



LIFE SAFETY &amp; INCIDENT MANAGEMENT

# Lightweight High Power Speaker Arrays

## Hyperspike® Series



### Overview

EDWARDS brand Hyperspike Series High Power Speaker Arrays (HPSA) employ exclusive HyperSpike® technology to deliver lightweight and acoustically sophisticated solutions for mass notification installations. These rugged outdoor-rated units are among the industry's smallest in physical size, yet they reproduce some of the clearest (up to 0.91 STI, source-dependant) and loudest (up to 126 dBA Fast @ 1m) audio signals available. Loudspeaker heads are as small as 13.2" (33.5 cm) in diameter and 24.7" (62.7 cm) in height. A single panel unit weighs as little as 16 lb (7.3 kg).

Hyperspike Series loudspeakers are available in a number of different configurations, from one panel configurations that provide a relatively narrow sound dispersion, to five-panel configurations with full 360° sound projection.

The unique design of Hyperspike Series loudspeakers allow for a 100 percent up-time duty cycle — when powered from an AC source, they can be powered and ready to perform 24/7. This makes them ideally suited for daily activation, as well as emergency use.

Hyperspike Series HPSAs can be permanently installed, or can be configured for portable use. Units come standard with an internal inverter/charger system that can operate the HPSA from the 24 VDC battery complement.

Each Hyperspike Series HPSA loudspeaker has a remotely-mounted Electronics Control Cabinet (ECC) that can be installed indoors or outdoors. These house the audio power amplifiers as well as control and power equipment. The lockable reinforced fiberglass cabinets are rated NEMA 3, 3R, 3S, 4, 4X, 12, 12K and 13. They come ready to interface with the EST3 Emergency Communication Platform.

### Standard Features

- Intelligible audio performance (up to 0.91 STI)
- 24/7/365 duty cycle
- 360, 230, 185 and 120 degree dispersion pattern options
- 320 to 6400 watt configurations
- Easy installation – mounts to standard 2-inch diameter mast
- Lightweight loudspeaker heads – as low as 16 pounds (7.3 kg)
- Rugged outdoor construction
- Reliable and supervised interfaces to the EST3 Emergency Communications platform
- Includes an 8 ft (2.44 m) flexible weathertight wiring conduit

## Application

Any outdoor facilities, such as:

- Universities, Colleges & High Schools
- Health care campuses
- Quads
- Parking lots
- Military bases
- Force protection
- Large ships
- Piers
- Docks
- Industrial complexes
- Refineries
- Power plants
- Air fields
- Stadiums
- Golf Courses
- Camp Grounds
- Amusement parks
- Open mines
- Weather warning systems
- Flood warning systems
- Civil defense

## Installation

For optimal performance and safety when installing in permanent locations, High Power Speaker Arrays (HPSAs) loudspeakers should be mounted 35 to 55 feet (10.7 to 16.8 m) above grade on a pole, building or other structure. For portable or vehicle-mounted applications, the loudspeaker head should be at least 20 feet (6.1 m) above grade and away from people. For all installations, it is also key to have clear, open space around the speaker head. HPSA output is best via line-of-sight.

The factory assembled and tested Electronics Control Cabinets (ECCs) contain the HPSA interface terminals, transient protectors, and components to support easy, clean, and supervised connection to the EST3 Emergency Communications platform. This makes for simple and intuitive control of the units from a single control point or multiple locations.

The ECCs contain the power amplifier(s), digital signal processor, and power inverter system. Batteries are maintained in a Ready State by a temperature-compensated charging system.

The ECCs can be mounted inside or outside. Mounting options include pole, flange (wall), or pedestal. Heaters and ventilation units can also be ordered when required. When outdoor mounting, ECC and battery cabinets can be mounted below the loudspeaker head for easy access, but high enough to prevent vandalism. The ECC can hold one or two replaceable power amplifiers. Cabinets are equipped with tamper switches.

Internal displays and diagnostic LEDs simplify maintenance. HPSA status is also transmitted to the EST3 Emergency Communications platform. A GFCI-protected convenience outlet is provided with ECCs to aid in servicing. All ECC power is protected with circuit breakers. Exterior wiring to and from the ECC is protected by transient protectors.

Typically, the Hyperspike Series HPSA provides the EST3 Emergency Communications platform with the following signals:

- Activation Confirmation
- Incoming AC failure
- Inverter AC failure
- Audio failure
- DC failure
- Door tamper

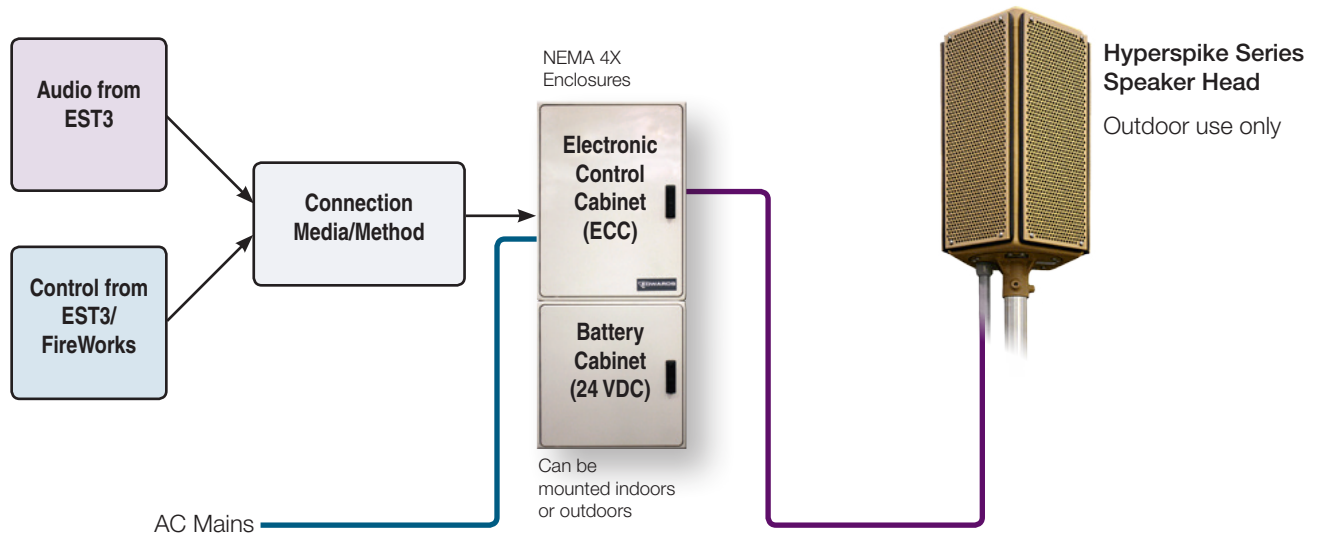
Units come standard with a one year warranty. An optional second year of additional coverage may be purchased at the time of the initial order. Warranties exclude batteries, which carry a 90-day warranty.

## US Military Specifications

### Loudspeaker Head

Hot Temperature	MIL-STD-810G Method 501.5 Procedure II (60C)
Cold Temperature	MIL-STD-810G Method 501.5 Procedure II (-20C)
Blowing Rain	MIL-STD-810G Method 506.5 Procedure I
Aggravated Humidity	MIL-STD-810G Method 507.5 Procedure II
Salt Fog	MIL-STD-810G Method 509.5
Blowing Dust	MIL-STD-810G Method 510.5 Procedure I

# Typical Deployment



## Specifications

### Loudspeakers

	Speaker Panels	Sound Dispersion	1600 Class	3200 Class	6400 Class
Output	5 Panel Array	360°	1600 Watts	3200 Watts	6400 Watts
	3 Panel Array	230°	960 Watts	1920 Watts	3840 Watts
	2 Panel Array	185°	640 Watts	1280 Watts	2560 Watts
	1 Panel Array	120°	320 Watts	640 Watts	1280 Watts
Weight	5 Panel Array	360°	48 lb. (21.77 kg)	96 lb (43.55 kg)	192 lb (87.09 kg)
	3 Panel Array	230°	31 lb (14.06 kg)	62 lb (28.12 kg)	124 lb (56.25 kg)
	2 Panel Array	185°	24 lb (10.89 kg)	48 lb (21.77 kg)	96 lb (43.55 kg)
	1 Panel Array	120°	16 lb (7.26 kg)	32 lb (14.52 kg)	64 lb (29.03 kg)
Dimensions	Each	Diameter	13.2" (33.52 cm)	13.2" (33.52 cm)	13.2" (33.52 cm)
	Each	Height	24.7" (62.7 cm)	44" (111.8 cm)	88" (223.5 cm)

Speaker Head: Outdoor operating temperature: -40F to 140F (-40C to +60C).

ECC (without heating/cooling system): -4F to 140F (-20C to +60C)

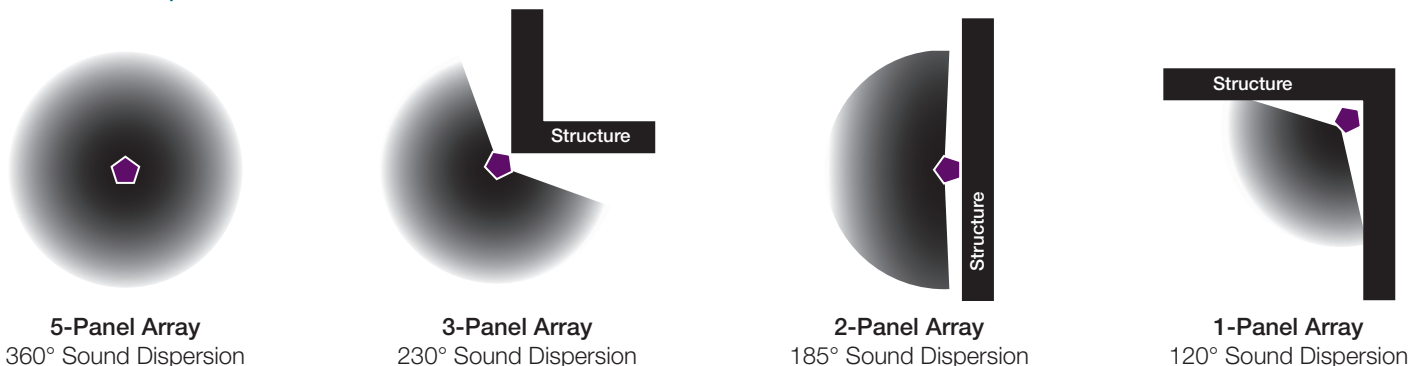
Indoor operating temperature: +32 °F to +120 °F (0 °C to 49 °C); Humidity: 0% to 95% (non-condensing)

### Environmental

### Electronics Control Cabinet

Dimensions	70" x 30" x 12"	70" x 30" x 12"	70" x 60" x 12"
	177.8 x 76.2 x 30.5 cm	177.8 x 76.2 x 30.5 cm	177.8 x 152.4 x 30.5 cm
Weight (without batteries)	242 lb (109.8 kg)	248 lb (112.5 kg)	496 lb (225.0 kg)

## Sound Dispersion Patterns



# Ordering Information

## High Power Speaker Array Assemblies

HPSA Assemblies are AC powered with DC backup. They come with a lockable NEMA 4 Electronics Control Cabinet (ECC) that holds the amplifier and battery charger, and a lockable NEMA 4 battery enclosure. Enclosures are equipped with tamper switches. Loudspeakers come pre-assembled with an eight foot (2.4 meter) 3/4-inch liquid-tight flexible conduit whip and wire leads. Batteries and battery enclosures are ordered separately.

High Power Speaker Array Assemblies	Model Number	Output	Sound Dispersion	Active Panels	Speaker Head Color
	With 110V/60Hz inverter/charger				
1600 Watt Class	MN-HS16T5P	1600 Watts	360°	5 of 5	Tan
	MN-HS16T3P	960 Watts	230°	3 of 5	
	MN-HS16T2P	640 Watts	185°	2 of 5	
	MN-HS16T1P	320 Watts	120°	1 of 5	
	MN-HS16G5P	1600 Watts	360°	5 of 5	Gray
	MN-HS16G3P	960 Watts	230°	3 of 5	
	MN-HS16G2P	640 Watts	185°	2 of 5	
	MN-HS16G1P	320 Watts	120°	1 of 5	
3200 Watt Class	MN-HS32T5P	3200 Watts	360°	5 of 5	Tan
	MN-HS32T3P	1920 Watts	230°	3 of 5	
	MN-HS32T2P	1280 Watts	185°	2 of 5	
	MN-HS32T1P	640 Watts	120°	1 of 5	
	MN-HS32G5P	3200 Watts	360°	5 of 5	Gray
	MN-HS32G3P	1920 Watts	230°	3 of 5	
	MN-HS32G2P	1280 Watts	185°	2 of 5	
	MN-HS32G1P	640 Watts	120°	1 of 5	
6400 Watt Class	MN-HS64T5P	6400 Watts	360°	5 of 5	Tan
	MN-HS64T3P	3840 Watts	230°	3 of 5	
	MN-HS64T2P	1280 Watts	185°	2 of 5	
	MN-HS64T1P	640 Watts	120°	1 of 5	
	MN-HS64G5P	6400 Watts	360°	5 of 5	Gray
	MN-HS64G3P	3840 Watts	230°	3 of 5	
	MN-HS64G2P	2560 Watts	185°	2 of 5	
	MN-HS64G1P	1280 Watts	120°	1 of 5	

## Accessories

Protective Covers	
MN-HS16GPC	Gray Hyperspike Series 1600 Watt class optional protective cover.
MN-HS32GPC	Gray Hyperspike Series 3200 Watt class optional protective cover
MN-HS64GPC	Gray Hyperspike Series 6400 Watt class optional protective cover
MN-HS16TPC	Tan Hyperspike Series 1600 Watt class optional protective cover.
MN-HS32TPC	Tan Hyperspike Series 3200 Watt class optional protective cover
MN-HS64TPC	Tan Hyperspike Series 6400 Watt class optional protective cover

Warranty Programs	
MN-HS16EXWARR2	Hyperspike Series 1600 Watt class extended warranty - 2 years total. Must be ordered when HPSA is ordered.
MN-HS32EXWARR2	Hyperspike Series 3200 Watt class extended warranty - 2 years total. Must be ordered when HPSA is ordered.
MN-HS64EXWARR2	Hyperspike Series 6400 Watt class extended warranty - 2 years total. Must be ordered when HPSA is ordered.

Batteries and Accessories	
MN-HSBATT140	Hyperspike Series ECC Standard Battery set. 140 AH SLA. 2 batteries required for each ECC. Replace in pairs.
MN-HSBHK1X	Hyperspike Series Battery compliment heating blankets (set of 2) for use with MN-HSBX1 Extended Battery Enclosure. 120 VAC. Requires MN-HSECCH1.
MN-HSBHK1S	Hyperspike Series Battery compliment heating blankets (set of 2). 120 VAC. Requires MN-HSECCH1. Two used for MN-HS64 Series.
MN-HSBX1	Hyperspike Series ECC Battery Extension enclosure (without batteries). Includes tamper switch, battery shelf and cabling. Can be mounted to the side or below the ECC primary battery enclosure.

### Separate Electronics Control Cabinets (ECCs)

MN-HSECC1	MN-HS16 Class lockable NEMA 4 amplifier, 110V/60Hz. inverter/battery charger and electronics enclosure, lockable NEMA 4 battery enclosure (w/o batteries). Enclosures equipped with tamper switches. AC powered amplifier with DC backup. Batteries and accessories are ordered separately.
MN-HSECC2	MN-HS32 Class lockable NEMA 4 amplifier, 110V/60Hz. inverter/battery charger and electronics enclosure, lockable NEMA 4 battery enclosure (w/o batteries). Enclosures equipped with tamper switches. AC powered amplifier with DC backup. Batteries and accessories are ordered separately.
MN-HSECC4	MN-HS64 Class lockable NEMA 4 amplifier, 110V/60Hz. inverter/battery charger and electronics enclosures, lockable NEMA 4 battery enclosures (w/o batteries). Enclosures equipped with tamper switches. AC powered amplifier with DC backup. Batteries and accessories are ordered separately.

### Heating and Ventilation

MN-HSECCFAN1	Hyperspike Series ECC Top-mount ventilation fan system with side louvers. 115 VAC. Changes ECC rating to NEMA 3R
MN-HSECCH1	Hyperspike Series ECC Cabinet heater system kit (120 VAC). Provides terminals for battery heater blanket kits. One used for MN-HS16 & MN-HS32 Series. Two used for MN-HS64 Series.

### Demo, Portable & Specialty

MN-HS16DFDEMO1	Gray Hyperspike Series demo unit, 1600 watt with 120 VAC amplifier, microphone, MP3 player. Order tripods & accessories separately.
MN-HS16DFPORT1	Gray Hyperspike Series portable 1600 watt 120 VAC system, with 120 VAC amplifier, laptop computer & case, microphone & software. Order tripods and accessories separately.
MN-HS16G5PAC	EDWARDS System-based 1600 Watt Omni-directional HPSA Assembly (5 of 5 Active Panels) with lockable NEMA 4 amplifier and electronics enclosure. 110V/60Hz operation only. Enclosure equipped with tamper switch. EDWARDS hard-wire interface included. Accessories are ordered separately. Gray colored speaker head.
MN-HS32DFDEMO1	Gray Hyperspike Series demo unit, 3200 watt with 120 VAC amplifier, microphone, MP3 player. Order tripods & accessories separately.
MN-HS32G5PAC	EDWARDS System-based 3200 Watt Omni-directional HPSA Assembly (5 of 5 Active Panels) with lockable NEMA 4 amplifier and electronics enclosure. 110V/60Hz operation only. Enclosure equipped with tamper switch. EDWARDS hard-wire interface included. Accessories are ordered separately. Gray colored speaker head.

### Audio Software

MN-AUDSOF1	Hyperspike Series audio optimization software package
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### Modeling Services

MN-HSEMD12	Hyperspike Series EASE modeling exterior direct/reflected energy. Up to (12) 3D buildings overlaid on Google earth map or provided PDF/CAD site topology drawing. Modeling based on 125-2Khz band and provide medium resolution graphics with 3dB steps in propagation for up to (6) acoustic device/array locations onto chloropleth map. Scale limit of this offer is for 4 million square feet venue.
MN-HSEMDNB	Hyperspike Series EASE modeling exterior direct energy only (no 3D buildings) overlaid on Google earth map or on provided PDF/CAD site topology drawing. Modeling based on 125-2Khz band and provide medium resolution graphics with 3dB steps in propagation for up to (4) acoustic device/array locations onto chloropleth map. Scale limit of this service is in 2 million square feet increments.
MNHSEMDQ	Hyperspike Series Ease modeling exterior direct/reflected energy. Over 12 3D buildings overlaid on Google earth map or provided PDF/CAD site topology drawing. Modeling based on 125-2Khz band and provide medium resolution graphics with 3dB steps in propagation for system required acoustic device/array locations onto chloropleth map. Contact EDWARDS Customer Service for quote.
MN-HSEMN12	Hyperspike Series EASE modeling interior direct/reflected energy. Up to (12) interior 3D substructures overlaid on provided PDF/CAD plan view drawing. Modeling based on 125-2Khz band and provide medium resolution graphics with 3dB steps in propagation for up to (10) acoustic device/array locations onto chloropleth map. Scale limit of this offer is for 250,000 square foot venue.
MN-HSEMN24	Hyperspike Series EASE modeling interior direct/reflected energy. Up to (24) interior 3D substructures overlaid on provided PDF/CAD plan view drawing. Modeling based on 125-2Khz band and provide medium resolution graphics with 3dB steps in propagation for up to (16) acoustic device/array locations onto chloropleth map. Scale limit of this offer is for 500,000 square foot venue.
MN-HSEMNQ	Hyperspike Series EASE modeling interior direct/reflected energy. Over 24 interior 3D substructures overlaid on provided PDF/CAD plan view drawing. Modeling based on 125-2Khz band and provide medium resolution graphics with 3dB steps in propagation for up to system required acoustic device/array locations onto chloropleth map. Contact EDWARDS customer service for quote.

### Mounting Accessories

MN-HSECCPM1	Hyperspike Series ECC pole-mount installation kit. For use with MN-HS16 & MN-HS32 Series only.
MN-HSLPMK1	Hyperspike Series Emitter (loudspeaker) pole-mount kit. Bolts to steel or wooden pole. Additional support may be necessary.
MN-HSPM16	Portable Hyperspike Series HPSA portable tripod mast. Extends up to 16'
MN-HSPM33	Hyperspike Series Portable mast & guy wire unit. Extends up to a maximum 33' (10M)
MN-HSTPMS1	Hyperspike Series Emitter (loudspeaker) tripod mounting system. 10' tripod with 14' mast. Additional support and guy wires may be necessary. ECC cannot be mounted to this unit.
MN-HSWB1	Hyperspike Series Emitter head (loudspeaker) wall-mount bracket & installation kit
MN-HSECCPED1	Hyperspike Series ECC Housekeeping Pedestal Mount Kit (4"). Used when wall-mounting MN-HS16 or MN-HS32 Series ECC. 2 required if wall-mounting MN-HS64 Series ECCs.
MN-HSTEP1	Heavy duty foldable tripod with 3ft extension and carrying bag. Suggested use with 1600 watt HPSA or 650 watt MPSA demonstration kits. Not to be used with 3200 watt or 6400 watt systems.





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## Replacement Parts

### Speaker Heads, complete

MN-HS16SPKHRT5P	Tan Hyperspike Series 1600 Watt HPSA (5 of 5 Active Panels)
MN-HS16SPKHRT3P	Tan Hyperspike Series 1600 Watt HPSA (3 of 5 Active Panels)
MN-HS16SPKHRT2P	Tan Hyperspike Series 1600 Watt HPSA (2 of 5 Active Panels)
MN-HS16SPKHRT1P	Tan Hyperspike Series 1600 Watt HPSA (1 of 5 Active Panels)
MN-HS16SPKHRTG5P	Gray Hyperspike Series 1600 Watt HPSA (5 of 5 Active Panels)
MN-HS16SPKHRTG3P	Gray Hyperspike Series 960 Watt HPSA (3 of 5 Active Panels)
MN-HS16SPKHRTG2P	Gray Hyperspike Series 640 Watt HPSA (2 of 5 Active Panels)
MN-HS16SPKHRTG1P	Gray Hyperspike Series 320 Watt HPSA (1 of 5 Active Panels)
MN-HS32SPKHRT5P	Tan Hyperspike Series 3200 Watt HPSA (5 of 5 Active Panels)
MN-HS32SPKHRT3P	Tan Hyperspike Series 1920 Watt HPSA (3 of 5 Active Panels)
MN-HS32SPKHRT2P	Tan Hyperspike Series 1280 Watt HPSA (2 of 5 Active Panels)
MN-HS32SPKHRT1P	Tan Hyperspike Series 640 Watt HPSA (1 of 5 Active Panels)
MN-HS32SPKHRTG5P	Gray Hyperspike Series 3200 Watt HPSA (5 of 5 Active Panels)
MN-HS32SPKHRTG3P	Gray Hyperspike Series 1920 Watt HPSA (3 of 5 Active Panels)
MN-HS32SPKHRTG2P	Gray Hyperspike Series 1280 Watt HPSA (2 of 5 Active Panels)
MN-HS32SPKHRTG1P	Gray Hyperspike Series 640 Watt HPSA (1 of 5 Active Panels)
MN-HS64SPKHRT5P	Tan Hyperspike Series 6400 Watt HPSA (5 of 5 Active Panels)
MN-HS64SPKHRT3P	Tan Hyperspike Series 3840 Watt HPSA (3 of 5 Active Panels)
MN-HS64SPKHRT2P	Tan Hyperspike Series 2560 Watt HPSA (2 of 5 Active Panels)
MN-HS64SPKHRT1P	Tan Hyperspike Series 1280 Watt HPSA (1 of 5 Active Panels)
MN-HS64SPKHRTG5P	Gray Hyperspike Series 6400 Watt HPSA (5 of 5 Active Panels)
MN-HS64SPKHRTG3P	Gray Hyperspike Series 3840 Watt HPSA (3 of 5 Active Panels)
MN-HS64SPKHRTG2P	Gray Hyperspike Series 2560 Watt HPSA (2 of 5 Active Panels)
MN-HS64SPKHRTG1P	Gray Hyperspike Series 1280 Watt HPSA (1 of 5 Active Panels)

### Power Amplifiers & Components

MN-HSAMPCL16	Hyperspike ECC replacement 120 VAC power amplifier and mated compressor/limiter mounted in mini-rack for ECC for MN-HS16 Series
MN-HSAMPCL32	Hyperspike Series ECC replacement 120 VAC power amplifier and mated compressor/limiter mounted in mini-rack for ECC for MN-HS32 Series (1 used) or MN-HS64 Series (2 used)
MN-HSECCACB20	Hyperspike Series ECC Replacement AC Circuit breaker - 20 Amp
MN-HSECCACB30	Hyperspike Series ECC Replacement AC Circuit breaker - 30 Amp
MN-HSECCDM1	Hyperspike Series ECC Replacement inverter display module
MN-HSPAXFM1	Hyperspike ECC Replacement pre-amp audio isolation transformer module
MN-HSPWR110	Hyperspike Replacement 24VDC/120VAC charger/inverter module
MN-HSECCDCB1	Hyperspike ECC replacement DC Circuit breaker with mounting hardware
MN-TP1201P	TP Series 120V AC line transient protector module
MN-TP120STD	TP Series 120V circuit transient protector module
MN-TP24STD	TP Series 24V circuit transient protector module
MN-TP90STD	TP Series 90V circuit transient protector module
MN-TPBLK1	TP Series Single circuit breaker lockout kit
MN-TPRJ31STD	TP Series RJ31 transient protector module
MN-TPRJ45STD	TP Series RJ45 transient protector module
MN-VR241	Hyperspike Series DC Sensitive Supervision Relay

### Doors and Mounting Hardware

MN-HSECCDPK1	Hyperspike Series ECC Door replacement pin and E-clip kit (8 pins and 8 clips)
MN-HSECCLD	Hyperspike Series ECC Replacement lower door. One used for MN-HS16 & MN-HS32 Series. Two used for MN-HS64 Series.
MN-HSECUD	Hyperspike Series ECC Replacement upper door. One used for MN-HS16 & MN-HS32 Series. Two used for MN-HS64 Series.
MN-HSRPLKEY1	Hyperspike Series replacement key set (2 keys)

### Loudspeaker

MN-HSSPKR1	Hyperspike Series replacement individual loudspeaker
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