

P ▲ R ▲ D O X™



## UC300 Universal Converter Reference and Installation Manual

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# Chapter 1: Introduction

The Paradox Universal Converter, the UC300, is an innovative device that allows the CMS to receive events and alarms from any security control panel via a Paradox IP receiver. The UC300 provides the link between CID control panel security systems and Paradox communication devices, for example the IP150 and the PCS250/PCS250G.

UC300 converts Contact ID (CID) events generated by a security panel connected to a landline interface into Paradox proprietary protocol. Events are then forwarded to the monitoring station via IP150 and/or PCS250/PCS250G.

The UC300 enables end-users to self-monitor their secured location by allowing receipt of instant, SSL-encrypted emails (via IP150) and SMS (via PCS250/PCS20G) alerts from any location supplied by a wireless provider once the system detects activity.

## 1.1 Compatibility

The UC300 is compatible with control panels that support a landline interface with CID reporting protocol. The UC300 interfaces with the following Paradox products.

- IPR512
- IPRS7
- PCS250/PCS250G version 2.12 or higher
- IP150 version 1.32 or higher / Combo
- BabyWare version 2.9.7 or higher– for product configuration
- InField version 3.8 or higher (for device upgrades)

## Chapter 2: Overview

The UC300, when combined with an IP150, a PCS250/PCS250G or both, forms a universal IP reporting solution allowing the connection of CID control panels to Paradox IP receivers. It is a device that converts signals coming from any panel using a landline interface with CID to Paradox proprietary protocol. This enables the end user to take advantage of Paradox communication products to get and give reports from their current system to Command Centers, Central Monitoring Systems, individuals, and emergency services.

This is a universal IP reporting solution that will complement your system communications with serial or parallel notifications. This system is fully redundant with back-up connections and protocols so that your system will continue to send reports under all adverse conditions.

Combined with IP150 and PCS250/PCS250G, the new UC300 will send reports through 3 separate media:

- landline (done by the panel)
- IP with the IP150 module (supports email)
- GPRS with the PCS250/PCS250G module attached (supports personal SMS messages sent to up to eight phone numbers)

Main features:

- Connected to the ring and tip output of any panel, the UC300 may be set to function as parallel or sequential (serial) backup
- Reports in conjunction with landline or as a backup
- Receive, translate and forward the PSTN reporting using Paradox protocol (IPDOX)
- Supports up to 2 IP/GPRS receivers (IPR512/IPRS7/SDK) using Paradox proprietary protocol with primary and secondary addresses for each receiver
- Emulates FXS telephone line which will allow panel reporting when there is no external telephone line available
- Module configuration and status via Paradox BabyWare
- Reports via email to a maximum of 16 email accounts (when using IP150)
- Reports via SMS to a maximum of 8 SMS phone numbers (when using PCS250/PCS250G)
- Firmware upgrades via IP, serial connection or GPRS
- Supports multiple languages for both the Web Interface of the IP150 and SMS
- All the relevant programming, event log and operation are done in the UC300 and restricted to installer access
- Generates contact ID on phone line interface in order to emulate landline receiver
- Monitors the landline (can be configured)
  - Switches automatically to the IP or GPRS reporting after a number of failed attempts on the landline
  - Switches automatically to IP or GPRS reporting if no landline is detected by the built-in telephone line monitoring (TLM) circuit. The UC300 also reports telephone line failure over IP/GPRS
- If needed (only if IP150 is installed) the module can be registered to PMH with polling option on/off

Programming the UC300 converter and/or reading the logs will be made via the BabyWare application using a serial adapter (307USB connector), LAN (IP150) or GPRS (PCS250/PCS250G). In case of using PCS250/PCS250G without the IP150, the first programming of the PCS250/PCS250G (APN, password, etc...) will be made by SMS command or serial adapter (307USB).

**Note:** The UC300 with the IP150 and /or the PCS250/PCS250G should be configured through BabyWare (except for email configuration by the end user).

## 2.1 Parallel and Backup

The UC300 supports two reporting sequences. Configuring the Reporting Sequence is done through BabyWare =>Reporting => Reporting Sequence. Each reporting sequence should be linked to a specific phone number.

The two methods of reporting include:

- Serial Reporting (Backup) – defines the primary method for reporting and the number of failed attempts. Once the number of failed attempts is reached the UC300 will switch to the backup reporting channels if defined. Each reporting sequence supports up to 3 channels (primary + 2 backups).
- Parallel Reporting - all report codes are transmitted simultaneously over all available media channels (GPRS and IP). In parallel reporting, the first media to receive a confirmation will stop reporting on other channels.

# Chapter 3: Hardware

## 3.1 UC300 Inputs and Outputs

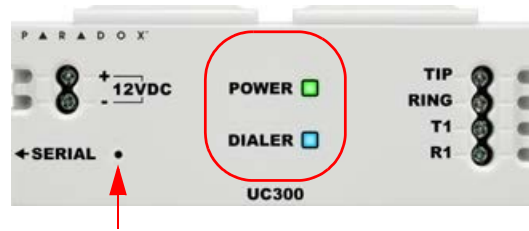


Figure 1 – UC300 LEDs

- Tip/ring – connect to the end user’s landline (not mandatory)
- T1/R1 – connect to the end user’s control panel telephone line
- Serial mini type connector – for FW upgrade, IP150 and PCS250/PCS250G connection
- DC in – supervised power input
- Two LEDs (green and blue see LED indication section)
- Reset switch

**Warning:** Connecting the Power Input to an AC/DC power source must be done only with a safety approved Limited Power Source (LPS) AC/DC adaptor.

**Note:** No need for a ground connection to the UC300 since the control panel has a ground connection.

## 3.2 LED Assignment

### 3.2.1 Power – Green

Description Special Feature (Green)	Behavior
< 9v	Off
9v – 12v	Slow (1s on, 1s off) flashing green
12v – 15v Recommended Operating Voltage	Steady green
15v – 18v	Fast (0.5s on, 0.5s off) flashing green
> 18v	Off

**Note:** The Green LED may take up to 15 seconds before it is activated in order to allow the “DC IN” time to stabilize before it is analyzed.

### 3.2.2 Dialer Indication – Blue

Description Special Feature (Blue)	Behavior
In report listening	Steady blue
When data is recognized	Flashing blue

### 3.2.3 Reset and Firmware Upgrade

Description Special Feature (Blue and Green)	Behavior
Reset – after holding down the reset button for 5 seconds	Blue and green flash fast
Reset – after confirmation	Blue and Green off until reboot complete
Firmware upgrade or no firmware present	Blue Blinking fast

## 3.3 Requirements

### 3.3.1 Cables

Depending on the setup you are using you will require some or all of the following cables.

**Note:** Extra cables may be ordered separately.

The following cables supplied in the box.

- 1 – UC300 to IP150 4 wire with two 0.8mm socket ends
- 1 – UC300/IP150 to PCS250/PCS250G 4 wire with one 0.8mm socket end and one 2.54mm socket end

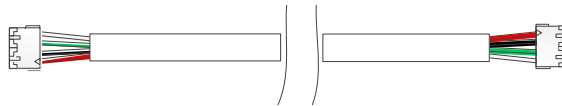


Figure 2 – Connector Cable IP150 to UC300

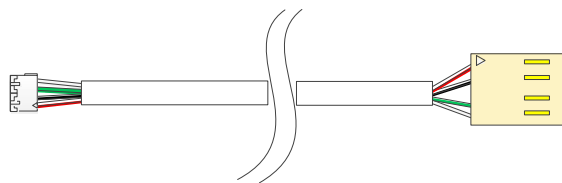


Figure 3 – Connector Cable IP150/UC300 to PCS250/PCS250G



### 3.3.2 Hardware Installation 3 options.

#### Option #1: IP150 Communication Device Only

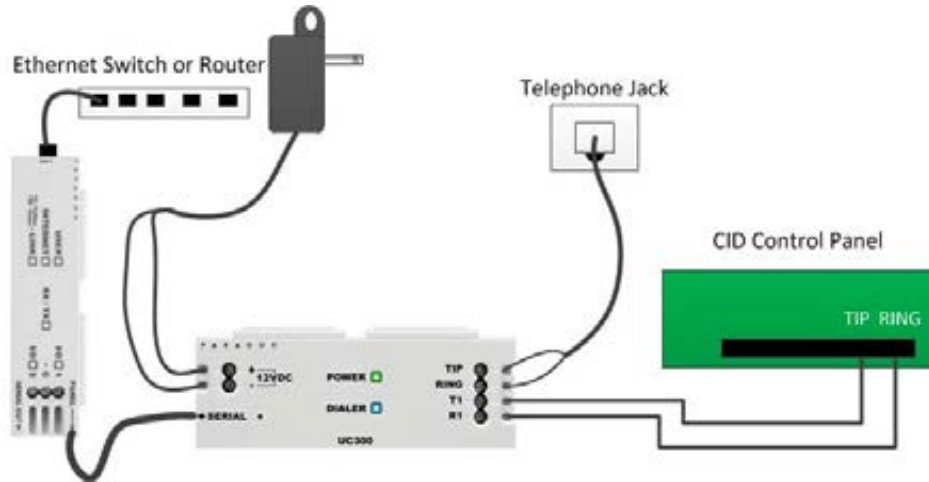


Figure 4 – Connecting the UC300 with an IP150

1. Clip the UC300 to the system panel box.
2. Clip the IP150 to the system panel box near the UC300.
3. Plug in the UC300 to the IP150 using the IP150 panel port and the UC300 serial port. See Figure 2 for the proper cable.
4. Connect the Tip and Ring from the UC300 to an outgoing telephone jack.
5. Connect the customer's control panel Tip and Ring to the UC300 T1 and R1 terminals.
6. Connect the 12Vdc power supply to a supervised power supply or the auxiliary port of the control panel if it provides 12v supply.
7. Connect an Ethernet cable from the IP150 to the LAN.

**Warning:** Connecting the Power Input to an AC/DC power source must be done only with a safety approved Limited Power Source (LPS) AC/DC adaptor.

#### Option #2: PCS250/PCS250G Communication Device Only

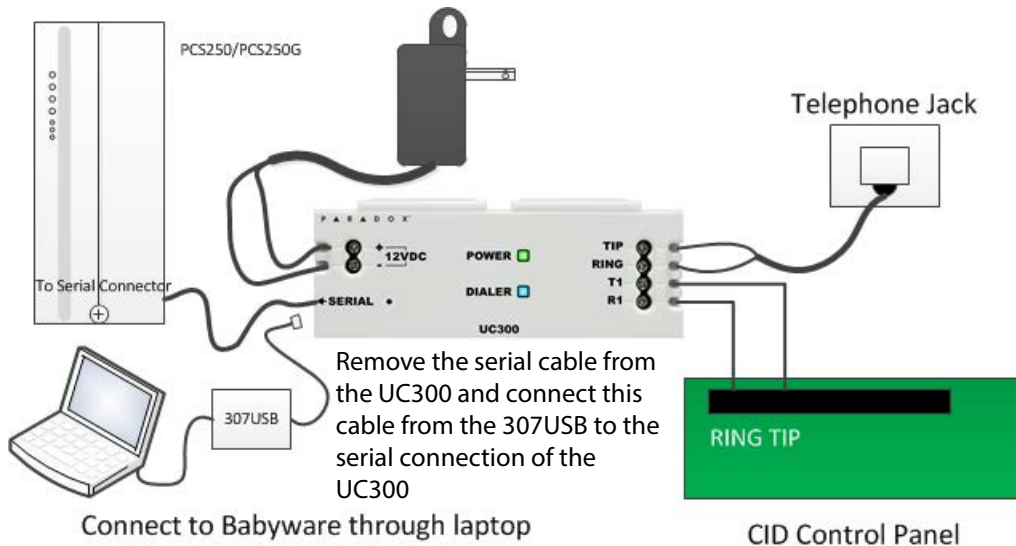


Figure 5 – Connecting the UC300 with a PCS250/PCS250G

**Note:** If you are programming the UC300 using the 307USB disconnect the PCS250/PCS250G, from the UC300 and connect the 307USB to the serial port. You may need to replace the serial cable with the cable in *Figure 3* within the 307USB.

1. Clip the UC300 to the system panel box.
2. Plug in the PCS250/PCS250G cable between the UC300 serial port and the PCS250/PCS250G serial port. See *Figure 3* for the proper cable.
3. Connect the Tip and Ring from the UC300 to an outgoing telephone jack.
4. Connect the customer's control panel Tip and Ring to the UC300 T1 and R1 terminals.
5. Connect the 12Vdc power supply to a supervised power supply.
6. Disconnect the cable from the UC300 Serial port and connect the IP150/UC300 to PCS250/PCS250G cable from the 307USB to connect to your laptop. This will allow you to configure the setup using BabyWare. See *Figure 5* insert.
7. In BabyWare =>Accounts use Connection Option Serial.

**Option #3: Both IP150 and PCS250/PCS250G Communication Devices**

1. Clip the UC300 to the system panel box.
2. Clip the IP150 to the system panel box near the UC300.
3. Plug in the UC300 to the IP150 using the IP150 panel port and the UC300 serial port. See *Figure 2* for the proper cable.
4. Plug in the IP150 to the PCS250/PCS250G using the IP150 PCS250/PCS250G port and the PCS250/PCS250G serial port. See *Figure 3* for the proper cable.
5. Connect the Tip and Ring from the UC300 to an outgoing telephone jack.
6. Connect the customer's control panel Tip and Ring to the UC300 T1 and R1 terminals.
7. Connect the 12Vdc power supply to a supervised power supply.
8. Connect an Ethernet cable from the IP150 to the LAN.
9. In BabyWare =>Accounts use Connection Option IP Static and connect through the IP150.

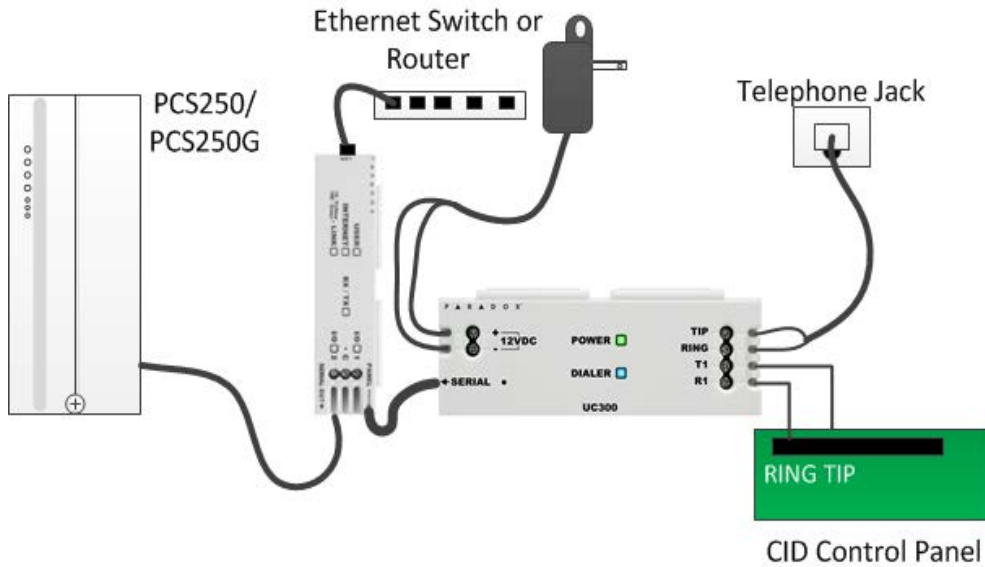


Figure 6 – Connecting the UC300 with an IP150 and PCS250/PCS250G

### Using a CA38A/RJ31 Phone Jack (available from your local supplier)

A CA38A phone jack allows the user to disconnect the panel/UC300 in case of a system malfunction where the system holds the land line off the hook. The user will then disconnect the panel/UC300 from the line to enable its use by the user.

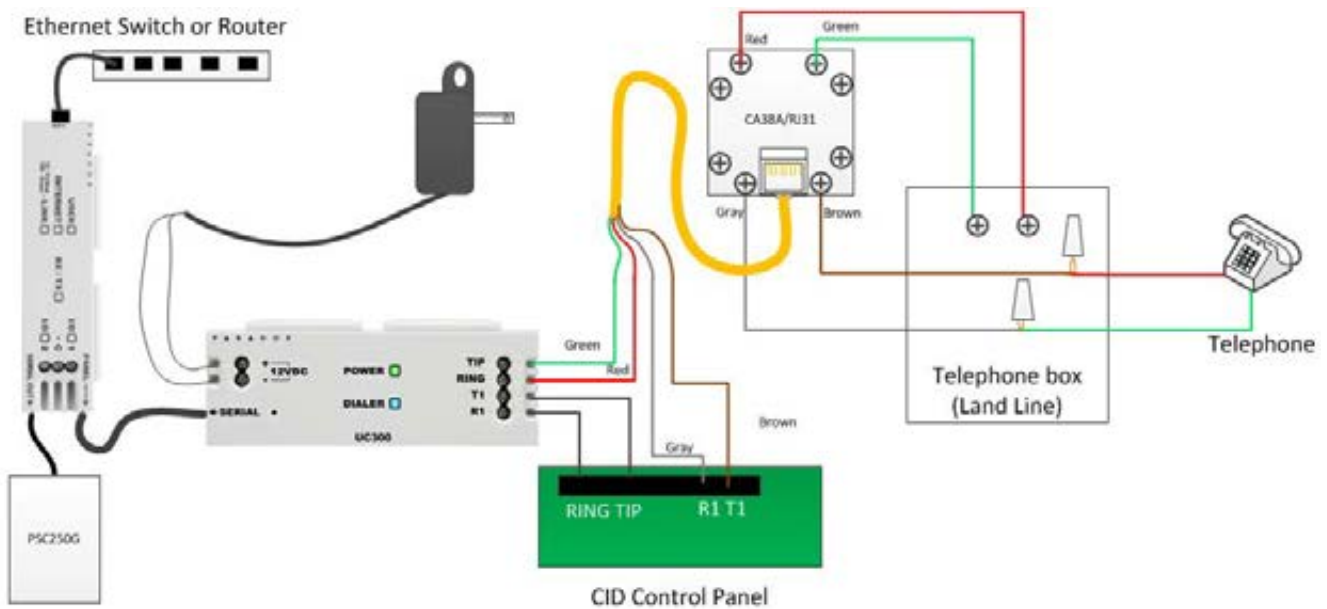


Figure 7 – Using a CA38A Device

## 3.4 Reset

### Reset switch

Resetting the UC300 puts all of the default configurations back in place.

1. Press reset switch for 5 seconds or until both status LEDs flash fast.
2. Release switch.
3. Press it again within the next 2 seconds to confirm the action.

After the reset, an event will be stored in the event buffer, the module will automatically perform a warm reset.

**Note:** You will need a paper clip or other thin hard tool to insert through the reset hole to the PC board ~ 1 in inside the UC300 case.

**Caution: Do not use any sharp objects like a pin or a needle as this may damage the pc board or reset switch.**

## 3.5 Restart

To restart the UC300 without affecting the configuration you have two options:

- unplug the power transformer from the outlet and reinsert the plug
- restart using BabyWare

# Chapter 4: Configure with BabyWare

Use the Paradox BabyWare software to configure the UC300 (please note that BabyWare is not approved for EN 50131). The configuration requires Internet parameters for reporting through the IP150 and cellphone parameters for reporting through the PCS250/PCS250G.

Before configuration make sure that you have the following:

- UC300 Panel ID, PC password Default 0000 and 0000.
- If you are connecting an IP150 you will need the IP module password.

**Note:** If you are connecting PCS250 without the IP150 you will need to initiate the connection using an SMS message or by programming the UC300 directly using 307USB. See the PCS250 Installation guide.

## 4.1 Configure Account

1. Open Paradox BabyWare Rev 2.9.7 or higher.
2. Click **Accounts**.

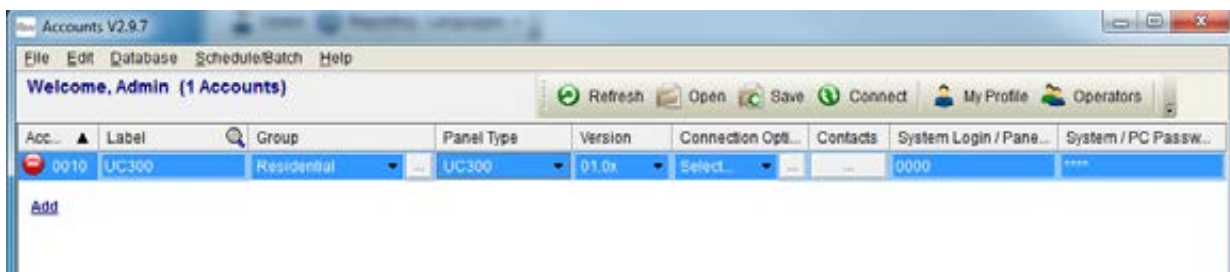


Figure 8 – UC300 Accounts

3. Click the Connection Options Details button.

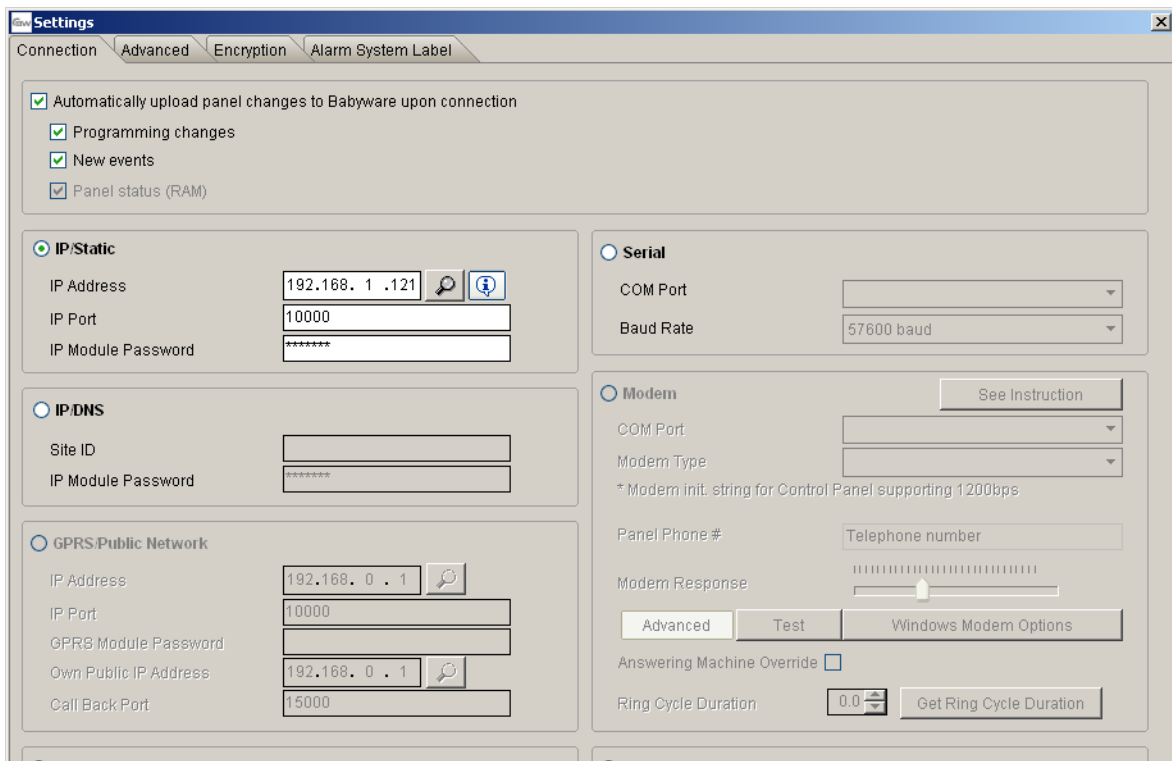



Figure 9 – Connection Options Settings

**Note:** Talk to the system administrator regarding the settings and parameters.

- Click  to locate the IP150 module on the LAN.

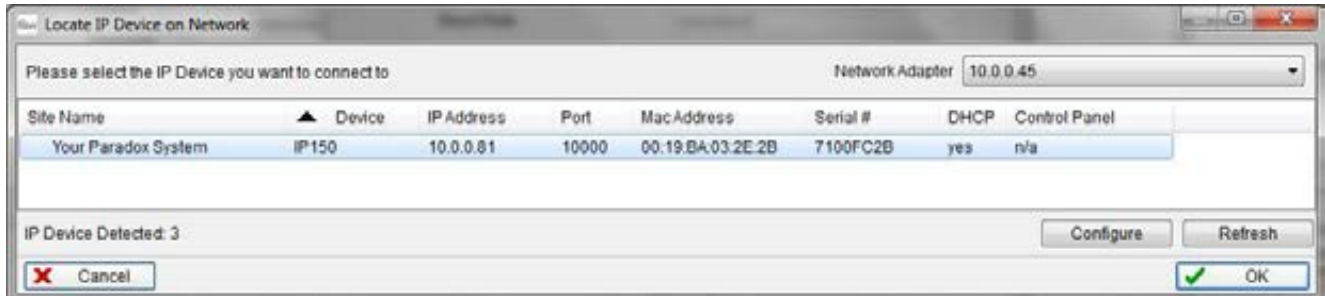


Figure 10 – Select the IP150 Device

- Write down this information. You will need it to set port forwarding for the port and for binding the IP to the MAC address in your router. Reserve this IP address.

- Click **Configure**.

In the UC300 Properties => Reporting => Network Settings=> Internet Settings set the IP address and port numbers to match the Accounts and router settings.

Now go to your router web page and port forward the port according to the information in the “Locate IP Device on Network” window.

In the router browser window, bind the MAC address to the IP address from the “Locate IP Device on Network” window.

- Port forward the IP150 IP address in your router.
- Reserve the IP address (Bind the MAC to the IP address).

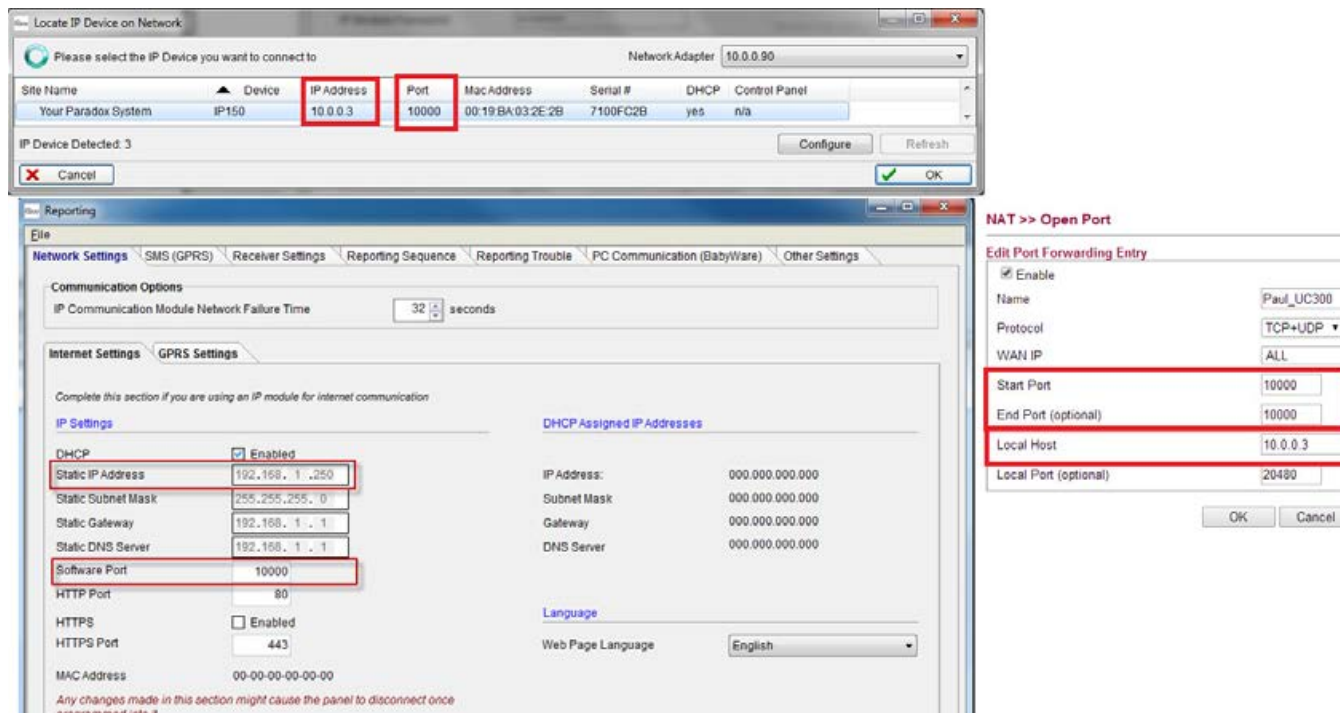


Figure 11 – Reserve the IP

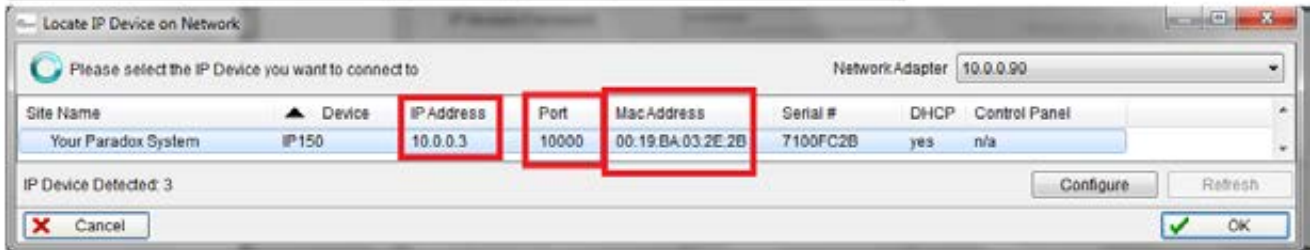
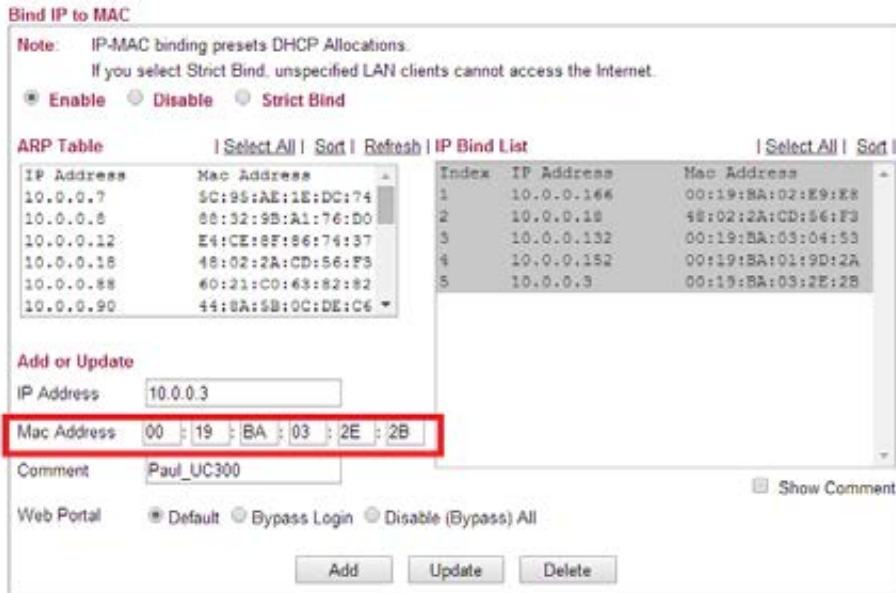


Figure 12 – Bind the MAC to the IP Address

## 4.2 Configure Properties

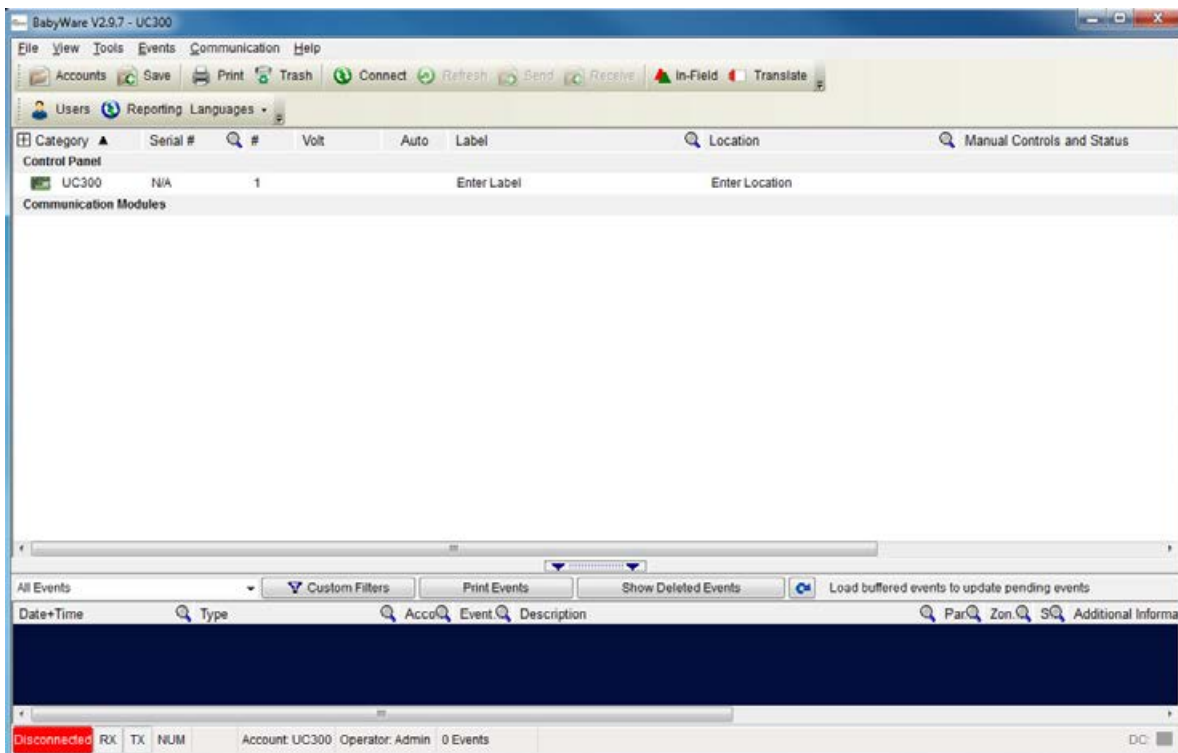


Figure 13 – Home Screen

9. Right click the UC300 and select **Properties**.

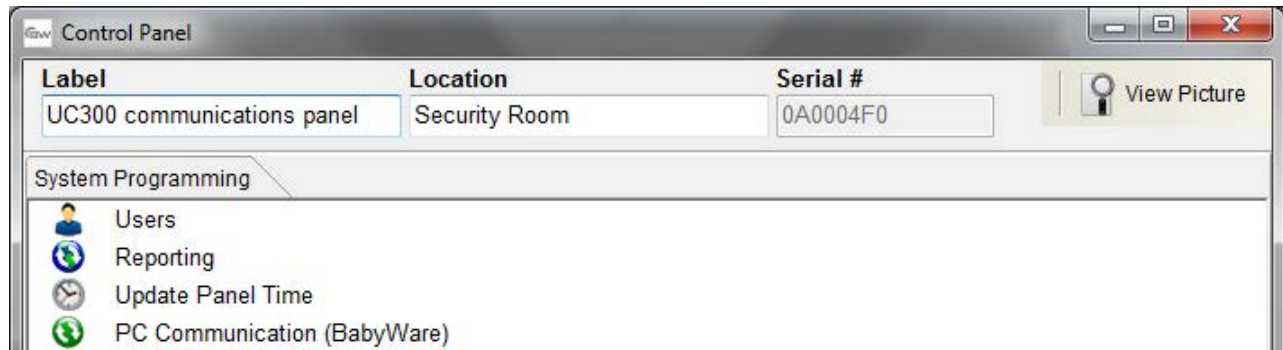


Figure 14 – Control Panel

If you make any changes to the default settings click **OK** to save your changes.

### 4.3 Users

In BabyWare fill in the User Identification and Number 000 and Code. There is a user #000 with code #123456. This is the master user. The code can be changed for security purposes. This code is needed to by the end user to connect to the IP150 web page. There you can configure the email SMTP and recipient email addresses.

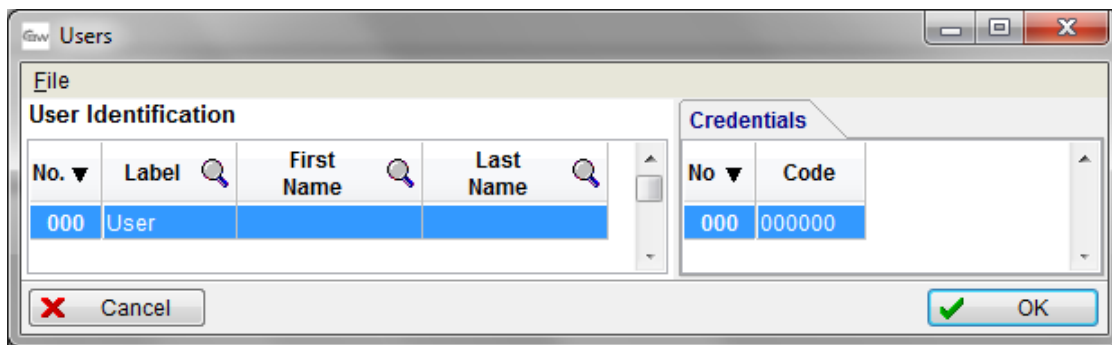


Figure 15 – User configuration

If you make any changes to the default settings click **OK** to save your changes.

## 4.4 Reporting

### 4.4.1 Internet Settings

If you have an IP150 or a PCS250/PCS250G or both connected to your UC300 set the network parameters in this dialog box. The left tab is for IP150 and the right tab is for the PCS250G.

**Note:** Settings vary according to the Internet provider. Typically, it will be DHCP.

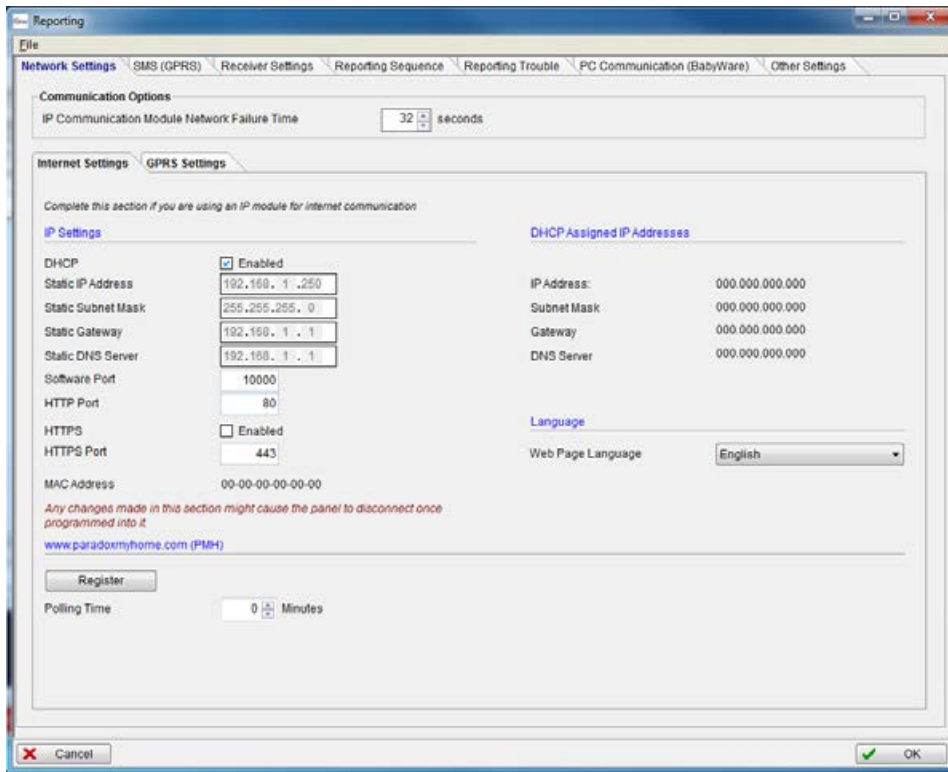


Figure 16 – Network Settings

To get the Internet settings:

1. From the BabyWare home page click **Communications**.

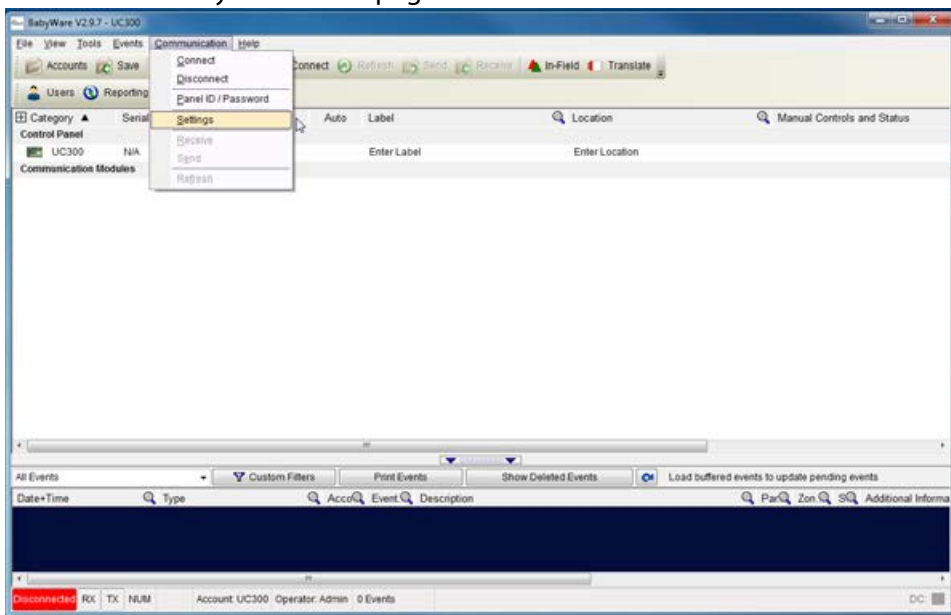


Figure 17 – Access UC300 Internet Settings



2. Select **Settings**.

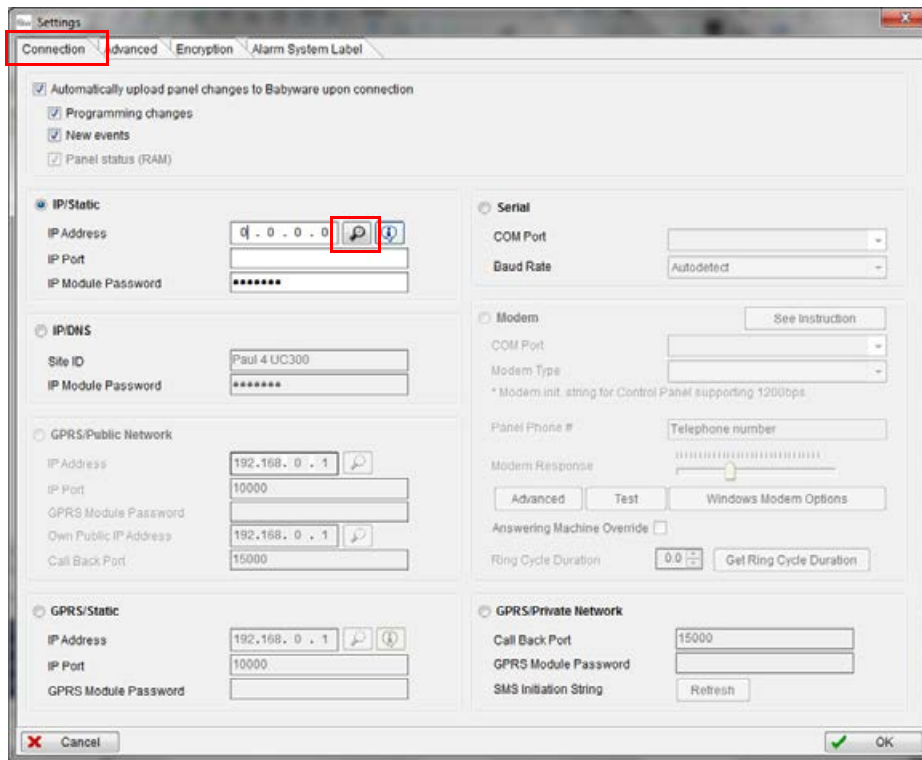



Figure 18 – Communications => Settings => Connection

3. Select Connection Tab.

4. Click  to locate the IP150 module on the LAN.

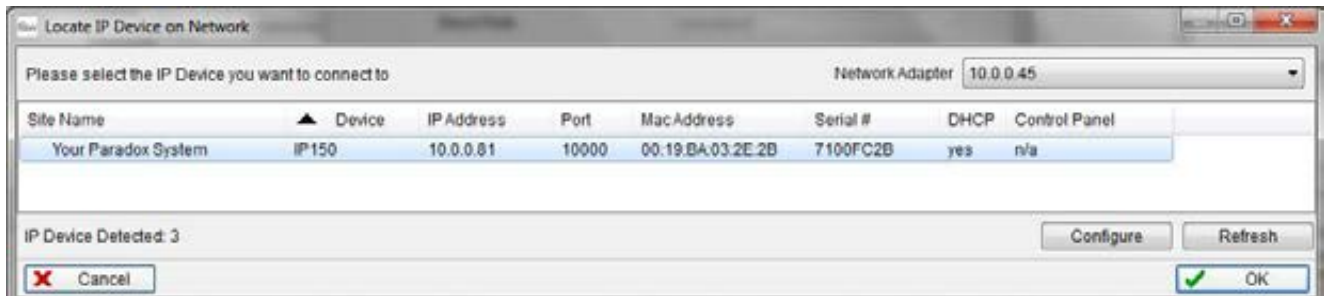


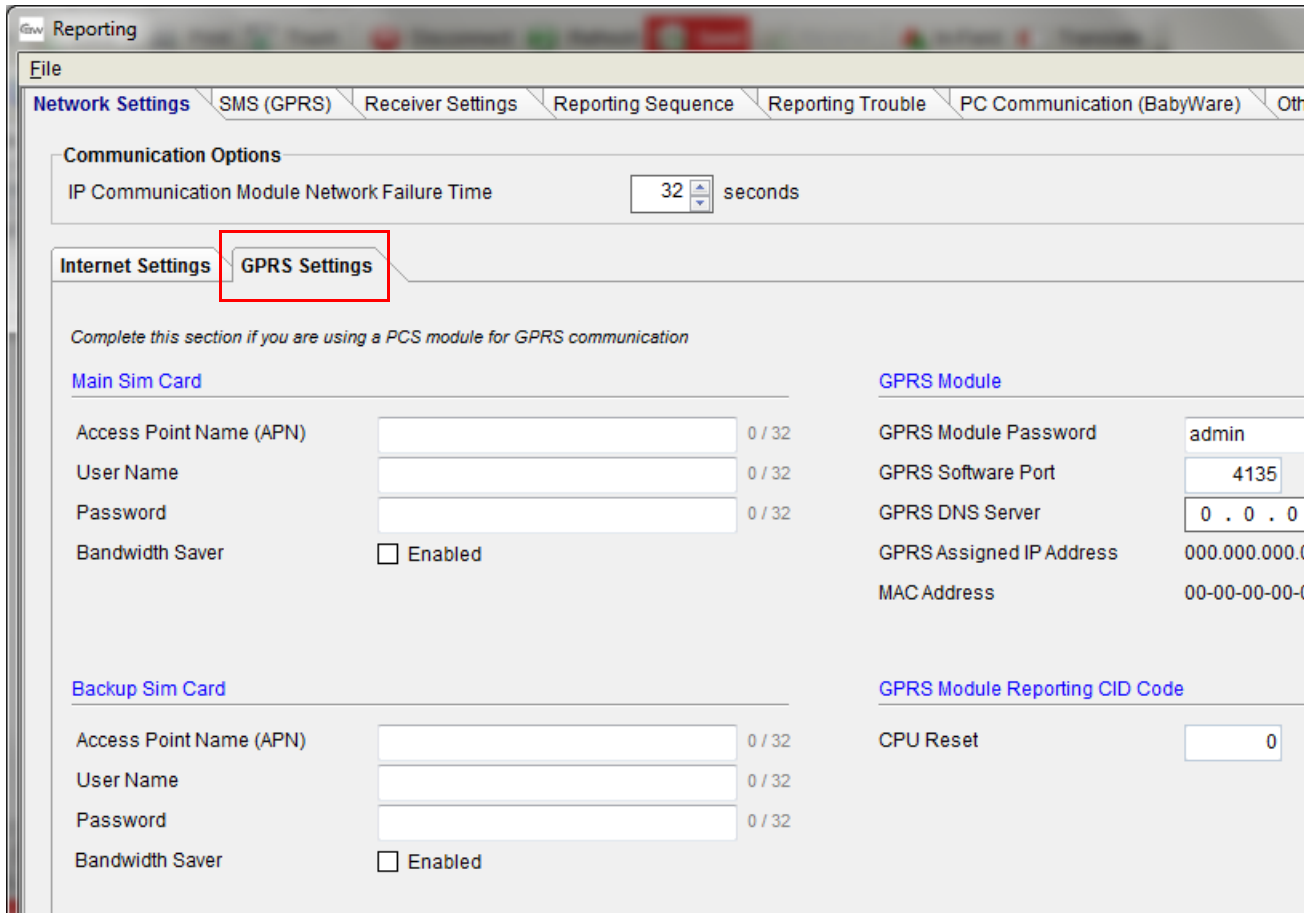
Figure 19 – Select the IP150 Device

5. Click **Configure**.

If you make any changes to the default settings click **OK** to save your changes.

## 4.5 GPRS Settings

If you are using a PCS250/PCS250G you must configure this page.



The screenshot shows a software window titled "Reporting" with a menu bar containing "File", "Network Settings", "SMS (GPRS)", "Receiver Settings", "Reporting Sequence", "Reporting Trouble", "PC Communication (BabyWare)", and "Other". The "GPRS Settings" tab is selected and highlighted with a red box. Below the menu bar, there is a "Communication Options" section with a dropdown menu set to "32" seconds. The main area is divided into two columns. The left column is titled "Main Sim Card" and contains fields for "Access Point Name (APN)", "User Name", "Password", and a "Bandwidth Saver" checkbox (unchecked). The right column is titled "GPRS Module" and contains fields for "GPRS Module Password" (value: admin), "GPRS Software Port" (value: 4135), "GPRS DNS Server" (value: 0 . 0 . 0), "GPRS Assigned IP Address" (value: 000.000.000.0), and "MAC Address" (value: 00-00-00-00-00-00). Below these are sections for "Backup Sim Card" and "GPRS Module Reporting CID Code" with a "CPU Reset" field set to "0".

Figure 20 – GPRS Settings

**Note:** These parameters are usually provided by the cellular network provider.

If you make any changes to the default settings click **OK** to save your changes.

## 4.6 SMS Settings

You can set up to 8 phone numbers for SMS in BabyWare.

Reporting

File Network Settings **SMS (GPRS)** Receiver Settings Reporting Sequence Reporting Trouble PC Communication (BabyWare) Other Settings

Language  
SMS Language English

SMS Phone Numbers

Name	Sms Phone number	Report Alarm/Alarm Restore	Report Arming/Disarming	Report Trouble	Report Trouble Restore
SMS Phone #1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SMS Phone #2		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SMS Phone #3		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SMS Phone #4		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SMS Phone #5		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SMS Phone #6		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SMS Phone #7		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SMS Phone #8		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Pre-Paid Sim Card Notification

When the PCS module receives an SMS from the "Source" specified below, the SMS message will be forwarded to the selected phone numbers

Source Telephone Number #1  0 / 32

Source Telephone Number #2  0 / 32

Figure 21 – Configuring SMS (Text Messages) Phone Numbers

If you make any changes to the default settings click OK to save your changes.

## 4.7 Configuring Receiver Settings

The IP150 sends reports to the CMS through the Internet. The IP Addresses of the CMS and other monitoring stations is configured through BabyWare.

Receiver settings come from the CMS. They supply you with all of the IP parameters of their server.

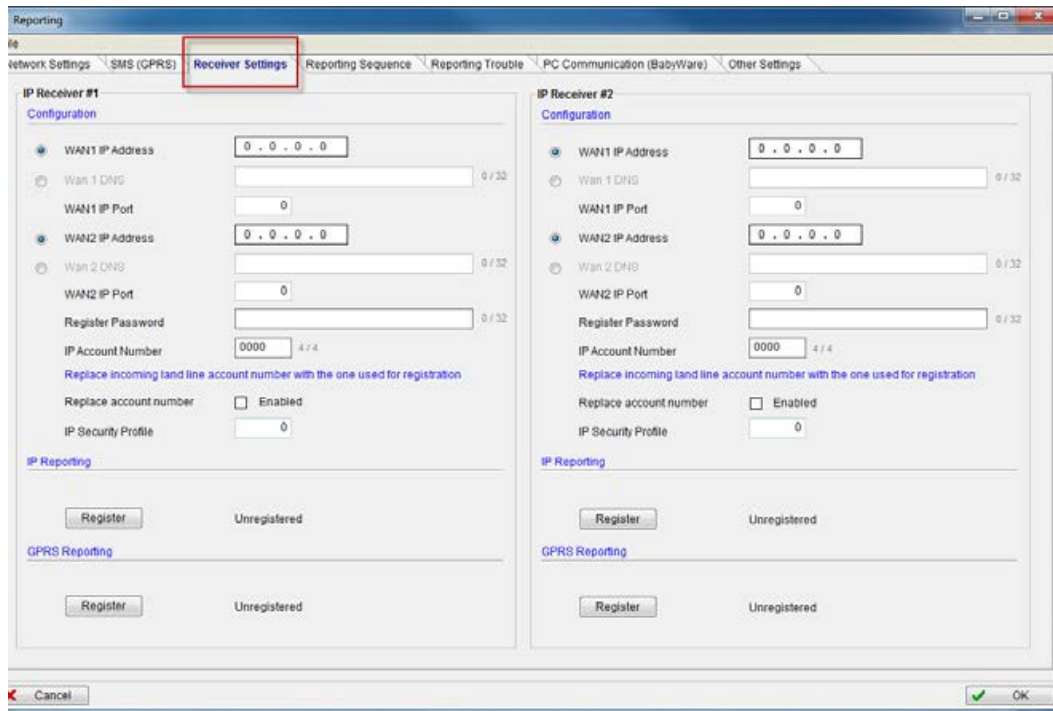


Figure 22 – Receiver Settings

If you make any changes to the default settings click OK to save your changes.

## 4.8 Trouble Reporting

Configure the reporting trouble parameters.

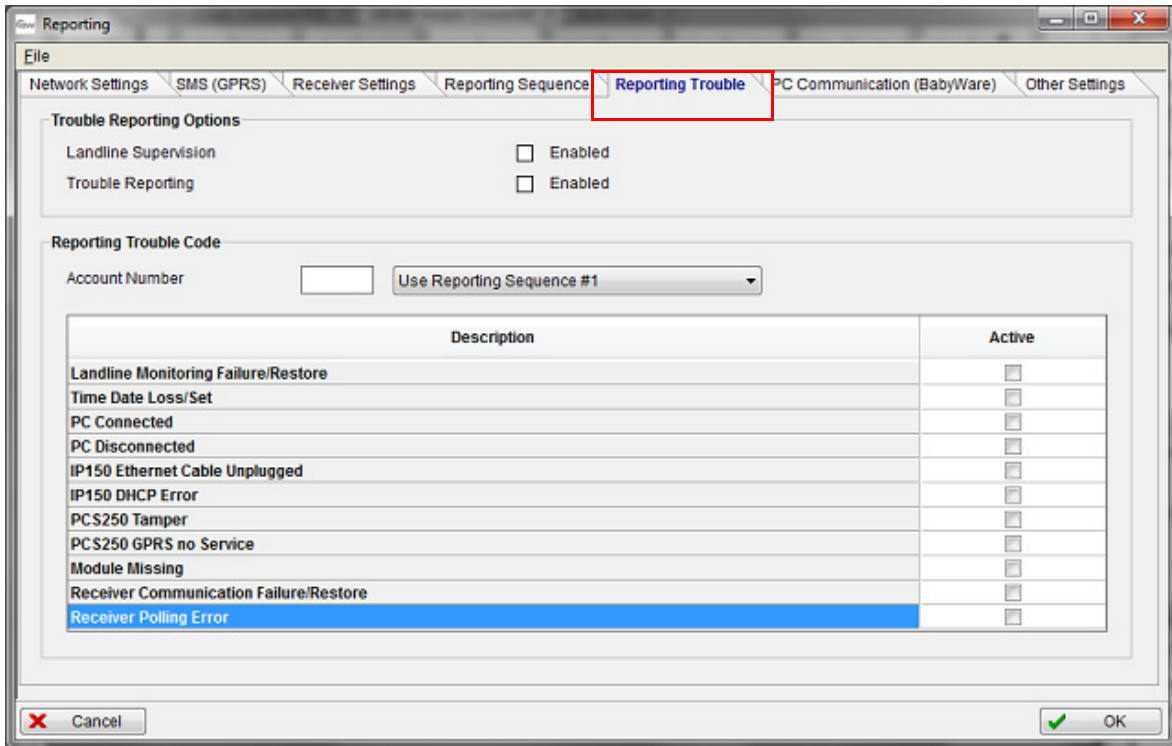


Figure 23 – Reporting Trouble Window

If you make any changes to the default settings click OK to save your changes.

## 4.9 Reporting Sequence (Parallel or Serial)

To configure the reporting sequence parameters through BabyWare

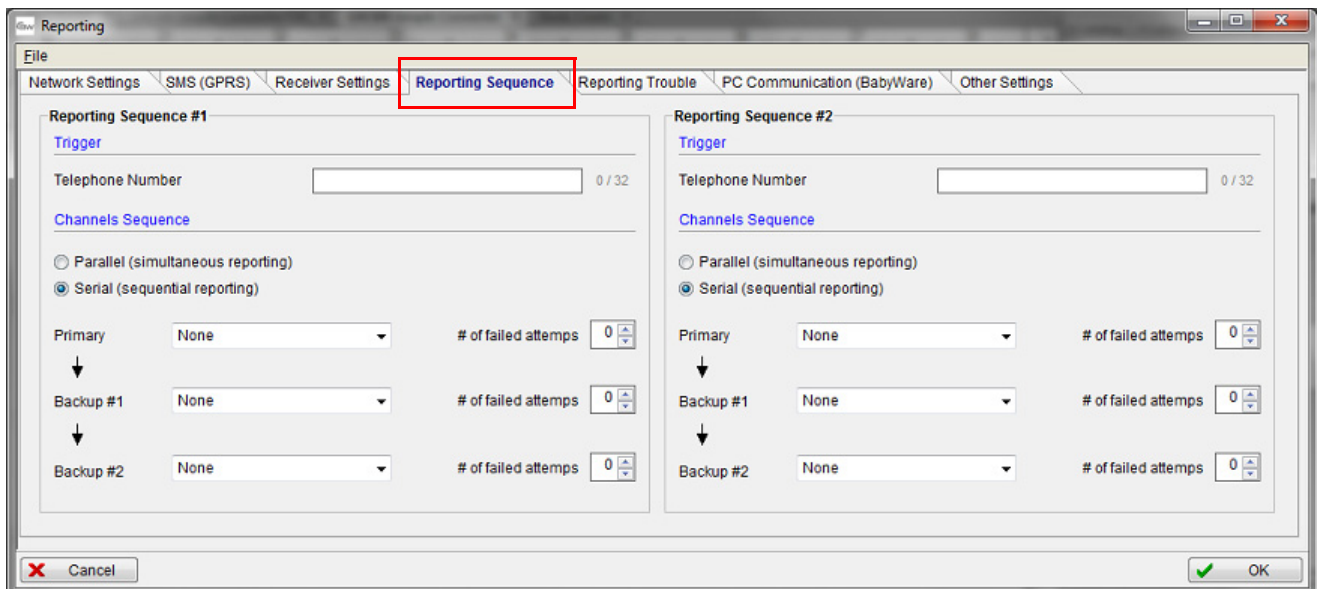


Figure 24 – Reporting Sequence Window

If you make any changes to the default settings click OK to save your changes.

## 4.10 PC Communication

Default settings are 0000 and 0000

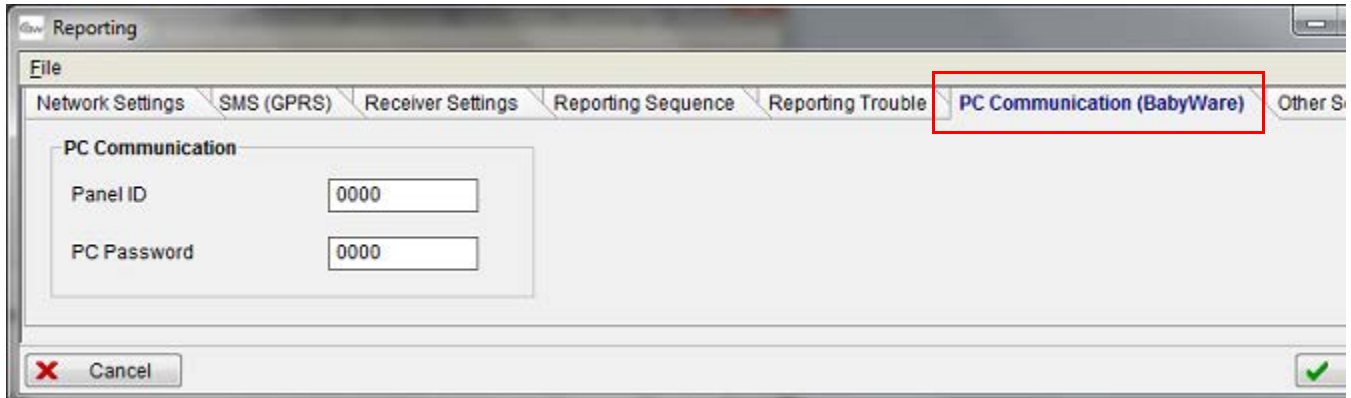


Figure 25 – PC Settings

If you make any changes to the default settings click OK to save your changes.

## 4.11 Other Settings

These settings come from the CMS.

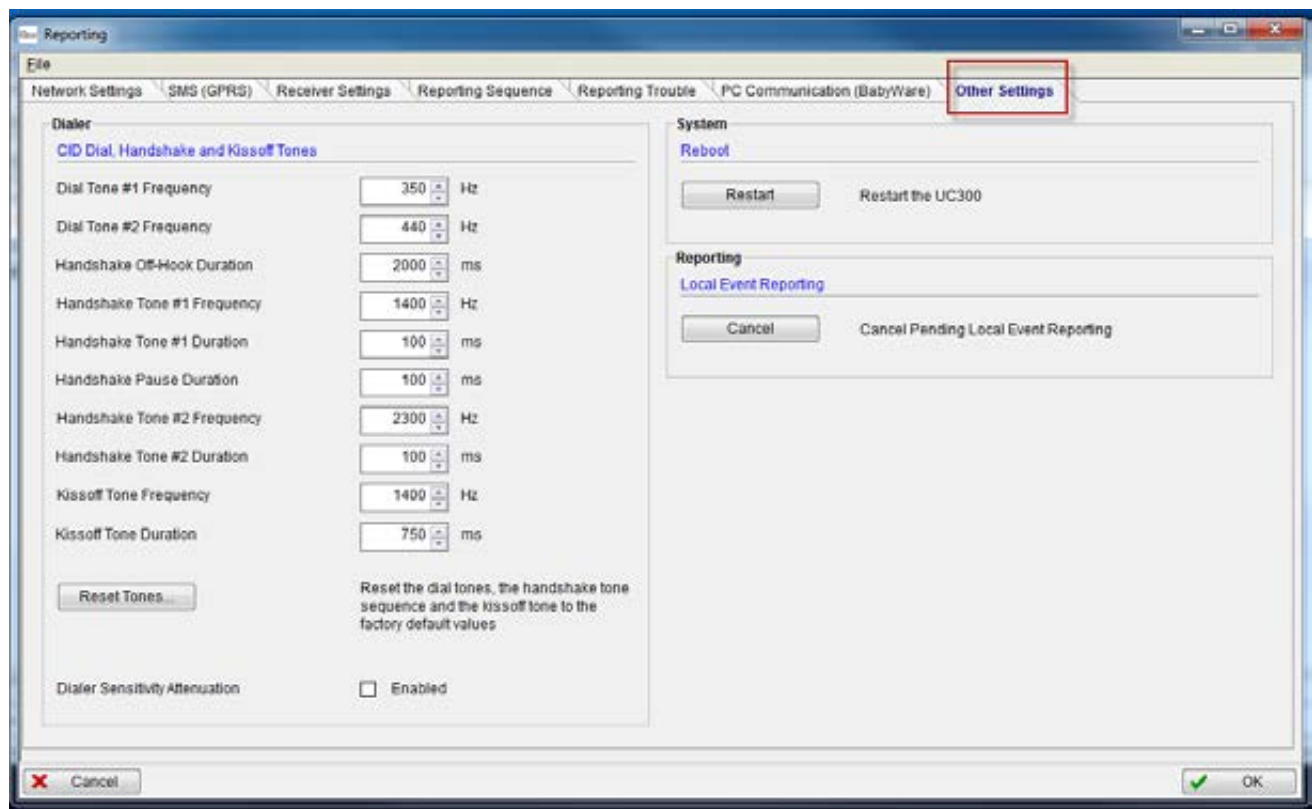


Figure 26 – Dialer CID Tones

If you make any changes to the default settings click OK to save your changes.

## 4.12 Firmware updating

Firmware is updated using In-Field software.

Firmware can be upgraded via all media:

- Direct connect through 307USB
- Ethernet through IP150
- GPRS through PCS250/PCS250G

## 4.13 SMS / Text Messages

Personal Reporting of events is available through SMS (if a PCS250/PCS250G is present). Up to 8 SMS destinations can receive personal reporting.

Each event shall be classified according to group,

- Alarm
- Trouble
- Trouble Restore
- Arm/Disarm

For each event group you have the ability to enable / disable the personal reporting for each phone number. See *Figure 21* on page 22.

For more information, please refer to the PCS250/PCS250G Reference and Installation Manual.

### Compatibility

The UC300 is compatible with all control panels that use CID protocol.

## Chapter 5: Entering Email Addresses to a Reporting List

As the Installer you need to:

1. Do port forwarding on the IP150 in the router.
2. Register the IP150 to ParadoxMyHome in  
BabyWare=>UC300 => Reporting=> Network Settings =>Register

For more information, please refer to the [IP150 Internet Module User Guide](#).



## Appendix A Specifications

The following table describes the technical specifications for the UC300 Only.

<b>Voltage input</b>	12 - 15 VDC
<b>Weight</b>	166g (5.86 OZ)
<b>Dimensions</b>	(H x W x D) 4.0 cm x 10.3 cm x 2.3 cm (1.57in x 4.05 in x 0.9 in)
<b>Current consumption</b>	60mA excluding the IP150 and the PCS250/PCS250G.
<b>Operating temperature</b>	-10° C to +55° C (14° F to 131° F)

Serial interface will drive 12V to support IP150 and/or PCS250.

## Appendix B Certifications

EN 50131-1, Grade-3 (only with Grade 3 compatible Alarm System)

EN 50130-5 Environmental Class II

EN 50136-1: 2012;

EN 50136-2: 2013

ATS Category SP4 (formerly known as ATS4)

Operation Mode: Pass-Through

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.

## Appendix C Configuration of the PCS250/PCS250G

To configure the PCS250/PCS250G go to Paradox.com or click here [Paradox PCS250G module page.](#)

# Appendix D Error Reporting

## Trouble/Restore

### UC300 Trouble

- landline missing
- Date and time lost
- IP150 module missing
- PCS250/PCS250G module missing
- Fail to com receiver 1
- Fail to com receiver 2

### IP150 Trouble

#### Internet cable disconnected

- PMH polling error
- Internet communication failure
- IP supervision receiver 1 lost
- IP supervision receiver 2 lost
- DHCP error

### PCS250 Trouble

- GPRS No service
- IP supervision receiver 1 lost
- IP supervision receiver 2 lost
- Tamper





The whole Paradox team wishes you a successful and easy installation.  
We hope this product performs to your complete satisfaction.  
Should you have any questions or comments, please do not hesitate to contact us.

For support, please contact your local distributor or dial +1-450-491-7444,  
Monday to Friday, from 8:00 a.m. to 5:00 p.m. EST.  
You may also e-mail us at [support@paradox.com](mailto:support@paradox.com).  
Additional information can be found at [PARADOX.COM](http://PARADOX.COM)