![Digital Acoustics logo]

SPKR-IP-CS
SIP Getting Started Guide

Introduction

The SPKR-IP-CS is a PoE powered (802.3af) 2'x2' IP Ceiling Speaker and can be configured as a SIP extension for use with a SIP based phone system. It includes:

- **8**" O.D. Speaker
- 8-Watt Amplifier
- PoE (802.3af)
- Integrated Microphone
- Integrated Back Box
- Optional external connectors available:
  - ○ Line Level Microphone
  - ○ Call button w/LED
  - ○ Auxiliary analog speaker for better coverage in large areas (500 to 1000 square feet)
  - ○ External power input. Requires 12VDC @ 1.2Amps

The SPKR-IP-CS is configured using the Digital Acoustics **eSIP Configuration** utility. This _Getting Started Guide_ covers basic hardware installation and software configuration of the SPKR-IP-CS.

Installation

The controls, connectors and LEDs for the SPKR-IP-CS are located on the faceplate on top of the speaker. There is also a green LED in the speaker grill that matches the state of the **Ready** LED. Please note, the SPKR-IP-CS can be pre-configured before being installed in the ceiling.

- Connect a PoE (802.3af) network cable to the SPKR-IP-CS ceiling speaker's RJ-45 connector. The SPKR-IP-CS will power up within 5 seconds and request 15.4 watts from the Power Source Equipment. Optionally, 12VDC can be supplied to connectors 12 (positive) and 13 (negative).
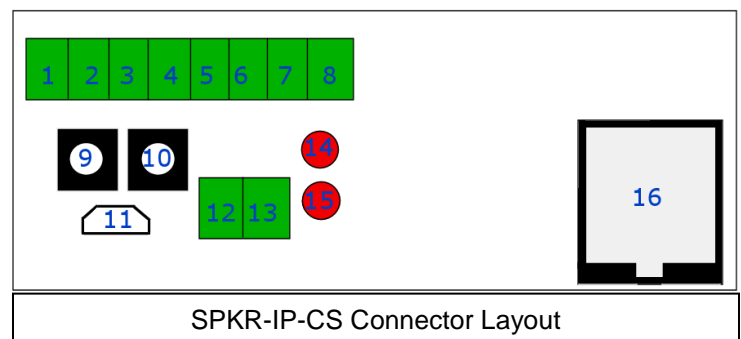
- The red **Ready** LED (connector 14) will flash 4x per second

- The red **Link** LED (connector 15) will turn solid

SPKR-IP-CS Connector Layout

- Record the **ID#** from the label on back of the SPKR-IP-CS for use during software configuration.

- Optionally, label the speaker grill with one of the extra **ID#** labels included in the box

- Install the connected Speaker in a 2'x2' ceiling grid and verify that the green **Ready** LED in the speaker grill is on solid

- Please refer to the **SPKR-IP-CS_ReferenceManual** available at https://www.digitalacoustics.com/support/ip7-hardware-talkmaster-software-manuals/ for information on installation and setup of optional accessories

SIP Configuration

If the **eSIP Configuration** utility has already been installed and the defaults have been setup, skip to the **Select the General Settings tab** step.

Download and install the **eSIP Configuration** utility from https://www.digitalacoustics.com/support/software-firmware-downloads/

- After the configuration utility has been installed, open it from the Windows® **Start** menu by selecting **Digital Acoustics IP7 → eSIP Configuration**
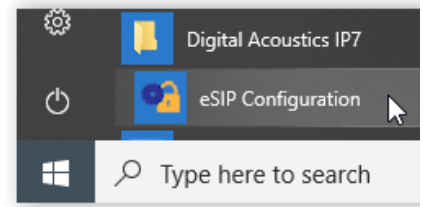
- Click menu option **Tools → Setup SIP Defaults** to setup the default SIP based Phone system
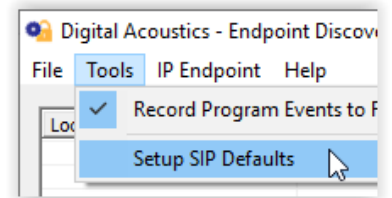
- In the **Primary Registrar** (also know as the **Domain**), enter the IP Address or DNS and the port of the SIP based phone system
- The **Primary Server** (also known as the **Proxy Address**) is typicall the same as the **Primary Registrar**. If this is different than the **Primary Registrar**, then the **Registrar is Proxy** box must be checked
- The **Secondary Registrar** and **Secondary Server** are only specified if a backup VOIP based phone system is available in case the Primary fails
- The **SIP Local Port** and **RTP Port** specify the ports used by the IP7 when communicating with the VOIP based Phone system
- Press the **OK** button to save the defaults
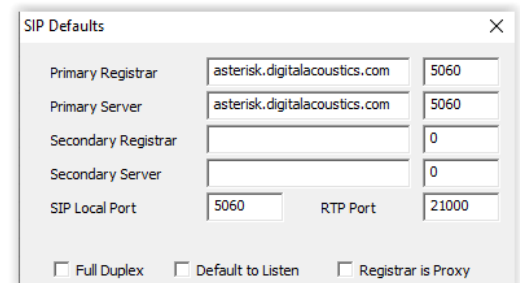
Select the **General Settings** tab
- Press the **Find Devices** button to discover any new IP7 devices that are connected to the network. The IP7 devices will be listed on the left hand side of the screen
- Click on an IP7 Endpoint to be configured (match the **Device ID** column to the Intercom's previously recorded ID#)
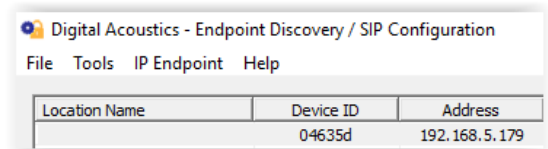
- On the right hand side of the screen, select **SIP Standalone Device** from the dropdown
- Enter a descriptive name into the **Location Name** field (this name is only used by this utility. The description from the phone system will be used to identify this endpoint during a call)
- Check the DHCP option to automatcally assign the IP Address infromation or uncheck it to enter static IP address information
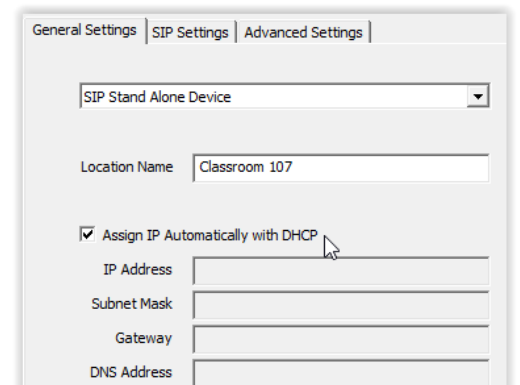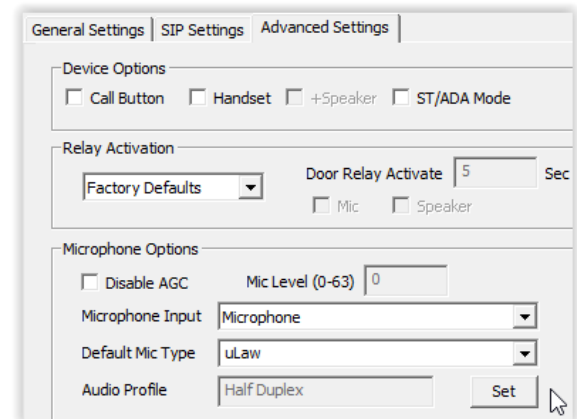
Select the **SIP Settings** tab
- Press the **Apply Defaults** button on the bottom right to copy in the default SIP information that was previously setup
- Enter the **SIP Extension**, **SIP Password** (also known as the **Secret**) that have been setup on the SIP based phone system for this IP7 device
- In the **SIP Authentication** (also known as the **SIP Authorization Name**), enter the User that has been associated with this extension in the SIP based phone system. If no User has been setup, use the same value as the SIP Extension
- Check the **Full Duplex** option to enable full duplex operation using the integrated microphone in the **SPKR-IP-CS** or leave it blank for of half duplex or speaker only operation
  - In a half-duplex phone call, one party has their microphone active while the other party has their speaker active. By default, when a call is initiated, the SPKR-IP-CS starts with the speaker active and the phone operator starts their microphone active. The phone operator can toggle the modes by pressing 0 on the phone's keypad. In half duplex mode, the volume will always be louder, and the microphone gain will always be higher
  - In full duplex mode, both parties have their speaker and microphone active at the same time. In full duplex mode, the SPKR-IP-CS volume will always be softer, and the microphone gain will always be lower. This is due to the algorithms used by the IP7 for echo cancellation
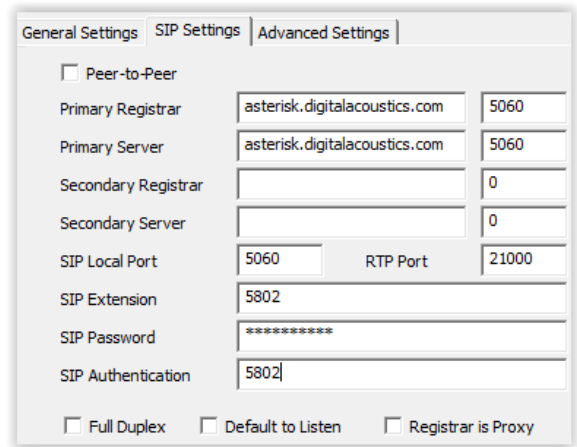
Select the **Advanced Settings** tab
- Click the **Set** button next to **Audio Profile** and **s**elect the **SPKR-IP-CS Full Duplex** audio profile if using full duplex. Otherwise select the **Half Duplex** audio profile
- Click the **Save Settings** button. The endpoint will reboot with the changes and register with the SIP Server within 30 seconds. The green Ready LED on the panel will blink rapidly for 30 seconds and then turn solid
- There are 7 volume steps that will vary based on whether full or half duplex has been configured. Volume can be adjusted by pressing the Vol+ and Vol- buttons (connectors 9 and 10) or when a SIP call is in progress by pressing:
  - #00 – Set volume down one level
  - #01 – Set volume level to 1
  - #02 – Set volume level to 2
  - #03 – Set volume level to 3
  - #04 – Set volume level to 4
  - #05 – Set volume level to 5
  - #06 – Set volume level to 6
  - #07 – Set volume level to 7
  - #08 – Set volume up one level