

Using the Atribank-8™ Input Ports to Broadcast Burglar Alarm System Messages

Every member of Xorcom's Atribank™ line of products includes two auxiliary output ports and four auxiliary input ports. These features open up a whole world of exciting applications for the Asterisk IP-PBX.

This white paper will demonstrate how to broadcast burglar alarm system voice messages to designated phone numbers by using one of the Atribank input ports and modifying the Asterisk dialing plan.

An input port can be activated by connecting two wires in the input RJ-45 connector ("dry contact"). An input activation is translated as an "off hook" state of an extension. The default mapping of the input ports (when using the Xorcom Rapid™ auto-configuration) starts with the number of the 8th FXS port plus 3. For example, if the Atribank-8 extensions are 401 to 408, the input ports will be extensions 411, 412, 413 and 414 (extensions 409 and 410 are the output ports).

Following is a step-by-step explanation of how to wire and set up your Atribank to send voice messages (as a response to any external event) to designated phone numbers.

1. Prepare a cable: you can use a simple CAT-5 network cable. Cut it on one end, and strip the housing off the 8 internal wires (Figure 1).

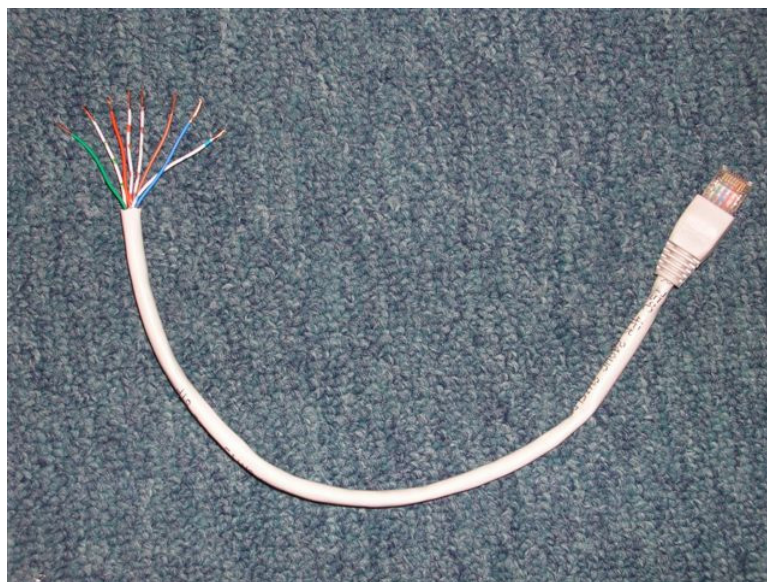


Figure 1: Illustration of CAT-5 cable with 8 internal wires exposed.

2. Figure 2 shows the wiring diagram of the output RJ-45 connector. To emulate the "off-hook" status for a specific input, you should connect the pair that is associated with the required input. The input pairs are RJ-45 pins 1-3, 2-4, 7-5 and 8-6.

RJ-45 pin number	Functionality
1	Input 1
2	Input 2
3	Ground 1
4	Ground 2
5	Input 3
6	Input 4
7	Ground 3
8	Ground 4

Figure 2: An input event is generated by connecting the input pin to the associated ground pin.

3. Connect the wiring to an isolated switch, such as a relay with "dry contact"
Warning! The input ports are not fused and are not designed to accept any external voltage. Driving external voltage will damage the input ports, and may damage the entire Astribank unit and void your warranty!
4. Update the Asterisk dialing table to include the phone numbers that should be called when the input is activated, and associate the voice files that should be played. Paragraph 5 (below) shows how to do this by editing the dialing plan.
5. To edit the dialing plan:

```
; Context for the input handlers  
[astbank-input]  
; Using the default channel for this context  
; The following line will call Zaptel channel number 1  
; And play the "alarm-message" sound file  
exten => s,1,Dial(Zap/1 ,10,A(alarm-message))  
; After Zap channel 1 finishes, Zaptel channel 2 will be called  
exten => s,2,Dial(Zap/2 ,10,A(warning-message))  
  
; You can add as many actions as you like using the following syntax:  
exten => s,[sequence-number], [action]
```

6. To change the dialing plan using Asterisk Management Portal, check your setup by activating (short circuit) the relevant input port. Asterisk will generate the calls as per your dialing plan and play the associated voice files.

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