# P A R A D O X™

## HD88

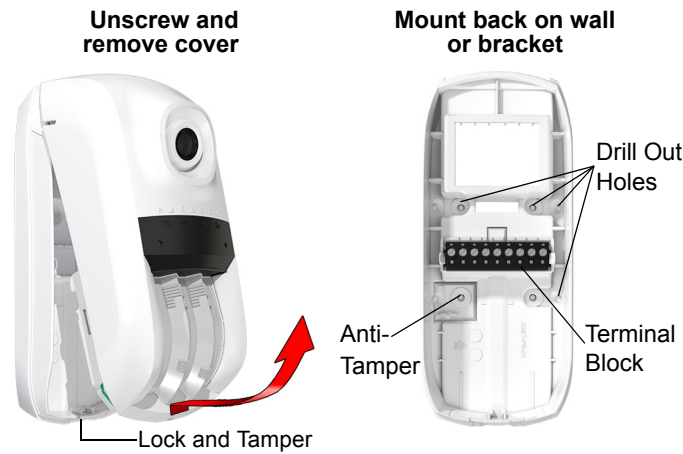### 720P HD Outdoor Camera
#### Installation Manual

**\*\*Compatible with Insite GOLD and SWAN Server\*\***

## Introduction

The HD88 is an outdoor 720P HD camera with built-in sound, pet immune security motion detector, with Ethernet and WiFi. It provides up to 30 minutes of internal Recording on Trigger memory space, or 16GB to 256Gb SD card that can be added for additional recording space.

## Installing the HD88

**Unscrew and remove cover**

**Mount back on wall or bracket**



Drill Out Holes

Anti-Tamper

Terminal Block

Lock and Tamper

If you are installing the HD88 near any reflecting surface, please note that it may affect the quality of the night vision due to the IR reflection.
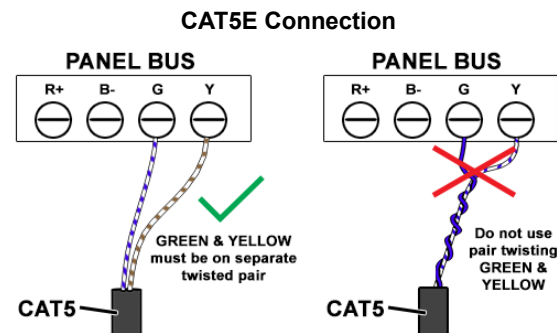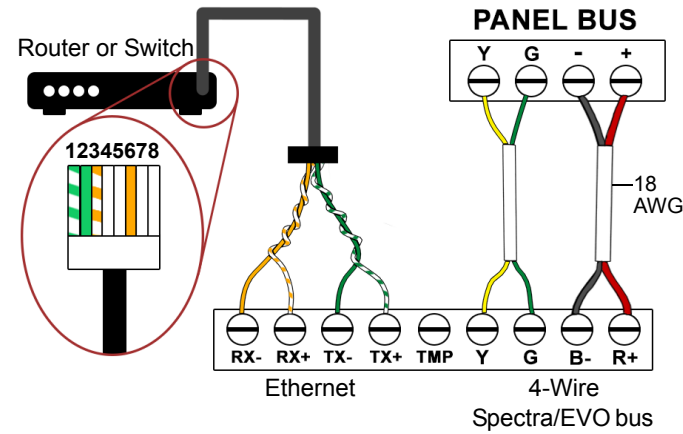
## Bracket Installation



**2**  **3**  **4x**  **1**
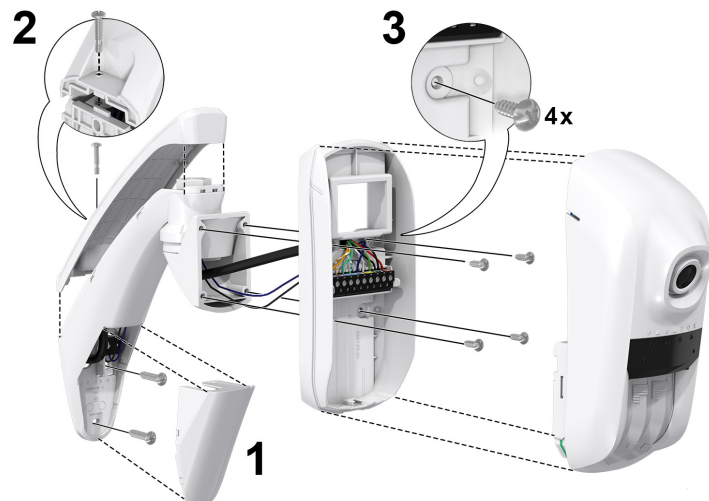
If wall bracket tamper is connected, tamper will automatically be detected by the camera. Tamper will follow recognition settings set in the panel.

## HD88 Bus / Ethernet Wiring

Wire the HD88 camera with a CAT5e or higher cable. Connect the two twisted pairs to the Green (Data) and Clock (Y) of the panel bus and two twisted pairs for the Ethernet lines. The maximum CAT5e cable length is 50 meters. When using Ethernet do NOT use Green (Data) and Yellow (Clock) in one twisted pair, but rather separate them into different twisted pairs as shown below.

Use a separate minimum 18 gauge wire for the power. If your power is not coming from the panel or a bus power supply then you will also need to connect the solid blue of the CAT5e cable to the negative (-) of the camera to have a common ground.



Router or Switch

**12345678**

**PANEL BUS**
Y  G  -  +

18 AWG

RX-  RX+  TX-  TX+  TMP  Y  G  B-  R+

Ethernet

4-Wire Spectra/EVO bus

### CAT5E Connection



**PANEL BUS**
R+  B-  G  Y

**PANEL BUS**
R+  B-  G  Y

GREEN & YELLOW must be on separate twisted pair

Do not use pair twisting GREEN & YELLOW

CAT5  CAT5

*Note: Green (Data) and Yellow (Clock) need to be on separate pairs otherwise bus errors will occur.*

## HD88 WiFi Wiring

Wire the HD88 camera with a standard 4-wire bus cable. Connect the Yellow and Green to the Green (Data) and Yellow (Clock) of the panel bus.

Use a separate 18 gauge (minimum) wire for the power. If your power is not coming from the panel or a bus power supply then you will also need to connect the Black of the 4-wire bus cable to the negative (-) of the camera to have a common ground.



**PANEL BUS**
Y  G  -  +

18 AWG

RX-  RX+  TX-  TX+  TMP  Y  G  B-  R+
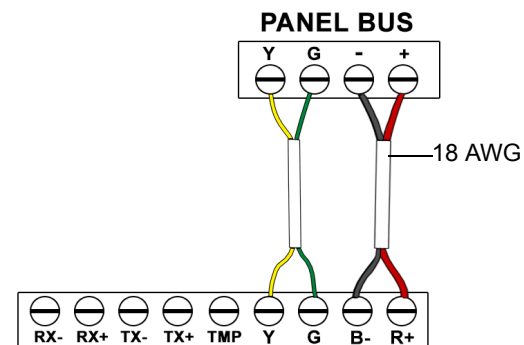
## HD88 Wiring Table

| Recommended Wire Assignment | | Ethernet Connector | |
|---|---|---|---|
| **Bus Label** | **Wire Color** | **Ethernet Connector** | **Wire Color** |
| RX- | Orange | 1 | Green striped |
| RX+ | Orange striped | 2 | Green |
| TX- | Green | 3 | Orange striped |
| TX+ | Green striped | 4 | |
| Y | Brown striped | 5 | |
| G | Blue striped | 6 | Orange |
| B- | Black (18 AWG) | 7 | |
| R+ | Red (18 AWG) | 8 | |

| WiFi Wire Assignment | | Bracket Wire Assignment | |
|---|---|---|---|
| **4-Wire Bus Label** | **Wire Color** | **Bus Label** | **Wire Color** |
| Y | Yellow | TMP | Blue |
| G | Green | B- | Black |
| B- | Black (18 AWG) | | |
| R+ | Red (18 AWG) | | |

## Registration LED Status Indicators

| Network Status | LED Functionality |
|---|---|
| HD88 is not connected to a local WiFi network | LED 🖧 and LED 🌐 will flash intermittently |
| HD88 is connected to a local network but failed to poll the SWAN Server | LED 🖧 is set to On and LED 🌐 is Flashing |
| HD88 is connected to a local network and succeeded in polling the SWAN Server | LED 🖧 is set to On and LED 🌐 is set to On |

## SD Card Installation

An SD card can be inserted into the HD88 in order to provide additional recording time. Please note that if using Record On Trigger, an SD card must be inserted into the camera as shown.
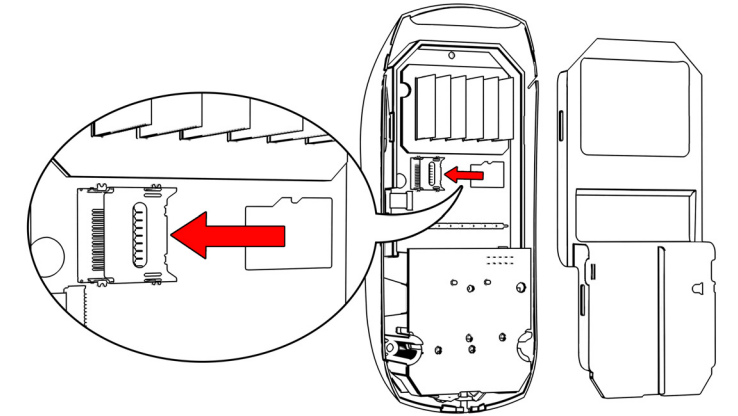


## LED Status Indicators

Other than PIR detection, LEDs are active when lock mechanism is open.

| LED | Functionality | LED Display |
|---|---|---|
| TX | Digiplex/Spectra Data TX | Flashing green: Data transmission Off: No data transmission |
| RX | Digiplex/Spectra Data RX | Flashing green: Data reception Off: No data reception |
| ▲ | Firmware upgrade in progress. | Flashing purple |
| | VOD* | Blue on |
| | Power-up | Flashing blue |
| | Locate mode | Flashing blue |
| | No connection to panel bus | Flashing red |
| | Bus low power | Flashing red |
| | PIR detection | Red on for 3 seconds |
| 🌐 | Active Wi-Fi | Green on |
| 🖧 | LAN 10/100Mb link | Green on: LAN active |

P A R A D O X
KEEPING MY FAMILY SAFE
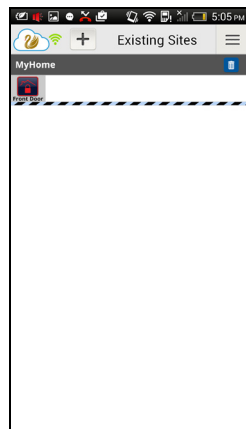
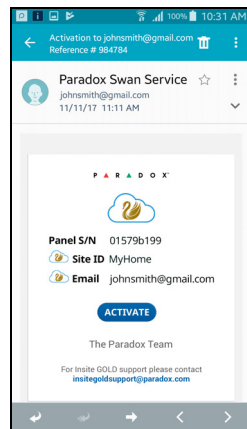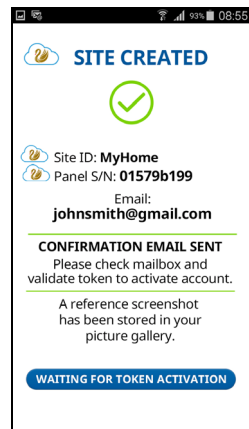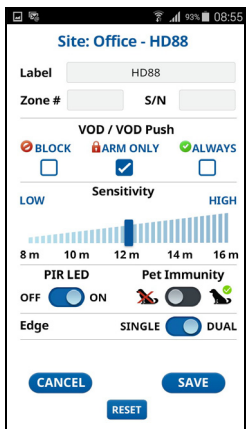paradox.com

# HD88 Camera Set Up and Configuration

**1** Launch the Insite Gold app

**2** Select **New Installation** and then the **Create** button.

**3** Type in the **Panel Serial Number**, **Site ID**, **Client's Email Address** and **Installer Email**.

**4** To add a WiFi Camera, press **Add WiFi Camera**. If you are not configuring a WiFi Camera, skip to Step 10.
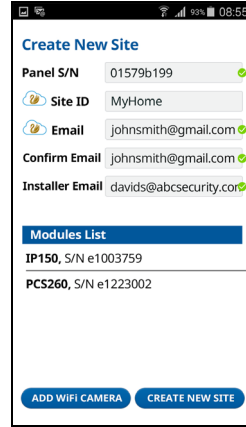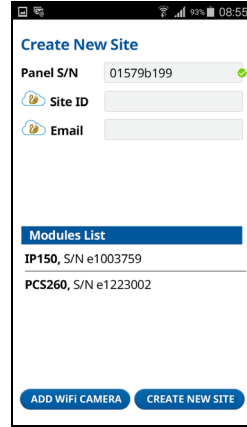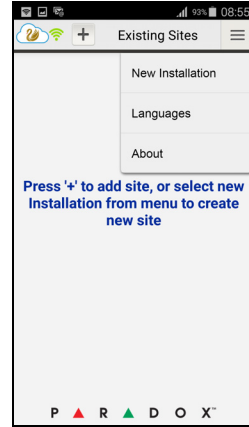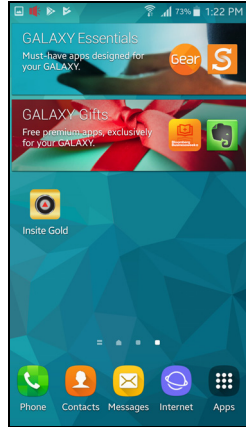
**5** Select the WiFi network that the camera will be registered to.

**6** Enter the **WiFi password** and press continue.

**7** A QR code will be generated. Present the QR code to the camera lens. Ensure tamper is open by unscrewing screw at the bottom of the HD88.

**8** The HD88 WiFi Camera will then be displayed in the modules list with a WiFi symbol next to it. Press **Configure** to modify settings.
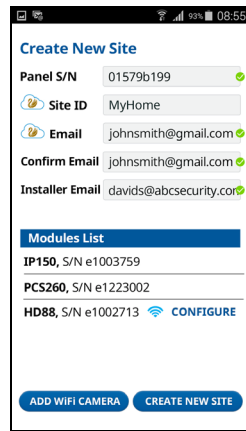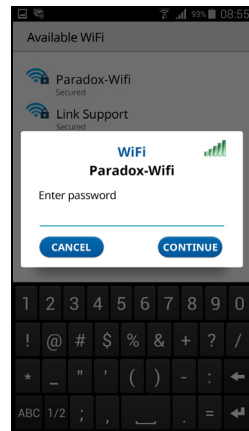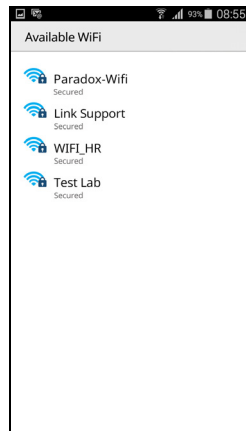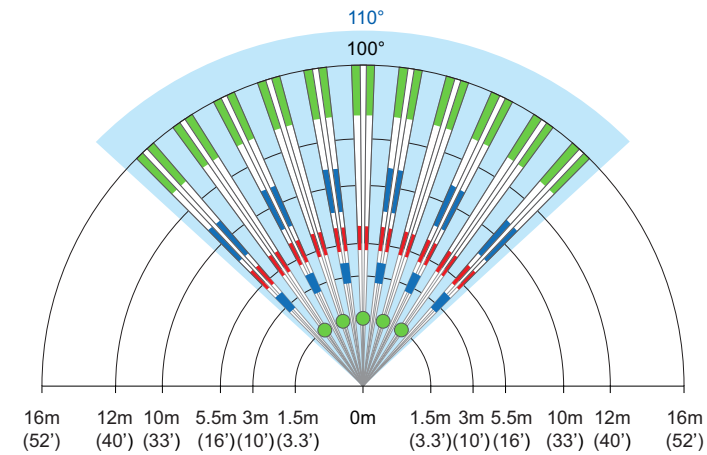
**9** Configure your settings and press **Save** when completed.

**10** Press **Create New Site**. A Site Created message will appear. The system will send you an email.

**11** Retrieve your email and click **Activate**. You will then be prompted to choose the type of activation for your subscription.

**12** Your site will then be created and displayed in the app.
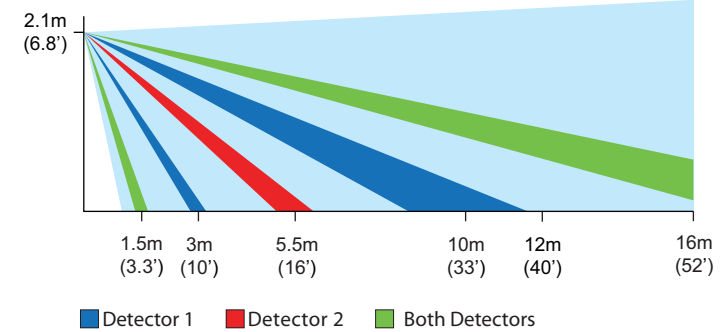
# PIR Detector Beam Patterns

## Top View

Camera View

110°
100°

| 16m (52') | 12m (40') | 10m (33') | 5.5m (16') | 3m (10') | 1.5m (3.3') | 0m | 1.5m (3.3') | 3m (10') | 5.5m (16') | 10m (33') | 12m (40') | 16m (52') |

## Side View

Camera View

2.1m (6.8')

| 1.5m (3.3') | 3m (10') | 5.5m (16') | 10m (33') | 12m (40') | 16m (52') |

■ Detector 1   ■ Detector 2   ■ Both Detectors

# Technical Specifications

| | |
|---|---|
| **Image Resolution** | 1280 x 720 |
| **Image Sensor Type** | 1.4 mega pixels, CMOS sensor, 7V/LUX.Sec |
| **Streaming Video** | 720p H.264 10 FPS |
| **HD Audio** | 16 bit, 24 KHz sampling rate, 32 Kb/s mono |
| **Pre-event recording** | -3.0 sec. pre-trigger |
| **Internal storage** | 15 minutes alarm and 15 minutes ROT/VOD File length - 10 sec. 3 min. detection dependent |
| **PIR Sensor / Lens** | 2x dual element/Mironel lens |
| **Pet Immune** | True Paradox Pet Immune |
| **Detection Speed** | 0.2 m/s to 2.5 m/s (0.6 ft/s to 11.5 ft/s) |
| **Voltage Input** | Nominal: 12VDC, range 9-16VDC |
| **Current Consumption Max** | 350mA - IR illumination ON 250mA - IR illumination OFF 100mA - System lost AC / Battery operation |
| **Dimensions (H x W x D)** | 16.8 x 6.8 x 7.4 cm (6.6 x 2.7 x 2.9 in) |
| **Operating Temperature** | -40° C to +60° C (-40° F to 140° F) |
| **Compliance** | EN 50131-2-2 Grade 2 Environmental Class II |
| **Installation Height** | 2.1m - 2.7m (7ft - 9ft) |
| **Installation options** | Wall or corner, swivel bracket optional |
| **Compatibility** | EVOHD, EVO192, SP5500, SP6000 and SP7000 |