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## Data and Network Configuration

Planning before getting started will make the setup and installation of the IPitomy IP PBX simple. IPitomy has created the **IPitomy Setup Worksheet** to assist in recording business and system information used in planning system setup and installation. This Checklist can be downloaded from IPitomy.com in the Dealer Section of the Website.

**IMPORTANT: Please contact your IPitomy Sales Representative to obtain a login information for the Dealer site at (941) 306-2200.**

## Setup Worksheet

The **Setup Worksheet** is broken out into sections where required data can be entered. Once all the information in the setup worksheet is populated, it can then be imported to the IPitomy system. This will save a great amount a setup/configuration time.

[Document:IPitomy Setup Worksheet.xls](#)

**IMPORTANT:** To take full advantage of the functionality in the setup worksheet, you will need to make sure that your Excel macro security is set to Medium or lower (you will need to restart Excel after changing these settings).

Data Type	Description/Recommended Settings
	You will need to know some basic information on the target network. Use this page to store all pertinent information regarding the sites LAN and WAN connection.
Network Information	<ul style="list-style-type: none"><li>• The type of data facilities you will be using for access to the Internet will dictate how much bandwidth is available for phone calls.</li><li>• If you are going to use remote phones, SIP providers, or Branch Offices, you will need to have a fixed IP address.</li></ul>
User Data	Use this page to gather and store information for the extensions and stand alone mailboxes on the PBX. This page allows you to export the extension information to another worksheet. Save this worksheet as a .csv file and you can import it directly into the PBX, saving you time.

- Extension Number \*required
- Name \*required
- Email Address - required if the end user desires to use Unified Messaging
- Device - setting this in the worksheet will make your installation much easier when using autoprovisioning and IP550/IP120 phones
- MAC Address - for the most part this field can be left blank. If using Aastra phones, it may be more useful.

Voice mail only boxes may be created as well. You can print out a copy of this sheet and ask your customer to fill it in or provide them the spreadsheet to fill out.

Groups	Use this page to gather and store information about ring groups. This will allow you to build the groups in the PBX much quicker at the time of install because everything has already been decided upon in advance.
Menus	Building menus in the PBX will be much easier once you have completed the sections pertaining to Menus. In addition to the setting in the PBX, you will be able to have the end user write out the prompt scripts, ensuring that the key press destinations match the dialogue the callers will hear.
Unified Messaging	Unified Messaging allows the PBX to send your voicemail messages directly to your email inbox. Use this section to log the end users email server information.
Telephone Lines	If you know the telephone numbers for your telephone lines, it is good to have them all documented ahead of time. You may want to route calls based on a particular number or specific DID.
Music On Hold	When a caller is place on hold, park, or is in Queue for a group of extensions, music may be played for them while they wait. The music on hold files can be uploaded to the system from your browser. The music on hold files need to be in MP3 format for IP1100+ systems, and 8bit 8Khz mono .wav file for the IP1000.
Licensing	Most IPitomy systems come default with a license for 16 users/extensions. To activate the initial license, you must have a connection to the internet and a license key will be uploaded to the system. This is a security feature that protects the user for warranty coverage as well as against unauthorized use. Filling out the User Data page will automatically tell you how many extensions the system needs, at a minimum, to handle the desired users.
Branch Office	This page will allow you to more accurately plan out an install that will have multiple sites connected via Branch Office. Using unique numbering for each PBX will allow for easier calling between sites.
	The lightning bolt, found on the User Data section of the Setup Worksheet, accesses a macro that allows you to export the User Data information pertaining to extension to another worksheet. Once exported, you can save that worksheet as a .csv file, and then load it directly into the PBX.

## CSV Upload

Once all the extension information has been exported to a .CSV file, you can import that file into the PBX.

### STEPS:

1. Navigate in the PBX to **Destinations Extensions**. The **Extensions** page appears.
2. Select the **BROWSE** button at the top of the page. The **File Upload** window appears. Locate and select the file that you want to import then click the **OPEN** button.
3. The **CSV File** field is updated with the source directory information for the file to be imported.
4. Click the **IMPORT** button. The **Create Extensions** page appears displaying the information that is going to be imported.
5. Review the information then select the **CREATE** button when you are done.
6. The **Create Extensions** page will display the results of your import for each extension. You should see a **?SUCCESS?** message.
7. Click on the **Return to Extensions** link that appears on the page. This brings you back to the Create Extensions page. Review the Extensions List and find the extension (s) you just created.
8. Click on the **Apply Changes** link at the top of the page to make these changes live on the PBX. A message **?Settings Applied?** will appear.
9. You are now ready to update the various settings for the new extension. (See the **Destination Extensions** section of this user guide for more details on Extensions).

## Network Requirements

Making preparations for the network in advance will assure there are no surprises. If you are going to have remote extensions, you will need access to the router to setup a network address translation (NAT) and port forwarding.

A LAN with a broadband connection is required for operation of the system. It must be on a fast Ethernet (100baseT or better). The system must also use Ethernet data switches. The router can use DHCP or not, depending on preference. The IPitomy IP PBX requires a fixed IP on the router subnet. Several ports may need to be forwarded. Make sure your router has TCP/IP port range forwarding by checking the box or product guide. The router should have a fixed IP address with a public IP.

Pre-existing TFTP servers or DHCP servers broadcasting TFTP servers may cause conflicts for phone configuration. If you have a pre-existing TFTP server being broadcast by your DHCP server, please contact IPitomy support to determine the best solution.

## Port Forwarding

The following table outlines the port forwarding information in the router that maps public IP addresses to internal IP addresses. Port forwarding must be configured to utilize features such as remote phones, SIP Providers, remote administration and branch office. IPitomy port forwarding requirements are specified below. Note you should only forward ports you intend to use.

Remote Phones

SIP + RTP

Web Access to PBX (do not forward without changing password)

HTTP/HTTPS

Branch Office Networking

IAX2

Text Messaging (via eJabbard - NOT SMS)

XMPP

Tech Support Access

SSH - you should always forward this before you contact Technical Support

Application	Port	Protocol	Transport Protocol	LAN IP Address
Remote Management	80	HTTP	TCP	IP Address of PBX
Secure Remote Management	443	HTTPS	TCP	IP Address of PBX
SSH (IPitomy Support)	22	SSH	TCP	IP Address of PBX
SIP Control	5060	SIP	UDP	IP Address of PBX
SIP RTP (Voice)	10000 - 20000	RTP	UDP + TCP	IP Address of PBX
Chat (Text Messaging)	5222	XMPP	TCP	IP Address of PBX
Branch Office	4569	IAX2	UDP + TCP	IP Address of PBX

**Note that when you are configuring a port forward in your router, that many routers let you specify an external and internal port. The internal port numbers that are forwarded to the PBX must match the numbers from the table above. However, for SSH, HTTP, or HTTPS you may use any external port number that is available in your router.**

## IP Addresses

To determine the IP address that can be used on the network, check the router or get this information from the Network Administrator. In many cases, this default IP address will be acceptable without any router configuration other than port forwarding (required for remote administration and remote telephones).

**IMPORTANT: The IP PBX is required to have a fixed (static) IP address. The system comes with a default static IP address of 192.168.1.249/ippbx.**

**We recommend that you use this default IP address. Please contact IPitomy's Technical Support Group if you need further assistance by email at [support@ipitomy.com](mailto:support@ipitomy.com) or phone 941-306-2200 option 2, or visit our Support Page on our website at [support.ipitomy.com](http://support.ipitomy.com)**

If the default IP address does not match the network schema for your install, the PBX has a simple method for changing this information.

## Changing the IP Address

The Network Console (keyboard and monitor - plugged directly into the PBX) allows you to view and change settings without requiring an external web browser or any network connection.

### STEPS

1. Plug a keyboard and monitor into the IP PBX.
2. From this keyboard, press CTRL-ALT-F7
3. Follow the instructions displayed on the page to configure the IPs for the PBX.

The options used are as follows.

**1:** Network Type Static or DHCP

**2:** IP address

**3:** Subnet Mask

**4:** Default Gateway

**5:** Static DNS

**6:** Static DNS 2

**7:** Static DNS 3

**R:** Refresh View

**D:** Default Settings

**S:** Save & Update

**Once all values have been configured to match the install network, choose S to Save & Update.**

**Note:** For further details on using the **Net Console**, please refer to **Appendix 6**.

## Service Providers

In order to provision the IPitomy IP PBX it is necessary to know the type of Service Providers being used. Carrier and SIP are the most common service providers. Carriers provide plain old telephone lines (POTS), T1s and PRI lines. SIP Providers route voice calls over the internet. This is called voice over internet protocol or VoIP. As part of the installation it will be important to know the:

- Name of Providers
- Type of Service Provided (i.e., POTS, T1, or SIP)

- Phone Numbers Associated with the Service
- Password and Login Information for SIP Service

You should always consider any previous historical data that you have from your existing system. Any past reports or spreadsheets which relate to the components being designed, should be considered as possible input when configuring your IP PBX system. We recommended that you record this information on the **IPitomy Setup Worksheet**.