ADVANCED
NETWORK DEVICES

Push Button Input

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Static Electric Warning

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PUSH BUTTON INSTALLATION

1. Plug the two-position .100” connector housing end of the push button cable onto pins 1 and 2 of the J13 header on the bottom edge of the square controller board in the device, as shown in Figures 1 and 2. Polarity does not matter on a push button input.
2. When the button contacts are shorted, the AND device will acknowledge the button press event with all registered servers.

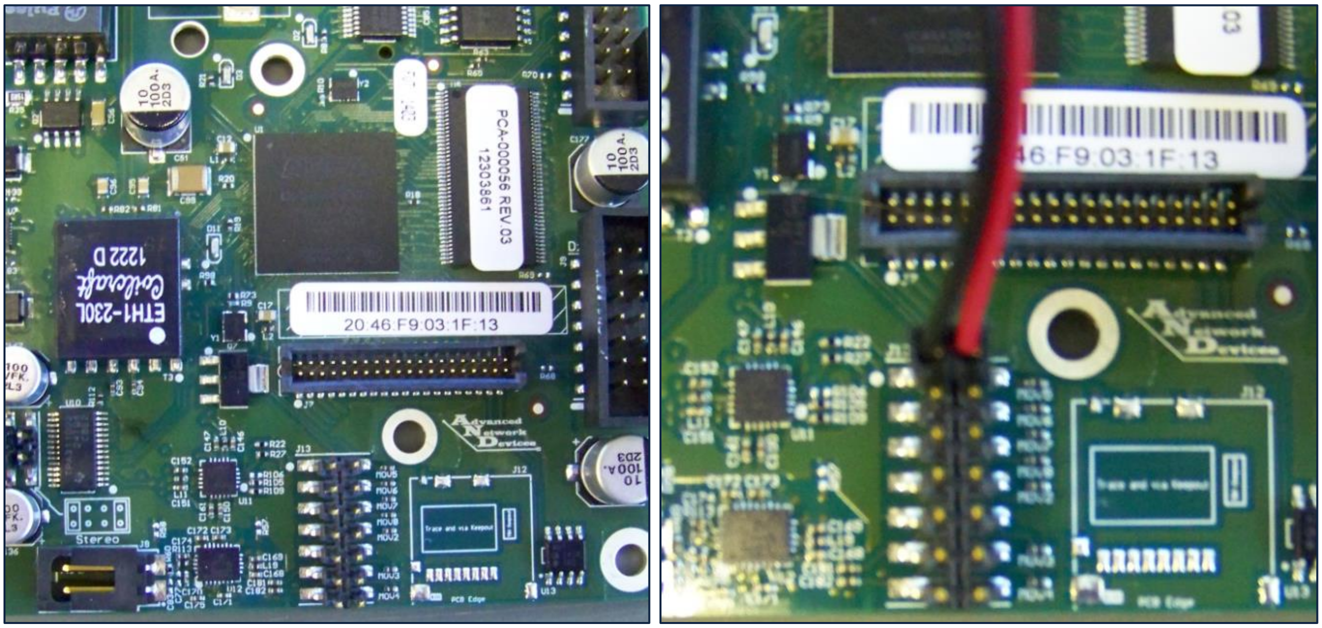

Figure 1 and 2 – Connection to 1.5 Controller Board

CONTROLLER BOARDS OTHER THAN 1.5

If the controller board does not match Figure 1 and 2, follow this procedure:

1. Identify your controller board version based on the MAC address of the device (see table below).

Controller Board Revision	Board Version #	MAC Address Range
1.1	2.0	20:46:F9:01:xx:xx
1.2	2.0.2	20:46:F9:02:xx:xx
1.5+	2.1+	20:46:F9:03:xx:xx and up

2. Use the pin mapping shown in Figure 3 or 4 to connect the push button to the pins as shown in Figure 5.

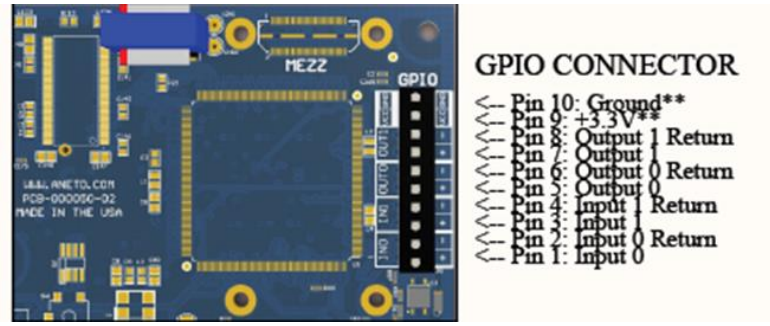

Figure 3 – 1.2 Controller Board GPIO

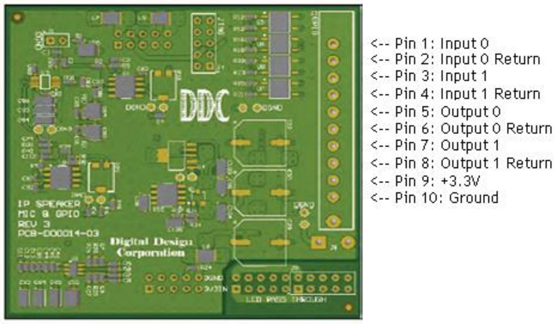

Figure 4 – 1.1 Controller Board GPIO

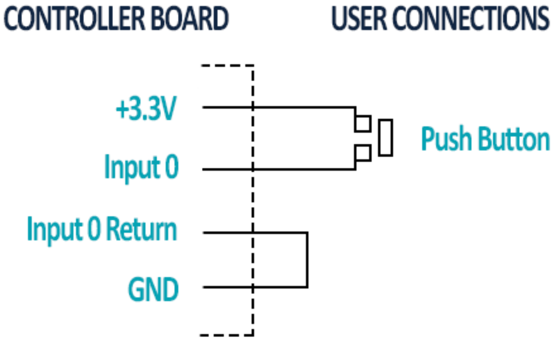

Figure 5 – Push Button Connections
for 1.1 and 1.2 Controller Boards Only
DO NOT USE for 1.5 Boards and Beyond

NON-REGISTERED OPERATION

If the AND device is not registered with any servers, you can use the following general purpose URL callback to generate actions based on an input change, such as a push button press.

1. Power up the AND device with the monitored input. (In this example, *10.10.3.4:8089* indicates the IP address and port of the server to receive the response. Note that *directory* and *file* are optional parameters.)

   If configuring the device using the device's web page:

   a. Select **Device Settings → Servers**.
   b. Set the *GPIO Callback URL* to *http://10.10.3.4:8089/directory/file.*
   c. Save the settings.

   If configuring the device using a configuration file, add the following tag:

   ```
   <GPIO_callback url="http://10.10.3.4:8089/directory/file" min_update_period_ms="250" />
   ```

2. Reboot the device.

In this example, when the input changes state, the device will execute an HTTP GET to 10.10.3.4, port 8089, of the following format:

```
GET /directory/file?address=2046f9010203&gpinputid=0&state=1&transitions=340
```

address the MAC address of the device with the input state change
gpinputid the input number that changed
state the state of that input (either 0 or 1)
transitions the total number of transitions for that input

IPCLOCKWISE GPIO CALLBACK EXAMPLE

1. **Set the GPIO Callback URL**
   a. Obtain the IP address of the PC running IPClockWise. One method: in Windows, run *ipconfig* from a command prompt to list the address.
   b. Access the device's web page (available by double-clicking the device on the Endpoints tab in Clockwise) and select *Device Settings* → *Servers.*
   c. Set the *GPIO Callback URL* to *http://10.10.3.4:8089,* where *10.10.3.4* is the IP address of the PC running IPClockWise. Note that you must use port 8089.
   d. Click the *Save Changes* button.
   e. Reboot the device.
2. **Add an Alert in IPClockWise**
   In IPClockWise, under the *Alerts* tab, select *Add an Alert*.
   a. **Set the Trigger**
   In the middle section labeled *Trigger*, select *GPIO In* in the *Source* drop down box, and then select the appropriate *Channel* (0 or 1), depending on the monitored input. For the AND-BTN-KIT1 push button assembly, use Channel 0.
   b. **Optional: Intercom or Monitor Request**
   To trigger a Live Sound Intercom or Monitor request when triggering the input, select an *Extra Action* (typically *Intercom)*. For example, with the selection of *Intercom* for an AND-BTN-KIT1 equipped device, IPClockWise will sound an alert in the *Intercom Call Waiting* tab of the *Live Sound* tab when pressing the button. This action will alert the IPClockWise attendant of the intercom call request, to which the attendant can respond by double-clicking on the device in the call waiting list.
   c. **Select the Device to Listen for Triggers**
   Check the checkbox next to the device(s) with the monitored input in the *Listen for trigger source* list at the bottom of the screen.
   d. **Configure Trigger Response**
   Fill out the remaining details of the Alert, such as a scrolling message and audio file, as well as the devices to receive the alert in the *Output devices* list, if desired.
   e. **Save the Alert**
   Select *OK*. IPClockWise will now respond to the input as configured.

PUSH-TO-TALK OPERATION

You can use the push button to ring and/or connect to an AND device, a phone, or other third-party SIP device when configured for “push-to-talk” operation.

AND Device to AND Device Operation

If configuring the device using the device’s web page:

1. Select the **Device Settings → SIP**.
2. In the *SIP General Settings*, set *Promiscuous Mode* to "Yes".
3. In the *SIP GPIO Input Action Settings*, set the *Push-to-Talk 1* parameter to the MAC address or IP address of the AND device to call when pressing the button. Note that for MAC addresses, include the colon between each digit pair (e.g., `20:46:F9:03:02:01`).
4. Save the settings, and reboot the device.

If configuring the device using a configuration file, add or modify the following parameters in the *SIPConfig* tag, and then reboot the device:

```
<SIPConfig
   promiscuous_mode="1"
   push_to_talk_ip1="20:46:F9:03:02:01"
 />
```

Or for multicast:

```
<SIPConfig
   promiscuous_mode="1"
   push_to_talk_ip1="232.9.10.11:23456"
 />
```

A momentary press of the push button will put the two devices into a two-way conversation, if both devices have microphones. Press the button again to end the call.

AND Device to Phone Operation

Configure the AND device to register to a third-party server via **Device Settings → Servers**. See the related third-party supporting documentation for details on setting up an extension for the AND device. Otherwise, follow these procedures to configure the SIP server settings as follows.

If configuring the AND device via the web page:

1. Select *Device Settings* → SIP.
2. In the *SIP GPIO Input Action Settings*, set the *Push-to-Talk 1* parameter to the extension or SIP ID of the phone or third-party device to call when pressing the button.
3. Save the settings, and reboot the device.

If configuring the device using a configuration file, add or modify the *push_to_talk_ip1* parameter in the *SIPConfig* tag as follows, and reboot the device:

```
 <SIPConfig
   push_to_talk_ip1="2450"
 />
```

A momentary press of the push button will dial the phone or device specified by the programmed extension number. If the phone or other device accepts the call, they will enter into a two-way conversation. Press the button again to end the call.