



# Gloria 4 Speaker Installation

Revision 1  
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# Summary

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Starting with Gloria 3.2, Gloria Music transitioned from an oval speaker to a round speaker. The main reason was to improve sound quality. A secondary reason was to increase supply flexibility, to move away from special orders and long lead times, and so we're no longer tied to a single vendor.

The oval speaker simply dropped into a slot in the case. The round speaker requires a transition plate with additional steps for installation, described in this document.

## Materials

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- Speaker. 3FE22-4 by Faital Pro.
- Transition plate. Custom by K&B Molded Products (part # GMXO1059CASE-STP).
- Installation hardware. Set of 4 machine screws and nuts. 6-32x3/8 recommended, e.g. Fastenal SKUs 1128795, 1136020.
- Connector. 2-pin female header. PHR-2 by JST Sales America.
- Ferrite bead. LFB090050-000 by Laird.
- Hookup wire. Red & black.

## Tools

- Screwdriver and / or nutdriver.
- Assembly jig or fixture (optional).

# Installation

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The speaker attaches to the transition plate with four machine screws or rivets. There is a recessed step on the back of the plate that the speaker fits into. The flat face of the plate faces outward.



The back of the plate has four corner bosses that hold the assembly firmly in the case slot. The speaker & plate assembly must fit snugly in the slot once the two case halves are assembled.

The speaker must be installed with the terminals and cable on the right, when viewed from the back of the speaker. The widest part of the plate is at the top. See the picture above. Cables are twisted together, passed twice through the ferrite bead (one loop), and soldered to the terminals. The wide terminal is the positive connection, and has a red cable. The narrow terminal has a black cable.



The screw heads are on the outer plate face. The nuts and screw ends are on the back side. There is no washer. The nut and screw end may extend up to 7mm (0.275") past the speaker.



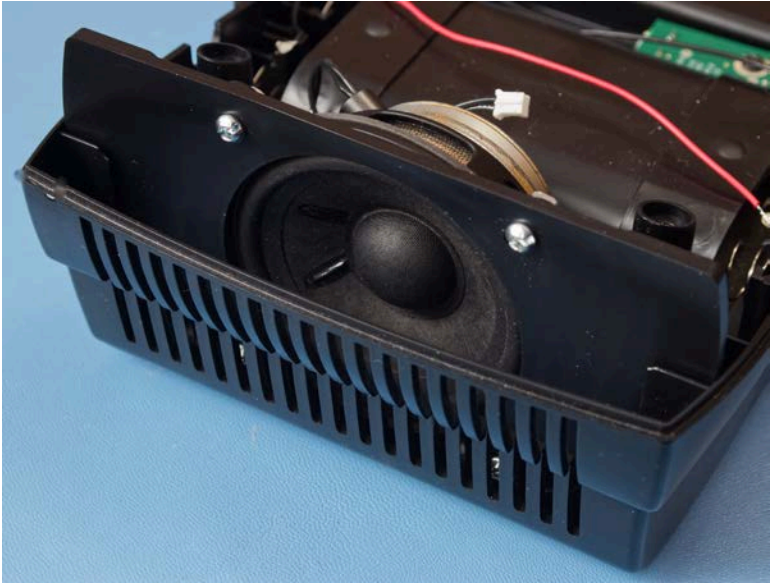
The screws must not be over torqued, or the plastic plate may crack.

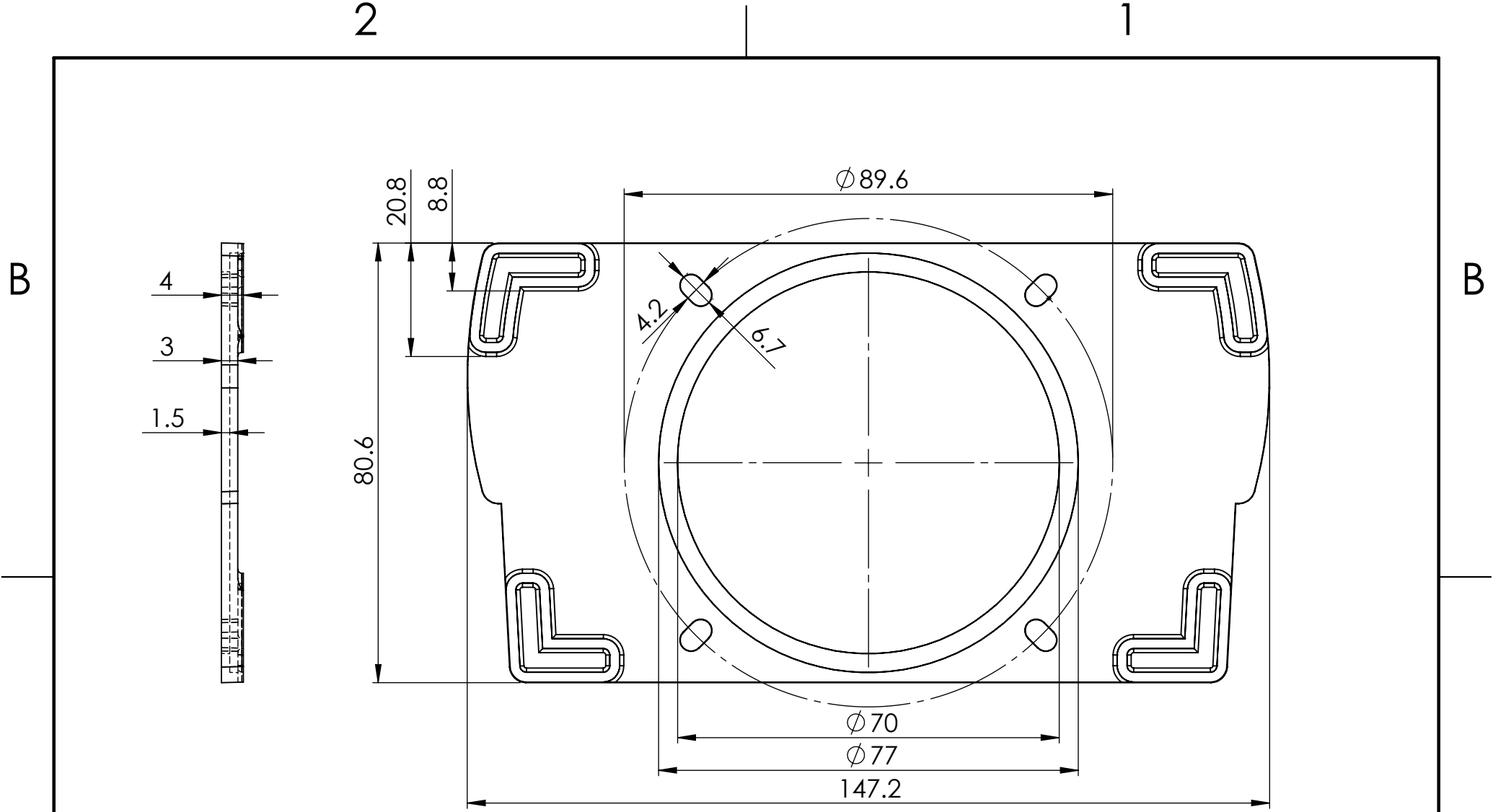
The speaker and plate mounting holes are slotted to allow for variation between parts, so care must be taken to ensure the speaker is centered on the plate. Most importantly, the speaker must not extend beyond the top or bottom of the plate.

The completed assembly drops into the slot at the back of the case bottom half, narrow side down. The speaker terminals and cable pass in front of the right hand mounting post. See the pictures below. The assembly will be loose in the slot until the two halves of the case are assembled and all four corner bosses are engaged.

Ensure the plate engages the slot correctly when assembling the other half of the case.







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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE
		DIMENSIONS ARE IN INCHES	DRAWN	SROTHUSBERGER	9/05/18
		TOLERANCES:	CHECKED		
		FRACTIONAL ±	ENG APPR.		
		ANGULAR: MACH ± BEND ±	MFG APPR.		
		TWO PLACE DECIMAL ±	Q.A.		
		THREE PLACE DECIMAL ±	COMMENTS:		
		INTERPRET GEOMETRIC TOLERANCING PER:			
		MATERIAL			
		ABS			
		FINISH			
NEXT ASSY	USED ON				
APPLICATION		DO NOT SCALE DRAWING			

GLORIA MUSIC CORPORATION		
TITLE:		
<b>SPEAKER TRANSITION PLATE</b>		
SIZE	DWG. NO.	REV
<b>A</b>	<b>STP-R2</b>	<b>2</b>
SCALE: 1:1		SHEET 1 OF 1



# 3FE22

3" - 20 W - 91 dB

## NOMINAL SPECIFICATIONS

Nominal Diameter	80 mm (3 in)
Overall Diameter	105.6/81 mm (4.16/3.19 in)
Bolt Circle Diameter	92 mm (3.62 in)
Baffle Cutout Diameter	73.6 mm (2.90 in)
Depth	46 mm (1.81 in)
Flange and gasket Thickness	6.5 mm (0.26 in)
<b>Net Weight</b>	<b>240 g (0.53 lb)</b>
Shipping Box	285 x 285 x 255 mm
(Single Carton Box - 36 units)	(11.22 x 11.22 x 10.04 in)
Shipping Weight (36 units)	10 kg (22.05 lb)

## TECHNICAL PARAMETERS

Nominal Impedance	4 Ω
Minimum Impedance	3.7 Ω
AES Power Handling (1)	20 W
<b>Maximum Power Handling (4)</b>	<b>40 W</b>
<b>Sensitivity (1W/1m)</b>	<b>91 dB</b>
Frequency Range	100÷20000 Hz
<b>Voice Coil Diameter</b>	<b>19 mm (0.75 in)</b>
Winding Material	Al
Former Material	Kapton
Winding Depth	4.8 mm (0.19 in)
<b>Magnetic Gap Depth</b>	<b>4 mm (0.16 in)</b>
Flux Density	1.4 T
<b>Magnet</b>	<b>Neodymium Ring</b>
Basket Material	Steel
Demodulation	No
Cone Surround (5)	Half Roll
NET Air Volume filled by Loudspeaker	0.060 dm <sup>3</sup> (0.002 ft <sup>3</sup> )
Spider Profile	1x constant height waves

## THIELE & SMALL PARAMETERS

Fs	110 Hz
Re	3.3 Ω
Qes	0.4
Qms	3.57
Qts	0.36
Vas	1.13 dm <sup>3</sup> (0.04 ft <sup>3</sup> )
Sd	30.2 cm <sup>2</sup> (4.68 in <sup>2</sup> )
Xmax (2)	1.73 mm
Xdamage (3)	7.3 mm
Mms	2.4 g
Bl	3.7 N/A
Le	0.1 mH
Mmd	2.3 g
Cms	0.86 mm/N
Rms	0.46 kg/s
η <sub>e</sub> (Eta Zero)	0.37 %
EBP	275 Hz

### NOTE:

- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
  - (2) Xmax = [(Winding Depth - magnetic gap depth)/2] + (magnetic gap depth / 3)
  - (3) Maximum excursion before permanent damage
  - (4) Maximum power is defined as 3dB greater than nominal power
  - (5) NBR
- Packaged and sold in multiples of 36 units

