OPERATION AND MAINTENANCE MANUAL

HyperSpike® Model HS-10



Ultra ELECTRONICS

HYPERSPIKE

Sound that Moves

TABLE OF CONTENTS

Contents

1. Safety Precautions 1
2. Hardware 2
   2.1. Hardware 2
   2.2. Included in Box 3
      2.2.1. HS-10 Model C 3
      2.2.2. HS-10 Model R 3
   2.3. Unboxing 3
3. Specifications 4
   3.1. Model C and R Comparison 4
   3.2. User Controls and Connections 5
   3.3. Status Indicators 6
      3.3.1. Battery Status Indicator (A) 6
      3.3.2. Microphone Mode Indicator (B) 6
4. HS-10 Operation 7
   4.1. Turn Unit ON and OFF: 7
   4.2. Play Internal Alert Tone: 7
   4.3. Use Microphone: 7
      4.3.1. Use Record/Playback Feature: 7
      4.3.2. Use Live Voice Mode: 7
   4.4. Use Line Input: 8
   4.5. Charge Internal Battery: 8
5. Maintenance 9
   5.1. Scheduled Maintenance 9
   5.2. Battery Replacement 9
6. HyperSpike® App 10
7. Warranty 11
   7.1. Failures Not Covered by This Warranty 11
   7.2. Limitation of Implied Warranties 11
   7.3. Exclusion of Certain Damages 11
Appendix A — Optional Accessories 12
Appendix B — Universal Mount Kit (72349B-801) Installation 13
Appendix C — Accessory Pocket (92064A-801) Installation 14

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1. Safety Precautions

The HyperSpike® HS-10 produces high sound levels. The primary safety risk is hearing damage or loss. Only properly trained personnel should operate the HS-10.

The safety warnings identified in this manual should be enforced to prevent injury during operation.

WARNING:

TEMPORARY OR PERMANENT HEARING DAMAGE MAY OCCUR.

HIGH LEVEL OF SOUND CAN BE EMITTED.

Always wear hearing protection according to OSHA's hearing conservation program.

Operators must remain behind the HS-10 during operation.

Additional Electrical Safety Measures

Basic safety measures will assist in preventing dangerous or potentially deadly situations:

- Inspect the unit and all cables for damage before each use.
- Never override any of the HS-10 safety features.
- Always plug the charger into properly grounded electrical outlets.
- Never allow any part of the system to sit in pooled water, or to be immersed in water.

Sound Safety Measures

The National Institute for Occupational Safety and Health (NIOSH) recognizes 120 dB as the threshold of pain for unprotected hearing. Operators should wear hearing protection and ensure that personnel are not directly in front of the device or at close range when the power is ON.

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2. Hardware

2.1. Hardware

The HyperSpike® HS-10 is designed for ease of use and maximum transportability. It is suitable for both static and mobile applications. The HS-10 can be configured for a variety of applications and customized with optional accessories including, but not limited to, wireless transmit/receive system, a universal tripod/magnetic mount, or a transit case.

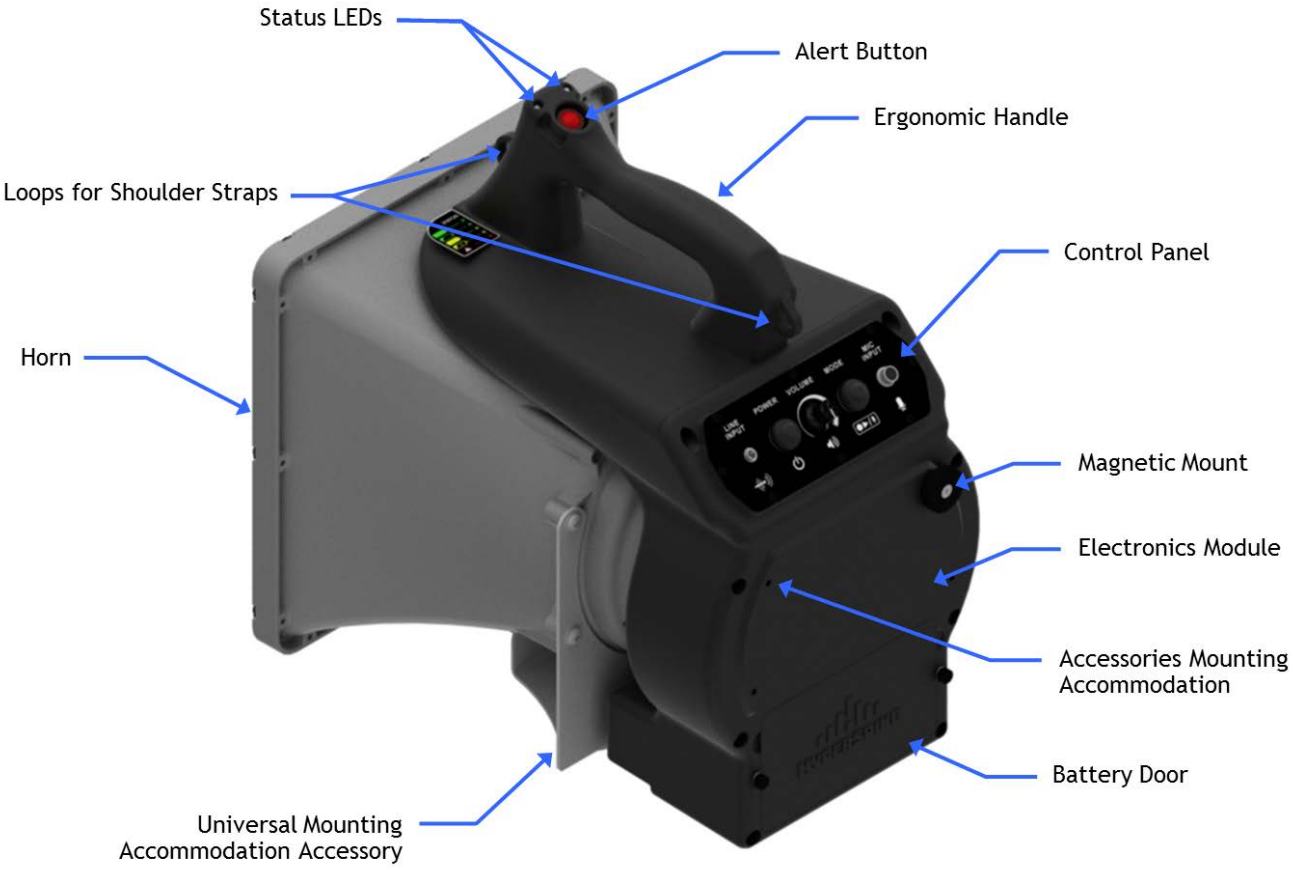


Figure 2.1-1 HS-10

The Model ‘C’ features lower weight with a single transducer and an output of 136 dB, while the Model ‘R’ features dual transducers for maximum acoustic output of 144 dB.

Full physical, electrical, and acoustic specifications are contained in Section 3.

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2.2. Included in Box

2.2.1. HS-10 Model C

P/N 90199A-801 included items:

- 1x HS-10 Model C Assembly
- 1x Microphone, P/N 92012A-803
- 1x Wall Plug Power Supply, P/N 42217A-1
- 1x Audio Line-In Cable, P/N FE-3MM-06-90

2.2.2. HS-10 Model R

P/N 90199A-802 included items:

- 1x HS-10 Model R Assembly
- 1x Microphone, P/N 92012A-803
- 1x Shoulder Strap, P/N 33653A-1
- 1x Wall Plug Power Supply, P/N 42217A-1
- 1x Audio Line-In Cable, P/N FE-3MM-06-90
- 1x Accessory Bag - Standard Gray, P/N 92013A-1

2.3. Unboxing

Remove the HS-10 and all accessories from the packaging in a safe manner. Ensure all accessories are included while unpacking. If any parts are found to be missing, contact the reseller as soon as possible.

The packaging may be kept to facilitate future shipping needs. If packaging is discarded, dispose in an environmentally responsible manner and recycle if possible. Keep all plastic bags away from children due to suffocation risk.

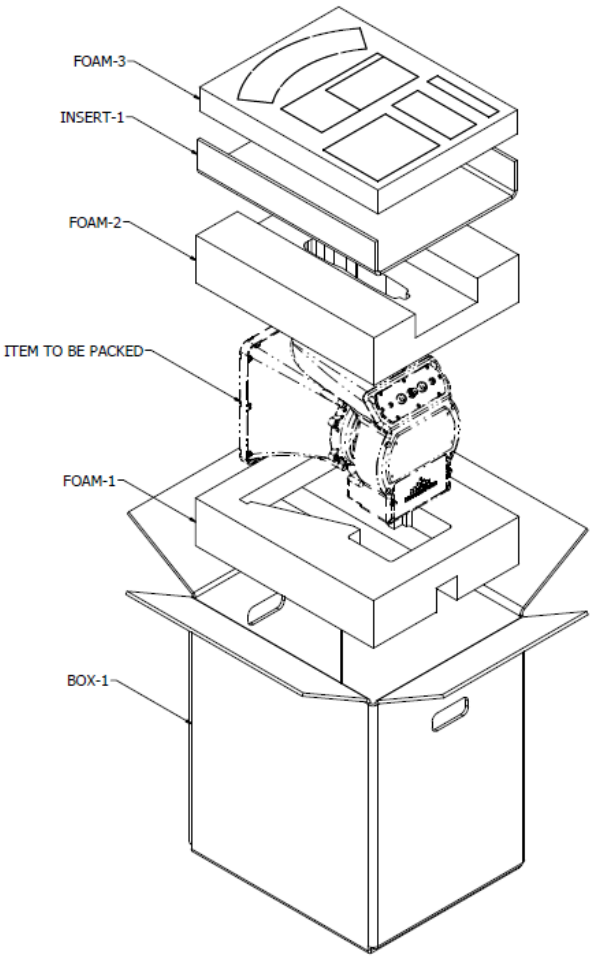


Figure 2.3-1 HS-10 – In Packaging

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3. Specifications

3.1. Model C and R Comparison

	HS-10-C	HS-10-R
ACOUSTIC SPECIFICATIONS		
Sound Pressure Level (peak)	136dB A-weighted @ 1m	144dB A-weighted @ 1m
Usable Range	400+ meters	750+ meters
Beam Width	±15 degrees	±15 degrees
Frequency Range	400Hz-7kHz	400Hz-7kHz
STI PA (intelligibility)	0.85	0.85
POWER REQUIREMENTS		
Power	Internal rechargeable battery pack	Internal rechargeable battery pack
Battery Life	15 hours @ duty cycle	8 hours @ duty cycle
Battery Charge Time	4.5 hours	4.5 hours
PHYSICAL SPECIFICATIONS		
Dimensions	13.5"H x 12.5"L x 10.0"W (34.3cm H x 31.8xm L x 25.4cm W)	13.5"H x 12.5"L x 10.0"W (34.3cm H x 31.8xm L x 25.4cm W)
Weight	12lbs	15lbs
Housing Material	Flame retardant UV stable composite	Flame retardant UV stable composite
Standard Color	Black (01)	Black (01)
2-Tone Colors	Gray (04), Red (05), White (06)	Gray (04), Red (05), White (06)
Hydrodip	Camouflage (07)	Camouflage (07)
Custom Color/Logo	Prestige (00)	Prestige (00)
ENVIRONMENTAL		
Ingress Protection	IP65, NEMA3R	IP65, NEMA3R
Operating Temperature	-20°C to 60° C	-20°C to 60° C
Humidity Range	0-75% non-condensing	0-75% non-condensing
STANDARD FEATURES		
Auxiliary Input	Analog line input	Analog line input
Microphone Input	Live & Record/Play Mic	Live & Record/Play Mic
Status Indication LEDs	Status, Mode	Status, Mode
Controls	Power, Alert, Volume, Mode	Power, Alert, Volume, Mode
Remote Control	Phone App - wired	Phone App - wired
Digital Signal Processing	Optimized for human voice	Optimized for human voice
ORDERING INFORMATION		
Part Number	90199A-801-(XX color code)	90199A-802-(XX color code)

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3.2. User Controls and Connections

The controls, connectors, and status indicators locations are shown in Figure 3.2-1.



Figure 3.2-1 Features Legend

A. LED Battery Status Indicator (Status/Charge/Fault)
B. LED Microphone Mode Indicator (Record/Playback or Live Voice mode)
C. Alert Tone Button (triggers alert tone)
D. Line Input (line input connector for MP3 player/phone/etc.)
E. Power Button (turns HS-10 on and off)
F. Volume Knob (adjusts system volume)
G. Mode Button (cycles mode between Record/Playback and Live Voice)
H. Microphone Input (microphone input connector)
J. Charge Port (battery charge connector)
K. Microphone Key Switch

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3.3. Status Indicators

When the HS-10 initially powers up, the status indicator (A) will briefly flash during system initialization. The unit is ready for operation when the indicator displays solid green.

Refer below for status indicator codes.

3.3.1. Battery Status Indicator (A)

Solid Green – Unit ready to operate with full battery
Flashing Green – Unit ready to operate with low battery
Solid Yellow – Charger connected – Unit in Standby mode – Fully Charged
Flashing Yellow – Charger connected – Unit in Standby mode – Charging
Solid Red – Fault – Return to authorized service facility

3.3.2. Microphone Mode Indicator (B)

Solid Green – Unit in Record/Playback mode
Solid Red – Unit in Live Voice mode

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4. HS-10 Operation

WARNING:

TEMPORARY OR PERMANENT HEARING DAMAGE MAY OCCUR.

HIGH LEVEL OF SOUND CAN BE EMITTED.

Always wear hearing protection according to OSHA's hearing conservation program.

Operators must remain behind the HS-10 during operation.

Note: Refer to Figure 3.2-1 for feature designations.

4.1. Turn Unit ON and OFF:

1. Press and hold the Power Button (E) for one second to turn the HS-10 on and off

4.2. Play Internal Alert Tone:

1. Set volume knob (F) to desired level
2. Press and hold Alert Tone Button (C)
   Note: Alert Tone has priority over Live Voice, Record/Playback, and line input.

4.3. Use Microphone:

For best performance and to minimize the risk of feedback, position the microphone directly in front of mouth and rest upper lip on rubber bumper.

4.3.1. Use Record/Playback Feature:

1. Plug microphone into 'Mic Input' (H)
2. Record/Playback mode is confirmed by indicator (B) showing solid green
   - Press and release button (G) as needed to toggle between Live Voice and Record/Playback microphone modes
3. Set volume knob (F) to desired level
4. Press and hold microphone key switch (K)
5. Speak loudly and clearly into microphone
6. Release microphone key switch (K)
7. Unit will automatically play prerecorded message when microphone key switch is depressed
   Note: To stop playback, press and release microphone key switch (K) rapidly.

4.3.2. Use Live Voice Mode:

1. Plug microphone into 'Mic Input' (H)
2. Live Voice mode is confirmed by indicator (B) showing solid red
   - Press and release button (G) as needed to enter Live Voice mode

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3. Set volume knob (F) to desired level
4. Press and hold microphone key switch (K)
5. Speak loudly and clearly into microphone
6. Release microphone key switch (K)
   Note: If the Live Voice audio feeds back or 'squeals' choose Record/Playback Mode, reduce volume, or move microphone further away from the unit.

4.4. Use Line Input:

1. Plug auxiliary player (MP3/phone/etc.) into 'Line Input' (D)
2. Set output volume of auxiliary player to high
3. Set volume knob (F) to desired level
4. Press play on auxiliary player to broadcast

4.5. Charge Internal Battery:

1. Plug charger into Charge Port (J)
2. Charging Status is shown by Status Indicator (A)

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5. Maintenance

5.1. Scheduled Maintenance

There is no scheduled maintenance required for the HS-10, but the following is recommended.

1. Inspect the unit and all cables for damage before and after each use.
2. Wipe down the unit with a clean, damp cloth after each use.
3. Store in a clean and dry environment.

5.2. Battery Replacement

The replaceable battery is located behind the battery door. To replace:

1. Ensure the unit is turned OFF.
2. Loosen the captured screws by turning counterclockwise approximately three (3) revolutions.
3. Using both captured screws as a handle, pull away from the housing and remove the battery door.
4. Disconnect and remove the battery.
5. Connect and install the replacement battery while ensuring no wires are pinched.
6. Ensure the weather seal on the battery door is in place.
7. Seat the battery door in the housing by pressing until the outside is flush with the housing.
8. Tighten the captured screws by turning clockwise approximately three (3) revolutions.

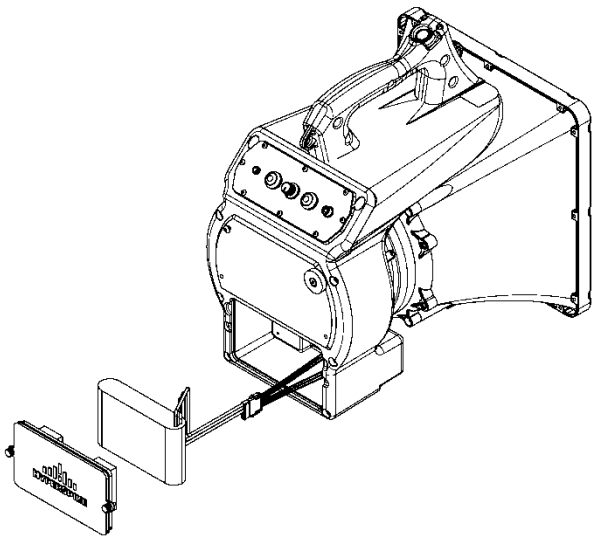


Figure 5.2-1 Battery Connection

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6. HyperSpike® App

Quick Reference Guide and download links for Apple and Android devices can be found at http://www.ultra-hyperspike.com/HyperSpike_Mobile_Application.

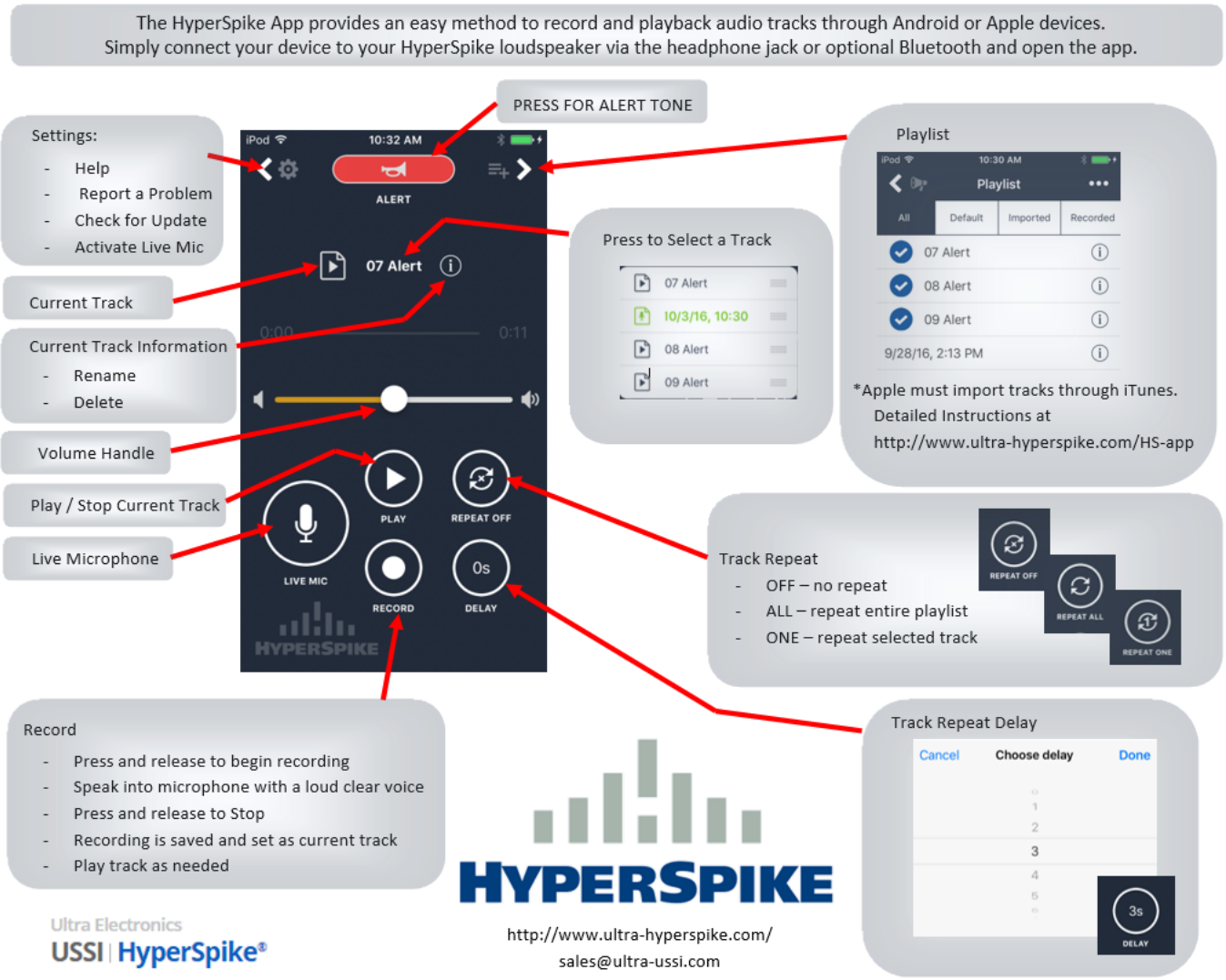


Figure 6-1 Quick Reference Guide

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7. Warranty

Ultra Electronics USSI warrants its products to be free from defects in material and workmanship for a period of one (1) year from the date of shipment from USSI's facility. This warranty is extended to the original purchaser and all subsequent owners, provided a copy of the original dated bill of sale is presented when service is requested under warranty.

If your product should require service, write, phone, fax or e-mail Ultra Electronics USSI at:

Ultra Electronics USSI
4868 E Park 30 Drive
Columbia City, IN 46725
Phone: 260-248-3665 Fax: 260-248-3510
E-mail: ServiceDepartment@ultra-ussi.com
URL: www.ultra-HyperSpike.com

We will either direct you to a local service agency or provide you with a Return Material Authorization (RMA) number so that you can ship the product to our factory. Do not ship the product to us without first obtaining an RMA number. Place the RMA number on all boxes returned to the factory to prevent equipment from being lost or mishandled. Merchandise returned to us for service under warranty must be accompanied by a copy of the original bill of sale, and shipped prepaid. You are responsible for transporting your product to our factory. We will pay the return shipping charges on all products repaired under warranty.

7.1. Failures Not Covered by This Warranty

This warranty covers manufacturing defects. The warranty **DOES NOT** cover:

1) Damage caused by accident, misuse, abuse, product modification or neglect.
2) Damage incurred during shipment (you must claim these damages from the carrier).
3) Damage resulting from failure to operate the product in accordance with the instruction manual.
4) Damage resulting from attempted repairs by unauthorized personnel.
5) Claims based on any perceived agreement not explicitly stated in this warranty such as conversations with service personnel or sales representatives.

7.2. Limitation of Implied Warranties

All implied warranties, including warranties of merchantability, are limited in duration to a period of one (1) year from the date of shipment from Ultra Electronics USSI.

7.3. Exclusion of Certain Damages

Ultra's liability is limited to the repair or replacement, at our option, of any defective product, and shall in no event include incidental or consequential commercial damages of any kind. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the preceding limitation or exclusion may not apply to you.

For further information regarding this warranty, parts, or service, please contact Ultra Electronics USSI through one of the methods listed at the beginning of this warranty section.

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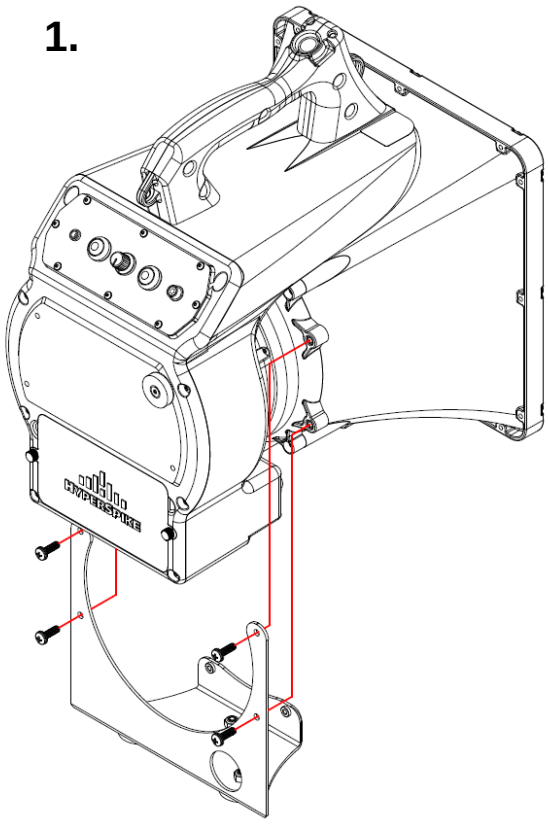
Appendix A — Optional Accessories

Part Number	Description
11019A-1	Microphone Headset - HS-10
72345B-801	Desk Top Battery Charger - HS-10
92065A-1	Power Supply Adapter Plug - North American
92065A-2	Power Supply Adapter Plug - Australia
92065A-3	Power Supply Adapter Plug - Brazil
92065A-4	Power Supply Adapter Plug - China
92065A-5	Power Supply Adapter Plug - Europe
92065A-6	Power Supply Adapter Plug - India / S. Africa
92065A-7	Power Supply Adapter Plug - United Kingdom
61004A-2	MP3 Player - 8GB
92064A-801	Accessory Pocket - HS-10
72337B-801	Replacement Battery - HS-10 (Model C)
72337B-802	Replacement Battery - HS-10 (Model R)
92063A-801	Soft Case - HS-10
99088A-1	Transit Case - HS-10
72349B-801	Universal Mount Kit - HS-10
72354B-801	Tripod and Case - HyperSpike
11017A-1	Low Profile Microphone
11018A-1	Ruggedized Microphone

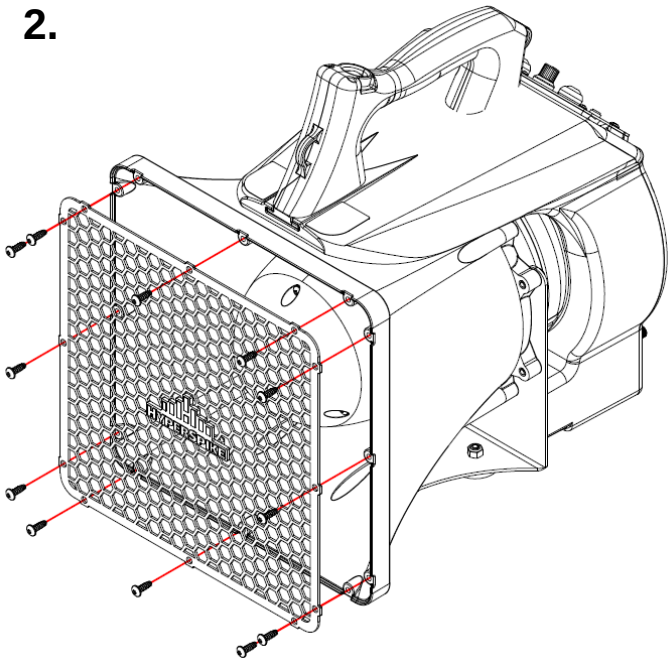
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Appendix B — Universal Mount Kit (72349B-801) Installation

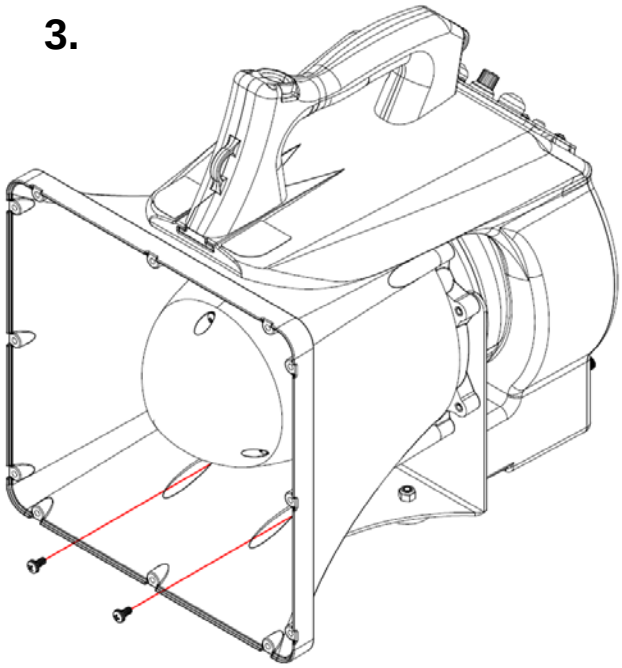
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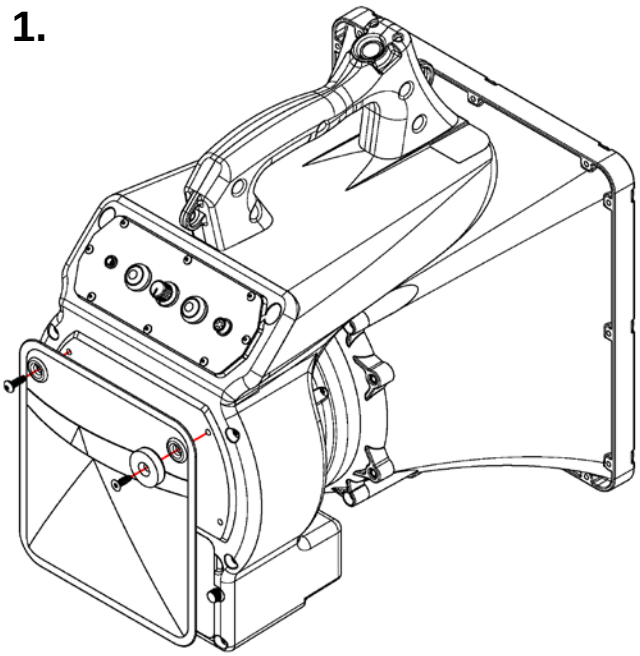
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Appendix C — Accessory Pocket (92064A-801) Installation

1.



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