MindWare Digital Movie Player User Reference

(Version 1.0)

Thank you for purchasing the MindWare Digital Movie Player application. This program will allow you to present digital media (.avi, .mpg, .wav) using Windows Media Player and your computers audio and video hardware. Coupled with the addition of a National Instruments analog or digital IO board you can send digital information to your physiology recording system's analog or digital ports synchronous to stimulus presentation. This capability provides for accurate alignment of physiological processes to external events. When used with other MindWare analysis products, such as HRV, EDA, and BP, this digital timing information provides a means to index to a specific moment in your data recording by taking advantage of the trigger reference capability.

IMPORTANT: DO NOT INSERT THE USB DONGLE INTO THE PC PORT UNTIL THE INSTALLATION PROCEDRUE IS COMPLETE!

Failing to follow this will require you to un-install the Dongle using the Device Manager before you can successfully install the application.

Section 1a: Installation Procedure

Insert the MindWare Movie Player cd into your cd-rom drive. The installation should begin automatically. If this does not happen, you can run the Setup application directly from the cd. Follow the prompts and allow the installation to complete. The device driver for the Dongle will be

installed on your system as part of this procedure. Once this is completed, you can insert the Dongle into your USB port and the system will launch the New Hardware Found wizard. Once this is finished you can run the application.

Section 2a: Playback Interface Screen

The above screen will be your start and end point when using this application. Selecting the Exit button will quit the application. Pressing the Play Movie button you will be able to select your stimulus and timing files. Once you have made these selections you will immediately go to a blank screen that will wait for an F1 signal to begin playback. Once playback begins you can end by pressing the Esc key or wait until the media file plays in its entirety.

Section 2b: Setup Timing File

The timing file can be created using any plain text based editor such as Windows ® Notepad or WordPad applications. This file contains specific event time in seconds and the desired bit pattern you wish to present to your recording system. The available range in bit pattern is dependant on your specific hardware installed in your system as well as the I/O recording capability of your physiology system. Typically this is 8 bits (0 – 255) wide but this can be increased or decreased depending on the number of discrete events you wish to use. It is possible to record this digital information using your physiology systems analog or digital ports configured as an input.

The following is an example of a timing file that is capable of sending 8 bits to the recording system:

1.0 1
12.5 122
22.7 100
31.4 1

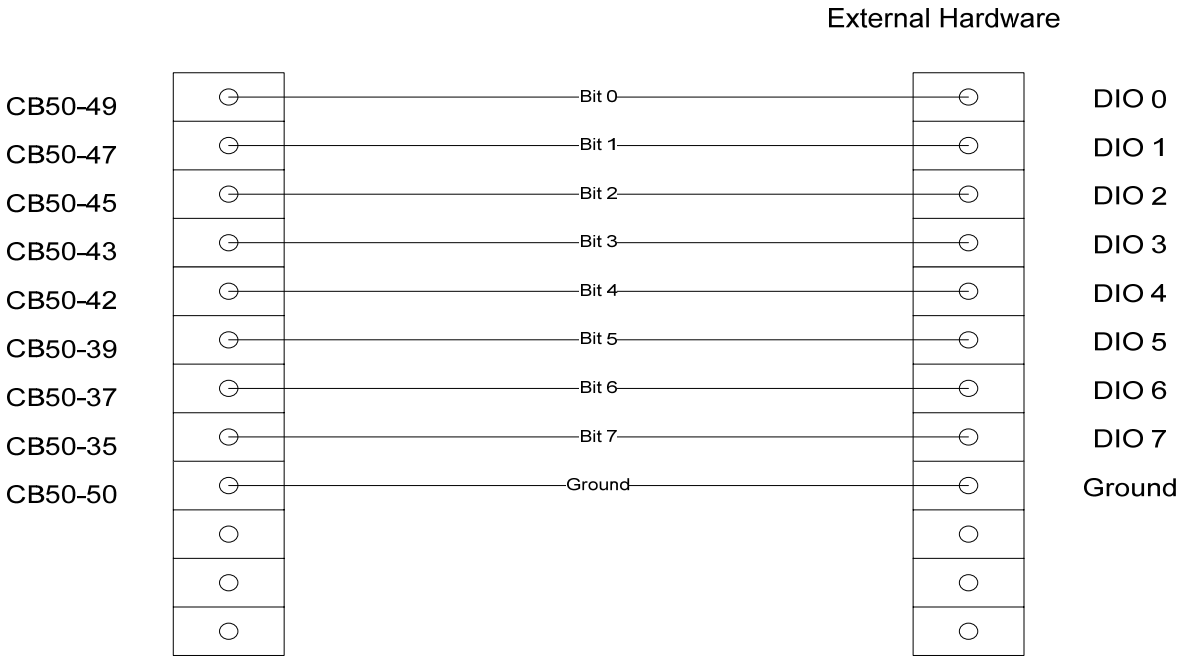
Using this timing scheme, a decimal code of 1 (00000001) will be sent out the I/O port at 1 second after playback begins and will return to a decimal code of 0 in 100 msec. It is important to note that the earliest time you can send a code immediately after playback is initiated is .5 seconds. This will be followed at 12.5 seconds where a code of 122 (01111010) will be sent, followed by 100 (01100100) at 22.7 seconds, and 1 (00000001) at 31.4 seconds. There can be only one set of time and code information per line separated by a tab and ending in a carriage return.

The Movie Player application communicates to your external equipment by means of a National Instruments PCI- 6503 digital I/O card, a CB-50 connector block, and a ribbon cable. Before you can run the application, this hardware and software needs to be installed in your computer.

You must first install the National Instruments Nidaq software that accompanies your 6503. Insert this cd into your drive and follow the simple instructions on installing the drivers and manual if you want. Once this completes, you can shut down the computer and install the 6503 in an open PCI slot. Once this is complete, restart the computer and the New Hardware Detected wizard will run and load the drivers.

Next, you need to make connection from the CB-50 terminal block to your external hardware's analog or digital I/O port. The output pins used on the PCI-6503 board are pin 47 (bit 0), pin 45 (bit 1), pin 43 (bit 2), pin 41 (bit 3), pin 39 (bit 4), pin 37 (bit 5), pin 35 (bit 6), and pin 33 (bit 7). This provides an 8-bit interface and capable up to 255 different states. You may not choose to use all 8 bits if your hardware only has limited I/O. Ground is located on pin 50 and must be connected between the two systems.

Once the connections have been made between your external hardware, you can insert the ribbon cable into the CB-50 terminal block and into the connector slot of the 6503. It is keyed so the cable cannot be inserted
incorrectly.



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