AVERSIVE STIMULATION WITH VIDEO MONITORING

USERS MANUAL

SOF-732-4 User's Manual
DOC-155
Rev. 1.0

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CHAPTER 1
Introduction

Overview

Aversive Stimulation with Video Monitoring allows the user the ability to use MED-PC, Video Monitor, and Aversive Stimulation testing equipment to record aversive reaction in lab animals.

Background

Researchers at a large university wanted to determine the average minimum current necessary to cause an aversive reaction in mice. These researchers used an aversive stimulation cage connected to a MED Associates ENV-414S Aversive Stimulator with Scrambler. While one researcher would operate the output current dial on the ENV-414S, trying to maintain a consistent 10µA rise every 5 seconds, a second researcher would visually monitor the test subject through the SAC peephole for an aversive reaction to the current stimulus.

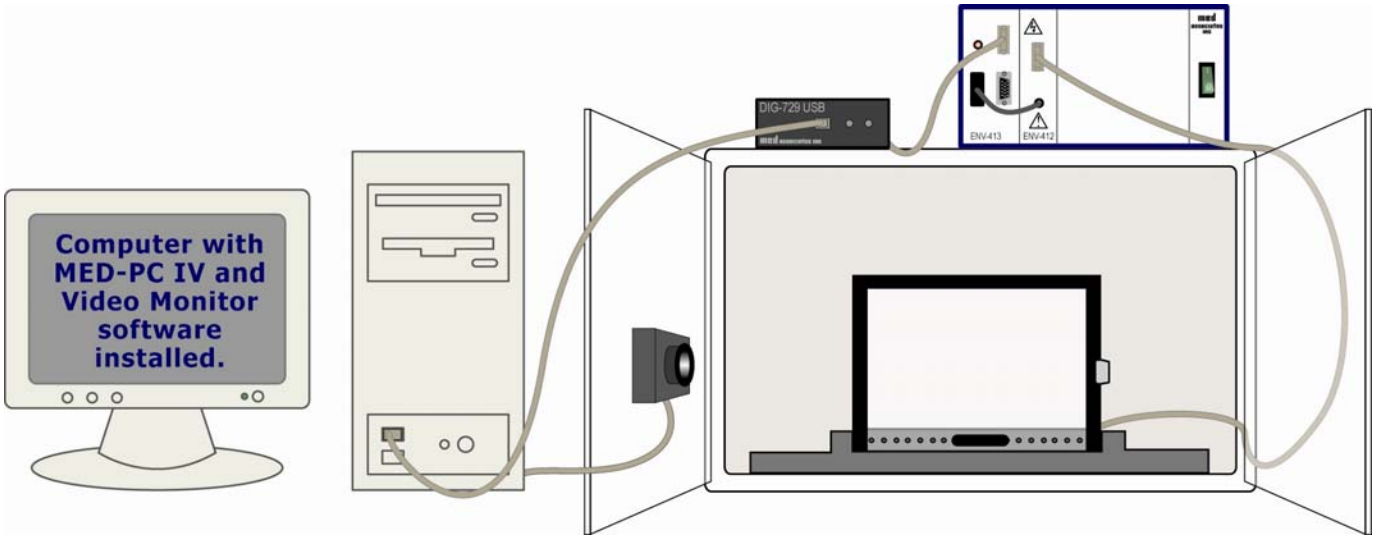
It was determined that there are several problems with this method that could be solved using other MED Associates hardware and software. First, maintaining a consistent current increase is much easier using MED-PC to communicate with an ENV-413 Aversive Stimulator and ENV-412 Scrambler. Second, using a Video Monitor camera in place of a human eye allows for a more comfortable testing situation, allows multiple researchers to confer over the subject animal's reactions, and provides the ability to rewind and review the animal's reactions. MED Associates Aversive Stimulation with Video Monitoring provides all of these features.

Hardware

The Aversive Stimulation with Video Monitoring package incorporates multiple hardware and software components, shown in Figure 1.

NOTE: do NOT connect hardware until instructed by its driver installation program.

Figure 1 - Aversive Stimulation with Video Monitoring Components



The Aversive Stimulation with Video Monitoring Package requires the following hardware:

- ENV-008-FPU Quick Change Test Chamber
- ENV-005-QD Quick Disconnect Grid Floor Connection Block (Rat) or ENV-005A-QD Quick Disconnect Grid Floor Connection Block (Mouse)
- DIG-729 USB Controller
- ENV-413 Computer Controlled Aversive Stimulus Generator
- ENV-412 Current Scrambler
- Interface Cabinet (houses the ENV-413 and ENV-412 cards)
- ENV-420 Current Tester (optional)
- Sound-Attenuating Cubicle
- PC with peripherals

Software

The Aversive Stimulation with Video Monitoring Package requires the following software:

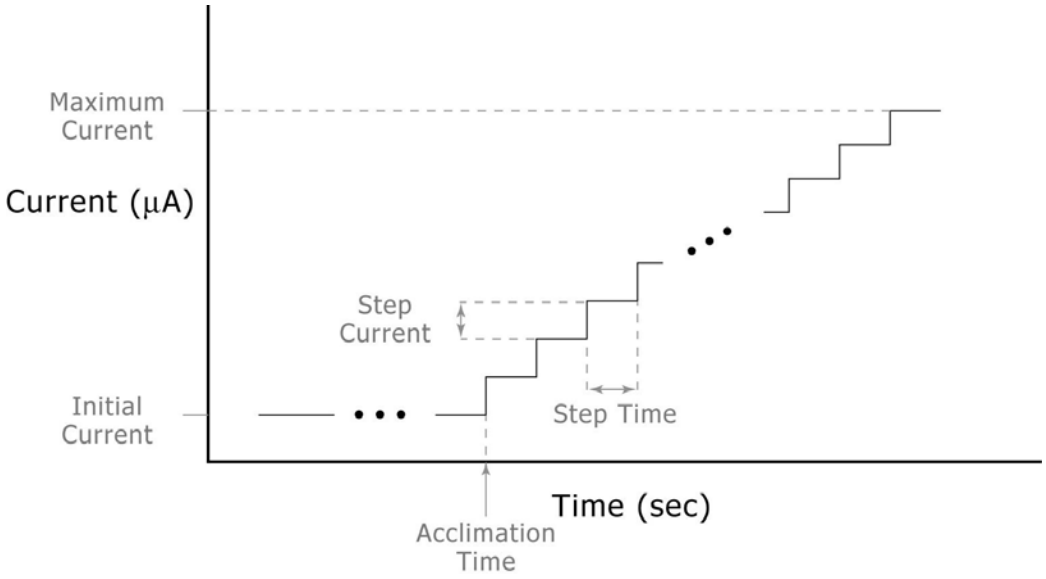
- DIG-729 Driver
- SOF-735 MED-PC application
- SOF-842 Video Monitor application
- SOF-732-4 Aversive Stimulation with Video Monitoring application
- ENV-420 Current Tester Software (optional)

CHAPTER 2
Aversive Stimulation with Video Monitoring Software

Aversive Stimulation with Video Monitoring (AvStimVideo) is a MED-PC MedState Notation (MPC) program with two main responsibilities:

- Control the current to the aversive stimulation chamber grid floor.
- Communicate with the Video Monitor software.

Figure 2 - Aversive Stimulation Model



Aversive Stimulation Control

The AvStimVideo MPC program runs a simple "ramp up" model, as shown in Figure 2. The model uses the following parameters:

- **Initial Current** default = 0.0 µA
- **Acclimation Time** default = 5 seconds
- **Step Current** default and minimum = 2.5 µA
- **Step Time** default = 1.25 seconds
- **Maximum Current** default and maximum = 1000.0 µA

The AvStimVideo MPC program allows early termination of the stimulation model, before the maximum current is reached by issuing a "K" pulse. This will be explained in greater detail in the "**Stopping Experiment Before Reaching Maximum Current"** section below.

Video Monitor Communication

The AvStimVideo MPC program:

- Opens communication with Video Monitor using the MED / Video Monitor Interface.
- Sends a “Start Camera” command to a camera waiting in Video Monitor. The command travels via the communication pipe to begin saving a video file (*.WMV or *.MEV).
- Sends annotation messages at each aversive stimulation current step to appear as captions on the saved video.
- Sends a “Stop Camera” command at end of Aversive Stimulation program, or when terminated early by user input, to end the video file saving.
- Closes the MED / Video Monitor interface communication channel.

Aversive Stimulation with Video Monitoring Components

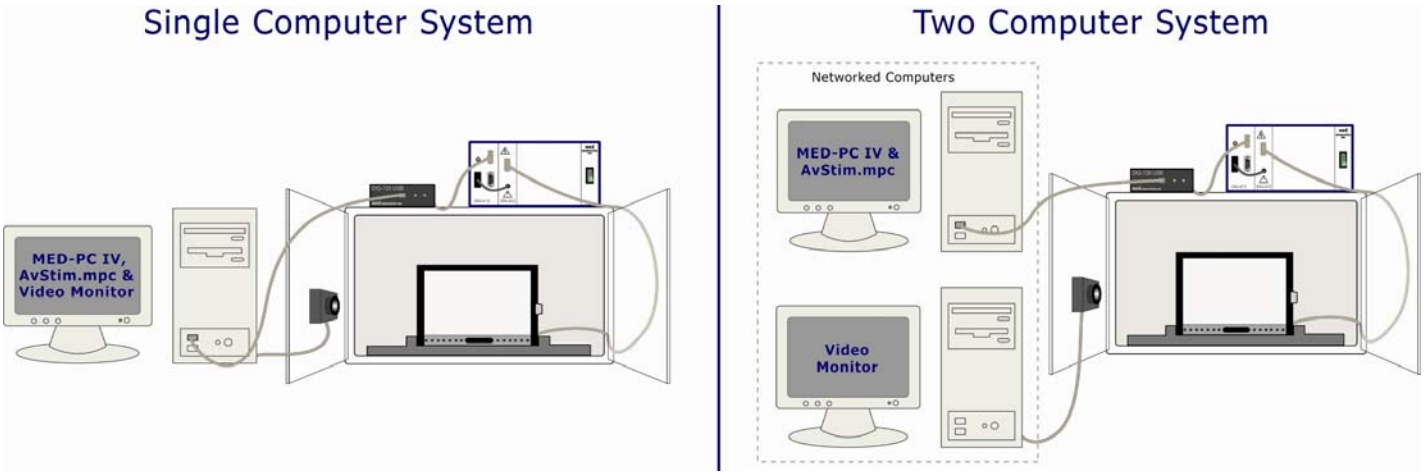
AvStimVideo is comprised of 4 software files:

- AvStimVideo.MPC – MedState Notation code compiled using TransIV and run using MED-PC. The code controls the ENV-413 Aversive Stimulator, and communicates with Video Monitor.
- AvStim_spt.HED, .BOD – Delphi Pascal code used by AvStimVideo.MPC to parse the computer and camera name from the MED-PC session comment field.
- AvStimSample.MAC – MED-PC macro code to simplify loading AvStimVideo, entering computer and camera names, and sending start command to MED-PC. A macro file is an optional step. However, creating a macro file for each testing scenario will greatly improve efficiency, and is good practice to help define reliable and repeatable experiments.

CHAPTER 3
Software Installation

Aversive Stimulation with Video Monitoring may be configured to operate on a single computer or two networked computers. In the single computer system, the three major software components – Video Monitor, MED-PC IV, and Aversive Stimulation with Video Monitoring – are all installed on the same computer. In the two-computer setup, MED-PC IV and Aversive Stimulation with Video Monitoring software are installed onto one computer, and Video Monitor on the other. However, due to the network security issues, running on multiple computers may be difficult to configure. It is **recommended** that MED-PC IV, Aversive Stimulation with Video Monitoring, and Video Monitor all be installed on a **single computer**.

Figure 3 – Single Computer vs. Two Computer Setup



The main difference between the single and two-computer system installation procedures is the extra step of installing the "Video Monitor MED-PC Interface" on the MED-PC computer of the two-computer system. In the single computer setup, the Video Monitor MED-PC Interface is installed as part of the Video Monitor installation process.

Table 1 - Installation order

Single Computer System	Two Computer System	
	MED-PC IV Computer	Video Monitor Computer
1. Install MED-PC IV	1. Install MED-PC IV	4. Install Video Monitor
2. Install Video Monitor	2. Install Video Monitor MED-PC Interface	
3. Install AvStim	3. Install AvStim	

Single Computer System Installation Procedure

The single computer system is the **recommended configuration** to avoid network communication difficulties. The installation order is as shown in the leftmost column of Table 1 above (Note: steps 2 and 3 may be performed in reverse order):

1. Install MED-PC IV. Refer to the MED-PC IV User's Manual for details.
2. Install Video Monitor. Refer to the Video Monitor User's Manual for details. In addition to installing the Video Monitor program, this installation procedure will install the Video Monitor MED-PC Interface components into the MED-PC IV folder. The installation procedure will search for the MED-PC IV installation directory, and automatically install the interface components there. If the installation program is unable to find MED-PC IV, the Interface components will **not** be installed. The Video Monitor MED-PC Interface component installation will put the MED_VM_Interface.DLL and VM_Iface.HED files in the MED-PC IV installation directory, the VIDEO.MPC file in the MED-PC IV\MPC folder, and insert {$I VM_IFACE.HED} into the User.PAS file.
3. Install Aversive Stimulation with Video Monitoring. Insert the Aversive Stimulation with Video Monitoring distribution CD into the computer. The screen shown in Figure 4 will appear. If this screen does not appear, use Windows Explorer to browse to the CD drive and double click the "Autorun.EXE" file.

Figure 4 - Aversive Stimulation with Video Monitoring Main Screen

Click **To install the software click here**, and then click the **Next** button at each successive screen to choose the default installation settings.

The installation will search for the MEDPC_IV.EXE file to determine the MED-PC IV installation directory. If the installation program cannot find the MEDPC_IV.EXE file, a prompt will appear to browse to the program. Choose **Yes** when prompted to install to the found MED-PC IV directory.

The installation program will alter the User.PAS file in the MED-PC IV installation directory. Two lines will be inserted:

- **{$I AVSTIM_SPT.HED}** in the {Place $I Filename.HED files here.} section.
- **{$I AVSTIM_SPT.BOD}** in the {Place $I Filename.BOD files here.} section.

The installation program will copy the AvStim_Spt.BOD and AvStim_Spt.HED files to the MED-PC IV installation folder.

The program then copies the AvStimVideo.MPC file to the MED-PC IV\MPC folder.

The user manual "Aversive Stimulation with Video Monitoring.PDF" will be copied to the MED-PC IV\Manuals directory.

The last code file to be copied will be a sample macro file, called AvStimSample.MAC. It will be copied to the MED-PC IV\Macro folder.

Two Computer System Installation Procedure

If MED-PC IV and Video Monitor are running on separate computers, the Video Monitor MED-PC Interface components must be installed on the MED-PC IV computer. This is explained in Step 2 below. Note: steps 2 and 3 may be performed in any order.

1. Install MED-PC IV on the MED-PC IV computer, refer to the MED-PC IV User's Manual for details.
2. Install Video Monitor MED-PC Interface on the MED-PC IV computer. This will install the Video Monitor MED-PC Interface components into the MED-PC IV folder. Insert the Video Monitor CD into the MED-PC IV machine, and click **To install the Video Monitor MED-PC interface click here**. See Figure 5 below.

Figure 5 - Video Monitor MED-PC Interface Installation

The installation program will search for the MED-PC IV program installed in step 1. Choose **Yes** when prompted to install to the found MED-PC IV directory. The install program will put the MED_VM_Interface.DLL and VM_Iface.HED files in the MED-PC IV directory, and VIDEO.MPC in the MED-PC IV\MPC folder. The installation program will then insert {$I VM_IFACE.HED} into the User.PAS file.

3. Install Aversive Stimulation with Video Monitoring. See step 3 in the Single Computer System Installation Procedure above.
4. Install Video Monitor on the Video Monitor computer. Refer to the Video Monitor User's Manual for details. This step may be performed at any time in relation to the first three steps.

In the two-computer system, the MED-PC IV computer **must have "write file" permissions** on the Video Monitor computer. It is recommended that both computers be a part of the same domain. See your network administrator for details. Again, the single computer system is recommended to avoid this possible problem.

CHAPTER 4
Setting Up Aversive Stimulation with Video Monitoring

To use Aversive Stimulation with Video Monitoring, both MED-PC and Video Monitor components must first be configured. MED-PC and Video Monitor may be running on separate computers. In the example below, MED-PC is running on a computer named "med-pc" and the Video Monitor computer is named "testxp".

Video Monitor Configuration

Find Computer Name

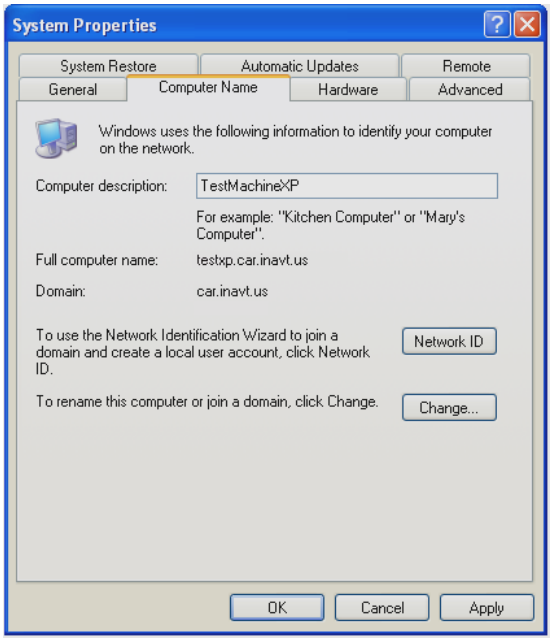
In Aversive Stimulation with Video Monitoring, MED-PC needs to be told the name of the Video Monitor computer. If MED-PC and Video Monitor are running on the same computer, the computer name is **"."**.

In a two-computer system, to find the Video Monitor computer name:

1. Open to the **Start** menu,
2. Right-click on **My Computer**,
3. Choose **Properties**,
4. Click the **Computer Name** tab.

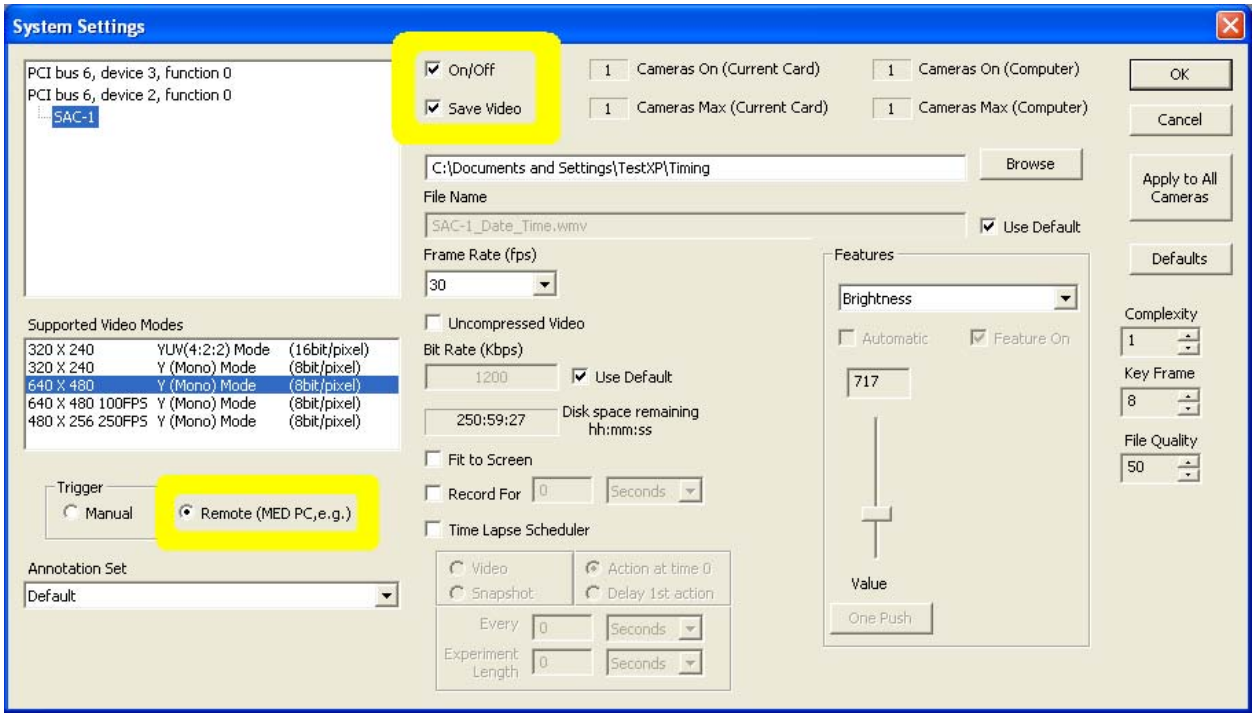
The computer name is the text before the first period in the "Full computer name" field. See example in Figure 6. The computer name here is "**testxp"**. Leave off the domain information (.car.inavt.us) when specifying this computer in the MED-PC session comments field.

Figure 6 - Finding Computer Name: "testxp"



Setup Camera in System Settings Dialog

Figure 7 - Video Monitor System Settings Dialog



To configure Video Monitor, start the application, and bring up the System Settings dialog. Navigate to the desired camera in the camera tree. In Figure 7, the camera being used is "SAC-1". Fill the checkbox in the "**On/Off**" field to activate the camera display, and fill the checkbox in the "**Save Video"** field. Next choose the "**Remote (MED PC, e.g.)**" option of the "**Trigger"** field to tell the camera not to start saving until commanded by MED-PC.

Close the System Settings Dialog

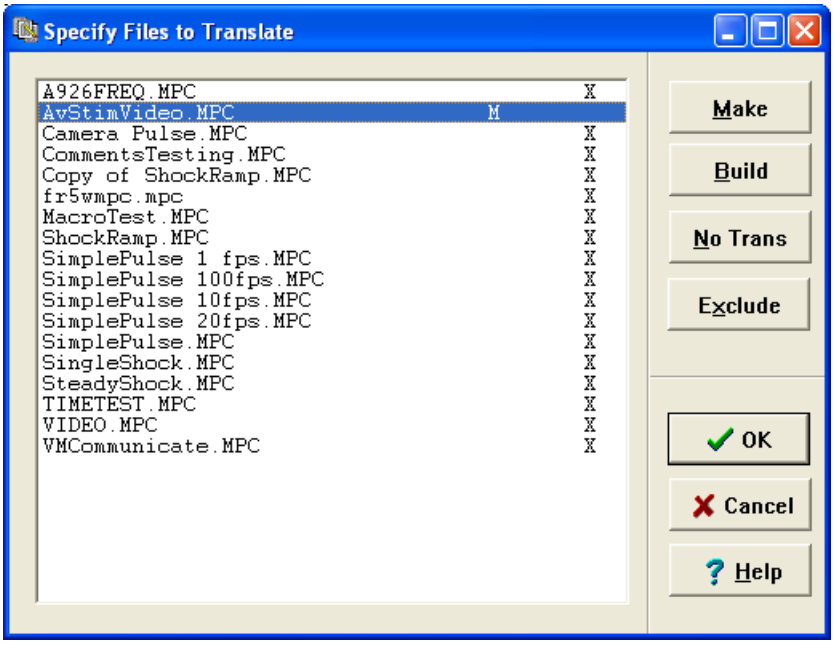
Last, press the OK button. The System Settings dialog will close, and the SAC-1 camera's video stream will be displayed in a window titled "**Camera: SAC-1 Waiting for remote trigger…**" Adjust the camera features settings now to show a bright, clear image.

MED-PC Configuration

Translate and Compile AvStimVideo.MPC

Before compiling AvStimVideo.MPC, close any running MED-PC programs. From the Windows **Start** menu or desktop, start Trans IV. Pull down the **Translation** menu, and choose **Translate and compile**. The **Translate and Compile** dialog will appear, see Figure 8. Highlight the AvStimVideo.MPC file, and press the **Make** button. Next press the **OK** button.

Figure 8 - TransIV Translate & Compile dialog



Run MED-PC Wizard

Start MED-PC. If the Wizard does not automatically appear, go to the **File** menu, and select **Wizard for Loading Boxes**. Press the **Next** button to continue to the **Box Selection** dialog. Choose the first box that will be running the AvStimVideo program, and press the **Next** button.

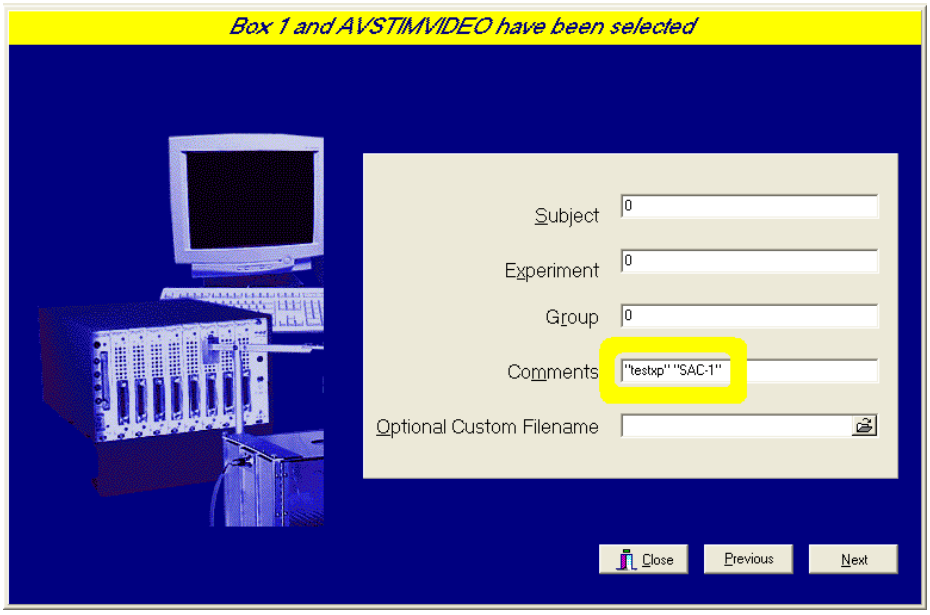
Load AvStimVideo.MPC

At the **Select a Procedure** screen, highlight the **AVSTIMVIDEO** procedure, and press the **Next** button. The Experiment Info dialog seen in

Figure 9 will appear.

Enter computer and camera names in Comments field

Figure 9 - MED-PC Wizard Experiment Info Screen



Enter the **Subject**, **Experiment**, and **Group** parameters as necessary to identify the experiment. In the **Comments** field, type the Video Monitor computer name and the camera name, each surrounded by double quotation marks (“). The format will be:

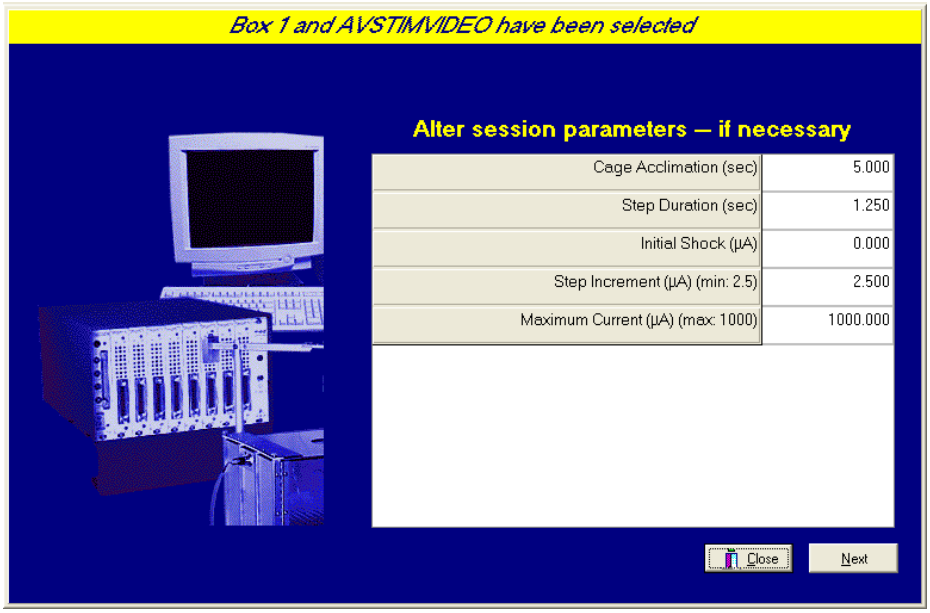
Comments: “Computer Name” “Camera Name”

Using the computer name seen in Figure 6: “textxp”, and the camera name seen in Figure 7: “SAC-1”, the **Comments** field should read:

Comments: “testxp” “SAC-1”.

Press the **Next** button to show the **Review Choices** screen and be sure the Comments field is filled correctly. Press the **Next** button to continue to the **Session Parameters** screen seen in Figure 10.

Figure 10 - MED-PC Wizard Session Parameters Screen



Enter Session Parameters

At the **Session Parameters** screen, the Aversive Stimulation Ramp Up Model parameters default values are displayed. Refer to Figure 2 for a graphical representation of the Ramp Up model.

- **Cage Acclimation** – default = 5.0 seconds. Cage Acclimation is the time, in seconds, which the Initial Shock is applied to the grid floor before increasing.
- **Step Duration** – default = 1.25 seconds. Step Duration is the time, in seconds, between each successive rise in current.
- **Initial Shock** – default = 0.0 µA. Initial Shock is the current, in microamps, flowing through the grid floor at the experiment start. The Initial Shock current lasts for the time specified in the Cage Acclimation field.
- **Step Increment** – default 2.5 µA. Step Increment is the amplitude of each current rise, in microamps. The minimum resolution of the ENV-413 is 2.5 µA, therefore, the minimum value allowed for the Step Increment variable is 2.5 µA.
- **Maximum Current** – default 1000 µA. Maximum Current is the absolute highest current amperage that will flow through the grid floor. 1000 microamps is equivalent to 1 milliamp. The experiment will end and the video camera commanded to stop saving video when the maximum current is reached.

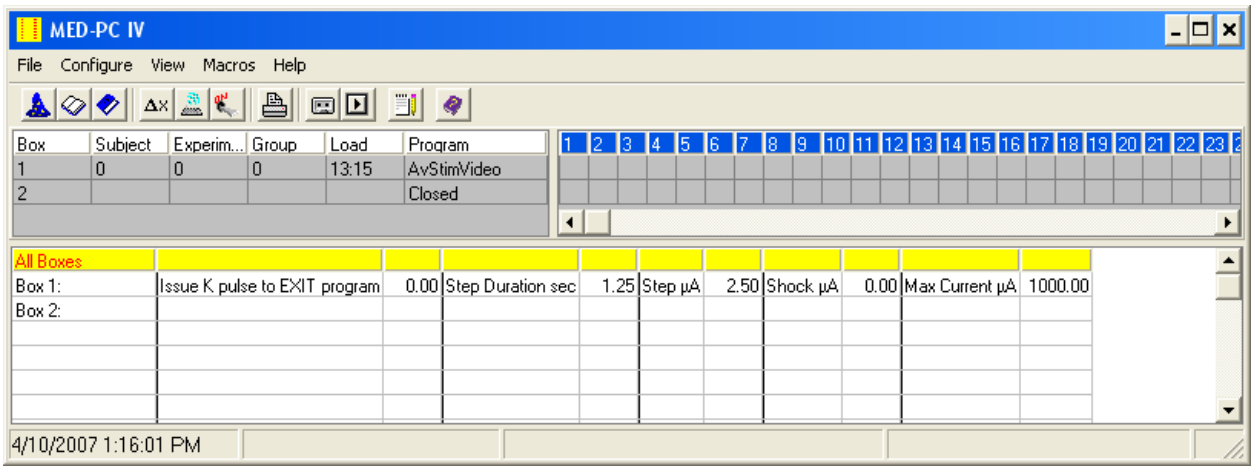
After pressing the **Next** button on the **Session Parameters** screen, the **Load More Boxes or Send Start Command?** Wizard screen will appear. Before issuing the Start Command, load any other boxes by repeating the above steps starting at choosing which box to load. Choose **I Want to Load More Boxes** and the Wizard will take you there. Be sure to enter the correct computer and camera name for each box in the **Comments**

field of the **Experiment Info** screen (Figure 9). After loading any additional boxes, select **I Am Finished with the Wizard** to close the Wizard and show MED-PC.

MED-PC Display

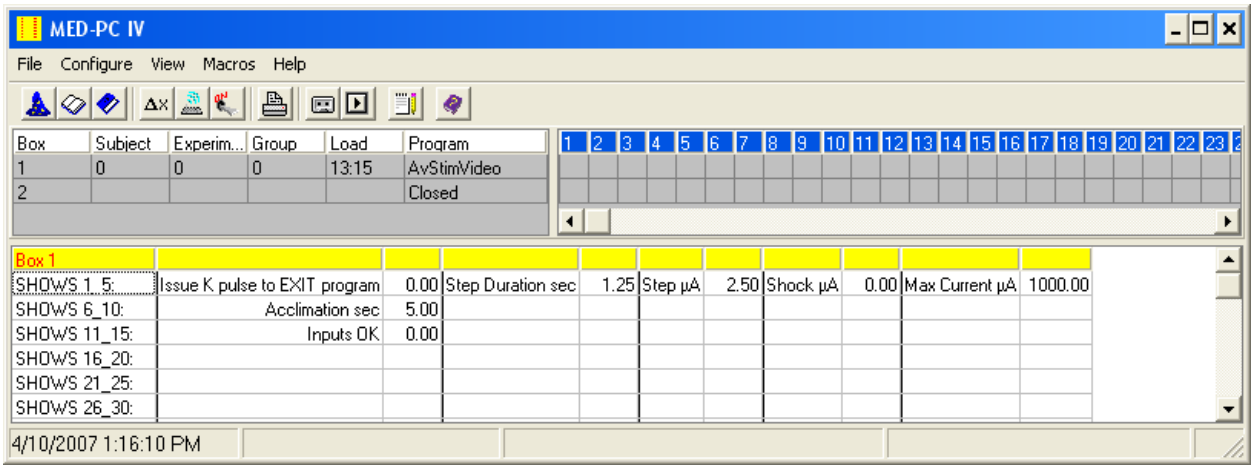
After closing the Wizard by choosing **I Am Finished with the Wizard**, the MED-PC application will appear as shown in Figure 11.

Figure 11 - MED-PC Application, Showing AvStimVideo Loaded in Box 1



The MED-PC display area is broken into 3 main sections: Status Display, Output Display, and Show Area. In Figure 11, the Status Display area at the upper left shows that Box 1 has the AvStimVideo procedure loaded. The left-most column header of the Show Area indicates that the shows are from **All Boxes**, and shows one through five can be seen for each box. Click the **All Boxes** column header to cycle through the boxes. The first click will alter the Show Display to present all the Shows for Box 1. See Figure 12.

Figure 12 - MED-PC Application, Displaying Box 1's "Show" Statements



The AvStimVideo procedure displays the following data in the **Show** fields (refer to Figure 2):

Show 1: **Issue K pulse to EXIT program** – instructions for terminating experiment before maximum current is reached.

Show 2: **Step Duration sec** – time spent at each current step, after the acclimation period.

Show 3: **Step µA** – amount of current that the aversive stimulus will be increased by with each step.

Show 4: **Shock µA** – the amount of current the ENV-413 is set to transmit. After the Start Command is issued, this value will indicate the procedure's progression along the Aversive Stimulus "ramp up" model.

Show 5: **Max Current µA** – the maximum current output before the procedure is terminated.

Show 6: **Acclimation sec** – the duration of time the acclimation period. The current will begin ramping up at the end of this time. The initial base **Shock µA** current will flow through the grid floor during this acclimation period.

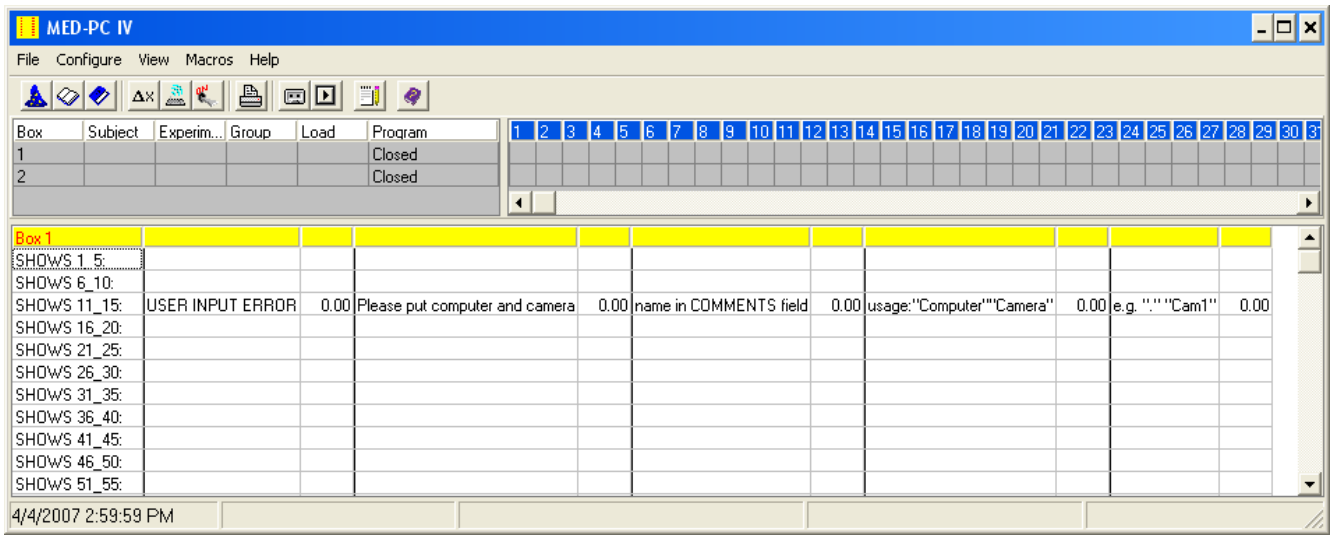
Show 11: **Inputs OK** – indicates that there were two quoted strings found in the **Comments** field. The strings represent the Video Monitor computer's name and the box's camera's name.

Show 12: **Camera Started / Camera Stopped** – after the Start command this field will indicate the camera has started. After a K pulse or maximum current has been exceeded, this field will indicate the camera was stopped.

Show 14: **Time sec** – duration of ramp up execution, not including acclimation period.

The above **Show** statements indicate that the AvStimVideo procedure is properly configured. If the **procedure was not properly configured**, the **Show** statements will look like those in Figure 13.

Figure 13 - MED-PC Display indicating missing Comments parameters



Notice that Shows one through ten are blank, and 11 through 15 indicate an error with the user input Comments field.

Show 11**:** **USER INPUT ERROR** – two quoted strings were not found in the Comments field.

Show 12: **Please put computer and camera** – part one of the error message.

Show 13: **name in COMMENTS field** – part two of the error message.

Show 14: **usage: "Computer" "Camera"** – proper usage of the Comments field to indicate the Video Monitor Computer and Camera.

Show 15: **e.g. "." "Cam1"** – example of proper Comments field usage, indicating that Video Monitor is running on the same computer as MED-PC (**"."**), and the camera name is **"Cam1"**.

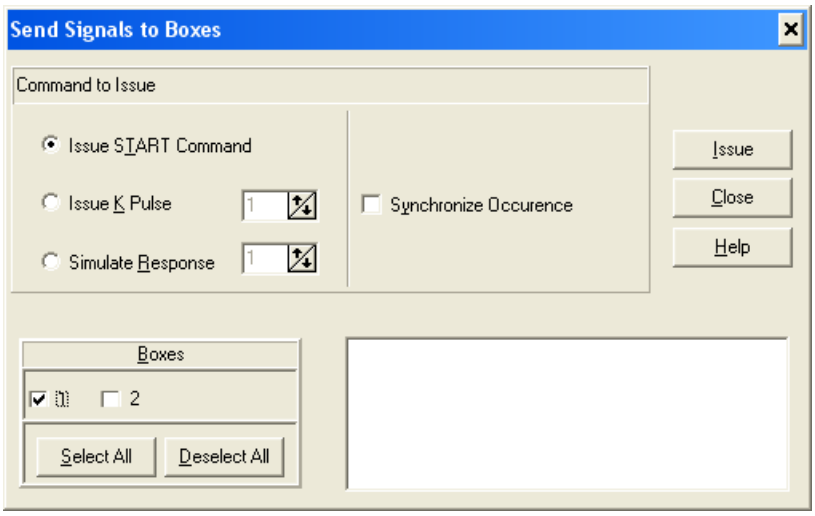
CHAPTER 5
Running the Experiment

After the AvStimVideo procedure has been loaded by MED-PC IV, and Video Monitor has a video window titled "**Camera: SAC-1 Waiting for remote trigger...**", the experiment is ready to start. Now is a good time to load the test animals into the boxes.

Issue Start Command

After the animals are loaded, the SACs are closed, and the video streams are checked for image quality, you are ready to start the test procedure. Pull down the MED-PC **Configure** menu, and choose the **Signals** option. The **Send Signals to Boxes** dialog will appear (Figure 14).

Figure 14 - MED-PC Send Signals to Boxes Dialog



Choose the **Issue START Command** radio button, and select the Boxes that are running the experiment. Press the **Issue** button to start the Aversive Stimulation procedure.

Stopping Experiment Before Reaching Maximum Current

The AvStimVideo MPC code will increase the current at a rate determined by the **Step Duration** and **Step Increment** values specified in the Wizard's **Session Parameters** screen. The procedure will stop the current to the grid floor when the **Maximum Current** is reached, and the video saving will be stopped.

To stop the experiment **before** the maximum current is achieved, issue a **"K"** pulse to the box(es). Pull down the **Configure** menu, and choose the **Signals** option. Select the **Issue K Pulse** option, set the number of K pulses to **1**, and choose the boxes you wish to stop. Press the **Issue** button to send the **K Pulse**. The shock current will be turned off, and the video file will stop saving.

NOTE: If the AvStimVideo procedure is stopped without first issuing a K pulse, the **shock will continue for up to one minute**. Also, the video file will continue recording. So **do not** end the procedure early by using the **"Close Session"** command, or shut down MED-PC without first sending a K pulse to the box running the procedure. If this does happen, go to Video Monitor and close the video window to stop recording. To stop the shock, unplug the ENV-412 to ENV-413 connection, or turn off the power to the rack containing the ENV-412 and ENV-413.

CHAPTER 6
Video Playback and Analysis

After the maximum current has been reached, or a K pulse was issued, the AvStimVideo procedure will end. The ENV413 will stop transmitting current to the grid floor, and the Video Camera will stop saving video. Now it is time to analyze the saved video using the Video Monitor Playback tool. Go to Video Monitor, close the camera window, pull down the Video Monitor **File** menu and choose **Open**. Select the video that was just created by the AvStimVideo procedure in the **File Open** dialog, and press the **OK** button.

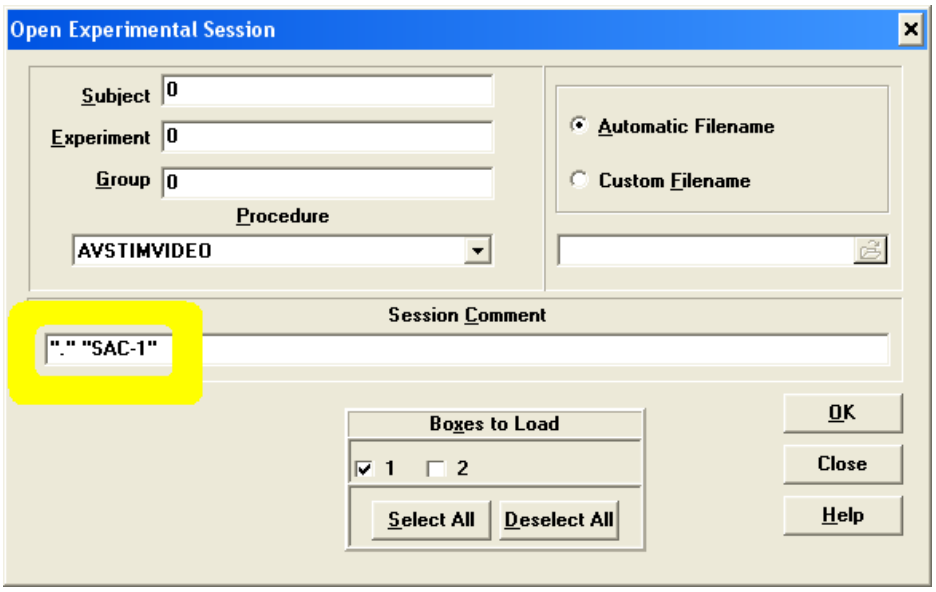
Figure 15 - Video Monitor Playback Dialog

The Playback window will appear as in Figure 15. Notice that the AvStimVideo procedure has sent the Video Monitor program an annotation. The annotation in the above example reads **"0:00:27.466 – Current = 55.000 µA"**. The AvStimVideo procedure sends a similar message at each step of the Aversive Stimulus "ramp up" model, as well as the procedure start and stop. Now while playing the video, a researcher can identify visual cues indicating stimulus response. Notice in Figure 15 that annotation 7 "Stimulus Response" was added to the Default behavior set by the researcher in preparation for noting reactions to the aversive stimulus.

CHAPTER 7
Using Open Session Dialog Instead of Wizard

If the Wizard is not used for loading the AvStimVideo procedure, the **Open Session** dialog can be used instead. To use the Open Session dialog, pull down MED-PC's **File** menu and choose **Open Session**. See Figure 16 below.

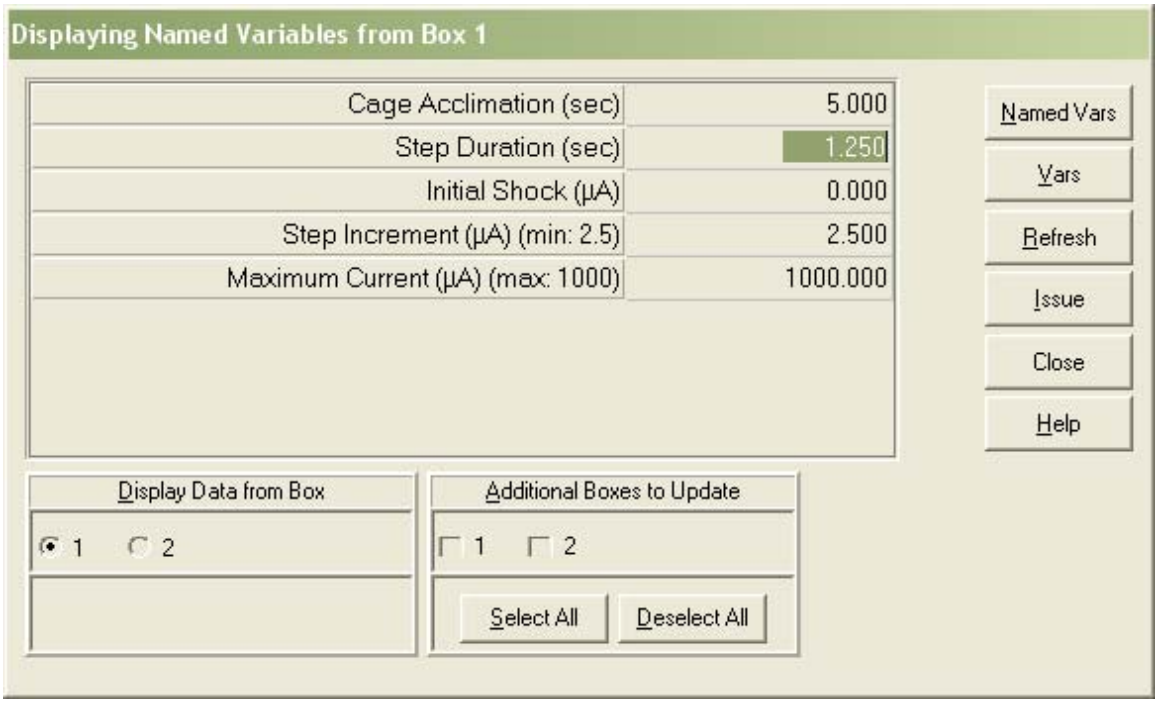
Figure 16 - MED-PC Open Session Dialog



Enter the Video Monitor computer name and the camera name in the **Session Comment** field. The AvStimVideo procedure will NOT WORK without these parameters encased in double quotes. The example shown in Figure 16 shows Video Monitor is running on the same computer as MED-PC (**"."**) and the camera name is **"SAC-1"**.

To alter the five input variables controlling step height, step duration, acclimation current, acclimation period, and maximum current, use the **Change Named Variables Dialog** (Figure 17). Pull down the **Configure** menu, and choose the **Change Variables (CTRL+A)** option. Press the **Named Vars** button to display the five procedure variables. After making changes, press the **Issue** button to finalize the edits. Press the **Close** button to dismiss the dialog.

Figure 17 - Change Named Variables Dialog



If the values are not changed, the defaults will be used.

Default procedure variable values:

- Cage Acclimation Period - 5.0 seconds
- Step Duration - 1.25 seconds
- Initial Shock - 0.0 µA
- Step Increment - 2.5 µA
- Maximum Current - 1000 µA (1 milliamp)

CHAPTER 8
Using a Macro

Loading boxes and setting experiment parameters can be simplified by using **macro files**. MED-PC can store and playback commands stored in a *.mac text file. Macro files can be edited using any text editor (e.g. Notepad) or using the MED-PC macro editor (**Macros** menu, **Editor** option).

Aversive Stimulation with Video Monitoring ships with a sample macro file: AvStimSample.mac, shown in Figure 18 below.

Figure 18 - Sample Macro File

```
LOAD BOX  1 SUBJ 0 EXPT 0 GROUP 0 PROGRAM AvStimVideo
COMMENT BOX  1 "ComputerName" "CameraName"
START BOXES 1
```

Reading line-by-line, the macro file:

1. Loads the AvStimVideo procedure into box 1.
2. Creates Session Comment for box 1: “ComputerName” “CameraName”
3. Starts the AvStimVideo procedure in box 1.

Using this macro file as a starting point, change “ComputerName” to be the name of the Video Monitor Computer, and “CameraName” to the name Video Monitor uses to define the camera in box 1. **The computer name and camera name must each be surrounded by double quotes (“x”)**. Save the file as a unique name in the C:\MED-PC IV\Macro folder. Note: the name of the MED-PC IV installation folder may be different on the MED-PC computer.

To use the macro file, configure Video Monitor so the camera is waiting for the start trigger from MED-PC, then start MED-PC and cancel the Wizard if it appears. In MED-PC, pull down the **Macros** menu, and choose **Play Macro…**. Select the file saved in the C:\MED-PC IV\Macro folder, and click **OK**.

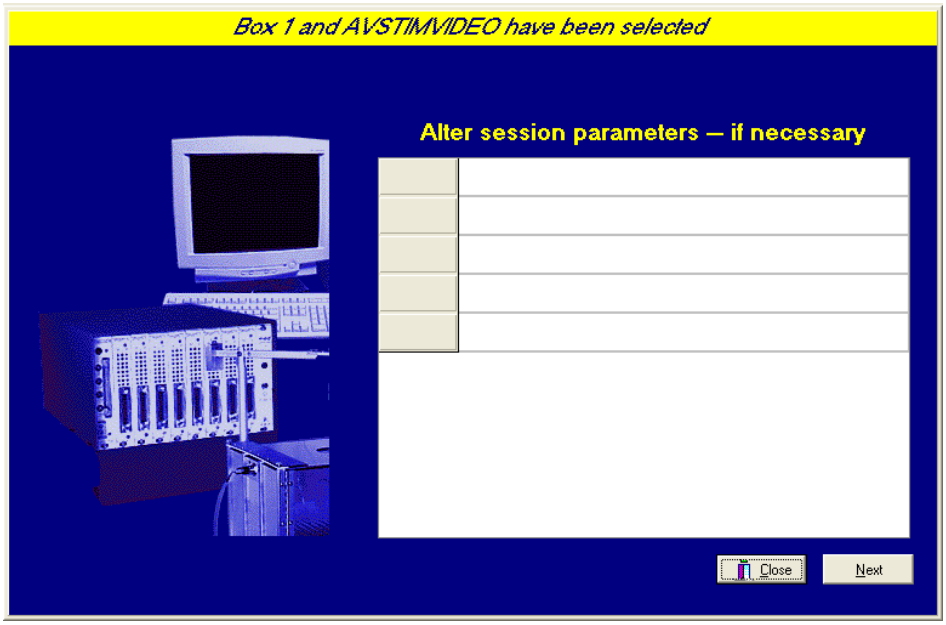
Using the macro file, the AvStimVideo procedure will use the default values for the five input parameters. If values other than the defaults are desired, remove line 3 from the macro: **START BOXES 1**. Save and run the macro. Now use the **Change Named Variables Dialog** (Figure 17) to edit the procedure variables before manually issuing the **START** command.

NOTE: when using a two-computer system, the START BOXES command may need to be delayed to compensate for network communication lag. Simply insert a line **before** the START BOXES 1 command such as “**DELAY 1000**” (without the quotes), which will pause for 1 second (1000 milliseconds).

CHAPTER 9
Troubleshooting

No Session Parameters

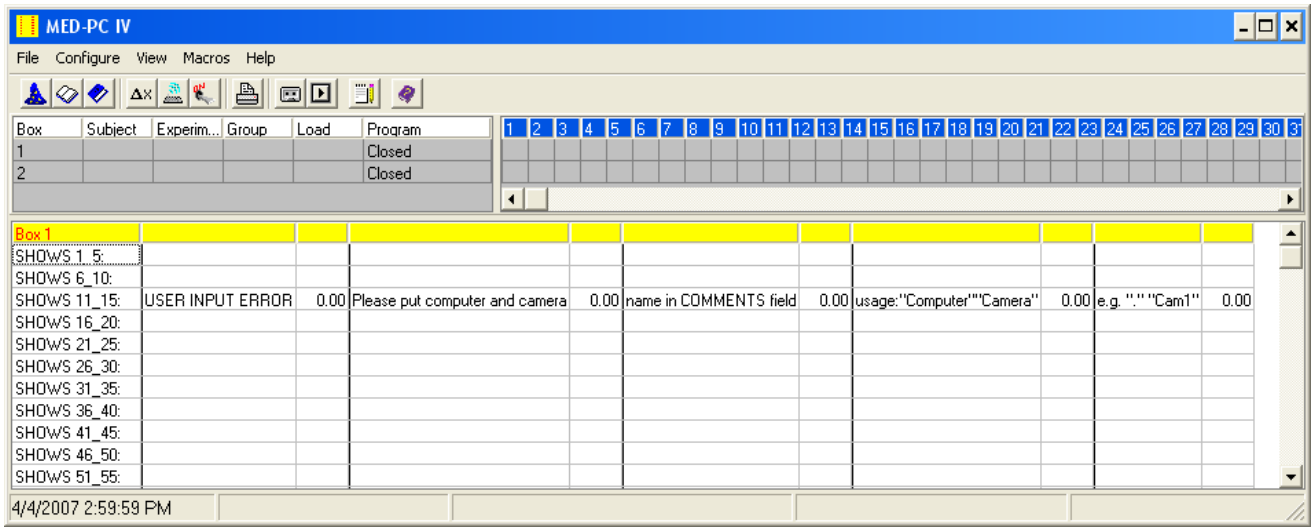
Figure 19 - MED-PC Wizard Session Parameters Screen Showing NO PARAMETERS



If the Wizard Session Parameters screen has no information as seen in Figure 19, the Comments field was not properly entered. Press the **Close** button on the Session Parameters dialog and restart the Wizard from MED-PC (**File** menu, **Wizard** option). Enter the Video Monitor computer name and camera name in double quotes. E.g. **"." "SAC-1"**.

USER INPUT ERROR Message

Figure 20 User Input Error Message



If the AvStimVideo procedure cannot find two quoted strings in the Comments field, an error message is displayed in MED-PC's Shows area. The first quoted string represents the Video Monitor computer name, and the second quoted text is the name of the camera in the box named in the Shows area left-most column header. In Figure 20, the left-most column header is "Box 1".

To fix this problem, start the Wizard or the Open Session dialog, and enter the computer name and camera name in the Comments field. For example, if loading AvStimVideo into Box 1, enter: **"." "SAC-1"**, where **"."** indicates Video Monitor is running on the same computer as MED-PC, and **"SAC-1"** is the name Video Monitor calls the camera in Box 1.