

# **SHUTTLE BOX**

FOR ACTIVE & PASSIVE AVOIDANCE

MED-APA

INSTALLATION GUIDE

**DOC-015**

**Rev. 1.4**

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notes

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## CHAPTER 1 | INTRODUCTION

The Med Associates, Inc. Shuttle Box System will arrive with most if the components wired correctly, therefore the system requires minimal assembly. This manual serves as a guide to complete the wiring of the system. Should further assistance be required, please visit [www.med-associates.com](http://www.med-associates.com).

For software information, refer to the documentation that was delivered with the Shuttle Box software application.

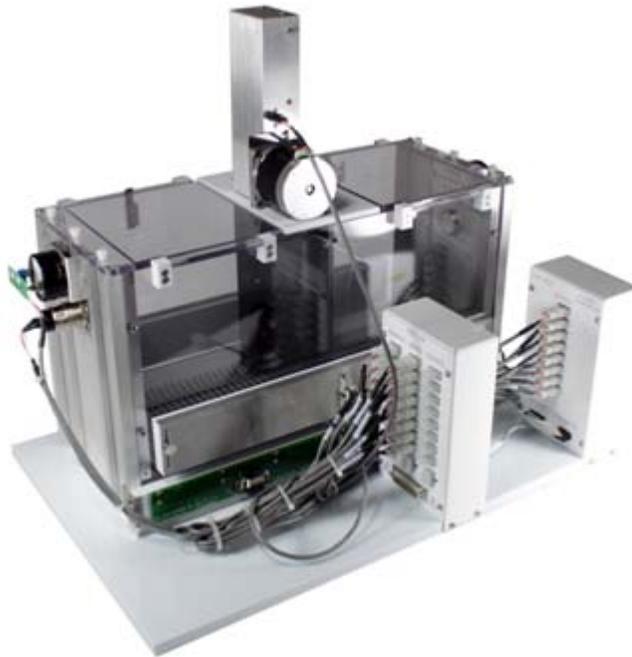
*Figure 1-1 – Shuttle Box Chamber*

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*Figure 2.1 - Shuttle Box Chamber with IR Strips and Optional Automatic Guillotine Door*

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## CHAPTER 2 | INSTALLING INTERFACE CARDS

### Drivers and Software

Refer to the Instructions for installing MED-PC, Delphi, and the hardware drivers, as well as running the hardware configuration utility in DOC-010, **MED-PC IV User’s Manual**. If a PC was purchased from MED Associates Inc., the software and drivers will already be installed. If necessary, use the Hardware Configuration Utility to set user-defined options for file format, file naming, data path, and backup.

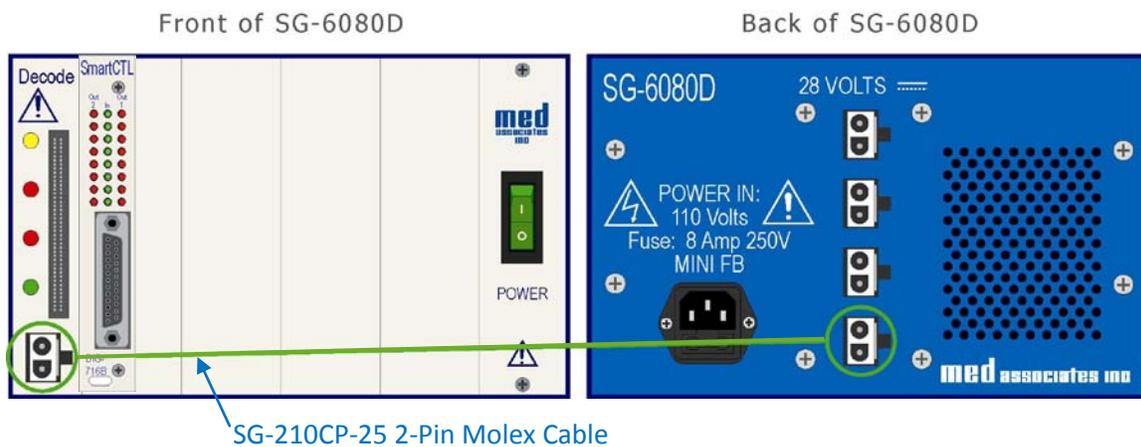
### PCI Computer Interface Card

If the computer was purchased from MED Associates, the PCI card will be factory-installed. Otherwise, install the PCI Computer Interface Card into an available full height PCI slot in the computer following the manufacturer’s instructions provided with the computer. When finished, turn the computer on. The Found New Hardware Wizard should begin automatically; if it does not, select **Start | My Computer | Control Panel | Add New Hardware**. The drivers are located on the MED-PC® installation CD and are automatically installed with MED-PC.

### Decoder Card

To install the Decoder Card first turn off the power to the interface cabinet (SG-6080D or SG-6510D). The decoder card (DIG-700G) should be installed in the leftmost slot of the interface cabinet. Connect an SG-210CP two-pin Molex cable from the front of the decoder card to a 28 VDC power supply in the rear of the cabinet. (See Figure 2-1.)

Figure 2-1 – 28Volt Connection to Decoder Card

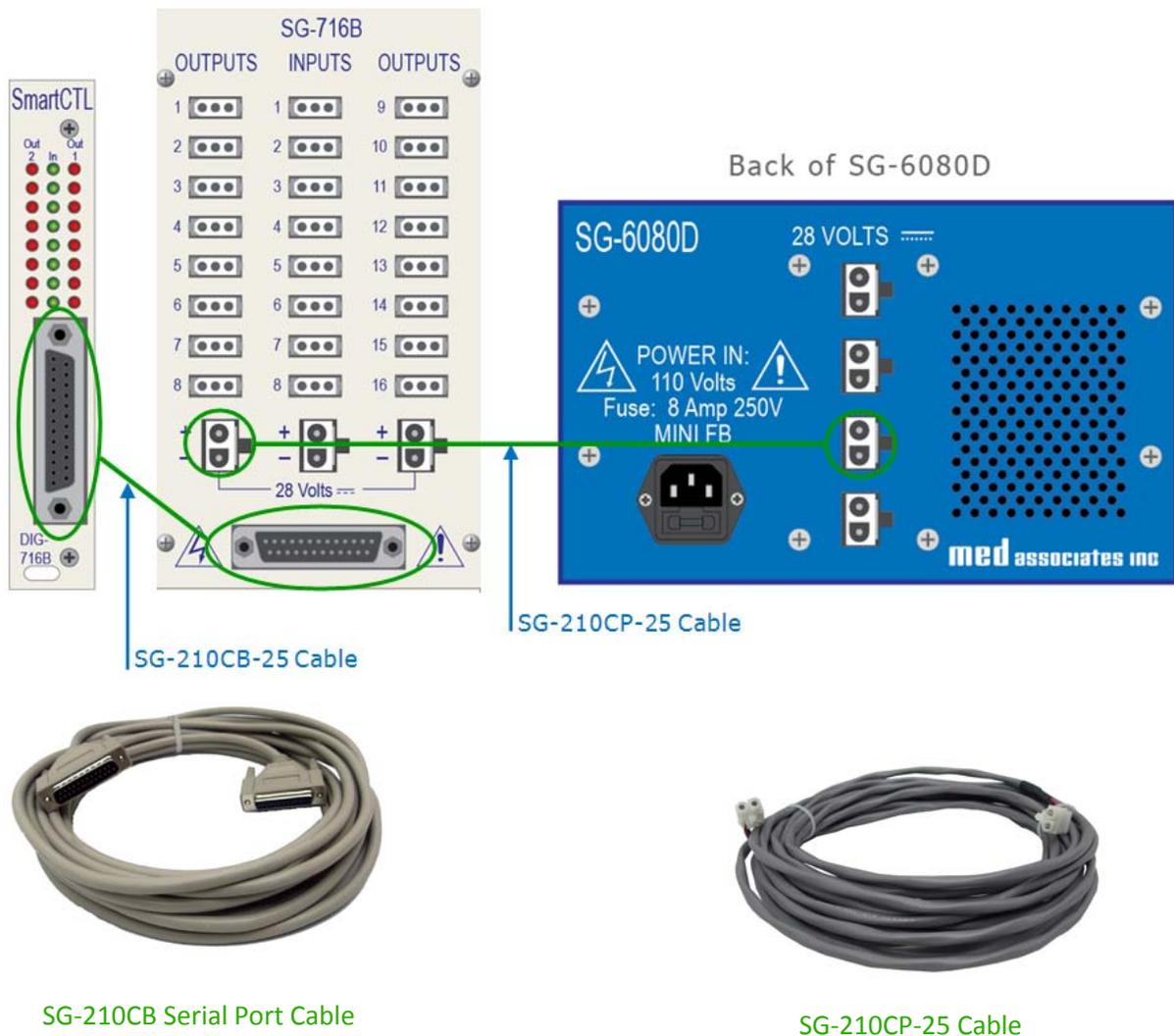


### SmartCTRL Interface and Power Supply

Before connecting components, turn off the power on the computer and the interface cabinet. Install the SmartCTRL Interface Card(s) in sequence, starting with Box 1 on the leftmost slot next to the Decoder card. Make sure the ports and address offsets are set according to the instructions in DOC-013 **SmartCtrl Manual**.

Connect the SmartCTRL card to the Control Panel using an SG-210CB Serial Port cable. Provide 28 Volts to the Control Panel from the SG-6080D using an SG-210CP-25 Cable. See Figure 2-2.

*Figure 2-2 – Connect the DIG-704PCI-2 to the DIG-700G Decode Card.*



Connect the DIG-704PCI-2 card to the DIG-700G Decode Card using the DIG-700C Ribbon Cable.

*Figure 2-3 – Connect Decoder Card to PCI Card in Computer using DIG-700C Ribbon Cable*



## CHAPTER 3 | WIRING INSTRUCTIONS

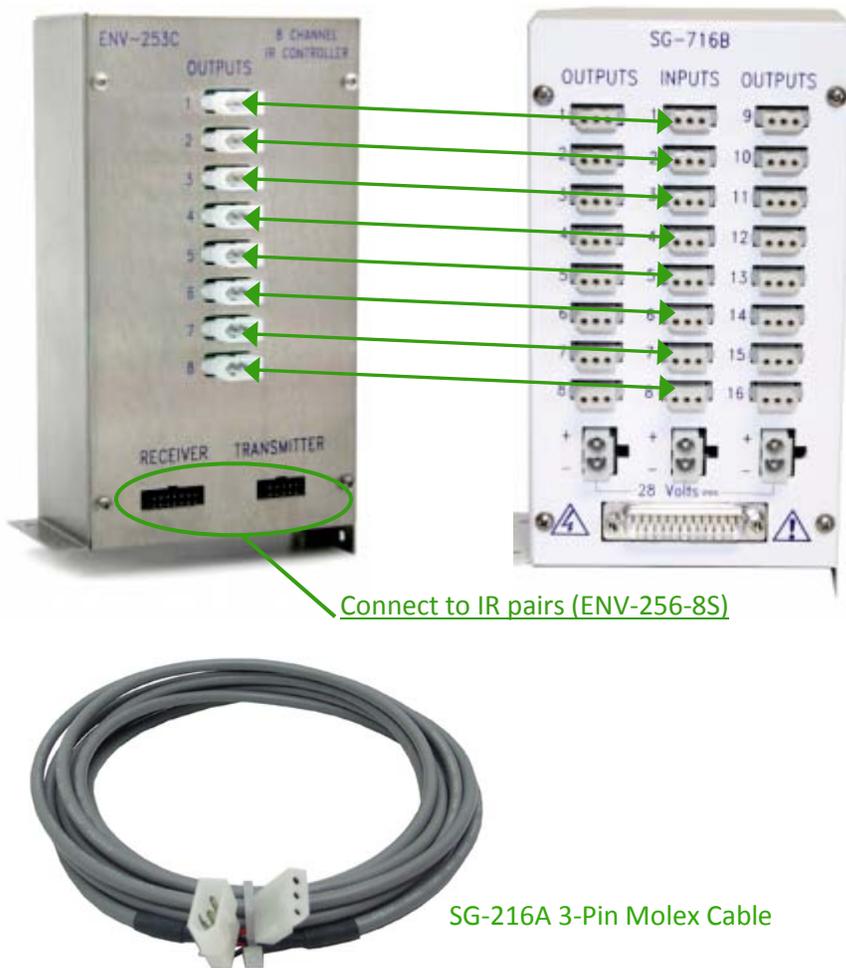
### IR Controller

A pair of infrared (IR) strips containing transmitters and receivers attaches to the front and back walls of the shuttle box chamber to detect the animals' movement throughout the chamber. These strips can be adjusted by setting the photo beam height to accommodate different sized rats and mice. The IR strips connect to an eight-channel I/R control box (ENV-253C) to transmit data to MED-PC software.

Connect the outputs from the ENV-253C eight-channel IR controller to the inputs on the SG-716B control panel using the SG-216A 3-pin Molex cable.

See Figure 2-2 for connections from the SG-716B Control Panel to the DIG-716B SmartCtrl card and the 28Volt connection from the power source to the SG-716B.

Figure 3-1 – ENV-253C 8 Channel IR Controller



### Grid Scramblers

Connect each ENV-412 Grid Floor Scrambler to the corresponding grid floor using SG-219G-10 cables. Please note that there are two ENV-412 Scramblers in the cabinet. The Scrambler on the left must connect to the grid floor on the left side of the Shuttle Box, and the Scrambler on the right must connect to the grid floor on the right side of the Shuttle Box.

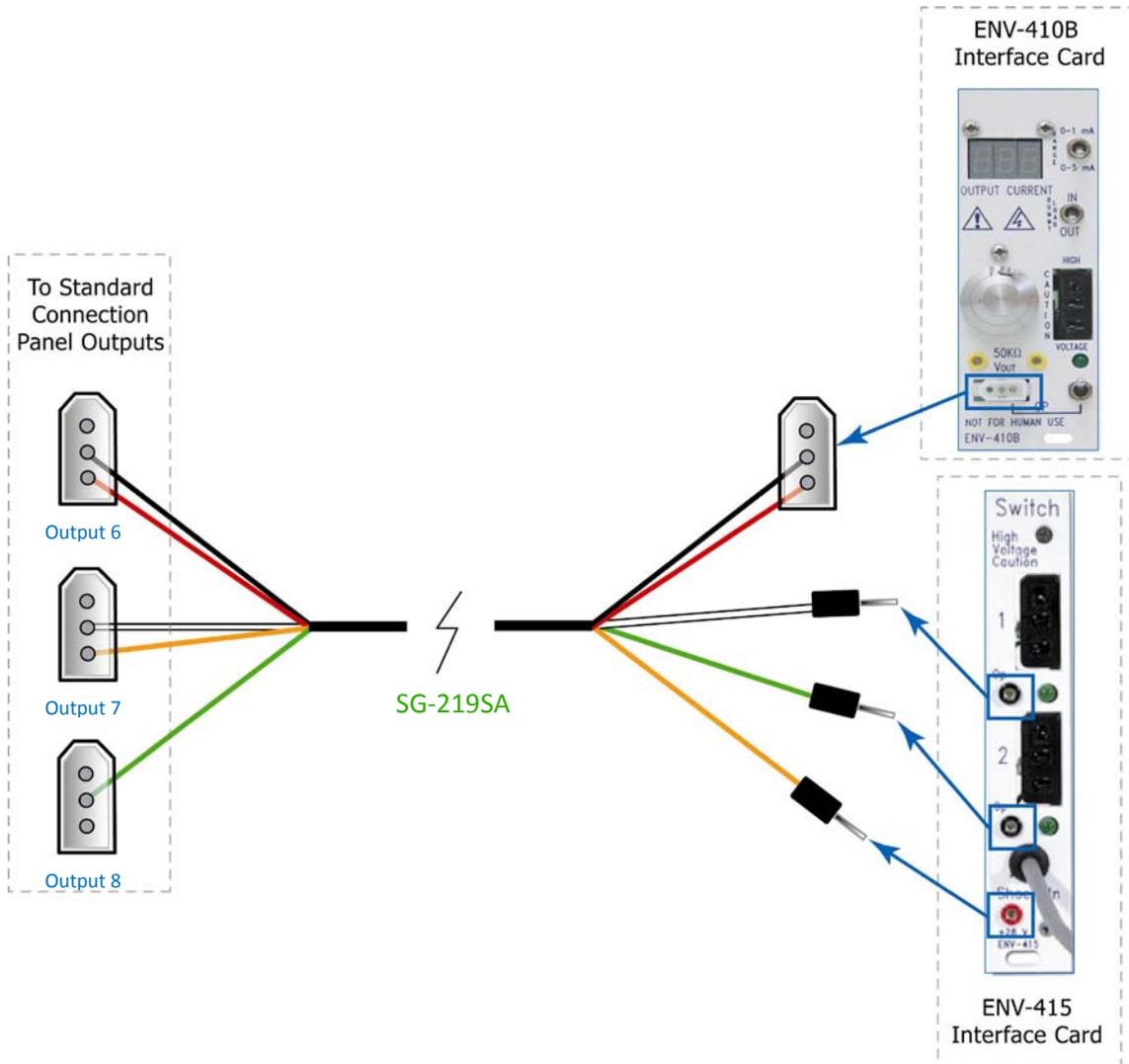
*Figure 3-2 – Grid Scrambler Connection to Quick Disconnect Shuttle Grid Floor Harness*



### Shock and A/B Switch Cable

Using the SG-219SA cable, connect the MED Connection Panel Outputs to the ENV-410B and ENV-415 Switch and Stimulator interface cards. Refer to Figure 3-3.

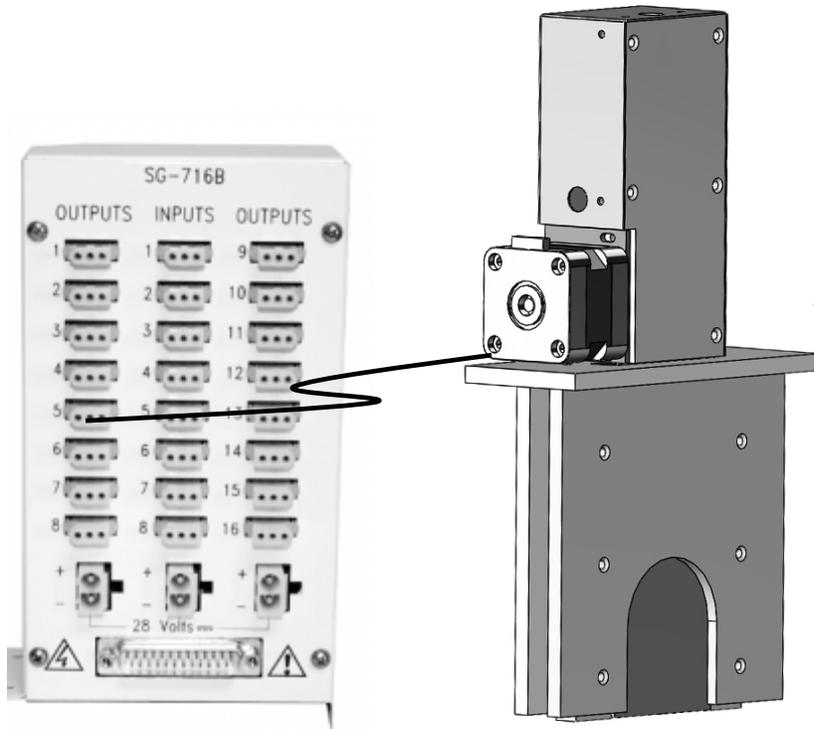
Figure 3-3 – SG-219SA Cable Connections



## CHAPTER 4 | OPTIONAL GUILLOTINE DOOR

If the system requires the connection of an Automatic Guillotine Door, simply connect it to the available output port (output 5 is used with standard MedState protocol) on the Connection Panel as shown in Figure 4-1.

*Figure 4-1 – Guillotine Door Connection*



## APPENDIX A | CONTACT INFORMATION

Please contact Med Associates, Inc. for information regarding any of our products.

Visit our website at [www.med-associates.com](http://www.med-associates.com) for contact information.

For technical questions, email [support@med-associates.com](mailto:support@med-associates.com).