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The Input Expander!

# User's Guide

by Alcorn McBride Inc.

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All warranty and support for the Input Expander and its application is provided solely by Alcorn McBride.

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# Welcome

Congratulations on choosing The Input Expander for your discrete control wiring board. The Input Expander makes it easier than ever to directly select the inputs on the back of many of Alcorn McBride's playback units. Saving you hours of wiring time, this little board eliminates messy wiring and provides an easy interface to connect your discrete controls. Good luck, have fun, and thanks for choosing Alcorn McBride!

## BEFORE YOU START

**Your playback unit must be set to VOLTAGE MODE before connecting the Input Expander to it.** Your unit will not understand what you are trying to do and may display aberrant behavior, if it is in contact closure mode. **You could possibly damage the unit by running contact closure mode while applying voltages to the inputs!** Most units have a DIP switch or slide switch for this setting. Just put it in the correct position (see your unit's manual) and that's all there is to it.

## Technical Support

You can obtain information about specifying, installing, configuring, and programming your Alcorn McBride Input Expander from several sources:

For...	Contact...	When?...
Telephone Support	(407) 296-5800	M-F 9am-6pm (EST)
Fax Support	(407) 296-5801	M-F 9am-6pm (EST)
E-Mail Support	support@alcorn.com	Any Time



# Installing the Input Expander

There are two ways to install the Input Expander. On a DIN Rail, thus the exciting orange casing or on a wall.

## DIN Rail Mounting



The Input expander has two DIN Rail clips for mounting to a standard DIN Rail. Shown is a side view of the assembled card. Just set one clip edge on the top of the DIN Rail and rotate in the board until you hear the other piece click into place.

Installation

## Wall Mounting



Upon removing the orange DIN Rail casing by unsnapping the end caps and sliding out the circuit board, you'll find four screw holes are available for mounting to a non-conducting surface.

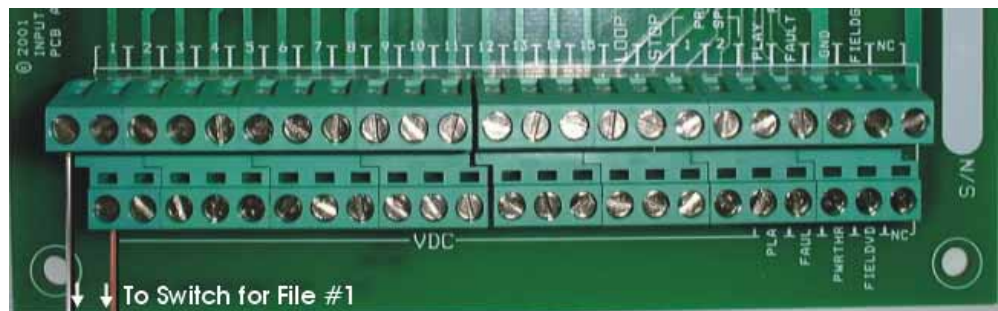
# Wiring the Module

**Attention!** Never wire any module while power is applied.

The module wiring terminals accept one wire per terminal of 17 AWG or smaller stranded wire. Maximum screw torque is 0.4 Nm.

## Example: File Select 1

Simply connect one wire from your contact closure to the screw labeled “1” at the left of the board, as shown below. Then wire the other side of the contact closure to one of the screws labeled “VDC” on the bottom.



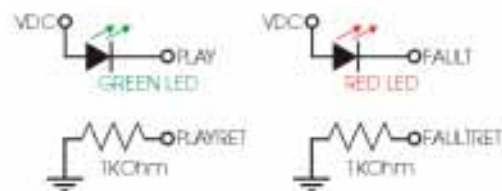
## Example: Loop Strapping a clip

Suppose you want the unit to automatically loop file 6 after bootup. Simply connect one wire from 6 to VDC and once wire from LOOP to VDC as shown.



## Application Note: Making a Test Card

You may want to make a test card out of your new Input Expander, and this is easy to implement with the wiring diagram to the right. Just get a couple of LED's and a couple of 1KOhm resistors. Then wire them directly across the screw terminals, if you desire, so that you now have access to feedback from the unit's playing and faulted



outputs. This is really handy for testing out multiple units, and since the card can be used with so many Alcorn McBride Inc products, it's a cheap investment for speedy debugging!

## Powering the Module

The Input Expander can be powered from the unit's power supply or from an external power supply up to 24VDC, depending on how much distance you want to have between the contact closures and the unit. The location of the Input Expander in between the switches and your unit doesn't matter. There are two jumper clips at the top right of the board as shown to the right. Also note the diagram on the circuit board in addition to the directions below.



### Power from the Unit

Default from the factory, the two jumper clips should be placed on pins 1 & 2 of JP3 and JP4. This setting is good for a distance of 6ft or less from the unit. Above 3ft of cable, we recommend shielded wiring. There is a 6ft shielded cable available for purchase along with this unit. Please see our spec sheet for the Input Expander for more details. **NOTE: The DVM2 family of products does not have the ability to power the Input Expander. You will need an external power supply to power the Input Expander when using it with a DVM2.**

Installation

### Field Power/External Power

To have up to 1000ft between the unit and the switches, you can use an external power supply to provide the DC voltage you need. The maximum voltage input on all of our units at this time is 24VDC. We have an AC/DC "wall-wart" supply available purchase along with this unit, but you are not required to use it. Please see our spec sheet for the Input Expander for more details.

Make sure your DC supply is not plugged in. Simply clip off the connector from the end of your DC supply (typically a barrel jack) and split the cables long enough to strip the tips and connect them as



Connect Ground to FIELDGND  
Connect VDC to FIELDVDC

shown to the appropriate terminals. Plug in your DC supply and use a voltmeter to verify which wire is the positive DC node and which is ground. Unplug the DC supply. Connect the ground wire to FIELDGND and the

positive DC wire to FIELDVCD as shown. The two jumper clips should be placed on pins **2 & 3** of JP3 and JP4 to be in field power mode.

## Connecting To Your Unit

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**Attention!** Never connect or remove any cabling while power is applied.

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On more time for good measure let us mention this:

**Your playback unit must be set VOLTAGE MODE before connecting the Input Expander to it.** Your unit will not understand what you are trying to do and may display aberrant behavior, if it is in contact closure mode. **You could possibly damage the unit by running contact closure mode while applying voltages to the inputs!** Most units have a DIP switch or slide switch for this setting. Just put it in the correct position (see your unit's manual) and that's all there is to it.

Verify the unit is not on and that the external DC supply is unplugged (if you are using one). The cabling necessary to connect is a 37pin cable



from the Input Expander's female 37pin DSUB connector to the Discrete Controls connector (typically female 37pin DSUB also) on the back of your unit. Tighten the screws of your cabling (if you have any) to the jackscrews on the connector to secure the cable to the Input Expander. Do this for the unit as well, and that's all you need to do! Power up the playback unit and plug in the DC source (if you are using one).

## Product Specific Functions

There are two screw terminals on the Input Expander that connect to inputs on the various playback units we support with this product. All the other connections like pause, stop, 1,2,3,4 etc... are universal between our products, but PRODUCT SPCFIC 1 and PRODUCT SPCFIC 2 connect to inputs that have meanings that change among units. Also the LightCue has STOP switched with Pause, so for your convenience here is a listing, by product of what each of these inputs means to each unit:

Unit	STOP	PRODUCTSPCF1	PRODUCTSPCF2
DVM2	STOP	RESUME	STILL
DVMPK8001	STOP	RESUME	PAUSE
MP3 Audio Machine	STOP	MUTE	PAUSE
Digital Audio Machine	STOP	MUTE	PAUSE
LightCue	PAUSE	PLAY	STOP