

# QSC™

# Technical Service Manual

## AcousticDesign™ Multi-Use Loudspeakers

- ▲ AD-S52
- ▲ AD-S52T
- ▲ AD-S82
- ▲ AD-S82H



## QSC™

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TD-000175-00  
Rev. B



# AcousticDesign™ Multi-Use Loudspeakers AD-S52 / AD-S52T / AD-S82 / AD-S82H Technical Service Manual

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# Product Specifications

## AD-S52 and AD-S52T

Specifications	AD-S52	AD-S52T
<b>Configuration</b>	Compact two way, ported enclosure	Compact two way, ported enclosure
<b>Transducers</b>		
Low Frequency Transducer	5.25" shielded	5.25" shielded
High Frequency Transducer	1" neodymium tweeter	1" neodymium tweeter
<b>Frequency Range [1]</b>		
Frequency Response	75 Hz - 19 kHz (-6 dB)	75 Hz - 19 kHz (-6 dB)
Useable Frequency Range	60 Hz - 20 kHz (-10 dB)	60 Hz - 20 kHz (-10 dB)
<b>Maximum Output [2]</b>		
Calculated Peak Output	110 dB SPL	107 dB SPL
Calculated Cont. RMS Output	104 dB SPL	101 dB SPL
<b>Impedance</b>	8 ohm nominal	Switchable 8 ohm nominal
<b>Power Rating</b>		
RMS Power Handling [3]	60 W (IEC, 100 hours)	60 W (IEC, 100 hours)
Recommended Max Amp Power	120 W RMS	120 W RMS
<b>Sensitivity</b>	86.5 dB, 2.83 V, 1 m, free field (4pi)	86.5 dB, 2.83 V, 1 m, free field (4pi)
<b>Nominal Coverage</b>	90°H x 90°V	90°H x 90°V
<b>Transformers</b>		
<b>Type</b>	n/a	Custom low distortion laminated core, wide bandwidth design
<b>Taps</b>	n/a	70V 30, 15, 7.5, 3.75 Watts 100V 30, 15, 7.5 Watts
<b>Enclosure</b>		
<b>Material</b>	Injection molded, weather resistant, high impact polystyrene	Injection molded, weather resistant, high impact polystyrene
<b>Finish</b>	White or black (paintable)	White or black (paintable)
<b>Weather Resistance</b>	Yes	Yes
<b>Grill</b>	Heavy duty powder coated steel	Heavy duty powder coated steel
<b>Connectors</b>	Pair of 5-way binding posts	Pair of 5-way binding posts
<b>Mounting Hardware</b>	Included ball mount assembly; available optional yoke mount	Included ball mount assembly; available optional yoke mount
<b>Weight</b>	15 lb. (6.8 kg) net 22 lb. (10 kg) shipping	18 lb (8.2 kg) net 25 lb (11.4 kg) shipping

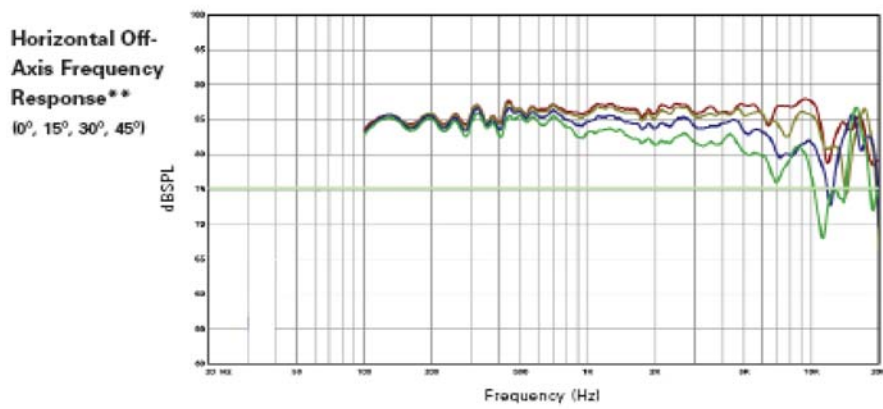
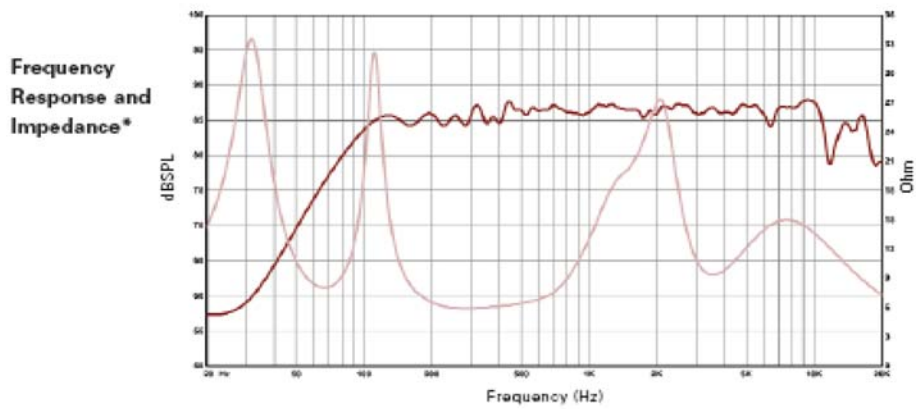
[1] All frequency ranges specified refer to measured free field response (full space, 4pi)

[2] Calculated SPL at 1m, full space (4pi), speaker operating at rated RMS power with 6 dB crest factor pink noise input, 50 Hz - 20 kHz

[3] Maximum input power tested in accordance with IEC 268-5 recommendations, 80 Hz - 20 kHz band limiting, 6 dB signal crest factor

Specifications subject to change without notice.

# AD-S52 and AD-S52T (continued)



\*Graph shows free field SPL @ 1 Watt, 1m  
 \*\* 1/3rd octave smoothing applied to off-axis curves for clarity.

## Physical Dimensions



Specifications subject to change without notice.

# Product Specifications

## AD-S82 and AD-S82H

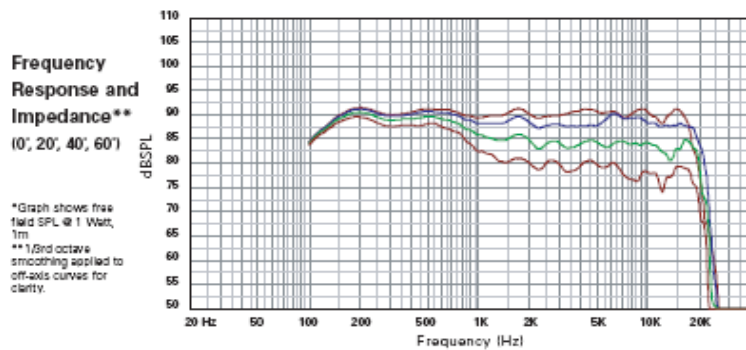
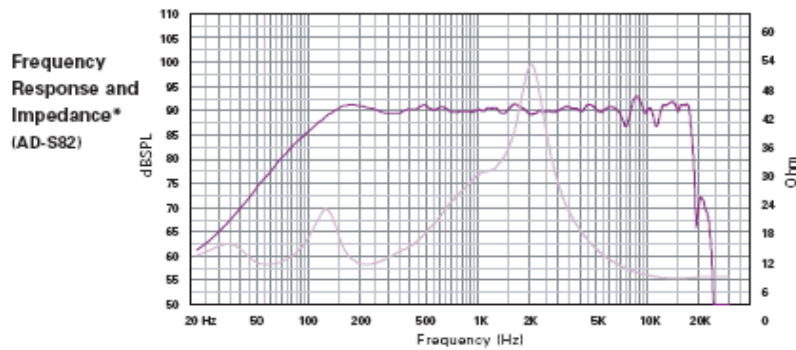
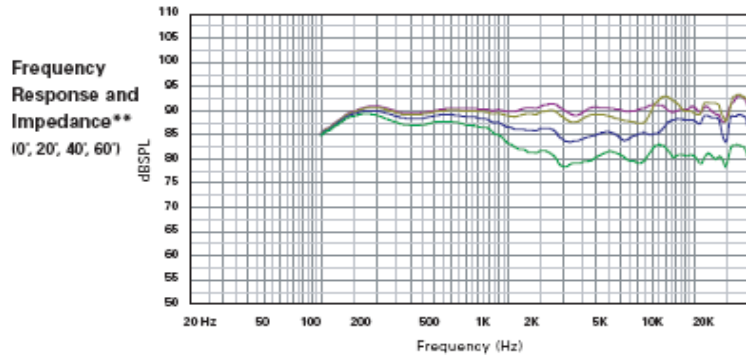
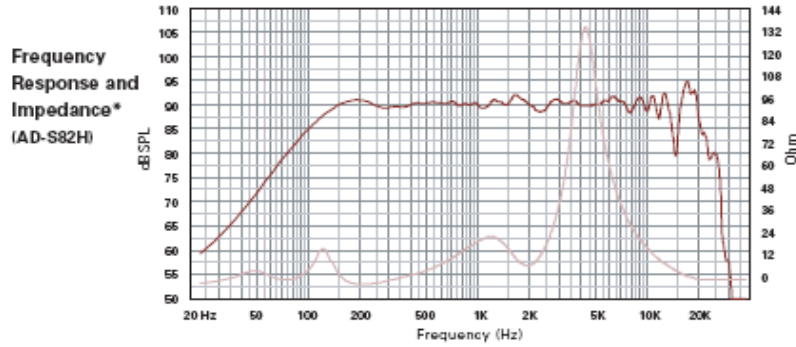
Specifications	AD-S82H (high output)	AD-S82 (standard output)
<b>Configuration</b>	Compact two way, ported enclosure	Compact two way, ported enclosure
<b>Transducers</b>		
<b>Low Frequency Transducer</b>	8" high power treated paper cone, 2" voice coil, neodymium magnet	8" fiberglass cone, 1 1/4" voice coil
<b>High Frequency Transducer</b>	1" high output compression driver	1" titanium dome tweeter with neodymium magnet
<b>Frequency Range [1]</b>		
<b>Frequency Response</b>	80 Hz - 21 kHz (-6 dB)	85 Hz - 18 kHz (-6 dB)
<b>Useable Frequency Range</b>	60 Hz - 22 kHz (-10 dB)	65 Hz - 19 kHz (-10 dB)
<b>Maximum Output [2]</b>		
<b>Calculated Peak Output</b>	119 dB SPL	116 dB SPL
<b>Calculated Continuous Output</b>	113 dB SPL	110 dB SPL
<b>Impedance</b>	8 Ω nominal (7 Ω minimum, 210 Hz, 135 Ω maximum)	8 Ω nominal (5.4 Ω minimum, 15 kHz, 50 Ω maximum)
<b>Power Rating</b>		
<b>RMS Power Handling [3]</b>	240 W (IEC, 8 hours) 200 W (IEC, 100 hours)	110 W (IEC, 8 hours) 90 W (IEC, 100 hours)
<b>Recommended Max Amp Power</b>	400 W RMS	180 W RMS
<b>Power Limiting</b>	Dynamic, full range power protection circuitry activated by signal overload conditions	Dynamic, full range power protection circuitry activated by signal overload conditions
<b>Sensitivity</b>	90.5 dB, 1 m, free field	90.5 dB, 1 m, free field
<b>Nominal Coverage</b>	90°H x 60°V (-6 dB) (rotatable to 60°H x 90°V)	90°H x 60°V (-6 dB) (rotatable to 60°H x 90°V)
<b>Bass Loading</b>	Ported, tuned to 65 Hz	Ported, tuned to 65 Hz
<b>Transformers</b>		
<b>Type</b>	Custom low distortion laminated core, wide bandwidth design	Custom low distortion laminated core, wide bandwidth design
<b>Taps</b>	70V 60, 30, 15, 7.5 Watts 100V 60, 30, 15 Watts	70V 60, 30, 15, 7.5 Watts 100V 60, 30, 15 Watts
<b>Enclosure</b>		
<b>Material</b>	Injection molded, weather resistant, high impact polystyrene	Injection molded, weather resistant, high impact polystyrene
<b>Finish</b>	White or black (paintable)	White or black (paintable)
<b>Weather Resistance</b>	Yes	Yes
<b>Grill</b>	Heavy duty powder coated aluminum	Heavy duty powder coated aluminum
<b>Connectors</b>	Pair of concealed 5-way binding posts, in conjunction with IntelliDock mounting/connection system	Pair of concealed 5-way binding posts, in conjunction with IntelliDock mounting/connection system
<b>Mounting Hardware</b>	AcousticDesign IntelliDock or Yoke Mount options	AcousticDesign IntelliDock or Yoke Mount options
<b>Weight</b>	16.9 lb (7.7 kg) net 20.3 lb (9.2 kg) shipping	16.2 lb. (7.4 kg) net 19.6 lb (8.9 kg) shipping

[1] All frequency ranges specified refer to measured free field response (full space, 4π).

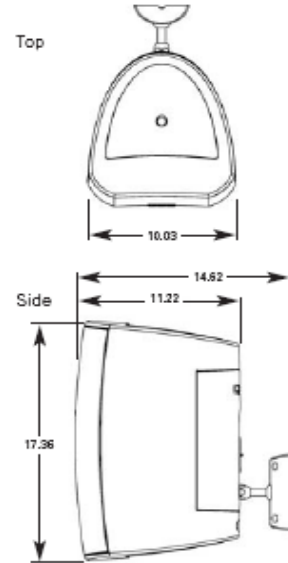
[2] Calculated SPL at 1m, full space (4π), speaker operating at rated RMS power with pink noise within specified frequency range.

[3] Maximum input power tested in accordance with IEC 268-5 recommendations, 50 Hz - 20 kHz band limiting, 6 dB signal crest factor.

# AD-S82 and AD-S82H (continued)

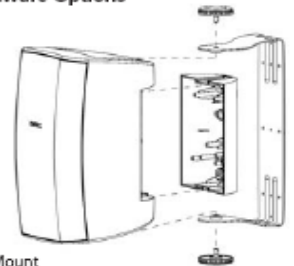


## Physical Dimensions All units in inches



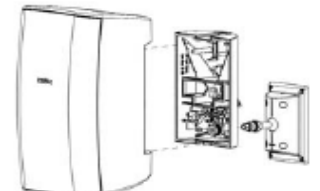
## Mounting Hardware Options

### Yoke Mount System



- AD-YM8** Yoke Mount  
Weight: 3.7 lb (1.7 kg) net  
7 lb (3 kg) shipping
- AD-YM8T** Yoke Mount with transformer  
Weight: 6.7 lb (3 kg) net  
10 lb (4.5 kg) shipping

### IntelliDock Mounting System



- AD-ID8** IntelliDock  
Weight: 3.3 lb (1.5 kg) net  
5.6 lb (2.5 kg) shipping
- AD-ID8T** IntelliDock with transformer  
Weight: 6.3 lb (2.9 kg) net  
8.6 lb (4 kg) shipping

Specifications subject to change without notice.

# Replacement Parts

## AD-S52 Parts List

Part Number	Description	Quantity	Item
CH-000361-XX	C3 5 IN GRILLE	1	1
CO-000268-00	POST, BINDING	2	2
CO-000297-00	FASTON, MALE, .210X.032	2	3
HW-000062-00	EYE BOLT, M6X1	1	4
MS-000214-00	FIBERFILL, POLYESTER, 7X5X1.5	1	5
NW-000023-00	NUT, M4X0.7, BRASS	2	6
NW-000024-00	LOCKNUT, M6, W/NYLON, SS	1	7
NW-000026-00	WASHER, SPLIT-LOCK, M4 BRASS	2	8
NW-000027-00	WASHER, M4, SS, FLAT	4	9
NW-250520-04	WASHER, M6, SS	1	10
PL-000215-01	NUT, WITH INSERT, BINDING POST	1	11
PL-000215-02	NUT, WITH INSERT, BINDING POST	1	12
RD-000117-00	LABEL, SERIAL	1	
PL-000236-XX	PLUG, INSERT, .375	4	14
PL-000244-00	O-RING, -.018, TEFLON	1	15
PL-000309-XX	PLUG, SWITCH HOLE	1	16
PL-000310-00	BAFFLE, AD-S52	1	17
PL-000311-00	PORT, FLARE, AD-S52	1	18
PL-000312-00	GASKET, BAFFLE, AD-S52	1	19
PL-000366-01	GASKET, BADGE, AD-S52, BLACK	1	20
PL-000313-XX	LOGO, BADGE, AD-S52	1	21
PL-000374-00	GASKET, WOOFER, 5"	1	22
SB-000015-XX	HOUSING, AD-S52	1	23
SC-000000-10	SCREW, PHILLIPS, PANHEAD, M3.5X1.25, 10L	3	24
SC-000002-15	SCREW, PHILLIPS, PANHEAD, M4X1.4, 15L	10	25
SC-000011-18	SCREW, PHILLIPS, PANHEAD, M4X1.4,	6	26
SP-000058-00	ZYLUX WOOFER, 5.25 IN, FG CONE, SHIELDED	1	27
SP-000061-00	TWEETER, 1"	1	28
WP-000253-00	PCB, AD-S52, ASM	1	29
HW-000061-00	INSERT, POST/BALL, AD-S52	1	
HW-000060-00	INSERT, M10X1 BRASS	4	

## AD-S52T Parts List

Part Number	Description	Quantity	Item
CH-000360-00	PLATE, MOUNTING, SWITCH	1	1
CH-000361-01	C3 5INCH GRILLE	1	2
CO-000268-00	POST, BINDING	2	3
CO-000297-00	FASTON, MALE, .210x.032	2	4
HW-000062-00	EYE BOLT, M6x1	1	5
MS-000214-00	FIBERFILL, POLYESTER, 7x5x1.5	1	6
NW-000023-00	NUT, M4x0.7, BRASS	2	7
NW-000024-00	LOCKNUT, M6, W/NYLON, SS	1	8
NW-000026-00	WASHER, SPLIT-LOCK, M4, BRASS	2	9
NW-000027-00	WASHER, M4, SS, FLAT	4	10
NW-250520-04	WASHER, M6, SS	1	11
PL-000215-01	NUT, WITH INSERT, BINDING POST	1	12
PL-000215-02	NUT, WITH INSERT, BINDING POST	1	13
PL-000234-00	GASKET, TWEETER	1	14
PL-000236-01	PLUG, INSERT, .375	4	15
PL-000244-00	O-RING, -.018, TEFLON	1	16
PL-000308-01	KNOB, XFMR TAP SWITCH	1	17



**AD-S52T (continued)**

Part Number	Description	Quantity	Item
PL-000310-00	BAFFLE, AD-S52	1	18
PL-000311-00	PORT, FLARE, AD-S52	1	19
PL-000312-00	GASKET, BAFFLE, AD-S52	1	20
PL-000313-01	LOGO, BADGE, AD-S52	1	21
PL-000362-00	GASKET, TRANSFER, AD-S52	1	22
PL-000366-01	GASKET, BADGE, AD-S52, BLACK	1	23
PL-000374-00	GASKET, WOOFER, 5"	1	24
RD-000117-00	LABEL, SERIAL	1	
SB-000015-01	HOUSING, AD-S52, BLK	1	26
SC-000000-10	SCREW, PHILLIPS, PANHEAD, M3.5x1.25, 10L	3	27
SC-000002-15	SCREW, PHILLIPS, PANHEAD, M4x1.4, 15L	12	28
SC-000011-18	SCREW, PHILLIPS, PANHEAD, M4x1.4,	6	29
SP-000058-00	WOOFER, 5.25 IN, FG CONE, SHIELDED, AD-S52, ZYLUX	1	30
SP-000061-00	TWEETER, 1"	1	31
SW-000103-00	SWITCH, XFMR TAP	1	32
WP-000253-00	PCB, AD-S52, ASM	1	33
XF-000205-00	TRANSFORMER, 30W	1	34
HW-000061-00	INSERT, POST/BALL, AD-S52	1	
HW-000060-00	INSERT, M10X1 BRASS	4	

**AD-S82 Parts List**

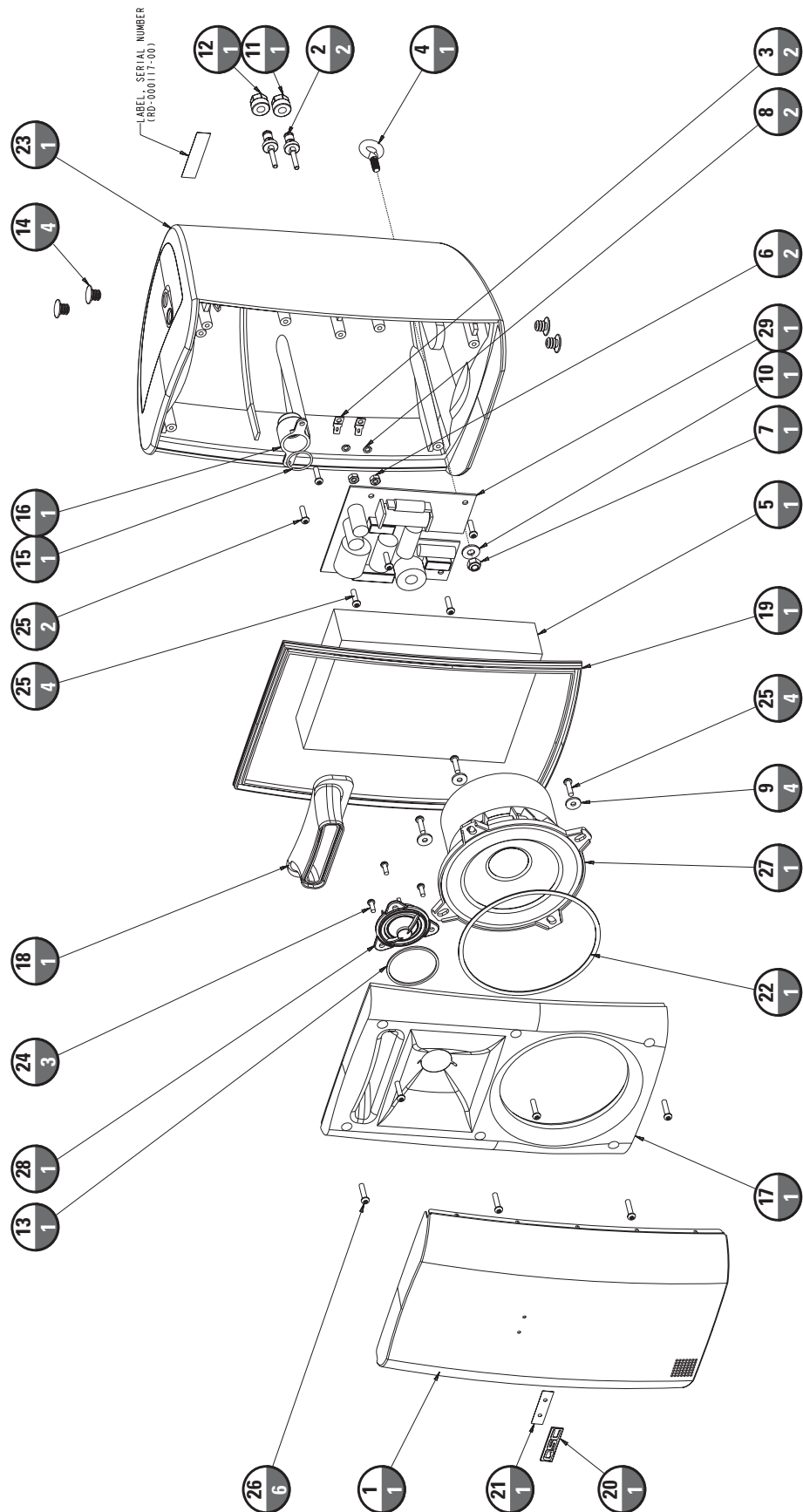
Part Number	Description	Quantity	Item
CH-000215-01	GRILLE, C3-8, BLK	1	1
CH-000219-01	CATCH, C3-8 BLK	1	2
CH-000220-01	PLATE, TERMINAL, C3-8, BLK	1	3
CH-000276-00	PIN, CATCH, SS	1	4
CO-000268-00	BINDING POST	2	5
CO-000297-00	FASTON, MALE, 0.210 X 0.032	2	6
HW-000040-00	RETAINER, ID, 0.312	1	7
HW-000041-00	EYE BOLT, 6MM, SS	1	8
HW-000060-00	INSERT, M10 X 1, BRASS	2	9
MS-000210-00	FIBERFILL, POLY, 13.4X9.9X2.0	1	10
MS-000211-00	FIBERFILL, POLY, 7.1X5.9X2.0	2	11
NW-000022-00	LOCKNUT, M4 X 0.7, W/NYLON, SS	4	12
NW-000023-00	NUT, M4 X 0.7, BRASS	2	13
NM-000024-00	LOCKNUT, M6, W/NYLON, SS	1	14
NW-000026-00	WASHER, SPLIT-LOCK, M4, BRASS	2	15
NW-250520-04	WASHER, M6, SS	1	16
PL-000212-01	RECEPTACLE, BADGE, BLK	1	17
PL-000213-01	BADGE, 0.45 X 1.87, BLK	1	18
PL-000214-00	BACKPLATE, BINDING POST	1	19
PL-000215-01	NUT, WITH INSERT, BINDING POST, BLK	1	20
PL-000215-02	NUT, WITH INSERT, BINDING POST, RED	1	21
PL-000216-01	FLARE, PORT, C3-8, BLK	1	22
PL-000217-01	BASE, BINDING POST, C3-8, BLK	1	23
PL-000233-00	GASKET, WOOFER	1	24
PL-000234-00	GASKET, TWEETER	1	25
PL-000235-00	GASKET, CATCH	1	26
PL-000236-01	PLUG, INSERT, 0.375, BLK	2	27
PL-000237-00	GASKET, TERMINAL PLATE	1	28
PL-000238-00	GASKET, WAVE-GUIDE	1	29
PL-000239-00	GASKET, BAFFLE, NEOPRENE, BLACK	1	30
SB-000003-01	BUCKET, C3-8, BLK	1	31
SB-000004-01	BAFFLE, C3-8, BLK	1	32
SC-000000-10	SCREW, PHILLIPS, PANHEAD, M3.5X1.25, 10L BLK	3	33
SC-000000-12	SCREW, PHILLIPS, PANHEAD, M3.5X1.25, 12L	6	34

**AD-S82 (continued)**

Part Number	Description	Quantity	Item
SC-000002-18	SCREW, PHILLIPS,PANHEAD, M4X1.4, 18L	8	35
SC-000011-15	SCREW, PHILLIPS,PANHEAD, M4X1.4, 15L BLK	8	36
SC-000011-23	SCREW, PHILLIPS,PANHEAD, M4X1.4, 23L BLK	16	37
SP-000067-00	WOOFER, 8", CELESTION—all [xx5xxxxxx] or later serial number	1	38
SP-000061-00	TWEETER, 1"—all [xx5xxxxxx] or later serial number	1	39
SP-000032-00	WAVE-GUIDE, TWEETER, C3-8	1	40
WP-000409-00	PCB ASSY, X-OVER, C3-8,SP61/67—all after [xx5xxxxxx] or later serial number	1	41

**AD-S82H Parts List**

Part Number	Description	Quantity	Item
CH-000215-01	GRILLE, C3-8	1	1
CH-000219-01	CATCH, C3-8	1	2
CH-000220-01	PLATE, TERMINAL, C3-8	1	3
CH-000276-00	PIN, CATCH, SS	1	4
CO-000268-00	BINDING POST	2	5
CO-000297-00	FASTON, MALE, 0.210 X 0.032	2	6
HW-000040-00	RETAINER, ID, 0.312	1	7
HW-000041-00	EYE BOLT, 6MM, SS	1	8
HW-000060-00	INSERT, M10 X 1, BRASS	2	9
MS-000210-00	FIBERFILL, POLY, 13.4X9.9X2.0	1	10
MS-000211-00	FIBERFILL, POLY, 7.1X5.9X2.0	2	11
NW-000022-00	LOCKNUT, M4 X 0.7 W/NYLON SS	4	12
NW-000023-00	NUT, M4 X 0.7, BRASS	2	13
NW-000024-00	LOCKNUT, M6, W/NYLON,SS	1	14
NW-000026-00	WASHER, SPLIT-LOCK. M4,BRASS	2	15
NW-250520-04	WASHER, M6, SS	1	16
PL-000212-01	RECEPTACLE, BADGE	1	17
PL-000213-01	BADGE, 0.45 X 1.87	1	18
PL-000214-00	BACKPLATE, BINDING POST	1	19
PL-000215-01	NUT, WITH INSERT, BINDING POST, BLK	1	20
PL-000215-02	NUT, WITH INSERT, BINDING POST, RED	1	21
PL-000216-01	FLARE, PORT, C3-8	1	22
PL-000217-01	BASE, BINDING POST, C3-8	1	23
PL-000235-00	GASKET, CATCH	1	24
PL-000236-01	PLUG, INSERT, 0.375	2	25
PL-000237-00	GASKET, TERMINAL PLATE	1	26
PL-000238-00	GASKET, WAVE-GUIDE	1	27
PL-000239-00	GASKET, BAFFLE, NEOPRENE, BLACK	1	28
PL-000258-00	PLUG, WAVE GUIDE, HI OUTPUT, C3-8	2	29
SB-000003-01	BUCKET, C3-8,BLK	1	30
SB-000004-01	BAFFLE, C3-8	1	31
SC-000000-12	SCREW, PHILLIPS,PANHEAD, M3.5X1.25, 12L	6	32
SC-000002-18	SCREW, PHILLIPS,PANHEAD, M4X1.4, 18L	8	33
SC-000004-15	SCREW, PHILLIPS,PANHEAD, M5X0.8, 15L BLK	2	34
SC-000011-15	SCREW, PHILLIPS,PANHEAD, M4X1.4, 15L BLK	8	35
SC-000011-23	SCREW, PHILLIPS,PANHEAD, M4X1.4, 23L, BLK	16	36
SP-000009-00	WOOFER, 8 IN, NEO	1	37
SP-000021-00	COMPRESSION DRIVER, 1"	1	38
SP-000031-00	WAVE-GUIDE, HI OUTPUT, C3-8	1	39
WP-000109-00	PCB, CROSSOVER, C3-8, HO	1	40



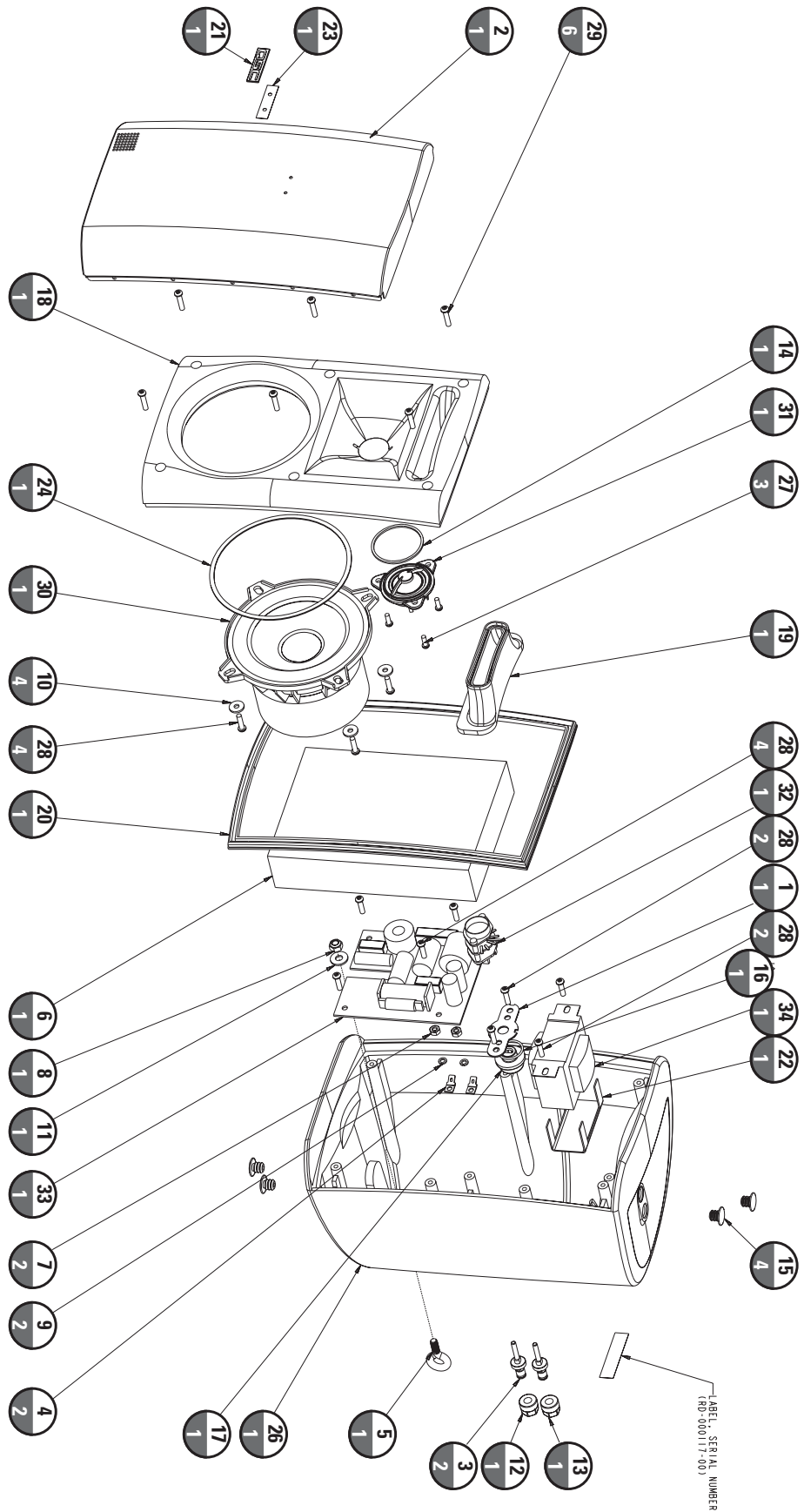
## Legend

Item number



Quantity per unit

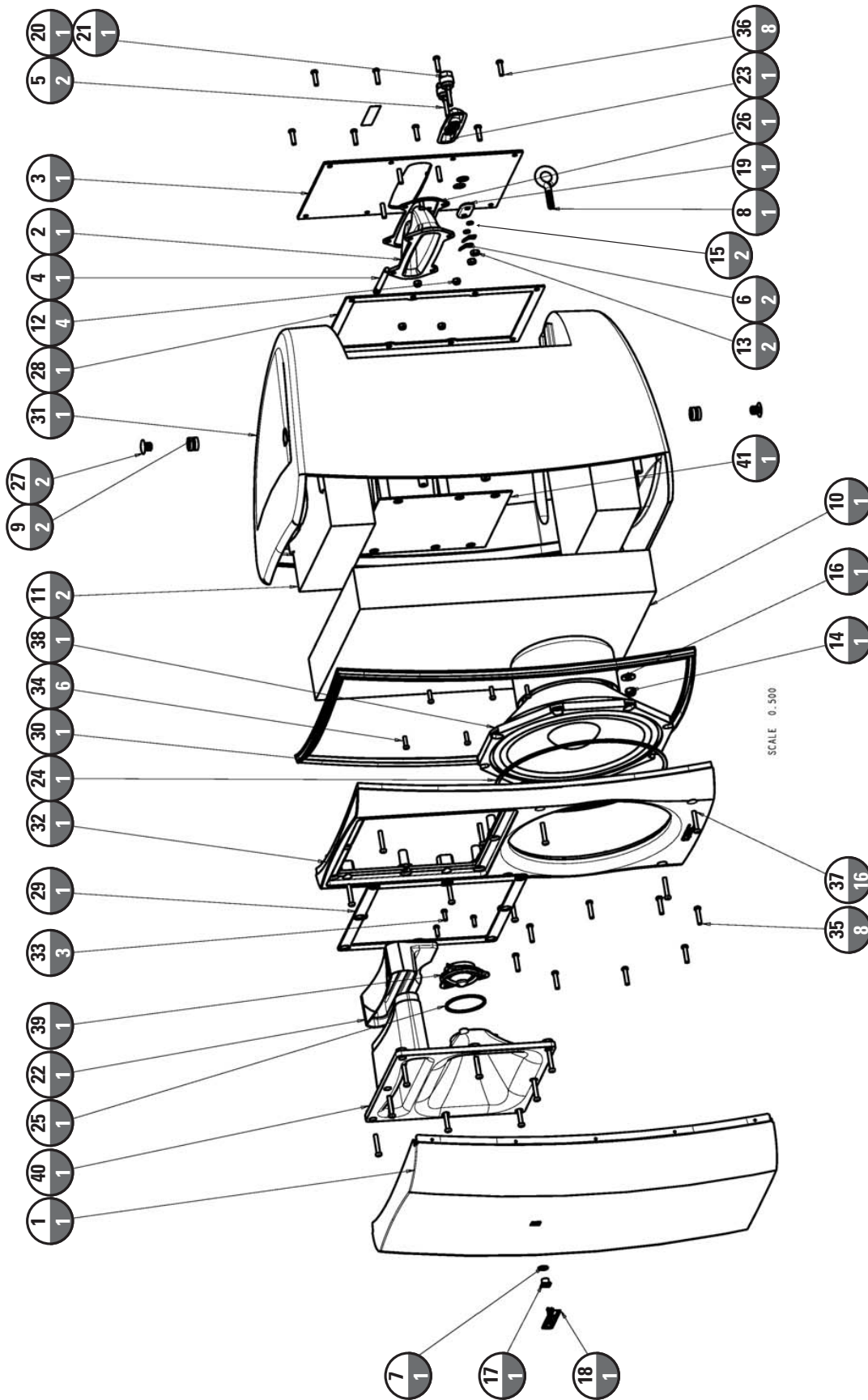
Figure 1. AD-S52 Exploded View



**Figure 2. AD-S52T Exploded View**

**Legend**

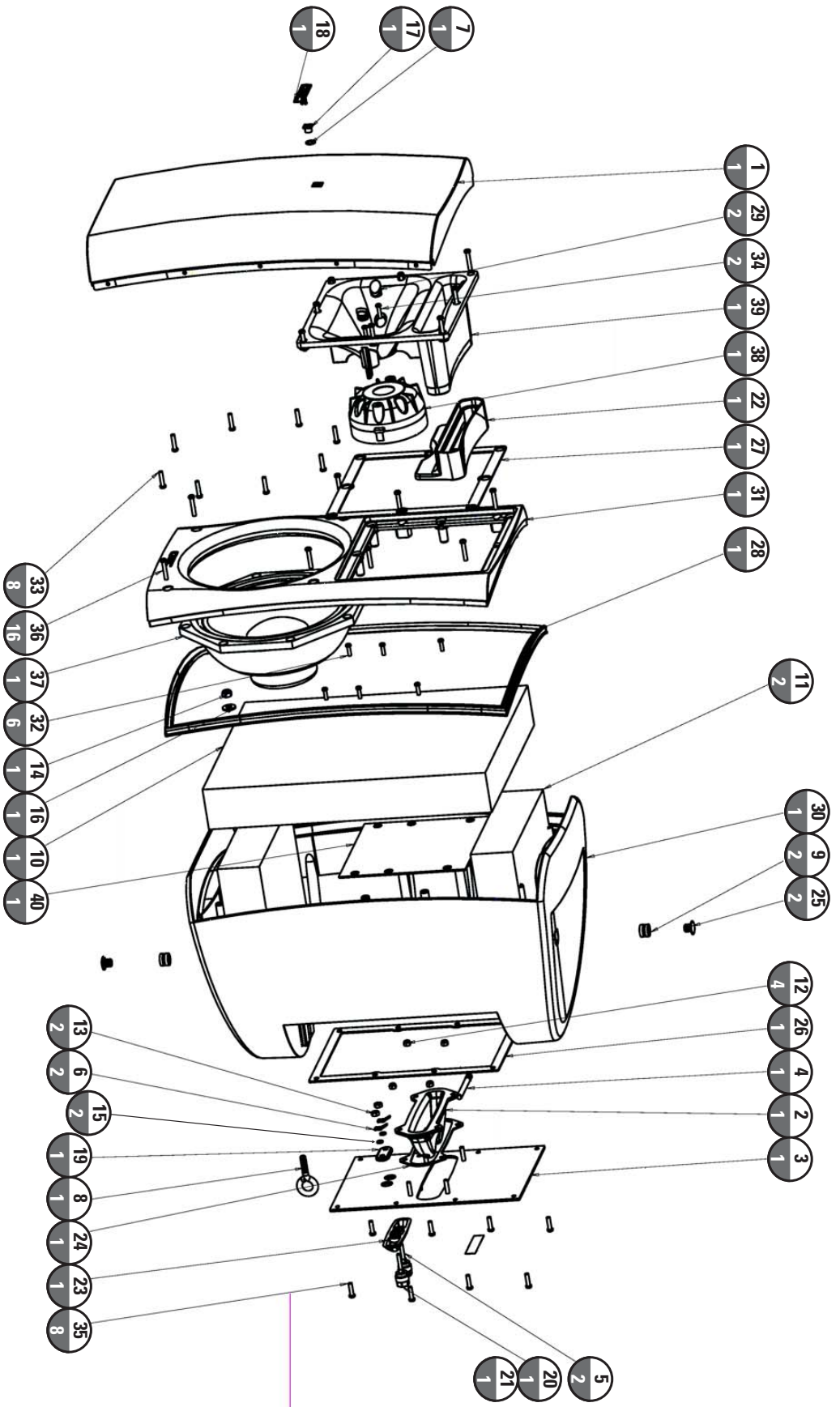




### Legend



Figure 3. AD-S82 Exploded View



**Figure 4. AD-S82H Exploded View**

**Legend**







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