

**DETECT**  
**PROTECT**



**“Advanced Technology  
for Modern Industries”**

*[www.HIT-NOT.com](http://www.HIT-NOT.com)*

# Advanced Technology

Today's work environments need advanced ways to protect pedestrians from accidents involving moving vehicles or mobile equipment, to prevent machines from colliding with each other, and to keep pedestrians and machinery away from dangerous areas.

**HIT-NOT®** has led the way in the development of proximity detection systems. It's **Patented Technology** was originally developed for harsh and dangerous conditions of the underground mining industry, where it has been saving lives and preventing injuries for years.

This unmatched technology has now been engineered for use in other industries that use mobile equipment; such as warehouses, manufacturing, ports, and others where equipment and pedestrians work in close proximity. Unlike RFID, **HIT-NOT®** detects and warns through walls, racks, containers and other blind corner obstructions with a audible and visual alarm to both the equipment driver and the pedestrian.

The **essential, basic** performance requirements for a proximity safety system in an industrial setting are:

1. Establish **precise boundaries** between safe and unsafe zones
2. **Reliably warn** both pedestrians and operators of potential dangers
3. Provide means to **signal a vehicle operator** to slow down or stop
4. Eliminate **nuisance alarms**
5. **Compact packaging** for easy integration into a vehicle and/or to be carried

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## **System Summary**

The Basic **HIT-NOT®** System for pedestrian protection consists of a generator that mounts on a moving vehicle and creates a magnetic field, plus a Personal Alarm Device (PAD) worn by pedestrians that detects the magnetic field and warns the vehicle operator and the pedestrian. Also available are optional components with specific performance functions to expand system capabilities. The following pages provide details for the **HIT-NOT®** family of components.





# Magnetic Field Generator

Model: DDAC-PDS



DDAC-PDS Pictured on Rear Mount

## System Functionality:

The functions of the Magnetic Field Generator are:

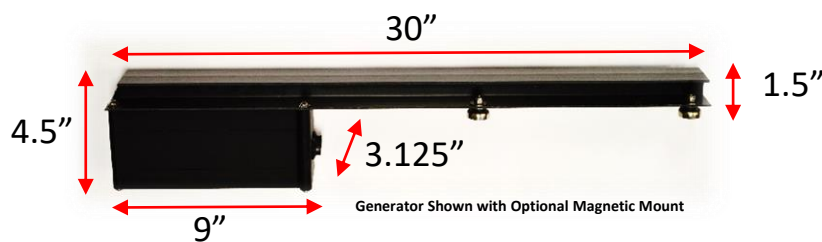
- To create an oscillating magnetic field around a vehicle or machinery to act as a proximity zone for detection of individuals or vehicles.
- To receive a RF signal from Personal Alarm Devices (PAD) or Collision Avoidance Modules (CAM), and other devices.

The Magnetic Field Generator has an internal generator and wire-wrapped ferrite radiator that create a field which projects a proximity zone around the vehicle or machine. When certain other devices (PADs) worn by individuals are brought into the Magnetic Field, they will detect this field and analyze its field strength. If the field strength received by the PAD is above a certain threshold, indicating that the distance between the Magnetic Field Generator and the device is too close, the PAD will alarm and reply to the Magnetic Field Generator with a RF transmission. The Magnetic Field Generator has its RF receiver on continuously and is "listening" to receive the RF transmissions from HIT-NOT® Proximity Detection elements. When a PAD detects that an individual is too close, Warning or Danger alarms are instigated. A Warning Module interfaces with the Magnetic Field Generator providing the driver with a visual and an audible warning.

- The DDAC-PDS offers multiple outputs and inputs in order to meet the your needs.
- Proximity events are recorded and available via cloud access if a Remote Event Monitor is included.
- Standard operator alerts is through the DDAC-WM which includes a light and sounder. There are three alerting signals: warning, danger, and CAM. The warning alarm is a triple beep/blink every 3 seconds and occurs when a personal alarm device(PAD) is the warning zone. The danger alarm for a PAD is a solid alarm when the PAD is in the danger zone. The CAM alarm is a warble tone at 12.5 Hz, lasting for 3 seconds.
- Simple Installation Connections- two power wires from six conductor cable that runs through DDAC-WM
- Standard outputs available include data via RS485.
- Also a signal input is available on request for special functionality.
- Additional discrete outputs are also available on request in order to interface to a vehicle.
- Mechanical Mounting to the vehicle can be accomplished with one of the multiple available mounts.

## Specifications

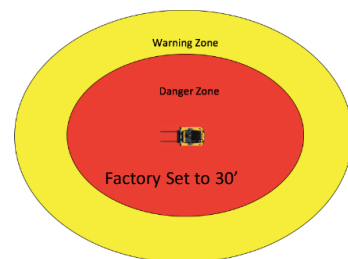
<b>Magnetic Field Frequency:</b>	73kHz
<b>Radio Frequency Link:</b>	916.480 MHz
<b>Voltage Input Range:</b>	12-15V
<b>Magnetic Field Duty Cycle:</b>	3%
<b>Current Consumption:</b>	<0.3 AMP Average, 15 AMP Peak
<b>Power Indication:</b>	Blue LED on Housing
<b>Detection Indication:</b>	Orange LED on Housing
<b>Signal Input:</b>	Available on Request
<b>Data Output:</b>	RS-485, Baud rate 230k
<b>Operating Temp:</b>	-40°F to 140°F
<b>Ingress Protection:</b>	IP67 Design, Add HN-WS if exposed to moisture
<b>Power/Data Connector:</b>	Deutsch DT06-6P
<b>Weight:</b>	3.8lbs/1.7kg
<b>Dimensions (Without Mount):</b>	4.5" x 9" x 3.25"
<b>FCC ID:</b>	QUI-DDAC-PDS
<b>Industry Canada Cert:</b>	11625A-DDACPDS
<b>CE:</b>	CE Options Available



## Magnetic Field Range:

The Danger Zone is 70% of Warning Zone. The produced magnetic field shape is elliptical with the minor axis of the field 80% of the major axis. Ranges are defined by half the major axis of the field.

DDAC-PDS	
Using DDAC-PAD	
Adjustable Range:	Danger – 12'-30'
	Warning- 16'-43'
Factory Setting:	Danger-30'
	Warning- 43'



Field Shape

Model: HN-MFG-XL

For larger vehicles the HIT-NOT® XL Generator produces extended fields for greater coverage areas. It can be powered by both 12 VDC and 24 VDC and offers a magnetic mount. Operation is similar to the DDAC-PDS System and offers CAM capability for vehicle-to-vehicle alerts if needed.

### 12V

Warning Zone ~ 57 ft.  
Danger Zone ~ 40 ft.

### 24V

Warning Zone ~ 70 ft.  
Danger Zone ~ 49 ft.

Weight 7.2 lbs/3.2 kg





# Generator System Components

## Model: DDAC-WM



## Specifications

Detection Indication:	Integrated Red LED/103dB Sounder
Connector:	Deutsch DT06-6S
Weight:	4.7oz/133g
Operating Temperature:	-40°F to 140°F
Dimensions:	3.81" x 2.92" x 1.03"
Cable Conductors:	2 18AWG/ 4 20AWG
Cable Length:	10' WM to Machine / 8' WM to MFG

## System Functionality:

The functions of the DDAC Warning Module are:

- To provide an audible and visual indication to the operator of the Vehicle, equipped with a Magnetic Field Generator, that they are in dangerous proximity to a Personal Alarm Device(PAD) or Collision Avoidance Module(CAM). Warning Module volume is adjustable.
- To provide pass through power and data connections to the DDAC-PDS and DDAC-PDS-C, plus data output interfaces to the vehicle.

***Optional DDAC-WM-LO Light Only Warning Module available to provide operator with an additional visual warning, commonly placed in sight lines while operating equipment in reverse.***

## Model: DDAC-CAB-SI



## Specifications

Magnetic Field Frequency:	73kHz
Voltage Input :	11-15V
Power Indication:	Orange LED visible through end cap
Operating Temp:	-40°F to 140°F
Cable:	8' 2 conductor
Weight:	3.8lbs/1.7kg
Dimensions:	6" x 1" x 1"
CE:	If CE required, please contact FEP

## System Functionality:

The function of the Cab Silencer is:

- To silence a vehicle operator's Personal Alarm Device (PAD) from detecting magnetic fields from nearby Magnetic Field Generators (MFGs)

The Cab Silencer has an internal generator and wire-wrapped ferrite radiator that creates a magnetic field around the unit. When certain other devices (PADs) worn by individuals are brought into the Magnetic Field, they will detect this field and will analyze its field strength. If the field strength received by the PAD is above a certain threshold, then the PAD will not alarm or send an RF transmission when a MFG is nearby.

The Cab Silencers allow Vehicle Operators to wear a PAD and not alert the MFG on their truck or other MFGs while they are protected within the cab of the forklift. An adjustable range allows the cab silencer to adapt to different fork trucks.

Cab Silencers are included with Magnetic Field Generator Systems.

## Model: HN-CAM

The Collision Avoidance Module (CAM) is an Add-on component to the Magnetic Field Generator or XL Generator. The CAM functions like a PAD to sense magnetic fields from a generator, determines the proximity of another CAM equipped truck, and sends a RF response to the other truck. It requires a generator to function, and provides a layer of protection to prevent trucks from colliding with one another. Model numbers for generators with CAMs are ***DDAC-PDS-C*** and ***HN-MFG-XL-C***.





# Personal Alarm Device

Model: DDAC-PAD



## System Functionality:

The functions of the Personal Alarm Device are:

- To detect the presence of an oscillating magnetic field generated by vehicles, or machinery equipped with a HIT-NOT® Magnetic Field Generator (MFG) system, and to determine if the field strength level detected indicates that the individual is approaching or is in a dangerous situation.
- To provide an audible and visual indication to the wearer of the PAD that they are approaching or are in a dangerous location as a result of the field strength level.
- To transmit a RF signal to vehicles or machinery equipped with the HIT-NOT® MFG system signaling that a pedestrian has entered into a dangerous area relative to the vehicle or machinery.
- To provide an ID and detected field strength to an optional Remote Event Monitoring System.

The PAD constantly monitors the strength of fields emitted by vehicles and machinery equipped with the HIT-NOT® MFG proximity system. It determines if the field strength has risen to a level that would indicate the individual is in a "Warning Zone" or "Danger Zone" due to proximity of the vehicle or machinery. If the PAD determines the individual is too close to the vehicle or machinery, it gives the individual both a visual and audible indication. At the same time, the PAD transmits a RF signal to inform the vehicle or machinery that the approaching individual is too close. The PAD is self-contained and powered by a rechargeable Li-Ion battery.

## Specifications

<b>Magnetic Field Receive Frequency:</b>	73kHz
<b>Radio Transmission Frequency :</b>	916.480 MHz
<b>Battery Operation Range:</b>	3.5-4.25V
<b>Battery Life:</b>	16 Hours
<b>Recommended Battery:</b>	Battery Space LC-14500-800B (Replace Annually)
<b>Detection Indication:</b>	Integrated Orange LED/Sounder
<b>Sounder Level:</b>	85dB at 10cm
<b>Chargeport:</b>	5.5 x 2.1mm Power Jack
<b>Weight:</b>	4.7oz/133g
<b>Dimensions:</b>	3.81" x 2.92" x 1.03"
<b>FCC ID:</b>	QUI-HN-PAD
<b>Industry Canada Cert:</b>	11625A-HNPAD
<b>CE:</b>	CE Option Available

## Wearable Options:

(A Pouch or Vest is Included with Each PAD, Please Specify Your Choice When Ordering)



Pouch with Belt Clip  
Model: HN-PCHP  
One Size



Custom Vest with integrated pocket  
Model: HN-VEST-Size  
Size Options: S-4XL

## Recommended Chargers:

Charger for 1 PAD	Battery Space	CH-L3705 [5.5x2.1mm Male Connector]
Charger for 5 PADs	Battery Space	CH-GL3705-5 [5.5x2.1mm Male Connector]

Model: DDAC-PAD-XL



## Specifications

<b>Magnetic Field Receive Frequency:</b>	73kHz
<b>Radio Transmission Frequency :</b>	916.480 MHz
<b>Battery Operation Range:</b>	3.5-4.25V
<b>Battery Life:</b>	16 Hours
<b>Recommended Battery:</b>	Battery Space LC-14500-800B (Replace Annually)
<b>Detection Indication:</b>	Integrated Orange LED/Sounder
<b>Sounder Level:</b>	103dB at 24"
<b>Chargeport:</b>	5.5 x 2.1mm Power Jack
<b>Weight:</b>	6.4oz/181g
<b>Box Dimensions:</b>	3.81" x 2.92" x 1.03"
<b>Sounder Dimensions:</b>	1.75" x 1.75" x 1.75"
<b>Cord Length:</b>	20" (± 1")
<b>Total Length:</b>	24"
<b>FCC ID:</b>	QUI-HN-PAD
<b>Industry Canada Cert:</b>	11625A-HNPAD
<b>CE:</b>	CE Option Available



# Area Controllers

## Area Monitor Model: HN-AM-DC

### System Functionality:

- Area Monitor Can be used as a stand alone device or in conjunction with the Mechanized Area Controller.
- Is designed to provide outputs for controlling lights, horns or other devices in a designated area.
- Purpose is to alert workers of an approaching truck and is ideal for intersections
- Detects the presence of an oscillating magnetic field generated by a HIT-NOT® Magnetic Field Generator (MFG) system mounted on a moving vehicle or machinery.
- Two DC outputs can drive 12V DC devices up to 2A per output.
- Contact closure outputs available upon request

### Specifications

<b>Radio Frequency Link:</b>	916.480 MHz
<b>Power Indication:</b>	Blue LED on Housing
<b>Detection Indication:</b>	Orange LED on Housing
<b>Operating Temp:</b>	-40°F to 140°F
<b>Ingress Protection:</b>	IP67 Design, Add HN-WS if exposed to moisture
<b>Weight:</b>	2.8lbs
<b>Dimensions (Without Mount):</b>	4.5" x 9" x 3.25"



## Structure Monitor Model: HN-SM



### System Functionality:

- Purpose is to alert the driver of a truck that they are approaching a structure or specified area.
- Detects the magnetic field of generator on the truck as it approaches and sends a warning back to the truck.
- Ideal for permanent structures which are at risk of impact /or expensive to replace.

### Specifications

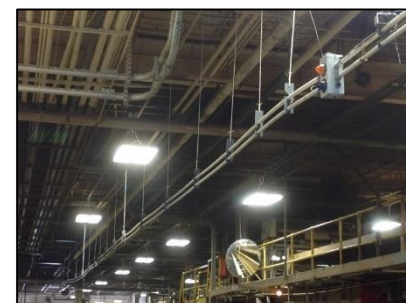
<b>Radio Frequency Link:</b>	916.480 MHz
<b>Voltage Input Range:</b>	Factory Provided AC Adaptor
<b>Magnetic Field Duty Cycle:</b>	3%
<b>Current Consumption:</b>	<0.3 AMP
<b>Power Indication:</b>	Blue LED on Housing
<b>Detection Indication:</b>	Orange LED on Housing
<b>Operating Temp:</b>	-40°F to 140°F
<b>Ingress Protection:</b>	IP67 Design, Add HN-WS if exposed to moisture
<b>Weight:</b>	2.8lbs
<b>Dimensions (Without Mount):</b>	4.5" x 9" x 3.25"



## Mechanized Area Controller A (MAC-A) Model: HN-MAC

The MAC-A is suspended approximately 11ft above the floor, and generates an adjustable magnetic field up to 30ft wide, with lengths that can extend up to 160'. It controls outputs that drive lights, horns or other devices via relay outputs, or 12V DC outputs. These outputs occur with the presence of PADs and Magnetic Field Generators equipped with CAMs. Signals from other HIT-NOT devices can be used to provide input to the system if needed. Options are available to meet a variety of customer needs.

A common use of the MAC-A is to separate pedestrians and equipment from occupying a controlled area at the same time. This can include the control of gates in order to force separation.





# Area Controllers

## Access Monitor Model: HN-ACCESS



### System Functionality:

- Generates a magnetic field that is detected by a PAD.
- PAD sends a signal to Access Monitor to allow PAD access into controlled areas.
- Can prevent losing a PAD by detecting their admission into or exit from controlled areas.
- Can be used to limit access to only pedestrians with PADs.
- Can also turn on devices via a provided relay.

### Specifications

<b>Magnetic Field Frequency:</b>	73kHz
<b>Radio Frequency Link:</b>	916.480 MHz
<b>Voltage Input Range:</b>	12-15V
<b>Magnetic Field Duty Cycle:</b>	3%
<b>Current Consumption:</b>	<0.3 AMP Average, 15 AMP Peak
<b>Power Indication:</b>	Blue LED on Housing
<b>Detection Indication:</b>	Orange LED on Housing
<b>Signal Input:</b>	Available on Request
<b>Data Output:</b>	RS-485, Baud rate 230k
<b>Operating Temp:</b>	-40°F to 140°F
<b>Ingress Protection:</b>	IP67 Design, Add HN-WS if exposed to weather
<b>Power/Data Connector:</b>	Deutsch DT06-6P
<b>Weight:</b>	3.8lbs/1.7kg
<b>Dimensions (Without Mount):</b>	4.5" x 9" x 3.25"
<b>FCC ID:</b>	QUI-DDAC-PDS
<b>Industry Canada Cert:</b>	11625A-DDACPDS
<b>CE:</b>	If CE required, please contact FEP

## PAD Testing

### PAD Test Station Model: HN-PDTEST

#### System Functionality:

- Creates an oscillating magnetic field that is detected by PAD
- Provides a visual indicator that the PAD is functioning
- PAD alarms with audible and visual alerts to indicate it is operational and ready for use.



### PAD Checkout Station Model: HN-COS



The HIT-NOT PAD Checkout Station verifies the functionality of the Personal Alarm Device, including sounder, magnetic field sensors, LED, and battery charge.

#### System Functionality:

- Simple operation: Position PAD into the receptacle with the sounder facing down and battery door forward. Visual indicator will illuminate after several seconds.
- Visual indicator: Green light signifies the PAD is functioning correctly, Red Light Indicates PAD has failed the test, both lights illuminated indicates battery charge is insufficient.
- Input Voltage Dimensions: 12V (via included 110vac Power Supply)
- Dimensions: 14 in L x 14 in W x 10.2 in H



# Silent Zones

## Room Silent Zone Model: DDAC-RMSZ



### Specifications

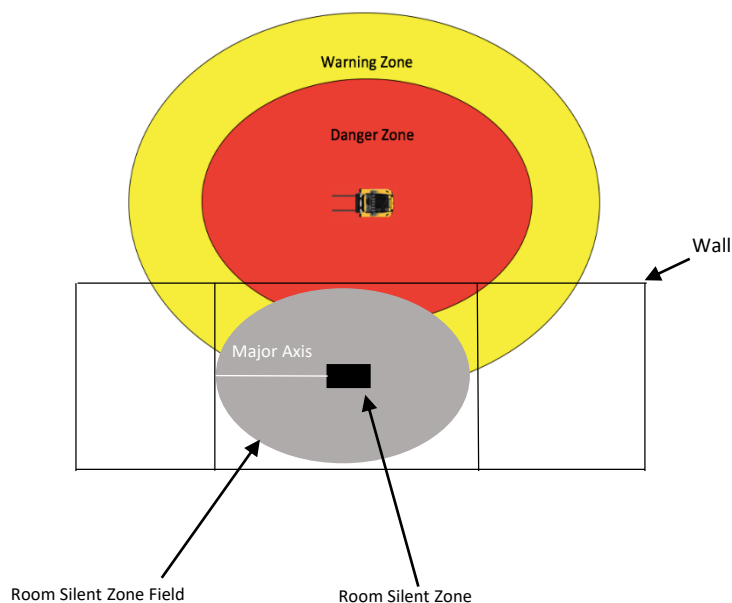
Magnetic Field Frequency:	73kHz
Voltage Input :	12V 5A
Power Indication:	Blue LED on Housing
Operating Temp:	-40°F to 140°F
Power Connector:	5.5x2.1mm Power Jack
Weight:	3.8lbs/1.7kg
Dimensions (Without Mount):	12" x 8" x 4"
FCC ID:	QUI-DDAC-PDS
Industry Canada Cert:	11625A-DDACPDS
CE:	If CE required, please contact FEP

### System Functionality:

The function of the Room Silent Zone is:

- To create an oscillating magnetic field to stop Personal Alarm Device (PAD)s from responding to magnetic fields from nearby Magnetic Field Generators (MFGs)

The Room Silent Zone has an internal generator and wire-wrapped ferrite radiator that create a field which projects a zone around the unit. When Personal Alarm Devices (PADs) worn by pedestrians are brought into the Magnetic Field, the PAD will detect this field and will analyze its field strength. If the field strength received by the PAD is above a certain threshold, then the PAD will not alarm when a MFG is nearby.



### When Do I Need A Silent Zone:

Areas needing a Silent Zone include office(s), conference rooms, workrooms, and/or cafeterias located next to a truck path. Since the MFG's magnetic field penetrates walls and other obstructions, PADs may alarm in these areas unless a Silent Zone is present. The silent zone field is oval-shaped (or round in the case of a DDAC-SPOT) and can be adjusted to fit within the area of the room by removing the cover and turning the PWM pot.

### HIT-NOT SILENCER OPTIONS

DDAC-SPOT-SM

Fields Size:

1'-5' (DDAC-PAD)

DDAC-SPOT

Fields Size:

5'-12' (DDAC-PAD)

DDAC-RMSZ

Fields Size:

6'-28' (DDAC-PAD)