

# How to Setup a Remote Allworx 9112/9102 Phone

Setting up *ONE* remote phone is not very difficult. We have to be careful to program the phone and its network to correctly to communicate back and forth with the Allworx server through firewalls.

## How to Setup the Remote Phone:

On the Allworx handset, enter the **CONFIG** menu, and scroll down to **Network Settings**.

From this point you will need to:

- Set up the phone with a Static IP and Gateway address of the local subnet.
- Set the **Boot Server IP** address to the WAN address of the Allworx server
- Set the **Remote Plug 'n' Play** secret key. This is found in the Administrative console, click on **Servers** and **VoIP**. The '**Plug n Play Secret Key**' is listed there.

Now, once everything else is configured, we can reboot this phone and should then have access.

## ***If there is a firewall on the subnet with the remote phone:***

Set the following ports to open for the IP address we gave to the phone:

- 2088 (UDP)
- 5060 (UDP)
- 8081 (TCP)

We also need to open a range of UDP ports on the router for audio to the remote phone. These are called **RTP Media Ports**. These are used to transmit the audio to and from the phone. Each phone should have a range of at least 2 ports for every expected 'call' or 'line' the phone will make simultaneously. It is recommended to create a range of 10 ports for every remote phone.

*An example of this is:*

- 16001 – 16010 (UDP)

## How to Setup the Allworx Server:

Create a **USER** under **Business > Users** and an **EXTENSION** under **Phone System > Extensions** for the remote phone

Set up the Handset adding the necessary configurations found under **Phone System > Handsets**

Confirm the proper **RTP Media Port Range** configurations

- Click on **Phone System > Handsets** and then choose **View Configuration** of the handset being modified
- Scroll down to the **Phone Options**, and click **Modify**
- In the **RTP Media Port Range**, enter the range of 10 ports that we added to the Firewall above. If there weren't any changes above then leave this at its default.

## ***If there is a firewall on the subnet between the Allworx and the Internet:***

Map these ports to the Public IP of the Allworx:

- 2088 (UDP)
- 5060 (UDP)
- 8081 (TCP)
- 15000-15511 (UDP)

## How to Setup *MULTIPLE* Remote Allworx 9112/9102 Phones at One Site

Setting up *MULTIPLE* remote phones at one site is a little more difficult. We have to be careful to program the phones and network to communicate back and forth with the Allworx server without any audio issues. The Allworx system will attempt to send multiple phone calls to a remote network that has one public IP address. When the Allworx system does this, it must differentiate each phone on the network through UDP port mapping while using the remote sites one public IP address. This document will show how this is done.

### How to Setup the Remote Phones Site:

You'll need each phone to have its own UDP *SIP Port*, its own *RTP Media Port Range* as well as its own dedicated IP address. Only one phone will need the 2088 (UDP) and 8081 (TCP) as these are broadcast and multicast across the network to all phones.

In the below example, we are setting up 4 phones.

	<u>SIP Port</u>	<u>RTP Range</u>	<u>IP</u>
<b>Phone A</b>	5060 UDP	16001 – 16010	Set them to use a local Static address
<b>Phone B</b>	5061 UDP	16011 – 16020	Set them to use a local Static address
<b>Phone C</b>	5062 UDP	16021 – 16030	Set them to use a local Static address
<b>Phone D</b>	5063 UDP	16031 – 16040	Set them to use a local Static address

Now, all of these will need to be ported / forwarded through the firewall to the IP of the phone.

**Example:** This is programmed in the Router at remote site:

#### *Phone A*

- Route incoming UDP packet 5060 to static IP of Phone A
- Route incoming UDP packets range of 16001 – 16010 to static IP of Phone A
- Route incoming UDP packet 2088 to static IP of Phone A
- Route incoming TCP packet 8081 to static IP of Phone A

#### **Phone B**

- Route incoming UDP packet 5061 to static IP of Phone B
- Route incoming UDP packets range of 16011 – 16020 to static IP of Phone B

**Phone C** and **D** are the same setup as Phone B but with their respective numbers.

**NOTE:** You will need to make sure when setting up the phones statically that you add the gateway and the subnet to the phone. Also make sure that the IP will not be leased, within the router, to another device.

### How to Setup the Allworx Server Site:

You will need to go into the configuration of each remote phone on the Allworx system to update its Handset Configurations.

Start with the first handset, **Phone A**

- Click on **Phone System > Handsets** and then choose **View Configuration** of the handset being modified
- Scroll down to the **Phone Options**, and click **Modify**
- In the **RTP Media Port Range** field, enter the new range of ports that we added for this phone to the firewall above.  
For **Phone A**, change the **RTP Media Port range to: 16001 to 16010**
- In the **SIP Port** field, enter the new UDP port that we added for this phone in the firewall above.  
For **Phone A**, change the **SIP Port to 5060**
- Repeat this process for each remote handset using the proper settings from above.

#### ***If there is a firewall on the subnet between the Allworx and the Internet:***

Map these ports to the Public IP of the Allworx:

- 2088 (UDP)
- 5060 (UDP) plus any additional ones created above
- 8081 (TCP)
- 15000-15511 (UDP)
- All **UDP** RTP Media Port Range ports that were created above