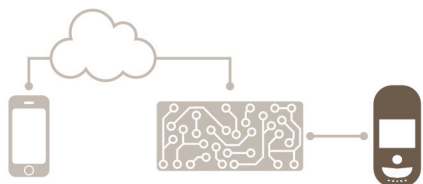




Paradox *Insight*™
Designed for your lifestyle

Paradox Insight™

HD77



Installation Guide

Version 1.2

P ▲ R ▲ D O X™

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Chapter 1 Introduction

1.1 Overview

The Paradox HD77 camera ('HD77 camera') is part of the Paradox Insight™ suite enabling users to manage their security systems from their smartphones.

The HD77 camera is a highly reliable HD video and high-quality audio PIR camera with multiple recording functions, delivering unlimited live HD video and audio streaming of events directly to authorized User smartphones and to a Control Monitoring System (CMS).

The HD77 camera is fully compliant with CE and EN 50131 certifications.

This guide describes how to install the HD77 camera.

1.2 HD77 Camera Front Cover Description

The following graphic describes the HD77 camera front cover features.



Figure 1.1 – HD77 Camera Front View

1.3 LED Status Indicators

The following graphic displays the LED status indicators on the HD77 camera.

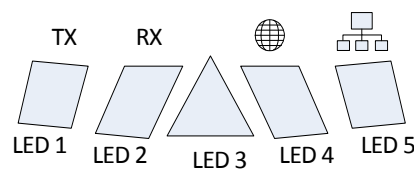


Figure 1.2 – LED Arrangement

LEDs 1, 2, 4, and 5 are installer diagnostic indicators that are active when the lock mechanism is open. LED 3 displays various system functionalities. The following table displays the HD77 camera LED status indicator functionality.

Table 1: LED Assignment

LED	Functionality	LED Display
LED 1	Digiplex Data TX	Flashing green: Data transmission Off: No data transmission
LED 2	Digiplex Data RX	Flashing green: Data reception Off: No data reception
LED 3 (with front cover locked or un-locked)	<ul style="list-style-type: none"> HD77 camera is powered-up and functioning. There are currently no PIR detections or VOD streaming Unit has no power 	Off
	Firmware upgrade in progress.	Flashing purple
	VOD	Blue on
	Power-up	Flashing blue
	Locate mode	Flashing blue
	General Combust failure, wiring or communication problem	Flashing red
	Bus low power	Flashing red
	PIR detection	Red on for 3 seconds
LED 4	Active Web connection	Green on
LED 5	LAN 10/100Mb link LAN 10100Mb data TX or RX	Green on: LAN active Off: No connection Flashing green: Data transfer Flashing red: UPnP failure

Note: For **LED 3:**

- The PIR indicator can be set On/Off by the installer
- The VOD indicator can only be turned-off by the master user using the Paradox Insight™ application.

IMPORTANT: Turning the VOD indicator off may be considered a violation of applicable laws in some countries. Install the HD77 camera according to local laws.

Chapter 2 Installing Hardware

This section includes:

- [Overview on page 7](#)
- [Installation Requirements on page 7](#)
- [Wiring on page 8](#)
- [Mounting the HD77 on page 10](#)

2.1 Overview

This section describes how to install the HD77 camera hardware.

The following diagram displays the EVOHD system including the HD77 camera.

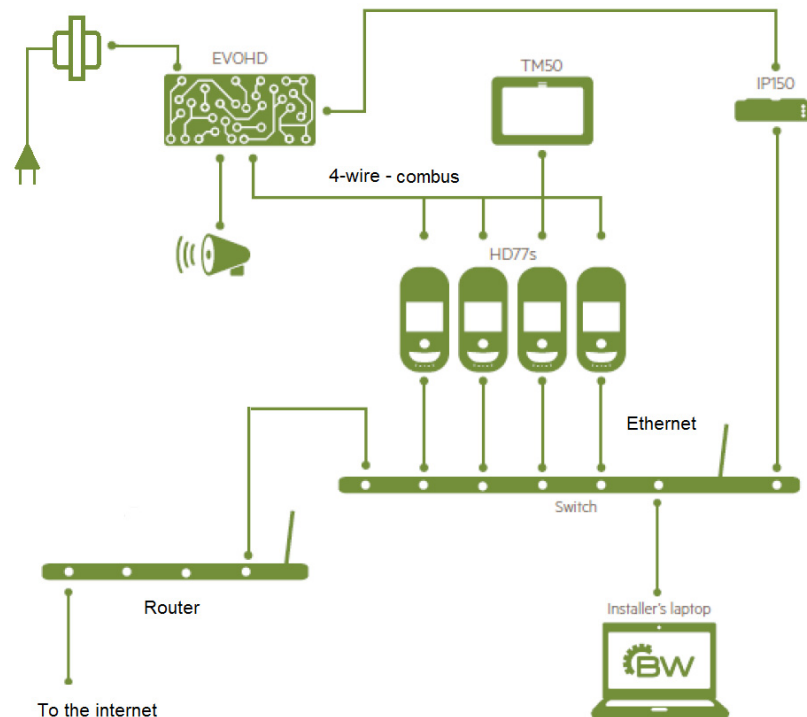


Figure 2.1 – EVOHD System Diagram

2.2 Installation Requirements

The following hardware is required to install the HD77 camera.

- Router
- Cables

2.2.1 Router

The router must include sufficient ports to connect to:

- All HD77 cameras in the system (one port for each camera)

- The IP150 connection (if required)
- The installer PC
- An Internet connection

Note:

- For wireless connection: One less port is required
- An Ethernet switch is required if the router does not have enough ports

2.2.2 Cables

Wire the HD77 camera with the following cables:

- A Cat5e (and above) cable for both 4-wire Combus and Ethernet connection
Note: The maximum Cat5e cable length is 50m.
- Two separate cables: One cable for the 4-wire Combus, the other cable for an Ethernet connection
Note: The maximum cable length is 70m.

2.3 Wiring

This section includes:

- Wiring the HD77 Camera with a CAT5e Cable
- Wiring the HD77 Camera with Dual Cables

2.3.1 Wiring the HD77 Camera with a CAT5e Cable

Wire the HD77 camera with a single CAT5e or higher cable including two twisted pairs for the 4-wire Combus and two twisted pairs for the Ethernet lines as displayed below.

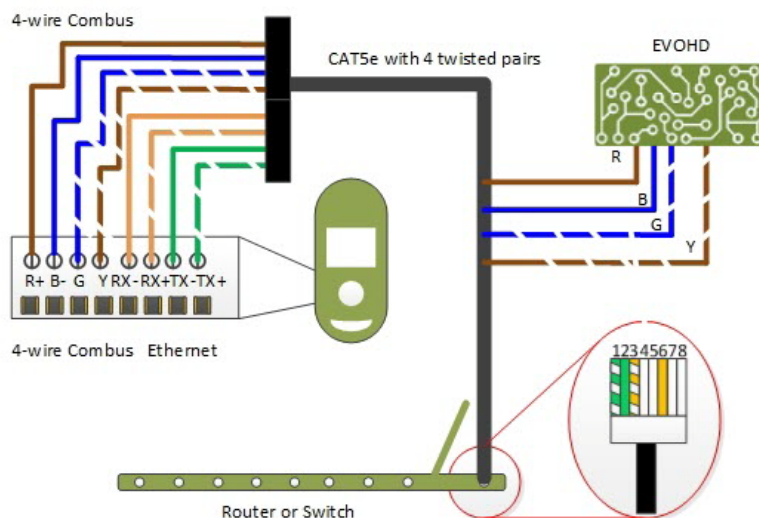


Figure 2.2 – HD77 Camera - CAT5e Cable Wiring

The following table displays Cat 5e cable wiring connectivity.

Table 1: Cat 5e Cable Wiring Connectivity

Recommended Wiring Assignment		Ethernet Connector	
Bus Label	Wire Color	Ethernet Wire Assignment	Wire Color
R	Brown	1	Green Striped
B	Blue	2	Green
G	Blue striped	3	Orange Striped
Y	Brown striped	4	
RX-	Orange	5	
RX+	Orange striped	6	Orange
TX-	Green	7	
TX+	Green striped	8	

2.3.2 Wiring the HD77 Camera with Dual Cables

Wire the 4-wire Combus cable (A) to the EVOHD control panel and the Ethernet cable (B) to the Ethernet router or switch as displayed below.

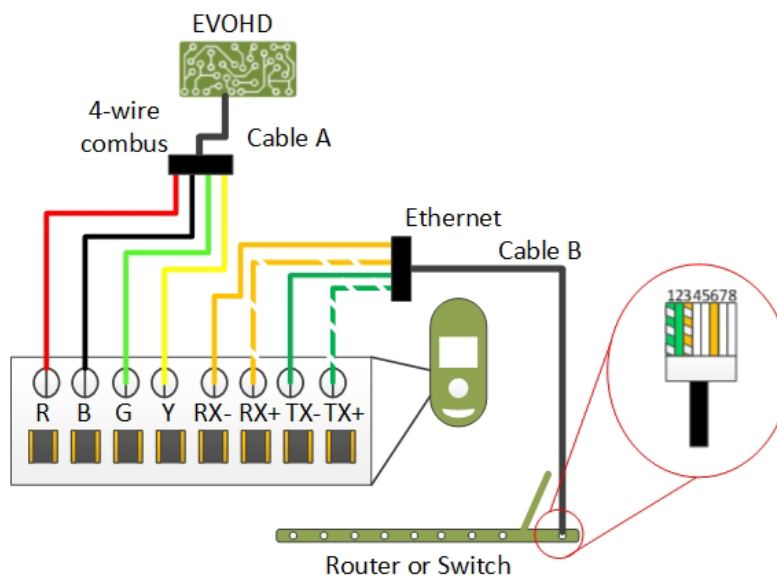


Figure 2.3 – HD77 Camera - Dual Cable Wiring

The following table displays dual cable wiring connectivity.

Table 2: Dual Cable Wiring Connectivity

Recommended Wiring Assignment		Ethernet Connector	
Bus Label	Wire Color	Ethernet Wire Assignment	Wire Color
R	Red	1	Green Striped
B	Black	2	Green
G	Green	3	Orange Striped
Y	Yellow	4	
RX-	Orange	5	
RX+	Orange striped	6	Orange
TX-	Green	7	
TX+	Green striped	8	

2.4 Mounting the HD77

This section includes:

- [Overview on page 10](#)
- [Mounting Requirements on page 10](#)
- [Warning on page 11](#)
- [Mounting the HD77 Camera on a Swivel Bracket attached to the Wall on page 11](#)
- [Mounting the HD77 Camera on a Wall or Corner on page 15](#)

2.4.1 Overview

Mount the HD77 camera:

- On a swivel bracket attached to the wall **OR**:
- Attach directly to the wall

2.4.2 Mounting Requirements

Fulfill the following requirements before mounting the HD77 on the wall.

- Install the HD77 camera on the wall at a height between 2.1m to 2.7m (7ft to 9ft)
- Ensure a minimum gap of 2cm (~1 in) between the HD77 camera and the ceiling (to open/close the cover)

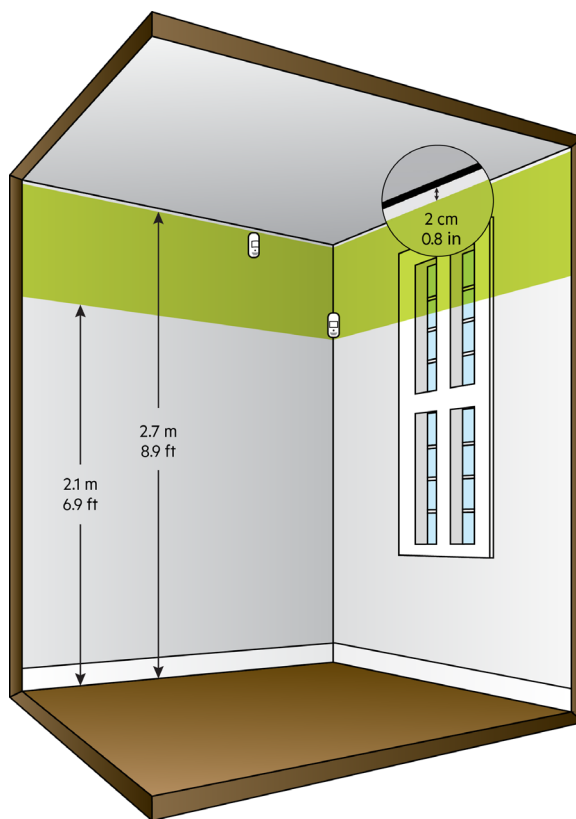


Figure 2.4 – Mounting Guidelines

- Install the device in a location where the detector and camera's field of view is clear of any obstacles
- Mount the module so that walking traffic cuts across the beam pattern

2.4.3 Warning

- **Do not** install the HD77 camera:
 - Near objects causing environmental temperature changes such as heaters, refrigerators and ovens
 - In the path of air flow from air conditioning / heating vents, fans or windows
 - In the path of reflective surfaces, direct sunlight or infrared light
 - Where exposed to oil vapors or steam
- Do not touch the sensor surface or the camera lens as this could result in detector malfunction

2.4.4 Mounting the HD77 Camera on a Swivel Bracket attached to the Wall

The swivel bracket features include:

- 90° horizontal sweep angle (left to right)
- 15° declination angle (down)

The following diagram describes the swivel mount components and mounting instructions.



Figure 2.5 – Mounting HD77 Camera with Swivel Brackets

The following table describes the swivel bracket mounting components.

Table 3: Swivel Bracket Components

Number	Description	Number	Description
1	Wall Plate	5	Adaptor Plate
2	Cable	6	Angle Bracket
3	Swivel Hinge Housing	7	HD77 Camera Front Plate
4	Swivel Hinge		

To attach the HD77 camera on the wall with a swivel bracket:

1. Run the cable(s) (2) through the wall plate (1).
2. Secure the flat side of the wall plate to the wall with supplied screws.

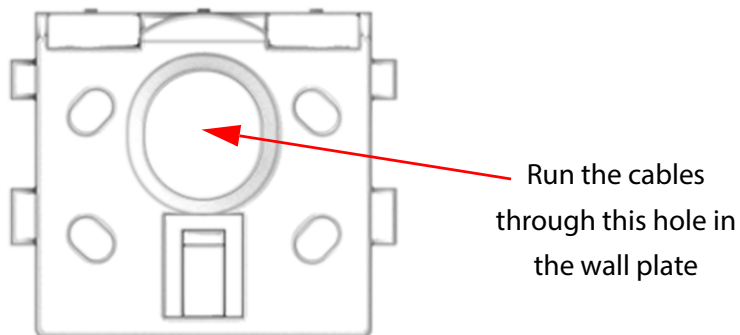


Figure 2.6 – Attaching the Wall Plate to the Wall

Note:

- Use wall anchors if required (not supplied).
 - Distance the top of the wall plate no less than 3" (8cm) from the ceiling.
3. Run the cable(s) through the bottom of the swivel hinge housing (3), swivel hinge (4) and adapter plate (5).
 4. Attach the swivel housing to the swivel hinge - ensure that it clicks closed.

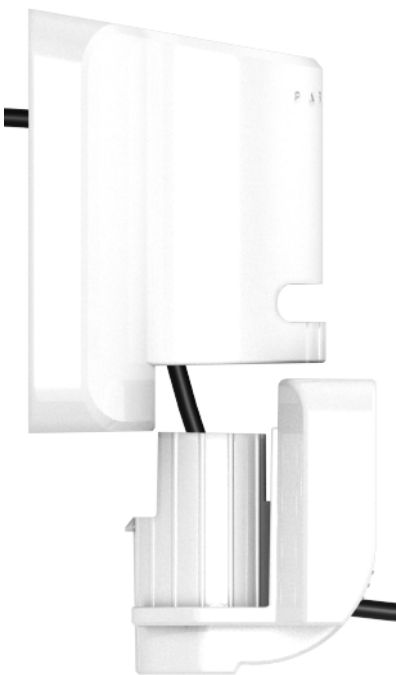


Figure 2.7 – Attaching Swivel Hinge to Swivel Plate

5. Secure the swivel housing to the wall plate: Snap the bracket assembly to the wall plate by placing it on top of the wall plate and sliding it down until it locks.

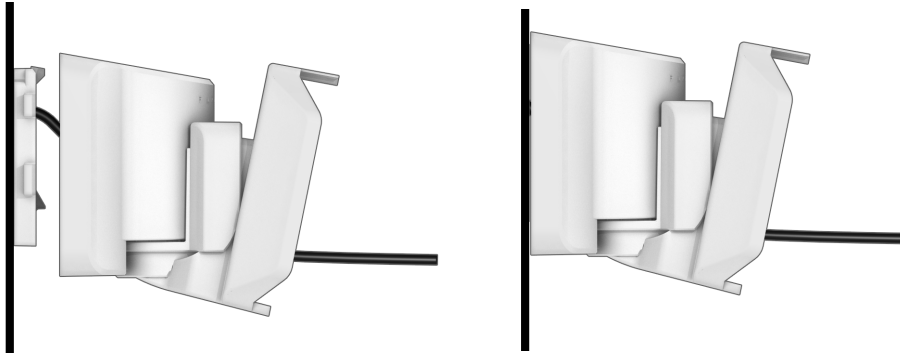


Figure 2.8 – Attaching the Swivel Mount to the Wall

6. Determine the HD77 camera angle of view and secure the angle by attaching the angle bracket (6) to the adaptor plate and inserting a pan head screw #6-32 through the angle bracket and adaptor plate, attaching them to the swivel hinge.

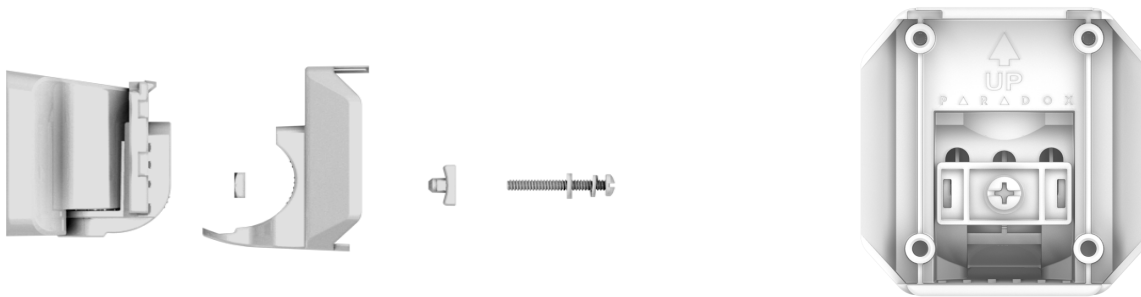


Figure 2.9 – Angle Bracket

7. Remove the HD77 camera front cover:
 - a. Unlock the HD77 at the bottom of the HD77 camera with a screwdriver.
 - b. Pry the front cover apart from the back plate starting from the bottom.

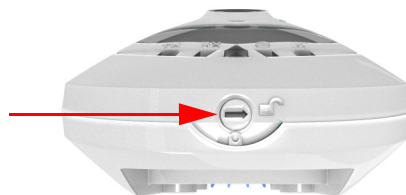


Figure 2.10 – HD77 Camera Lock

Note: Record the serial number (found on the inner side of the front cover) and location of the of the HD77 camera to identify it by its serial number and to add its location and label details in the BabyWare application (see [Labeling HD77 Cameras and their Locations on page 24](#)).

8. Run the cable(s) through the wiring slot in the HD77 camera back plate (7).

9. Wire the terminal board on the HD77 camera back plate.

Note: For terminal board wiring instructions see Wiring on page 8.

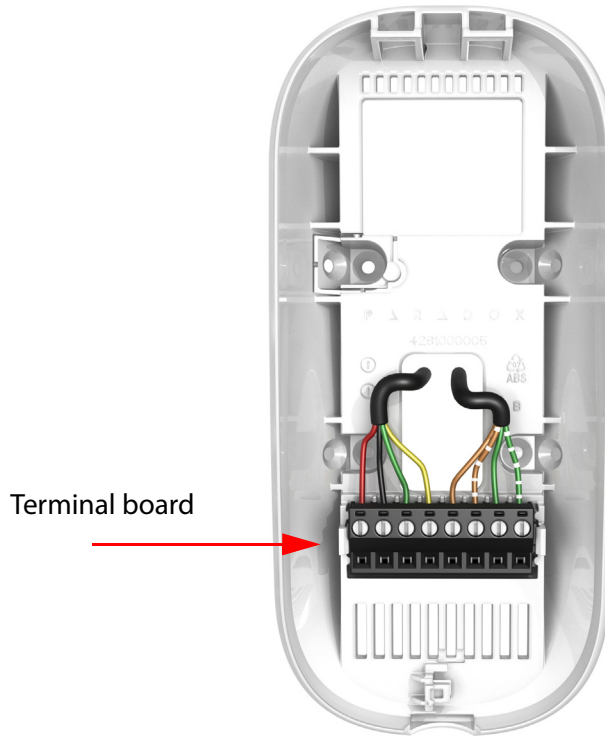


Figure 2.11 – Wiring the HD77 Camera Terminal Board

10. Mount the HD77 camera back plate (7) on the adaptor plate with a screw through each knock out hole and through the anti-tamper spacer.

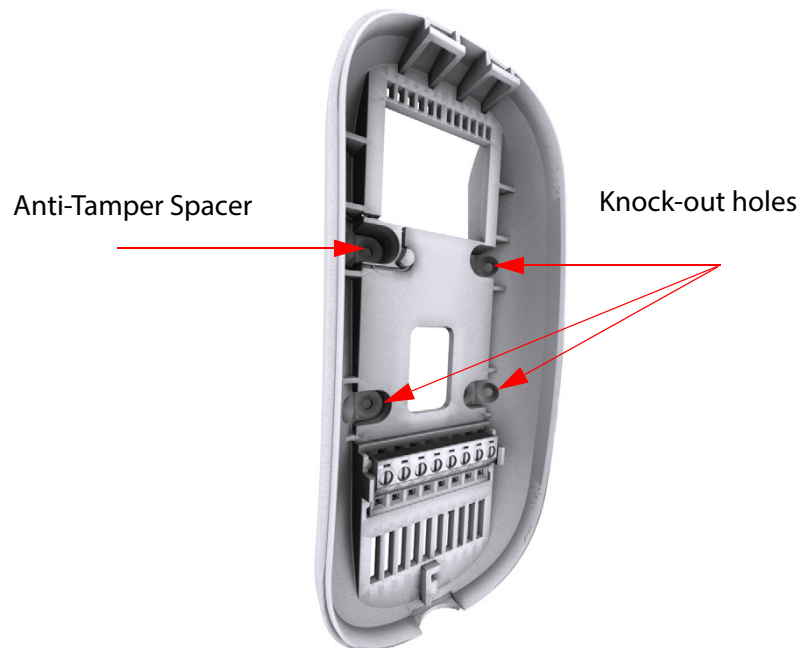


Figure 2.12 – HD77 Camera Back Plate

11. Attach the front cover to the back plate (do not lock).

12. Connect the wires to the EVOHD panel and router (if not already connected).

Note: Ensure that the metal box and EVOHD panel are connected to a valid ground connection.

13. Power up the system: Connecting the power lines from the 16V AC transformer to a power outlet.

The LED3 indicator flashes blue until the boot-up process is complete (boot-up can take up to 3 minutes).

14. Adjust the angle of the swivel bracket to suit requirements and secure the angle adjustment screw.

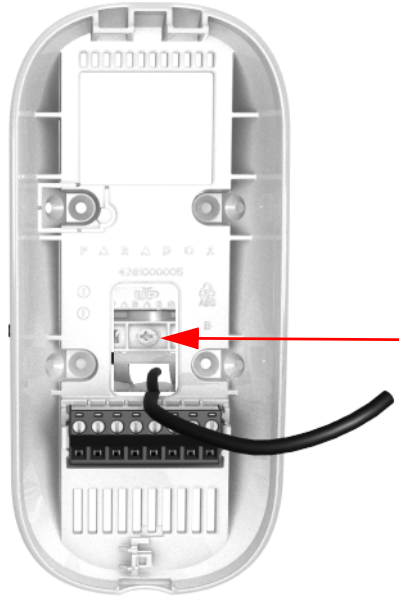


Figure 2.13 – Angle Adjustment Screw

15. Close the lock (see [Figure 2.10](#) on page 13). The installer diagnostic LEDs switch- off.

2.4.4.1 Adjusting the HD77 Camera Angle

Adjust the HD77 camera angle to suit requirements.

To adjust the HD77 camera angle:

1. Open the lock (see [Figure 2.10](#) on page 13).
2. Loosen the angle bracket screw (see [Figure 2.13](#) on page 15).
3. Adjust the HD77 camera angle as required.
4. Tighten the screw.
5. Replace the front cover.

2.4.5 Mounting the HD77 Camera on a Wall or Corner

To mount the HD77 camera directly on a wall or corner:

1. Separate the front from the back plate of the HD77 camera:
 - a. Open the lock mechanism at the bottom of the device.
 - b. Pry the cover off from the bottom of the unit.

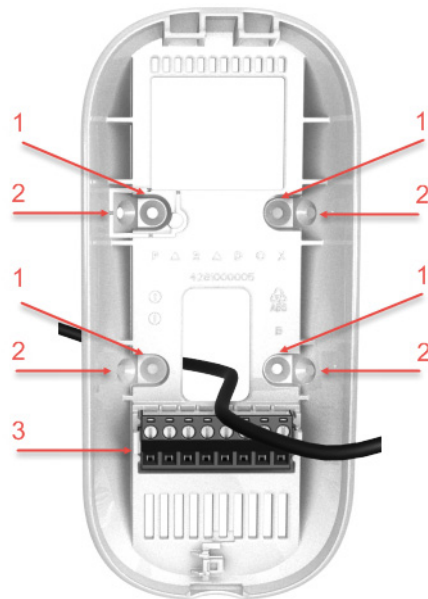


Figure 2.14 – HD77 Camera Back-Plate

- 1. Knock-out hole for wall
- 2. Knock-out hole for corner
- 3. Terminal Board

2. Insert the cables through the wiring slot of the back plate.
 3. Attach the HD77 camera back-plate to the wall with screws.
- Note:** Screws and anchors are not supplied.
4. Run the cable(s) through the camera back plate (7).
 5. Wire the terminal board on the HD77 camera back plate.

Note: For terminal board wiring instructions see Wiring on page 8.

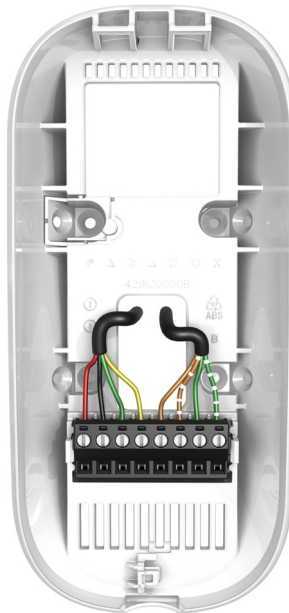


Figure 2.15 – Wire the HD77

6. Close and lock the HD77 onto the camera back plate:
 - a. Attach the HD77 camera to the back plate.
 - b. Close the HD77 onto the back plate.
 - c. Close the lock mechanism at the bottom of the HD77 camera (see [Figure 2.10](#) on page 13).

Note: Locking the camera switches the installer diagnostic LEDs off.

7. Connect the Ethernet line to the router (if not already connected). Make sure the router is turned on.
8. Power up the system: Connecting the power lines from the 16V AC transformer to a power outlet.
The LED3 indicator flashes blue until the boot-up process is complete (boot-up can take up to 3 minutes).

Chapter 3 Configuring the HD77 Camera Settings

This section includes:

- [Overview on page 19](#)
- [Configuration Requirements on page 19](#)
- [Configuring Server Settings on page 25](#)
- [Configuring PIR Settings on page 30](#)
- [Saving Settings on page 38](#)
- [Registering the HD77 Camera with the IP Receiver on page 38](#)
- [Verifying HD77 Camera Functionality on page 38](#)

3.1 Overview

Configure the HD77 camera settings with the Paradox **BabyWare** V 2.8 or higher application (BabyWare).

The following workflow describes how to configure the HD77 camera with BabyWare.

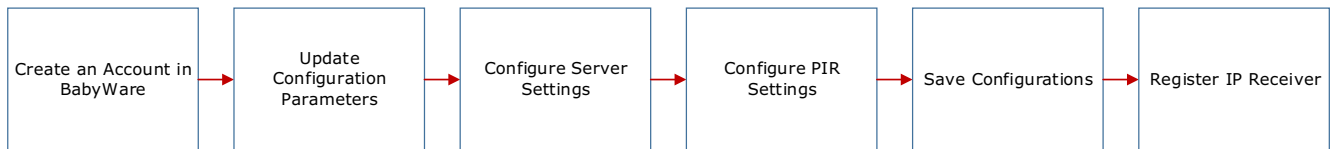


Figure 3.1 – BabyWare Configuration Workflow

Note: PIR settings can also be configured through the TM50 Touchpad and supported K641 series and K656 Keypads (see [Configuring PIR Settings with the TM50 Touchpad on page 32](#), [Configuring PIR Settings with Keypads on page 36](#)).

3.2 Configuration Requirements

Fulfill the following requirements before configuring the HD77 settings:

- [Hardware Requirements on page 19](#)
- [Downloading and Installing the Paradox BabyWare Application on page 20](#)
- [Creating an Account in BabyWare on page 20](#)
- [Updating Configuration Parameters on page 23](#)
- [Labeling HD77 Cameras and their Locations on page 24](#)

3.2.1 Hardware Requirements

The following hardware is required.

- A PC with Windows 7 and above
- A connection from the PC to the EVOHD including:
 - A 307USB Direct Connect Interface

OR:

 - An IP150 Internet module connecting the EVOHD serial port and an Internet connection to the PC

3.2.2 Downloading and Installing the Paradox BabyWare Application

To download and install the Paradox BabyWare application:

1. Download the BabyWare application (BabyWare):
 - a. Open the Paradox website: www.paradox.com.
 - b. Login with a username and password provided by Paradox.
 - c. Select the **Software** field in the left pane.
The Software menu opens, displaying available software downloads.
 - d. Select **Download**.
The **BabyWare Download** window opens.
 - e. Select **Download**.
BabyWare is downloaded to the PC.
2. Install BabyWare: Open BabyWare on the PC and follow the installation instructions.

3.2.3 Creating an Account in BabyWare

To create an account:

1. Open BabyWare.
The **Accounts** window opens.

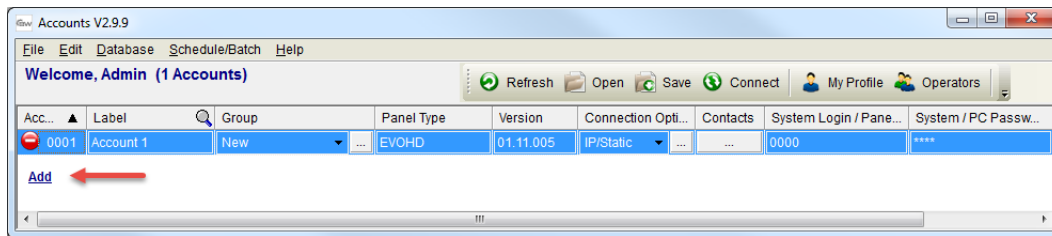


Figure 3.2 – Accounts Window

2. Add a new account:
 - a. Select the **Add** button (see Accounts Window on page 20).
A new account opens.
 - b. Fill in the required information in the new account provided fields:
 - Account name
 - Label
 - Group
 - Panel Type
 - Version
 - Connection Options
 - Contacts
 - System Login/Panel name
 - System/PC password

3. Configure **IP150** settings:
 - a. Select the **Additional Info** box in the new account **Connection** window.

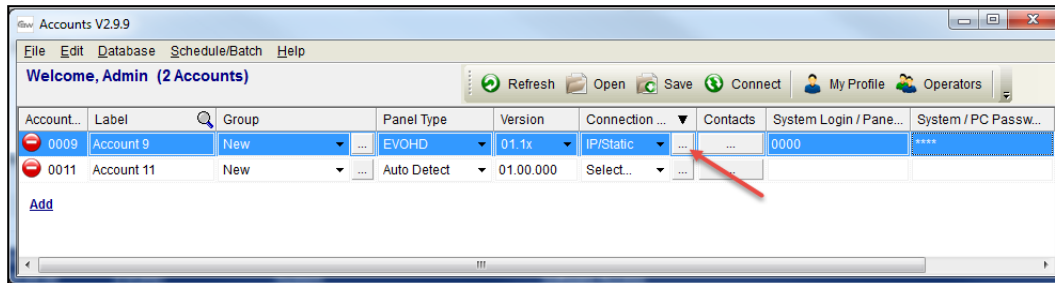


Figure 3.3 – Accounts Window

The **Settings** window opens displaying the **Connection** tab settings.

- b. Select the **IP Locator** icon .

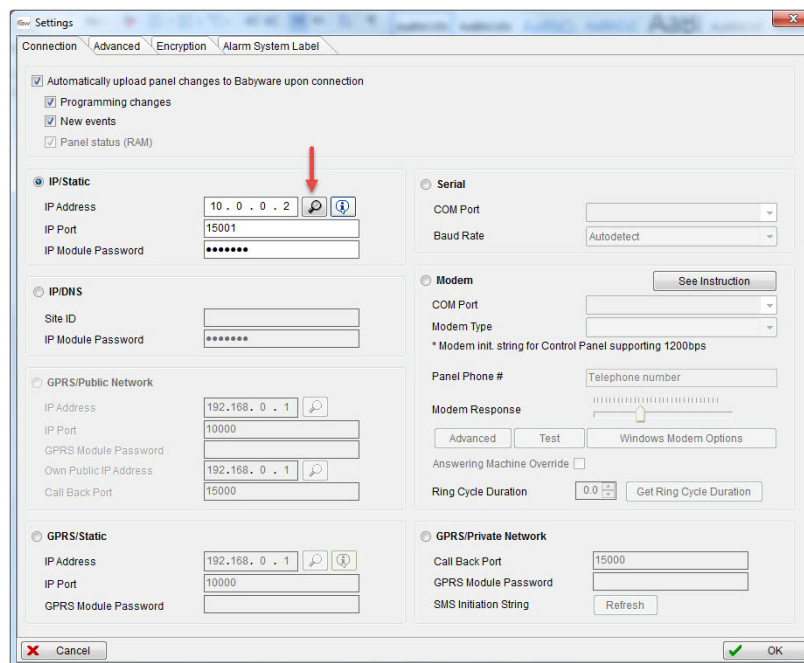


Figure 3.4 – Settings Window

The **Locate IP Device on Network** window opens, displaying a list of all IP150 devices.

- c. Select the required IP150 device from the list and click **Configure**.

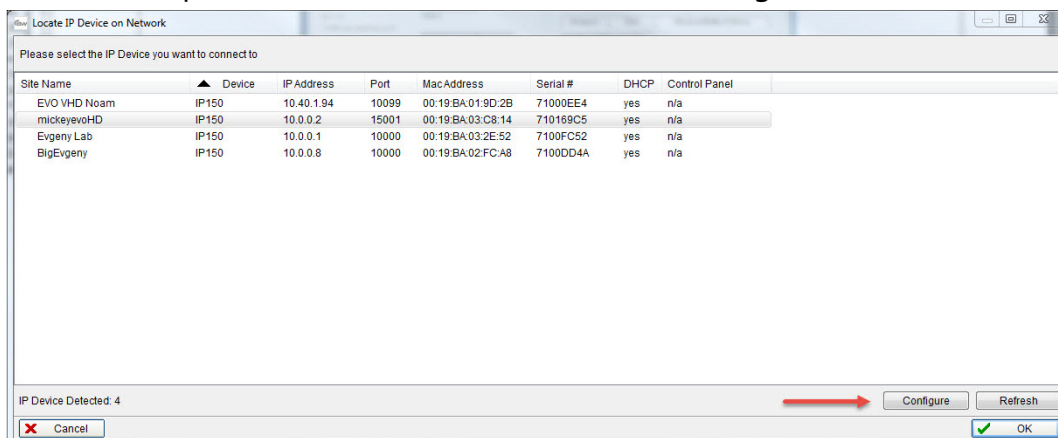


Figure 3.5 – Locate IP Device on Network window

The **IP Device Configuration** window opens.

The IP Device Configuration window contains the following fields and options:

- Site Name: Paul_IP150
- Mac Address: 00:19:BA:01:FA:1C
- Software Version: 1.00.005
- DHCP: ☐ Yes ☒ No
- IP Address: 10 . 0 . 0 . 118
- Netmask: 255.255.255. 0
- Gateway: 0 . 0 . 0 . 0
- DNS Address: 0 . 0 . 0 . 0
- HTTP Port: 10118
- Use HTTPS: ☐
- HTTPS Port: 443
- PC Port: 10119
- DNS Service | paradoxmyhome.com
 - 1. Create a login (e-mail ,password) at paradoxmyhome.com
 - 2. [Register](#) the panel to paradoxmyhome.com
 - 3. Enable service and set polling time (see below)
- Enable service: ☐ Yes ☒ No
- Polling time: 1 Minute(s)

Buttons: Cancel, OK

Figure 3.6 – IP Device Configuration Window

- d. In the **DHCP** pane:

Select the **Yes** radio button to configure Dynamic IP **DHCP**

OR:

Select the **No** radio button and configure a Static IP address: Fill in the IP Address, Netmask, Gateway and DNS Address settings in the provided fields

- e. In the **HTTP Port** pane: Configure the HTTP, HTTPS port and PC port settings in the provided fields

Note: HTTP Port pane configurations are optional if DHCP is selected.

- f. Select **OK**.

The Security Dialog Box opens.

The Security dialog box contains the following elements:

- Text: Please enter your module password to Login to the IP Device.
- System Login: [Text Field]
- Password: [Text Field]
- Buttons: Cancel, OK

Figure 3.7 – Security Dialog Box

- g. Enter the **IP 150 module password** in the Password field and click **OK**.

The IP 150 module settings are configured and the Security Dialog box closes.

4. Connect the account: Click **Connect** in the Accounts window.

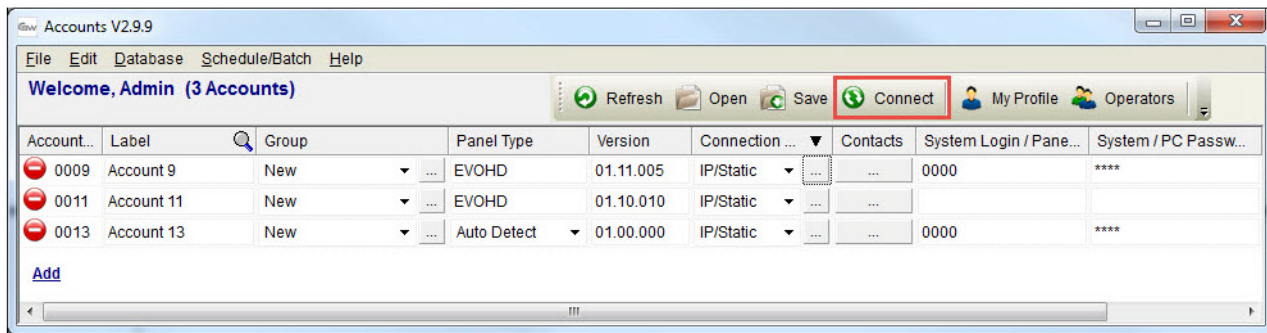


Figure 3.8 – Accounts Window

The account is created.

Note: Click the link below to view a video explaining how to create an account in BabyWare:

<http://www.paradox-insight.com/learning/configuration-createanewaccount>

3.2.4 Updating Configuration Parameters

Ensure that the HD77 configurations are up-to-date before configuring HD77 camera settings.

To update configuration parameters:

1. Stand on the HD77 camera in the **Security Module** field and double-click or right-click.

The Security Module drop-down menu opens.

2. Select the **Receive Programming** field from the drop-down menu.

The configurations are automatically updated (if required).

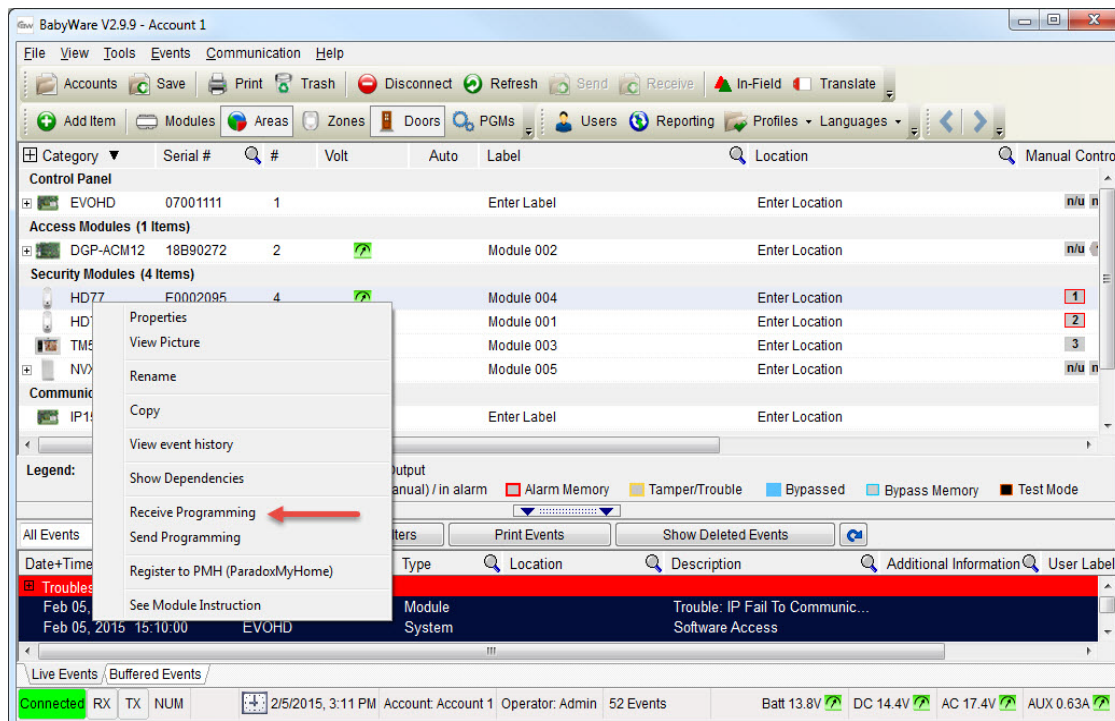


Figure 3.9 – HD77 Receive Programming

IMPORTANT: Ensure that all HD77 cameras in the system are updated.

3.2.5 Labeling HD77 Cameras and their Locations

Label HD77 cameras and their locations to identify them in the system.

To label HD77 cameras and their locations:

1. Open BabyWare.
The Home window opens.
2. In the **Security Modules** field: Locate each device by its serial number and add a **Label** (for example motion detector with camera) and **Location** (for example living room) in the provided fields.

Note: Serial numbers are acquired through the module scan and automatically inserted by BabyWare.

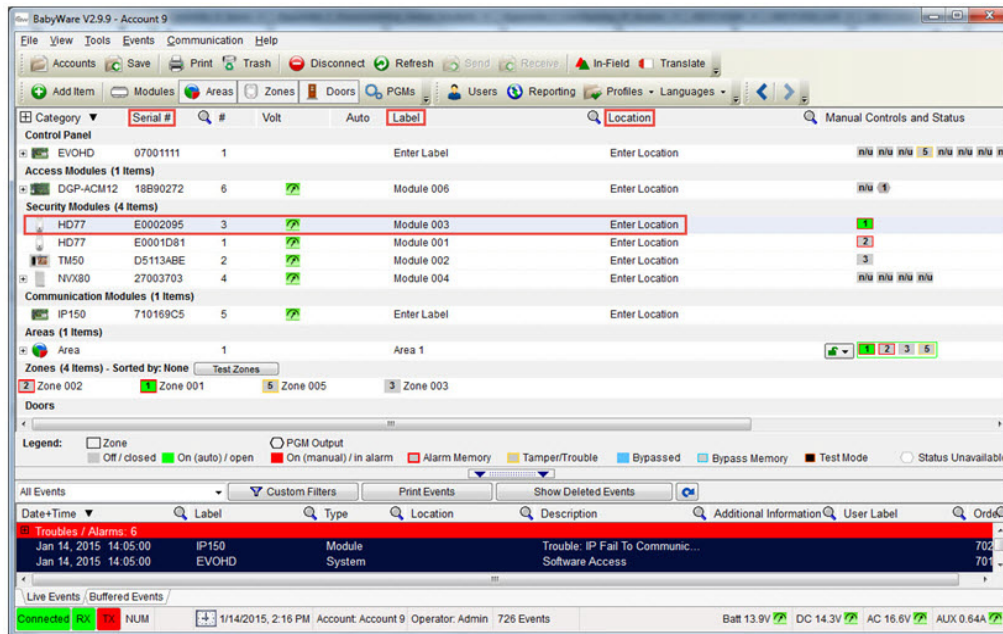


Figure 3.10 – BabyWare Home Window

IMPORTANT: Assign all HD cameras to the same area.

3.3 Configuring Server Settings

This section includes:

- [Overview on page 25](#)
- [Configuring Installer Parameters on page 26](#)
- [Configuring Central Monitoring Station Parameters on page 26](#)
- [Configuring HD77 Receiver Settings on page 26](#)
- [Configuring TCP/IP Parameters on page 26](#)

3.3.1 Overview

Configure HD77 camera Server settings from the BabyWare **Programming** window.

To access the Programming window:

1. Open BabyWare.
The **Accounts** window opens.
2. Select the required account and click **Connect**.
The HD77 camera is connected.

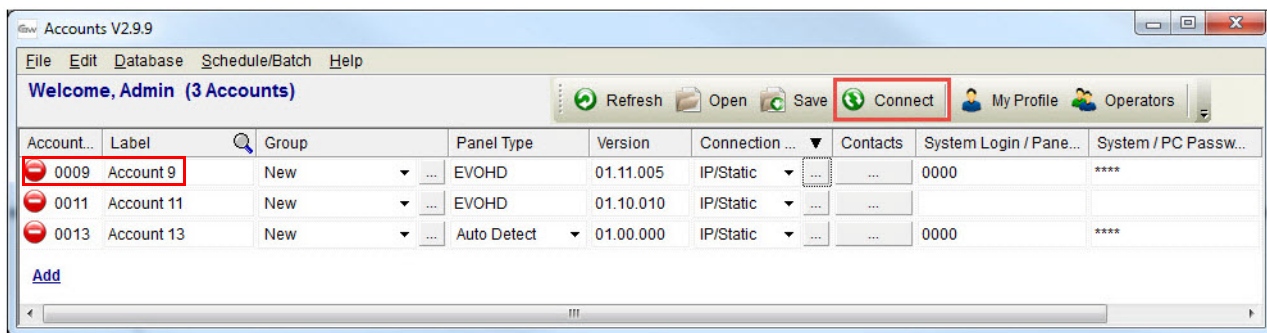


Figure 3.11 – Accounts Window

3. Navigate to the HD77 camera Programming window:
 - a. Double-click on the required HD77 camera in the **Security Modules** pane of the Home window (see **Figure 3.10** on page 24) OR:
Right-click on the HD77 camera> select Programming from the drop-down menu.
The Security Modules drop-down menu opens.
 - b. Select **Properties** from the drop-down menu.
The HD77 **Programming** window opens.

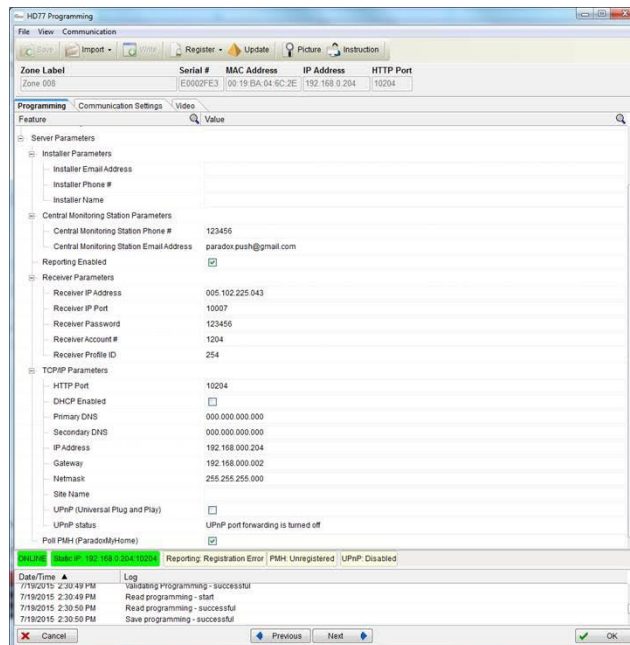


Figure 3.12 – Programming Window

3.3.2 Configuring Installer Parameters

To configure Installer parameters:

In the **Installer Parameters** pane: Enter the relevant **Installer** parameter settings in the provided fields.

3.3.3 Configuring Central Monitoring Station Parameters

To configure Central Monitoring Station parameters:

In the **Central Monitoring Station** pane:

1. Configure Central Monitoring Station parameters received from the Central Monitoring Station in the provided fields.
2. Check the **Reporting Enabled** box to enable the HD77 to report events to IPRS7 software.

3.3.4 Configuring HD77 Receiver Settings

To configure Receiver parameters:

In the **Receiver Parameters** pane: Configure Receiver parameters received from the Central Monitoring Station in the provided fields.

3.3.5 Configuring TCP/IP Parameters

This section includes:

- [Overview on page 27](#)
- [Configuring Dynamic TCP/IP Settings on page 27](#)
- [Configuring Static TCP/IP Settings on page 27](#)

3.3.5.1 Overview

When supported by your router, enabling UPnP (Universal Plug&Play), configuring dynamic TCP/IP settings and installing the ParadoxMyHome (PMH) application is recommended for easy and fast network installation.

Configure static IP settings if the router does not support UPnP.

3.3.5.2 Configuring Dynamic TCP/IP Settings

A dynamic IP address is an address that occasionally changes. Instead of one static IP address, a dynamic IP address is pulled from a pool of addresses and then assigned to an address. After a while that number gets put back into the pool and a new address number is assigned.

UPnP technology dynamically negotiates device port-forwarding directly to a router. When connected to a network, UPnP devices automatically establish working configurations with other devices. UPnP takes care of the port forwarding automatically, setting the port for the IP address.

When configuring Dynamic IP settings, configure UPnP, register the HD77 camera to the ParadoxMyHome (PMH) site to track changes to the HD77 camera's dynamic IP address and to associate the HD77 camera's current IP address to the Site ID (for PMH see [Configuring a ParadoxMyHome \(PMH\) Account on page 41](#)).

Requirement

The router must support UPnP. Check with the router manufacturer whether UPnP is supported.

To configure Dynamic IP settings:

1. Navigate to the **Programing** window (see Configuring Server Settings on page 25).
2. Scroll down to the TCP/IP pane.
 - a. Check the **UPnP** box in the UPnP field.
 - b. Check the **DHCP** box in the DHCP field.
3. Scroll down to the **Poll PMH (ParadoxMyHome)** field and check the box.
4. Configure **Auto Detect**:
 - a. Select the **Communication Settings** tab in the Programming window.
The Communication Settings pane opens.
 - b. Check the **Auto Detect** box and select **OK**.
5. Register the HD77 camera to the PMH site (see [Registering the HD77 Camera with ParadoxMyHome on page 41](#)).
6. Configure the Paradox Insight™ App for a Dynamic IP WAN address (see the Paradox Insight™ App User Manual).

3.3.5.3 Configuring Static TCP/IP Settings

We **HIGHLY** recommend configuring static TCP/IP settings when one of the key parameters needs to be fixed, such as working with a static WAN IP, not using PMH or if UPnP is not supported (or fails) in your router. Set a Static IP address for the HD77 camera (either with static LAN IP or by binding a MAC address (recommended) that always assigns the same IP address to the HD77 camera: Configure Gateway, Subnet mask, Primary and

Secondary DNS Server settings. Configure static port settings to enable port-forwarding, which prevents loss of connection due to port or IP modifications.

When not enabling PMH, acquire a static WAN IP from your ISP. Configure the static IP address settings in the Paradox Insight™ Application and BabyWare application HD77 programming page and ensure that the **Poll PMH (ParadoxMyHome)** box in the TCP/IP parameters pane of the Programming window is unchecked.

Configure the static WAN IP address provided by the ISP as the static IP (see the Paradox™ Insight Application User manual to configure static WAN IP).

To configure reserved/static LAN IP settings:

1. Acquire the router IP address:
 - a. Select the MS Windows **Start** button.
The Windows menu opens
 - b. Type **cmd** in the **search programs and files** field and click **Enter**.
The **Command Prompt** window opens.
 - c. Type **ipconfig** in the **Command Prompt** window and select **Enter**.
The LAN IP address, Subnet Mask and Default Gateway are displayed.

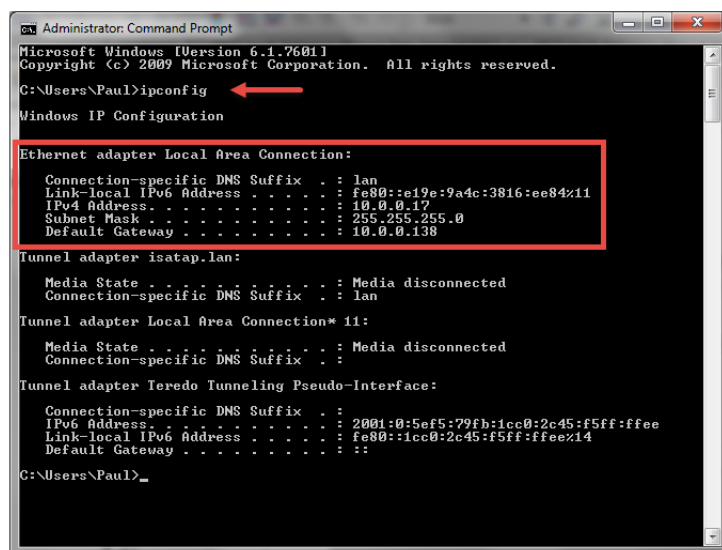


Figure 3.13 – Command Prompt Window

- d. Record the **Ethernet adapter LAN Connection/ Wireless network** connection details.
2. Access the router configuration window.

Note:

- To access the router configuration window - refer to the router manual for the exact procedure
- In most cases access the enter router's IP address in the address bar of the web browser to access the router configuration window
- The router IP address may be displayed in the router instruction manual or on a sticker on the router
- For this reference example, use 192.168.1.1 as the IP address as it is a commonly used default router IP address

3. Configure the HD77 camera **DHCP** settings (**NOT** the Router settings):

a. Enable **DHCP** settings for **Reserved IP Addresses**.

If the router supports reserved IP addresses:

- Enable DHCP. The reserved IP address must be within the DHCP range
- Bind the MAC address to a reserved IP address for the LAN

OR:

b. Disable **DHCP** settings for **Static IP** addresses:

- Disable DHCP if configuring a static IP address
- Verify that the IP address range leaves at least one IP address available outside of the DHCP range. The static IP address must be outside of the DHCP range.
- Record one of the addresses outside the DHCP range as the one you will use for the HD77 camera.

EXAMPLE: The following DHCP range enables configuring addresses 2-4 and 101 to 254 available (all numbers in an IP address are between 1 and 254).

<input checked="" type="checkbox"/> Use Router as DHCP Server
Starting IP Address: 192 . 168 . 1 . 5
Ending IP Address: 192 . 168 . 1 . 100

Figure 3.14 – DHCP Settings

4. Configure **Port-Forwarding**:

a. Navigate to the **Port Forwarding** section (also known as Port Mapping or Port Redirection) in the router configuration page.

a. Add a **service/item**.

b. Set the **Port** value >50000 (for example 50001).

Note:

- If a selected port is in use configure an alternative port (such as port 50002 or 50003)
- Each camera needs a unique port number. Do not use the same port number more than once

c. Enter the **IP address** selected in the previous step (see [Figure 3.14 on page 29](#)).

d. Update the HD77 camera port configuration in BabyWare.

The following window displays router Port Forwarding settings (screen-shots may differ depending on type of router used).

Service Name	Internet Module		
Service Type	TCP/UDP ▼		
Starting Port	80	(1~65534)	
Ending Port	80	(1~65534)	
Server IP Address	192	168	1 . 101

Figure 3.15 – Port Numbering

Note: The Starting port and Ending port configurations are identical.

5. Configure HD77 static IP parameters: Enter HD77 Programming window (see [Figure 3.12 on page 26](#)) and enter the required settings in the provided fields:
 - Primary DNS
 - Secondary DNS
 - IP Address
 - Gateway
 - Netmask
6. Test Configurations: Verify the HD77 camera functionality (see [Adjusting the HD77 Camera Angle on page 15](#)).

3.4 Configuring PIR Settings

This section includes:

- [Overview on page 30](#)
- [Configuring PIR Settings with BabyWare on page 31](#)
- [Configuring PIR Settings with the TM50 Touchpad on page 32](#)
- [Configuring PIR Settings with Keypads on page 36](#)

3.4.1 Overview

Configure PIR display, sensitivity and security level settings with BabyWare, TM50 Touchpad or supported K641 series and K656 Keypads.

Requirement

Ensure that HD77 camera configurations are up-to-date before configuring PIR settings with BabyWare (see [Updating Configuration Parameters on page 23](#)).

The following table displays PIR settings and details for BabyWare, the TM50 Touchpad and supported keypads.

Table 1: PIR Settings

Description	Section	Setting	Setting Details	Example
PIR LED Display	[001]	[*] Off [1] On	PIR LED Off <i>PIR LED On</i> Default	(1*****)
PIR Sensitivity Level	[002]	[0]	Low (Sensitivity level)	(002) 000-005 as displayed on the TM50 (002) as displayed on the K641series keypads
		[1]		
		[2]	Default	
		[3]		
		[4]	High (Sensitivity level)	

Table 1: PIR Settings

Description	Section	Setting	Setting Details	Example
PIR Security Level	[003]	[0] <i>Normal</i>	(Mild environment) Default	(003) 000-002 as displayed on the TM50 (003) as displayed on the K641 series keypads
		[1]	Medium	
		[2]	High (Harsh environment)	

3.4.2 Configuring PIR Settings with BabyWare

To configure PIR settings in BabyWare:

1. Access HD77 **Programming** window (see Configuring Server Settings on page 25).
2. Configure the following PIR settings in the PIR **Parameters** branch of the Programming window:
 - a. Configure **PIR LED Display** settings:

- Check the box in the **Show PIR LED** field. The PIR LED #3 lights up red when PIR motion is detected

OR:

- Uncheck the box. The PIR LED #3 stays off when PIR motion is detected.

Note: The **default** PIR LED Display setting is **On** (that is box checked).

- b. Configure the PIR **Sensitivity** level settings:

- (1) Select the arrow in the PIR Sensitivity field.

The drop down menu opens.

- (2) Select a value ranging between **0** to **4** from the drop-down menu.

Note:

- The **default** PIR Sensitivity Level setting is **2**
- Configuring the PIR Sensitivity level as **0** sets low PIR sensitivity levels, reducing false alarms caused by environmental circumstances. Low sensitivity is useful for a room with large windows. Configuring the PIR Sensitivity level as **4** configures high PIR sensitivity levels, useful for a room with small windows due to the reduced risk of false alarms caused by environmental circumstances

- c. Configure the PIR **Security** level settings:

- (1) Select the arrow in the PIR **Security** level field.

The drop down menu opens.

- (2) Select a value **Normal**, **Medium** or **High** from the drop-down menu.

Note:

- The **default** PIR Security Level is **Normal**
- The security level Normal is for rooms with curtains, regular sized windows and little direct sunlight entering the room. The security level High is useful for a room with large windows, light curtains that may move when the window is open, or a room with windows on the sunny side of the house

3. Save PIR configurations (see Saving Settings on page 38).

4. Test PIR configurations (see Adjusting the HD77 Camera Angle on page 15).

3.4.3 Configuring PIR Settings with the TM50 Touchpad

PIR settings can be configured through the TM50 Touchpad. Configure additional HD77 camera settings with BabyWare.

Note: See [Table 1](#) on page 30 for a description of PIR setting options.

Requirement

Disconnect BabyWare before programming PIR settings with the TM50 Touchpad.

3.4.3.1 Overview

The following flow chart displays how to configure PIR settings with the TM50 Touchpad.

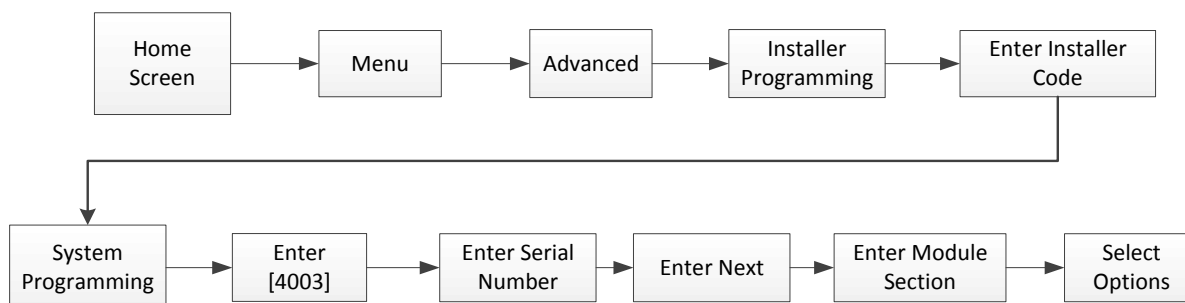


Figure 3.16 – Configuring PIR Settings with the TM50 Touchscreen

To configure PIR settings with the TM50 Touchpad:

1. Select the **Menu** field.
The Menu window opens.



Figure 3.17 – TM50 Main Window

2. Select the **Advanced** field.
The Advanced window opens.

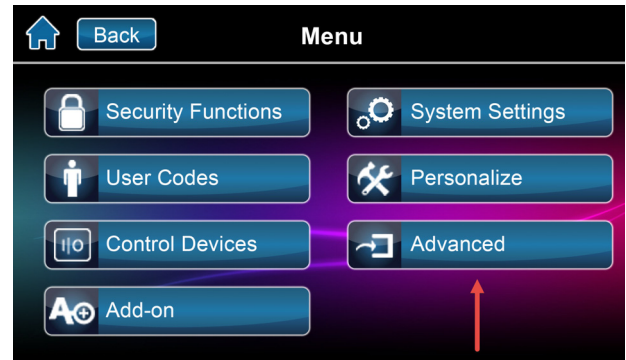


Figure 3.18 – Menu

3. Select the **Installer Programming** field.
The Installer Code window opens.



Figure 3.19 – Advanced Window

4. Key-in the [Installer Code] in the provided field.
The Installer Programming window opens.

Note: The **default** installer code is **000000**.



Figure 3.20 – Installer Code

5. Select the **System Programming** field.
The Enter Section field of the Installer Programming window opens.



Figure 3.21 – Installer Programming Window

6. Key-in [4003].

The Module Programing window opens.

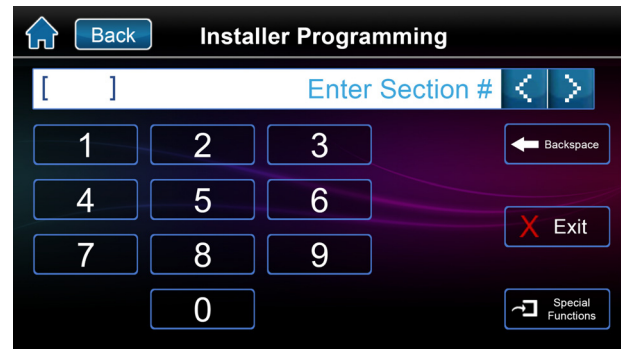


Figure 3.22 – Installer Programming Window

7. Key-in the HD77 camera [Serial Number] and click **Next**.

The Module Section window opens.

Note: The serial number is displayed in BabyWare or on the HD77 back cover.

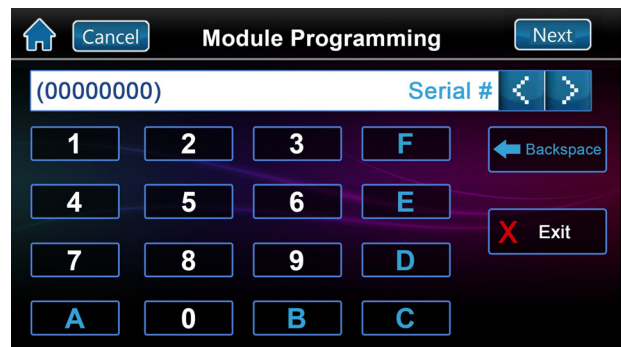


Figure 3.23 – Module Programming Window

8. Configure PIR **LED Display** settings:

- a. Key-in [001].

The Module Section [001] window opens.

- b. To display the PIR LED (LED light #3) when motion is detected: Select **Option 1**. The Option 1 key is highlighted and the value **1** is displayed in the Module Data field.

OR:

To not display the PIR LED when motion is detected: **Do not** select Option 1. The Option 1 key is not highlighted and no value (that is *****) is displayed in the Module Data field.

Note:

- The **default** PIR LED Display value is **On**
- Do not configure Options 2 - 8

- c. Select **Next**.

The Module Section [002] window opens.

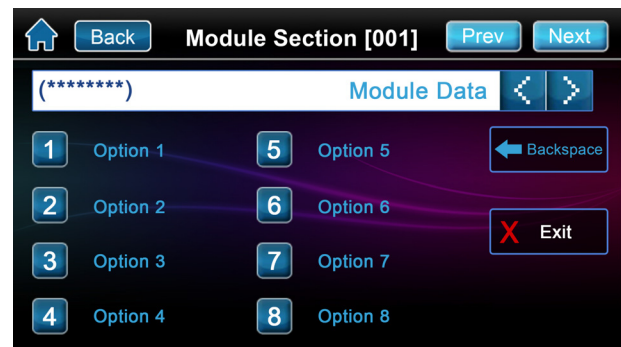


Figure 3.24 – Module Section [001] Window

9. Configure PIR **Sensitivity Level** settings:
 - a. Key-in [**002**] to open the Module Section [**002**] window if you have returned to the Module Section window

OR:

Skip to step **b** below if the Module Section [**002**] window is displayed.

 - b. Select the required PIR sensitivity level value between 000-004.

Note:The **default** PIR sensitivity level is **002**.

- c. Select **Next**.
The Module Section [003] window opens.

10. Configure PIR **Security Level** settings:
 - a. Key-in [**003**] to open the Module Section [**003**] window if you have returned to the Module Section window

OR:

Skip to step **b** below if the Module Section [**003**] window is displayed.

 - b. Select required PIR security level value between 0-2.

Note:The **default** PIR security level is **0**.

- c. Select the **Home** icon to return to the menu.
The PIR settings are configured.

3.4.4 Configuring PIR Settings with Keypads

PIR settings for the HD77 camera can be configured through the K641 series keypads and the K656 keypad. Configure additional HD77 camera settings with BabyWare.

Note: See PIR Settings on page 30 for a description of PIR setting options.

Requirement

Disconnect BabyWare when programming with Keypads.


3.4.4.1 Keypad Programming Table

Programming key-ins include A- F hexadecimal values. The following tables describe the keypad programming values for the K641 and K656 keypad series.

Table 2: K641,K641+, K641R, and K641LX Keypad Decimal and Hexadecimal Values

Key	Value/Action
0 to 9	0 to 9 (hex and decimal)
STAY	A (hex only)
FORCE	B (hex only)
ARM	C (hex only)
DISARM	D (hex only)
BYP	E (hex only)
MEM	F (hex only)

Table 3: K656 Keypad Decimal and Hexadecimal Values

Key	Value/Action
0 to 9	0 to 9 (hex and decimal)
Arm	A (hex only)
Sleep	B (hex only)
Stay	C (hex only)
Off	D (hex only)
Menu	E (hex only)
	F (hex only)

To configure PIR settings with Keypads:

1. Press and hold the [0] key.
The Installer Code screen opens in the LCD prompting to enter an Installer Code.

2. Enter your **Installer Code**.
The Section screen opens.

Note: The default installer code is **000000**.

3. Key- in [4003].
The Module Programming screen opens.

4. Key-in the HD77 camera **Serial Number**.
The Module Section screen opens.

5. Configure **PIR LED Display** settings:

- a. Key-in Section [001].

The 001 Module Data screen opens.

- b. Key-in the value **1** (On) to display the LED #3 red indicator when PIR motion is detected **OR**:

Do not enter a value. The PIR LED Display indicator will not light up when PIR motion is detected.

Note:

- The **default** PIR LED Display value is **1 (On)**.
- Do not configure Options 2 - 8
- c. Select Enter.

The 002 Module Data screen (sensitivity levels) opens.

6. Configure PIR **Sensitivity Level** settings:

- a. Key-in Section [002].

- b. Select the required PIR sensitivity level value: between **000-004** with the up/down arrows.

Note:The **default** PIR sensitivity level is **002**.

- c. Select Enter.

The 003 Module Data screen (security levels) opens.

7. Configure PIR **Security Level** settings:

- a. Key-in Section [003].

- b. Select the required PIR security level value between **0-2** with the up/down arrows.

Note:The **default** PIR security level is **0**.

- c. Select Enter save the settings.

The PIR settings are configured.

3.5 Saving Settings

Save HD77 camera settings after configuring/modifying parameter settings.

To save settings:

1. Select the **Write** button in the Programming window
The configurations are saved.

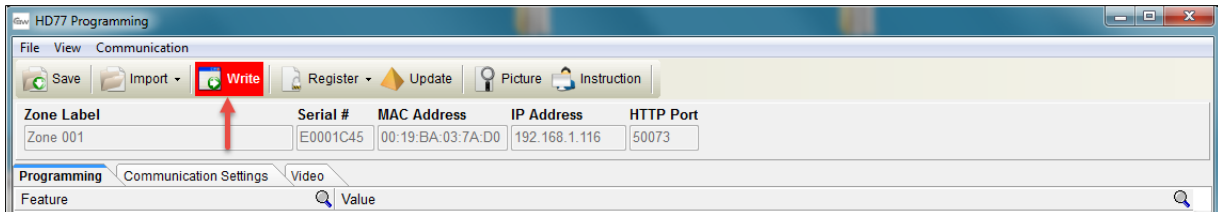


Figure 3.25 – Write Button

3.6 Registering the HD77 Camera with the IP Receiver

Register the HD77 camera with the IP receiver (IPRS7 software) after saving initial configurations enabling the camera to report events to the CMS.

To register the HD77 camera with the IP Receiver :

1. Select the **Register** tab from the top menu bar of the Programming window.
The Register drop-down menu opens.
2. Select **Register to IP Receiver** from the Register drop down menu.

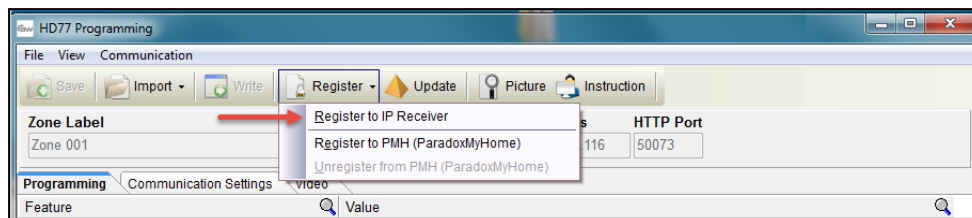


Figure 3.26 – Communication Drop Down Menu

3. Click **OK**.
The HD77 camera is registered with the IP receiver.
4. Select **Write** to save settings.

3.7 Verifying HD77 Camera Functionality

Verify the HD77 camera functionality after mounting it on the wall.

To verify HD77 camera functionality:

1. Open the BabyWare application.
2. Select an account and click **Connect** (to create an account see Creating an Account in BabyWare on page 20).

3. In the **Security Modules** field: Double click (or right click and select Properties from the drop-down menu) on the required HD77 camera.

The HD77 **Programming** window opens.

4. Select the **Video** tab.
5. Select the **Play** button.
6. Test functionality: Perform a walk-around in front the HD77 camera view to verify that the HD77 camera records the test, is programmed according to requirements and functioning.

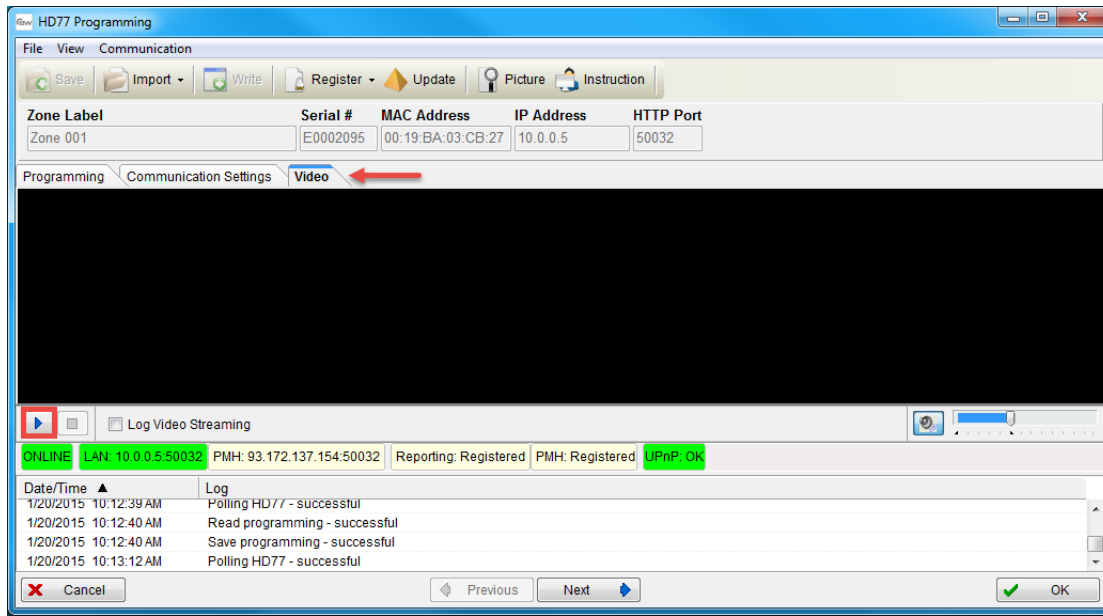


Figure 3.27 – Programming Window

IMPORTANT: Connect to an external 3G network in order to verify that port forwarding is functioning. **Do not** perform the test when connected to the wireless network through the installation site WIFI router.

Chapter 4 Configuring a ParadoxMyHome (PMH) Account

ParadoxMyHome ("PMH") is a Paradox Domain Name System (DNS) service, enabling an authorized user to remotely access Paradox Reporting Devices, including the HD77 camera. PMH tracks changes to the Reporting Device's dynamic IP address and associates the Reporting Device's current IP address to the Site ID.

This section includes:

- [Creating a ParadoxMyHome Account on page 41](#)
- [Registering the HD77 Camera with ParadoxMyHome on page 41](#)
- [Deleting a HD77 Camera from ParadoxMyHome on page 43](#)

4.1 Creating a ParadoxMyHome Account

To open a ParadoxMyHome Account:

1. Enter **www.ParadoxMyHome.com** in your browser address.
2. Select **Create Login** and follow the directions.

4.2 Registering the HD77 Camera with ParadoxMyHome

Register the HD77 camera with ParadoxMyHome after creating a ParadoxMyHome account.

To register the HD77 cameras with ParadoxMyHome:

1. Log-on to BabyWare.
2. Double-click or right-click on the required HD77 camera in the Security Module field of the Home window.

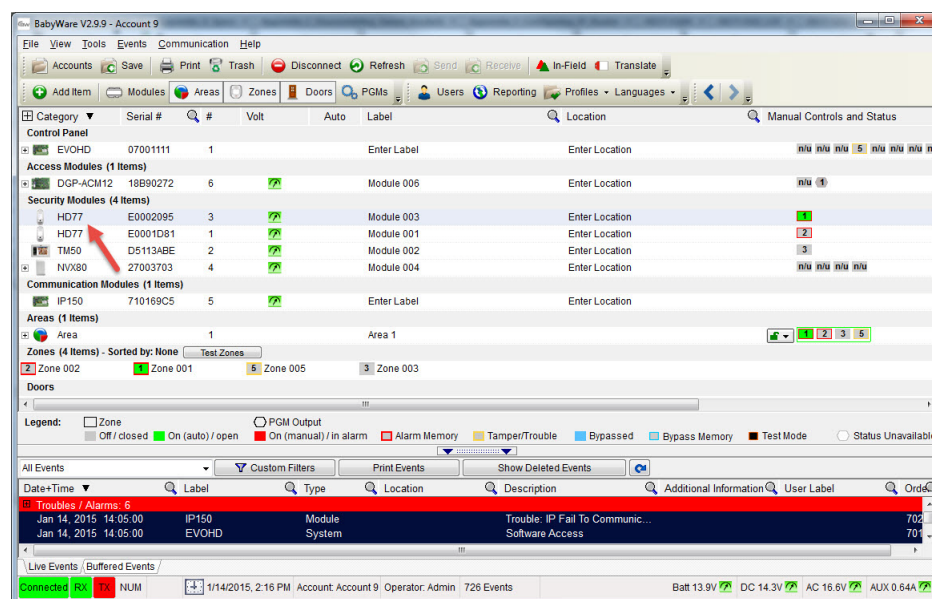


Figure 4.1 – Select an HD77 to Register

The Security Module drop-down menu opens.

3. Select **Properties**.

The Programming window opens.

4. Select the **Register** tab from the top menu bar.

The Register drop-down menu opens.

5. Select **Register to PMH** (ParadoxMyHome) from the Register drop down menu.

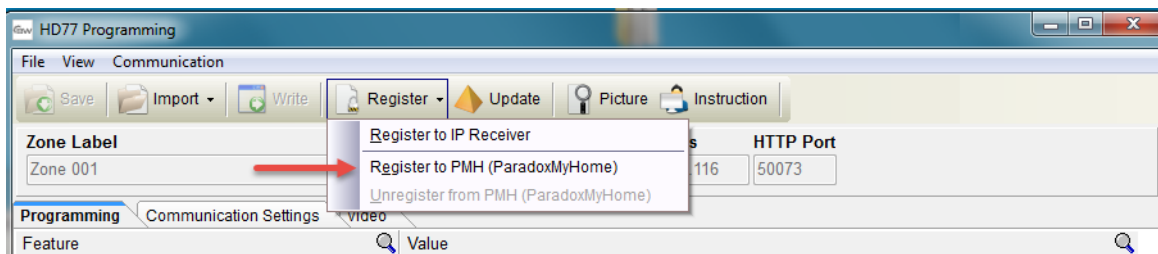


Figure 4.2 – Programming Window

The **Registration to paradoxmyhome.com** dialog box opens.

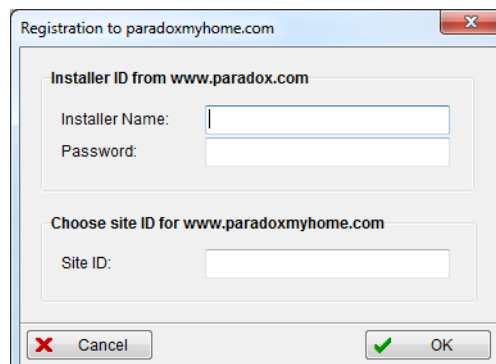


Figure 4.3 – ParadoxMyHome Registration Dialog Box

6. Enter the required information in the provided fields:
 - Installer Name: Provided when creating a PMH account
 - Password: Provided when creating a PMH account
 - Site ID: Enter a site name to associate with the HD77 camera

Note:

- Provide the end-user with the Site ID to enable access to the HD77 camera through the Paradox Insight™ application
- Associate up to four HD77 cameras to a Site ID

7. Click **OK**.

The HD77 camera is registered at PMH.



Figure 4.4 – Registration Successful Window

- Verify that the HD77 camera is registered: Log-on to PMH and check status, public IP address and ports data.

4.3 Deleting a HD77 Camera from ParadoxMyHome

Delete a HD77 camera from PMH in either of the following manners:

- Through BabyWare
- Through the PMH site

To delete a HD77 camera from the PMH site through BabyWare:

- Execute steps 1-5 of Registering the HD77 Camera with ParadoxMyHome on page 41.
- Select **Unregister from PMH (ParadoxMyHome)** from the Register drop down menu (see [Figure 4.2](#) on page 42).
- Select OK.

The HD77 camera is deleted from the PMH site.

To delete a HD77 camera directly from the PMH site:

- Open the PMH site.
The **Registered Devices** tab of the PMH site is displayed.
- Scroll down to the required HD77 camera and select **Delete**.
- Select the **Deleted Devices** tab.

The Deleted Devices tab opens.

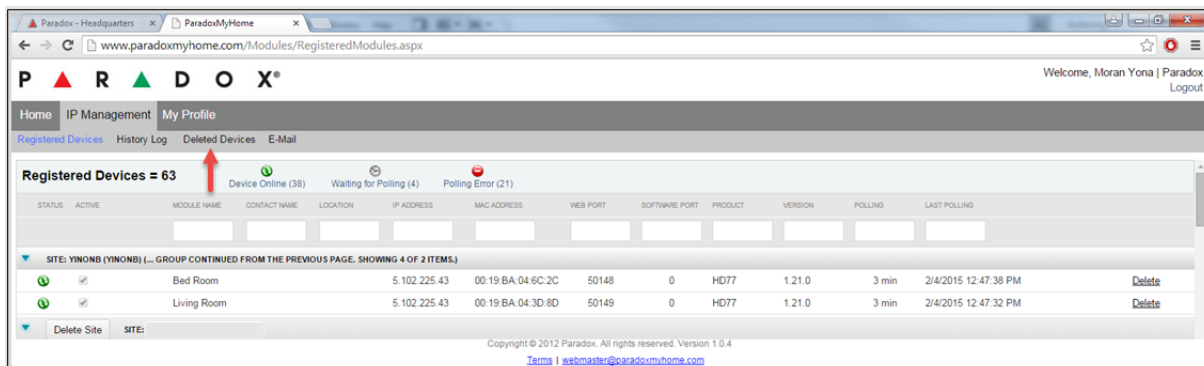


Figure 4.5 – ParadoxMyHome Site

- Scroll down to the required HD77 camera and select **Delete**. The HD77 camera is deleted from the PMH site.

Chapter 5 Upgrading Firmware

Upgrade HD77 camera firmware with BabyWare V2.8 or higher.

To upgrade firmware:

1. Log-on to BabyWare.
2. In the **Security Modules** pane of the Home window: Double click or right-click on the required HD77 camera.

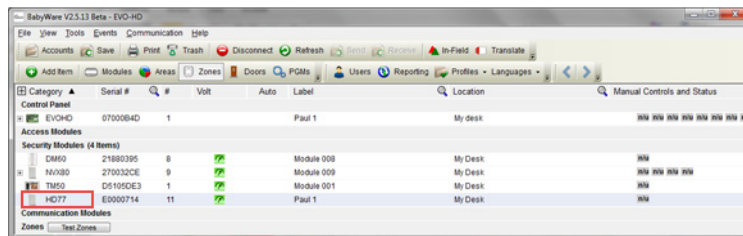


Figure 1 – BabyWare Home Window

The Security Modules drop-down menu opens.

3. Select **Properties** from the drop-down menu.

The HD77 **Programming** window opens.

4. Select the **Update** tab.

The Update window opens displaying the current firmware version installed on the HD77 camera and the available update version.

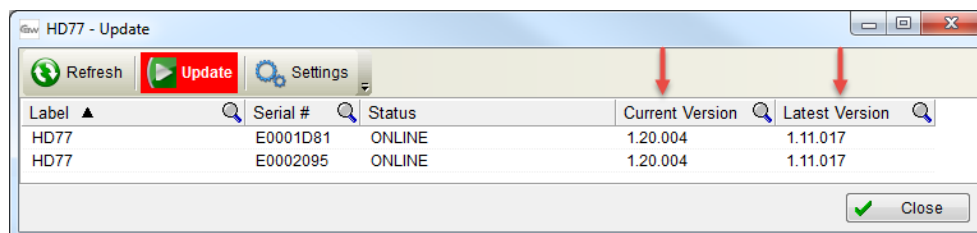


Figure 2 – C Update Window

5. Click **Update**.

The firmware is updated and the HD77 camera re-boots.

Note: The update takes up to 10 minutes.

6. Verify successful firmware update:
 - a. After the HD77 camera re-boots, hover the mouse over the HD77 camera in the BabyWare Home window.
The FW version is displayed.
 - b. Ensure that the HD77 camera includes the updated firmware version.

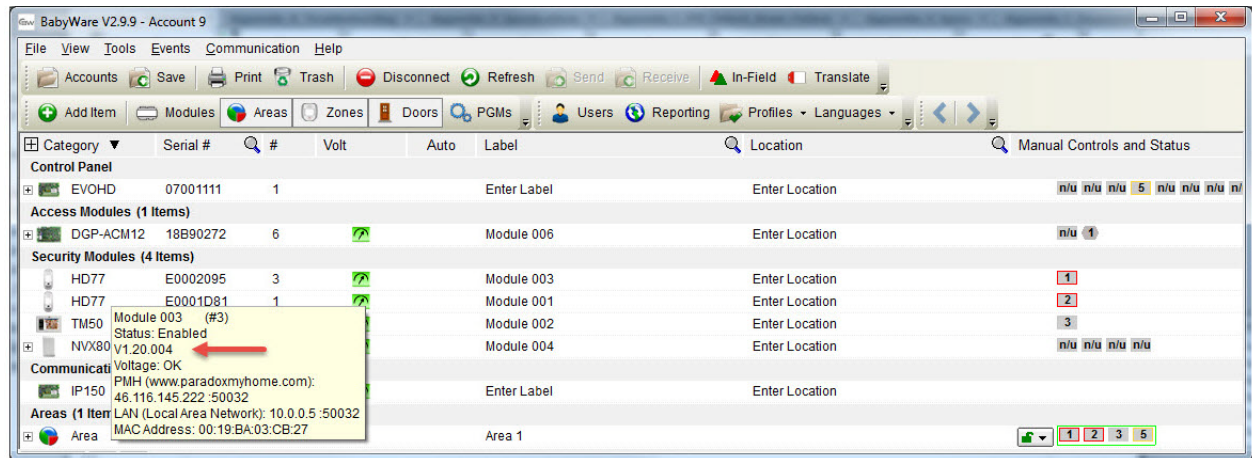


Figure 3 – BabyWare Home Window

Appendix A Troubleshooting

This section includes:

- [Troubleshooting Dynamic IP Issues on page 47](#)
- [Troubleshooting Static IP Issues on page 48](#)

A1.1 Troubleshooting Dynamic IP Issues

Perform the following procedure if BabyWare does not automatically find the IP address and port numbers for the HD77 camera.

To troubleshoot dynamic IP settings:

1. Open BabyWare.
2. Navigate to the **Programming** window (see Configuring Server Settings on page 25).
3. Select the **Communication Settings** tab.

The Communication Settings tab opens.

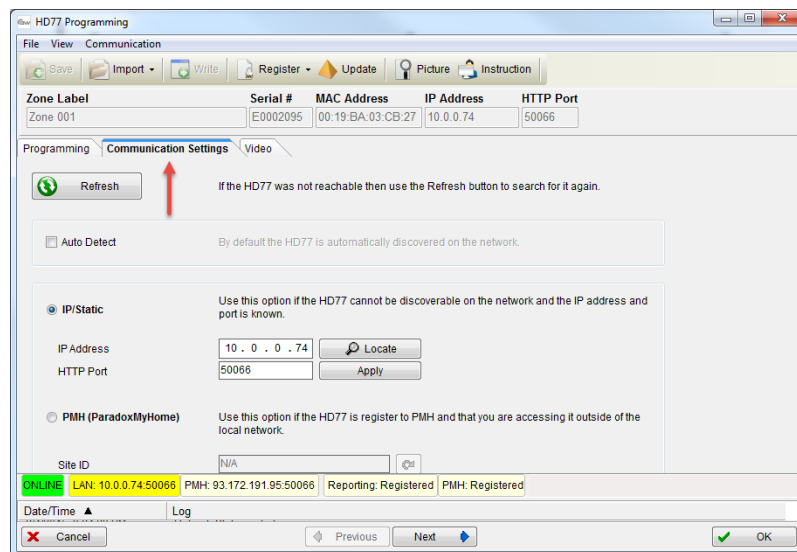




Figure 1 – Programming Window

4. Check the **Auto Detect** box.
5. Click the **Refresh** icon .
6. Click **OK**.
7. Verify HD77 camera functionality (see Adjusting the HD77 Camera Angle on page 15).

Note: Verify streaming through an external network in order to ensure that port-forwarding functions. Using the wireless network from the property's WIFI router does not fulfill requirements.

A2.1 Troubleshooting Static IP Issues

To troubleshoot Static IP issues:

1. Open BabyWare.
2. Navigate to the **Programming** window (see Configuring Server Settings on page 25).
3. Select the **Communication Settings** tab.
The Communication Settings tab opens.
4. Select the **IP/Static** radio button.
5. Locate the IP device:
 - a. Select the **Locate** icon .

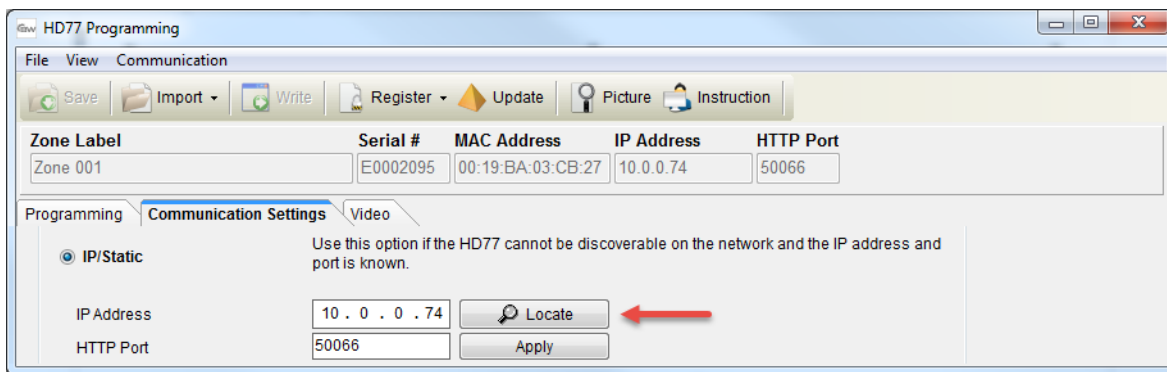


Figure 2 – Programming Window

The Located IP device on Network window opens.

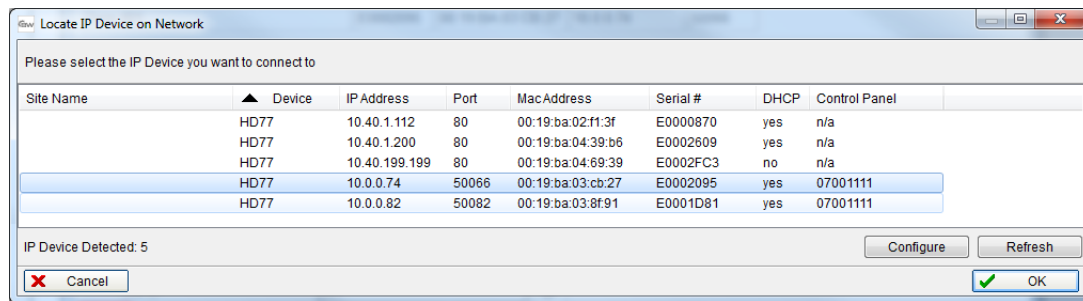


Figure 3 – Locate IP Device on Network Window

- b. Locate the IP address that matches the Default Gateway.
 - c. Confirm that the Port # matches the port number assigned in the router port forwarding.
6. Ensure that the router is correctly connected according to the router manufacturer instructions.
7. Configure IP/Static configurations for the HD77 camera:
 - a. Un-check the DHCP Enabled box in the TCP/IP pane of the Programming window (see [Figure 3.2](#) on page 20).
 - b. Locate the IP Device - see step 5 above.
 - c. Record the IP Address, Port, MAC address and Serial number values.
 - d. Select **Configure**.

The **IP Device Configuration** window opens.

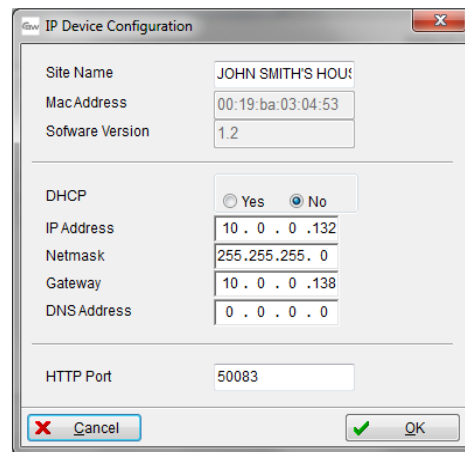


Figure 4 – IP Device Configuration Window

- e. Ensure that the **No** radio button in the DHCP is selected.
- f. Click **OK**.

The Security dialog box opens.

- g. Enter a password and click **OK**.

Note:The default password is **paradox**.

8. Click **OK** on each following window until returning to the **Programming** window.
9. Configure router settings:
 - a. Access the router Administration window.
 - b. Type the Default Gateway IP address from the PC command prompt window into the browser.
 - c. Enter a user name and password (provided by the ISP).
 - d. Bind (Reserve) the Mac address to its IP address for each HD77.
 - e. Assign the port number from the Locate Devices window to forward the IP address port to the HD77 camera.
10. Register the HD77 camera to ParadoxMyHome (see Configuring a ParadoxMyHome (PMH) Account on page 41).
The IP Static HD77 camera server settings for LAN are configured.
11. Verify HD77 camera functionality (see Adjusting the HD77 Camera Angle on page 15).

Appendix B Specifications

The following table displays the HD77 camera specifications.

Table 1: HD77 Camera Specifications

Specification	Description
Voltage Input	Nominal: 12VDC Range 9-16VDC
Maximum Current Consumption	200 mA without IR illumination LEDs 330 mA with IR illumination LEDs lit
Installation Height	2.1 m - 2.7 m (7 ft - 9 ft)
Purchase Options	IR illumination LEDs
Installation Options	<ul style="list-style-type: none"> • Wall or corner • Optional swivel bracket • One CAT5E cable/ two separate cables - one Ethernet and one Combus cable
Coverage	12 m x 12 m (40 ft x 40 ft) / 110°
PIR Type	Quad PIR, auto pulse, auto dual edge, digital detector
Micro SD Card Size	4GB
Camera Recording Resolution	720p
Video On Demand Recording Time	2 minutes each
Number Of VOD Files that can be stored	~ 12 files
Alarm/Motion Recording Time	10 seconds each
Pre-event Recording	3 seconds prior to PIR activation / alarm
Number of Alarm/Motion Recording files that can be saved on the Micro SD Card	~40 files
PIR and Video linked files	The file naming conventions link the PIR file with its corresponding video file
Detection Speed	0.2 m/s to 2.5 m/s (0.6 ft/s to 11.5 ft/s)
Image Sensor Type	1.4 Mega pixel, CMOS sensor
Angle of View (Camera)	62.7° (V) x 91.4° (H) x 121.4° (D)
Video Image Resolution	1280 x 720 pixels
Facial Identification	4.5 meters
Facial Recognition	7 meters
Video Streaming	360p H.264 10 FPS
Audio	16 bit, 16KHz sampling rate, 32Kb/s mono
Weight	166g (5.86OZ)
Physical Size	H x W x D: 15 cm x 7.5 cm x 5 cm (6 in x 3 in x 2 in)

Table 1: HD77 Camera Specifications

Specification	Description
Environmental	See Certifications on page 55 and the Paradox website for the latest product certifications: http://www.paradox.com/terms/
Operating Temperature	-10° C to +40° C (14° F to 104° F)

Appendix C PIR Detector Beam Pattern

The following diagram displays the PIR detector beam pattern.

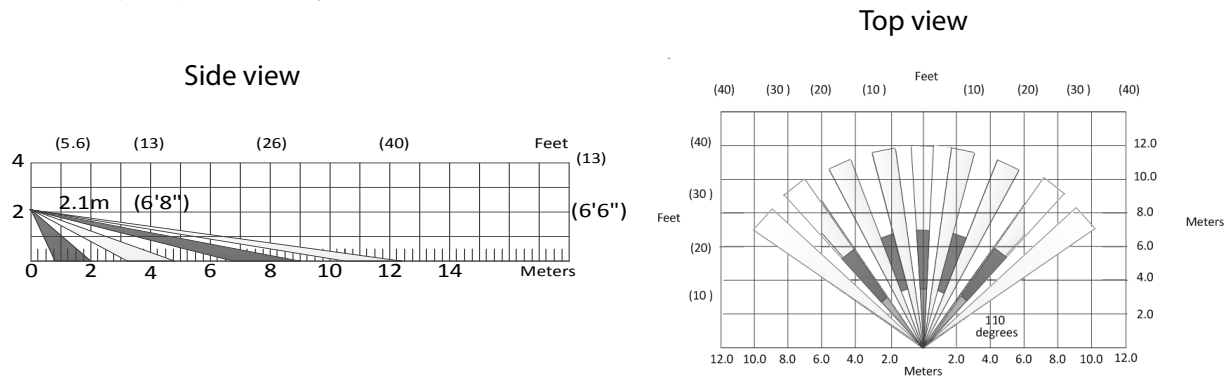



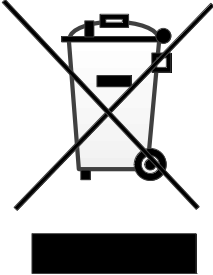
Figure 1 – PIR Detector Beam Pattern

Note: EN 50131 testing has been performed for 100°.

Appendix D Certifications

The following table displays the certifications applicable to the HD77 camera.

Table 1: Certifications

Mark	Area/Country	Level/Grade/Class
	European Economic Area (EEA)	
	European Economic Area (EEA)	WEEE
		EN 50131-2-2 Grade 2 Environmental Class II Certification Body: Applica Test and Certification

FCC and Industry Canada Compliance Statement

This device complies with FCC Rules Part 15 and with Industry Canada license exempt RSS standard(s).

Operation is subject to two conditions:

1. This device may not cause harmful interference
2. This device must accept any interference that may be received or that may cause undesired operation.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

1. l'appareil ne doit pas produire de brouillage, et
2. l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

FCC WARNING

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications to this equipment not expressly approved by the party responsible for compliance (Paradox Security Systems Ltd.) could void the user's authority to operate the equipment.

Appendix E Reference Guide - Configuring an IP Router

The following reference guide describes how to configure static IP settings for a router in order to be compatible with the static IP Paradox system settings.

The following reference provides an example for one type of router. Procedures can differ depending on the individual router and network security. Refer to the router manufacturer's documentation for detailed instructions. Router documentation you can also be found on-line.

Static IP configuration includes setting-up port forwarding and reserving the IP addresses of the IP150 and the HD77camera.

Requirement

Wire the system IP150 and HD77 camera to the router before configuring the router.

Setting Up the Router for Port Forwarding

To set up port forwarding:

1. Connect the router according to manufacturer instructions.
2. Access the router configurations:
 - a. Refer to the router's manual for the exact procedure. Usually access the router configurations by entering the router's IP address in the web browser address bar. The router IP address may be indicated in the router's instructions or on a sticker on the router.
 - b. If the IP address of the router cannot be located, try the following from the Windows screen:
 - (i) Select the windows **Start** button to open the **Command Prompt** window.
 - (ii) Type **Command** in the search programs and files window
 - (iii) At the prompt type **ipconfig**
 - (iv) Press **Enter**.

The router IP address is displayed as the **Default Gateway :xx.xx.xx.xxx**

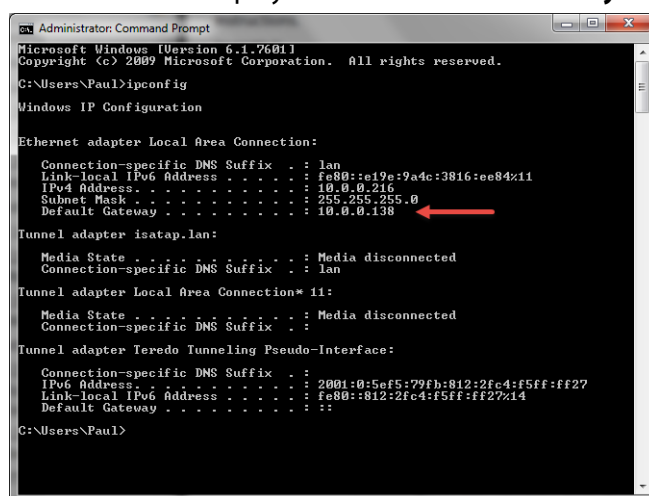


Figure 1 – Administrator Command Prompt Window

- (v) Enter the router IP address into the address bar at the top of the browser page.

(vi) Select **Enter**.

(vii) Enter the **user name** and **password**.

The LAN General Setup window opens.

Note:

- If you do not know the user name and password, browse to the site **www.routerpasswords.com** and select your router manufacturer and model. The default user name and password should be listed
- Many routers' IP address is 192.168.1.1

3. Enable **DHCP**: Check the **Enable Server** radio button in the DHCP Server Configuration pane.

Note: If DHCP is not enabled, verify that the IP address range is large enough to accommodate all of HD77 cameras. Four HD77 cameras require 4 IP addresses.

LAN >> General Setup

Ethernet TCP / IP and DHCP Setup

LAN IP Network Configuration

For NAT Usage

IP Address: 10.0.0.138

Subnet Mask: 255.255.255.0

For IP Routing Usage: ☐ Enable ☒ Disable

IP Address: 192.168.2.1

Subnet Mask: 255.255.255.0

Fast-Forward: ☐ Enable ☒ Disable

2nd Subnet DHCP Server: ☐ Enable ☒ Disable

Edit

PPPoE Passthrough: ☐

DHCP Server Configuration

☒ Enable Server ☐ Disable Server

☐ Enable Relay Agent

Start IP Address: 10.0.0.1

IP Pool Counts: 250

Lease Time: 1 minutes

Force DNS manual setting

☐ Enable

Primary IP Address: 0.0.0.0

Secondary IP Address: 0.0.0.0

Note: Enable Fast-Forward: High throughput but can not be controlled (Only work in WAN Static IP/DHCP mode).

OK

Figure 2 – LAN General Setup Window

c. Record one address at the upper end of the DHCP range for each HD77 in your system.

4. Set up port forwarding for the IP address:

- Select the **Port Forwarding** section (also known as "port mapping", "NAT", (network address translation), or "port redirection") in the router's configuration page.
- Select an available port above #50000 on the router and assign it to the HD77 camera.

NAT >> Open Port

Edit Port Forwarding Entry

☒ Enable

Name: Paul1

Protocol: TCP+UDP

WAN IP: ALL

Start Port: 50042

End Port (optional): 50042

Local Host: 10.0.0.132

Local Port (optional): 50042

OK Cancel Delete Entry

Figure 3 – Port Forwarding Window

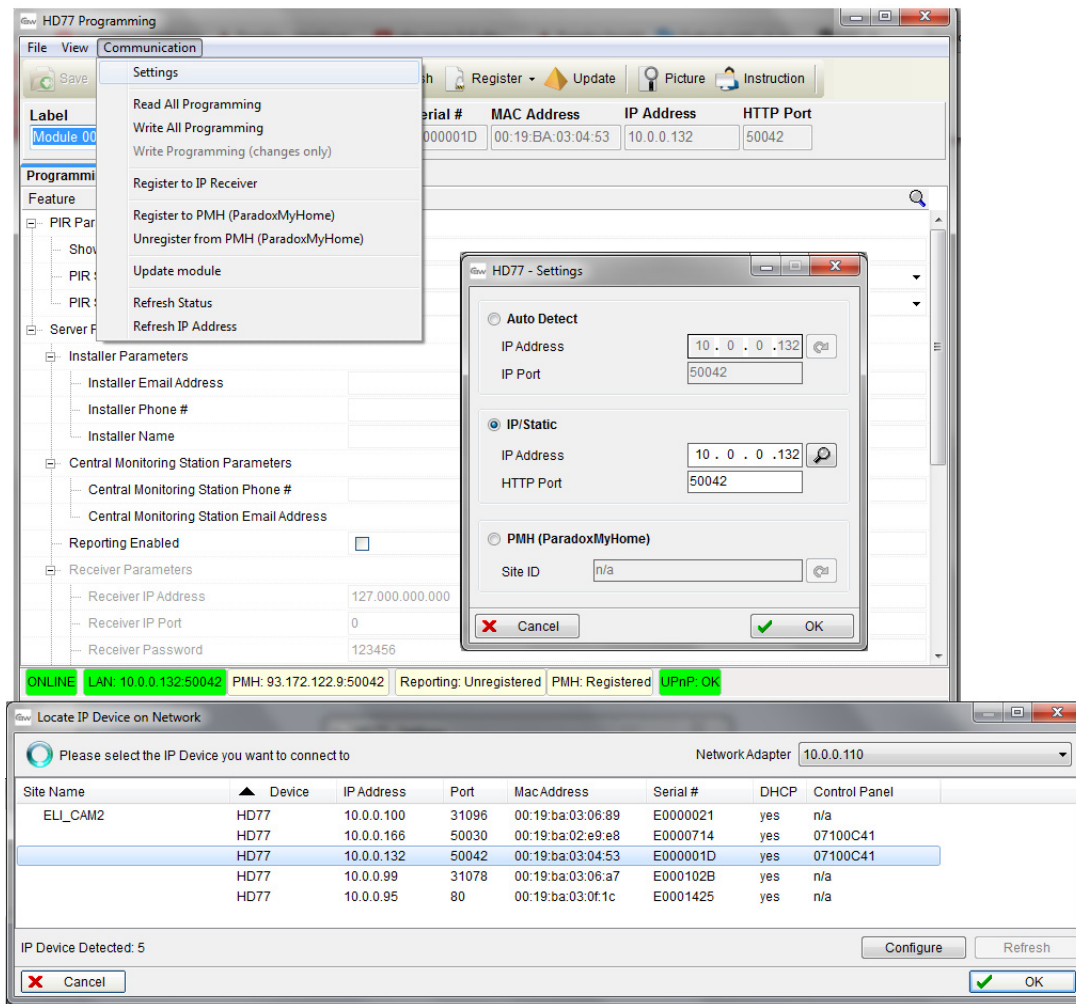


Figure 4 – BabyWare Port Forwarding

EXAMPLE:

The following example displays IP addresses and ports for 4 HD77 cameras.

Table 1: IP Addresses and Port for 4 HD77 Cameras

HD77 Camera Name	Location	IP Address	HTTP Port
Living room	Facing front door	10.0.0.132	50042
Den	Facing sliding rear door	10.0.0.133	50053
Safe room	Facing the safe	10.0.0.134	50063
2nd floor	Looking down the staircase	10.0.0.135	50073

Note: Each camera requires separate IP address and matching external port.

Reserving the IP Address or Binding the IP Address to a MAC

1. Bind the HD77s mac address to an IP address in the router DHCP range (this is called reserving an IP address or binding an IP address). Bind the IP address through the router LAN properties.

Note: As each router is different you may need to use the router user manual or search on-line for instructions for your particular router.

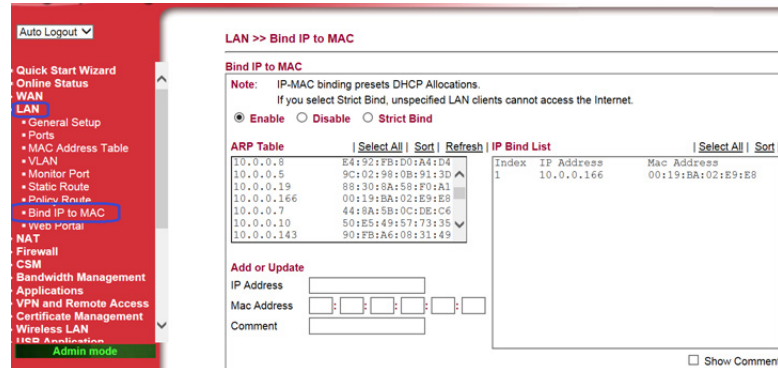


Figure 5 – Binding or Reserving a Port Router Window

2. Bind the HD77 Camera IP address:
 - a. Right click the HD77 camera.
 - b. Navigate to **Communications > Settings**.

The HD77 Settings window opens.

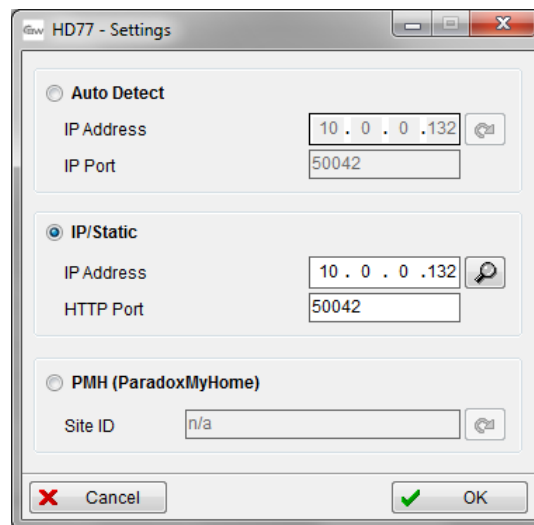


Figure 6 – HD77 Settings Window

- c. Select IP Static radio button.
- d. Enter the IP address and port number identical to the IP address and port number in the router binding and port forwarding.

- e. Select the  icon.

The Locate IP Device on Network window opens.

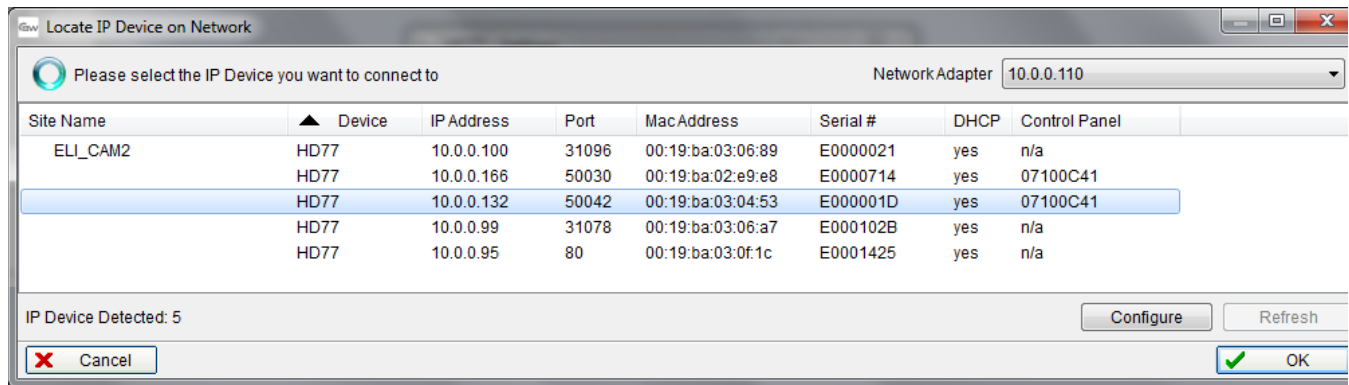


Figure 7 – Locate Static IP Address on Network

- f. Select the IP address with port for your static IP.
- g. Click **Configure**.
- h. Click **OK**.
- i. Repeat the process for each HD77 camera.

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Support Information

Before you call Technical Support:

- Read this guide
- Verify power supply / backup battery voltages
- Check wiring connections
- Read the FAQs on the Paradox website
- Note the product name and serial number

For support:

- Please contact your local distributor or:
- Contact Paradox
 - Tel: +1 450 491 7444, Monday to Friday from 8:00 a.m. to 5:00 p.m. EST
 - Email: support@paradox.com

Additional information can be found on our website: www.paradox.com.

