>0.32 A rms</td>
<td>0.78 A rms</td>
</tr>
<tr>
<td>Maximum Instantaneous Peak</td>
<td>1.7 A peak</td>
<td>3.10 A peak</td>
</tr>
<tr>
<td>Current</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX D: ASHBY PENDANT DIMENSIONS

ASHBY-5C

Weight = 4.5 lb (2.04 kg)

ASHBY-8C

Weight = 8.0 lb (3.63 kg)
APPENDIX E: ASHBY LOUDSPEAKER DIMENSIONS

ASHBY-5C

Weight = 7.80 lb (3.54 kg)

ASHBY-8C

Weight = 13.80 lb (6.26 kg)
APPENDIX F: ASHBY LOUDSPEAKERS DECLARATIONS OF CONFORMITY

DECLARATION OF CONFORMITY according to ISO/IEC 17050-1 and EN 17050-1

Manufacturer's Name: Meyer Sound Laboratories Inc.
Manufacturer's Address: 2832 San Pablo Avenue
Berkeley, California 94702-2204 USA

Declares that the product

Product Type: Powered Speakers
Product Names: ASHBY-5C, ASHBY-8C
Product Options: All

Conforms to the following standards:

Safety:
EN 62368-1:2014
IEC 60065(ed.7), IEC 60065(ed.7):am1
UL 60065 Edition 7 - Revision Date 2013/07/24
CSA C22.2 NO. 60065-03 (INCLUDES AMENDMENTS 1 & 2)

EMC:
EN 55032:2012 ; CISPR 32:2012 Emission
EN 55103-2: 2009 Immunity

Environmental:
EN 50581:2012

This product complies with the requirements of the European Union directives listed below:

2014/35/EU  Low Voltage Directive
2014/30/EU  EMC Directive
2012/19/EU  Waste Electrical and Electronic Equipment (WEEE) Directive
2011/65/EU  Restriction of Hazardous Substances (RoHS) Directive

Supplementary Information:
This equipment complies with all the requirements for the CE Mark.

Signature: __
Date of issue: August 25, 2017

Mr. Alan Hutchinson
Regulatory Compliance Engineering Manager
Meyer Sound Laboratories Inc.
Berkeley, California 94702 USA

European Contact:
Your local Meyer Sound dealer, or
Meyer Sound Germany, GmbH.
Horresser Berg 4A, 56410 Montabaur, Germany
FCC DECLARATION OF CONFORMITY

Trade Name: Meyer Sound Laboratories

Product Name: Powered Speaker Product

Model Numbers: Ashby-5C, Ashby-8C

These devices comply with Part 15 of the FCC Rules
Operation is subject to the following conditions:
The devices may not cause harmful interference, and
The devices must accept any interference received, including interference that may cause undesired operation

RESPONSIBLE PARTY

Responsible Party’s Name: Meyer Sound Laboratories
Address: 2832 San Pablo Ave, Berkeley CA. 94702, USA
Telephone: 510-486-1166

Signature: ________________________

Date: August 25, 2017
Printed Name: Alan Hutchinson, Regulatory Compliance Engineering Manager

FCC Class A Notice

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Modifications not expressly approved by the manufacturer could void the user’s authority to operate the equipment under FCC rules.

ICES-003 Class A Notice - Avis NMB-003, Classe A
This Class A digital apparatus complies with Canadian ICES-003.
Cet appareil numerique de la classe A est conforme a la norme NMB-003 du Canada.