

ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Find the *AMI PVT-192* at our website: ***Click HERE***

PVT-192®

User's Guide And Reference Manual

Rev 1.1

731 Saw Mill River Road
P.O. Box 609
Ardsley, NY 10502

Phones: (914) 693-9240 and 1-800-341-0066
Fax: (914) 693-6604
E-mail: info@ambulatory-monitoring.com
or
ambulatorymonitoring@compuserve.com
Web site: **http://www.ambulatory-monitoring.com**

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

PVT-192® User's Guide

Introduction **2**
- Getting Started With PVTCOMM 5
- System Requirements 9
- Windows Software For The PVT-192 9
- Installing PVTCOMM for Windows Version 2.61 11
- Running PVTCOMM 12

Entering Supervisory Mode Using The PVT-192 ..... **12**

Field Setup Of The PVT-192 ..... **14**
- Introduction To The Field Testing With The PVT-192 19
- Altering The PVT-192 Parameters In The Field 20
- Quick Set Up Instructions For Testing A Subject With PVT-192 24
- Sample Instructions To Subjects 25

Using the PVT-192/Computer Interface **25**

Clearing The PVT-192 Using The PVTCOMMW Interface **26**

Initializing The PVT-192 Using The PVTCOMMW Interface **29**

Downloading Data From The PVT-192 To Your Computer **39**

Checking Memory Free On The PVT-192 Device **42**

Setting The Low Level Password On The PVT-192 Device **44**

Error Messages During Computer Interface With The PVT-192 ..... **46**

Introduction

Human reaction time (RT) has been used by psychologists and physiologists as an index of motor performance. Continuous reaction time performance over a relatively short time period can reveal changes in performance ability caused by fatigue or drugs. Therefore, reaction time performance is also useful as an indicator of general psychomotor impairment.

The PVT (Psychomotor Vigilance Task)-192 was designed and built by CWE, Inc., Ardmore, PA, with consultation from UEP staff Dr. Dinges, Dr. Kribbs, and J. Powell. Ambulatory Monitoring, Inc. of Ardsley, NY currently sells the PVT-192 commercially.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com



The PVT-192 is a fully electronic, computerized test-presentation and data capture system for simple visual or auditory reaction time. The stimulus presentation strategy employed for both modalities is to maintain the stimulus until the subject responds, as opposed to presenting brief fixed-length stimuli. When using visual stimuli, and LED millisecond counter display acts as both stimulus and performance feedback display. In the auditory-only mode, there is no overt performance feedback.

The device allows the user to vary all major task parameters to suit different applications. All response data is stored in non-volatile RAM with an independent backup battery, and data may be copied to a computer via a serial port on demand. Nearly every aspect of response behavior is recorded, such as unstimulated responses and other inappropriate responses.

Although the PVT-192 is a stand-alone device as regards field data collections and parameter setting, the user will also need a computer, serial cable and software to download the data stored in the device and to clear the data memory at the end of a protocol.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Power for the PVT-192 is provided by an internal 8-cell rechargeable nickel-cadmium battery pack or an external AC adapter/charger.

The PVT (Psychomotor Vigilance Task)-192 was designed and built by CWE, Inc., Ardmore, PA, with consultation from UEP staff Dr. Dinges, Dr. Kribbs, and J. Powell. Ambulatory Monitoring, Inc. of Ardsley, NY currently sells the PVT-192 commercially.



The PVT-192 is a fully electronic, computerized test-presentation and data capture system for simple visual or auditory reaction time. The stimulus presentation strategy employed for both modalities is to maintain the stimulus until the subject responds, as opposed to presenting brief fixed-length stimuli. When using visual stimuli, and LED millisecond counter display acts as both stimulus and performance feedback display. In the auditory-only mode, there is no overt performance feedback.

The device allows the user to vary all major task parameters to suit different applications. All response data is stored in non-volatile RAM with an independent backup battery, and data may be copied to a computer via a serial port on demand. Nearly every aspect of

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

response behavior is recorded, such as unstimulated responses and other inappropriate responses.

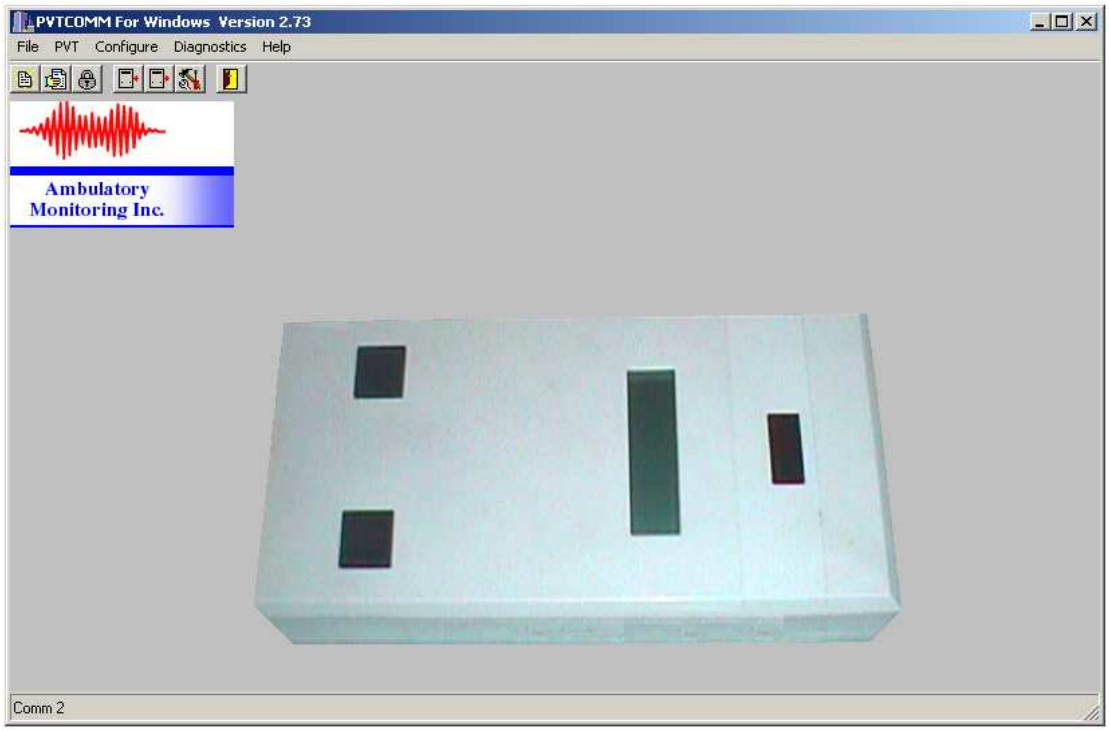
Although the PVT-192 is a stand-alone device as regards field data collections and parameter setting, the user will also need a computer, serial cable and software to download the data stored in the device and to clear the data memory at the end of a protocol.

Power for the PVT-192 is provided by an internal 8-cell rechargeable nickel-cadmium battery pack or an external AC adapter/charger.

Getting Started With PVTCOMM

The figure below shows a display of PVTCOMM upon start up. Several Toolbar buttons were added for commonly used functions.

* The Files submenu contains the following item: Exit.
* The PVT submenu contains items the following items: Clear, Initialize and Download,
  Memory Free and Set Password.
* The Configure submenu contains the following items: Port and Save.
* The Diagnostics submenu contains the following item: Loop Test.
* The Help submenu contains the following items: About and Contents.



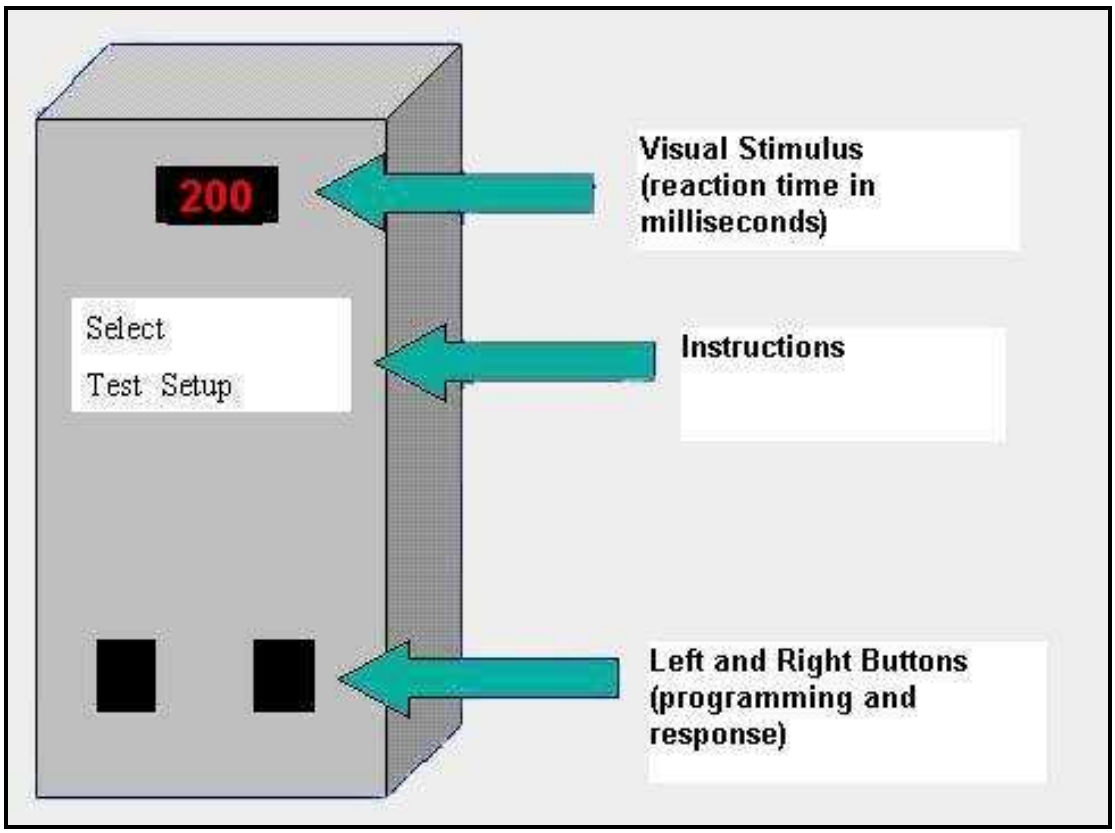
The following section discusses the preliminaries necessary to work with PVTCOMM leading up to the initialization process will be broken down as follows:

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

1.) Physical Description of the PVT-192.
2.) System Requirements
3.) Installing PVTCOMM
    * Windows Software for the PVT-192
    * Installing PVTCOMM for Windows Version 2.61
4.) Running PVTCOMM

Physical Description of The PVT-192

The PVT-192 device is enclosed in a plastic case measuring 21x11x6 cm overall and weighing 658 gm (1.45 lbs). On the upper surface there are two pushbuttons (RIGHT and LEFT), and two displays. The smaller display is a 4-digit LED numeric display, which is used as the visual reaction time stimulus and also provides performance feedback. The larger panel is a 16character LCD alphanumeric display that is used for prompts, log-on, warnings and parameter settings.



The pushbuttons on the RIGHT and LEFT are used to respond to the stimuli during a test, and to move a cursor on the LCD display during log-on or parameter setting.
All the other switches and connectors for the PVT-192 are grouped on the end panels of the case. The items located on the 'near' end panel are:

    * Battery charger/AC adapter socket
    * LED charge indicator lamp

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

* 9-pin male “D” connector for serial input/output
* Power on/off switch



Located on the ‘far’ end of the panel are:

* A pair of 1/8th inch stereo phone jacks for connecting headphones when using auditory stimuli
* Volume control
* Present control of headphones a 3/32 inch ‘mono’ phone jack to connect to an external response switch.



Current production versions have 4-digit serial numbers that display when the unit is turned on.
Additional items for use with the PVT-192 are:

1.) An AC adapter/battery charger (120v AC input) – supplied
2.) Serial cable for link to IBM-compatible computer– supplied
3.) Remote pushbutton switch on 2.5 m cable – optional accessory item.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

4.) One or two stereo headphones - 1/8” stereo phone plug – optional accessory item - purchase locally.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

System Requirements

Before installing, make sure your computer is equipped to run PVTCOMM. Here's a list of the minimum requirements for running the software:

Available Serial Communications (COM) Port
166 MHZ Pentium or faster processor
32 MB RAM
Microsoft Windows 95/98/Me/NT/2000/XP
10 MB available on hard drive
1 MB Video Card (800 x 600 resolution minimum)

Windows Software For The PVT-192

INSTALLING PVT-192 COMMUNICATIONS AND ANALYSIS SOFTWARE:
If your computer is configured to automatically play inserted CD's, then the installation procedure will begin automatically once the CD has been inserted into the drive.

If the setup procedure doesn't begin automatically, choose the START button. Then choose RUN. In the field provided, enter D:SETUP.EXE (assuming D is the drive designation for your CD ROM drive.) Follow the instructions presented during the installation procedure.

The following is a preview of what the user will see when loading the PVT Package Setup Program from CD ROM in a Windows 95/98/Me/NT/2000/XP environment:

PVTCOMMW and REACT

WELCOME:
Welcome to the PVT Package Setup Program. This program will install the PVT package on your computer.

It is strongly recommended that you exit all Windows programs before running this Setup program.

Click Cancel to quit Setup and then close all programs you have running. Click Next to continue with the Setup program.

WARNING: This program is protected by copyright law and international treaties.

Unauthorized reproduction or distribution of this program, or any part of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under law.

INITIALLY:
The User will see the following prompt:

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Type your name below. You must also type the name of the company or institution you work for.

Enter your name and your company/institution name.

CHOOSE DESTINATION LOCATION

The screen will display the destination directory, and advise the user of the following:

Setup will install PVT Package in the following directory: \programfiles\ami\pvt

To install in this directory, click Next.

To install to a different directory, click Browse and select another directory.

The user may choose not to install PVT Package at this time by clicking Cancel to exit Setup.

SELECT PROGRAM FOLDER

The screen will display the following:

Setup will add program icons to the Program Folder listed below. You may type a new folder name, or select one from the existing Folders list. Click Next to continue.

Program Folders:
AMI\PVT

Existing Folders:
- Will list all the Folders currently on your computer in alphabetical order.

START COPYING FILES

The screen will display the following:

Setup has enough information to start copying the program files. If you want to review or change any settings, click Back. If you are satisfied with the settings, click Next to begin copying files.

Current Settings:
Setup Type:
Complete
Target Folder:
C:\Program Files\AMI\PVT
User Information:
Name:
Company:

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

DECOMPRESSING FILES, ETC.

The computer will decompress and copy the files to your computer, in the Folders you have chosen above.

SETUP COMPLETE

The screen will display the following:

Setup has finished copying files to your computer.

Before you can use the program, you must restart Windows or your computer.

* Yes, I want to restart my computer now.
* No, I will restart my computer later.

Remove any disks from their drives and click Finish to complete setup.

At this time, the files will have successfully loaded from the CD ROM to the hard drive. The icons displayed will be:

The PVTCOMM link for setup and download of the PVT device:


pvtcommW.lnk

and

The REACT software for PVT data analyses:



React.lnk

It is suggested that the icons be dragged or copied to the desktop in order to have the programs easily accessible.

Installing PVTCOMM for Windows Version 2.61

This program contains the building blocks for the user to establish parameters for initialization of and download from the PVT-192 device.

The following are the options once the PVTCommW program is opened:

File **PVT** **Configure**

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

File:

Contains the Exit feature.

PVT:

Contains the following features:

Clear
Initialize
Download
Memory Free
~ Set Password

Configure:

Contains the following features:

Port
Save

Preparation for a subject reaction time trial may be done with or without a connection to a computer. The following section covers operations using the computer interface. Please see above for use and programming of the PVT-192 device in the field.

Running PVTCOMM

Clicking on the Windows Start button, selecting Programs, selecting AMI folder, then selecting PVTCOMM and finally clicking on the PVTCOMM icon can start the software. You may wish to drag the PVTCOMM icon (see figure below) on your desktop, making it easier to start your program.


pvtcommW.lnk

Double clicking (or single click if you are going through the Windows Start button) on the PVTCOMMW icon will bring up the PVTCOMM program.

Entering Supervisory Mode Using The PVT-192

In order to access the PVTCommW selections, the PVT-192 device must be in Supervisory Mode. In addition, the device must be well charged, so it is recommended that the user give the device time to charge prior to attempting to set up parameters or to initialize.

When the PVT-192 is switched on, identifying information is displayed in the larger alphanumeric screen. The first screen reads “PVT-192” and the software ROM version

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

number, e.g. “rev 2.51.” This is automatically replaced with the second screen, which gives the PVT-192 unit’s serial number, e.g. “1057.” Next, the main Menu screen is shown:

Select

Test **Setup**

NOTE: The LEFT button on the PVT-192 is used to move the cursor. The RIGHT button on the PVT-192 is used to select the option.

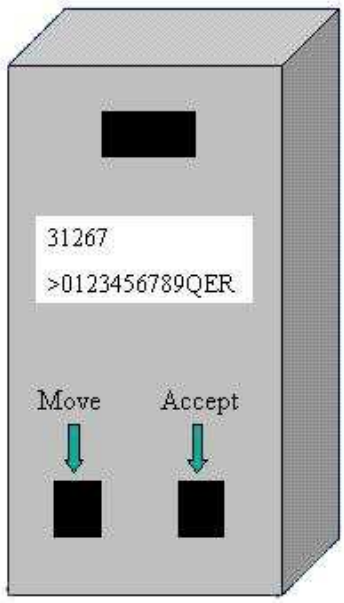
Select **Setup** by pressing the LEFT button, which will move the cursor to **Setup**, and accept the cursor position by pressing the RIGHT button. The next screen will display:

Access

< 0123456789QER

The Supervisory Mode access code is identical for all PVT-192 devices. This code has been entered by the manufacturer, and may only be changed by special order.

The Supervisory Mode access code is: 31267



To enter the Supervisory Mode access code, use the LEFT button to move the cursor to the first number, then press the RIGHT button to accept the digit. Note that the cursor always moves to the right, so that if you go past the item you wanted you must go all the way around the display line to get back to it. If you hold the LEFT button down the cursor will move continuously. Continue as above until the 5 digits of the Supervisory Mode access code are displayed on the top line of the LCD display. Then move the cursor to Q (QUIT) and press the RIGHT button. This completes entry, and the device will display: Supervisory Mode.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

If a mistake is made, the E (ERASE) selection will wipe out the characters selected so that the user may begin entry again. The R (RETURN) button will display the previous Menu, abandoning the current entries.

Each time a function (i.e. clear, initialize, download, memory free or set password) is performed on the computer by the user, the PVT-192 device will default back to its select screen. If additional functions are required (e.g., a Clear following a Download of the data), the PVT-192 device must be returned to Supervisory Mode via use of the access code at the device Select Setup menu.

This completes entry, and the device will display: **Supervisory Mode**.



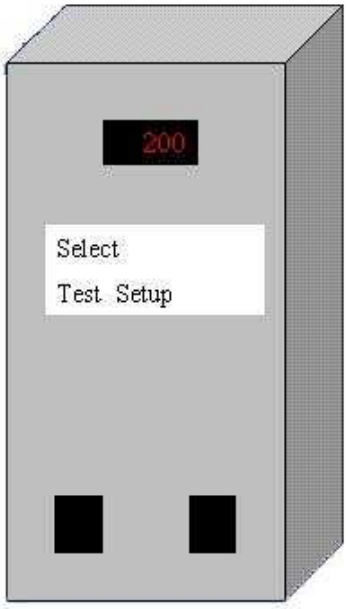
Field Setup Of The PVT-192

The PVT-192 is fully programmable in the field. In order to access the selections for Initialization and testing, the PVT-192 device must be well charged, so it is recommended that the user gives the device time to charge prior to attempting to set up parameters or to initialize.

When the PVT-192 is switched on, identifying information is displayed in the larger alphanumeric screen. The first screen reads “PVT-192” and the software ROM version number, e.g. “rev 2.51.” This is automatically replaced with the second screen, which gives the PVT-192 unit’s serial number, e.g. “1057.”

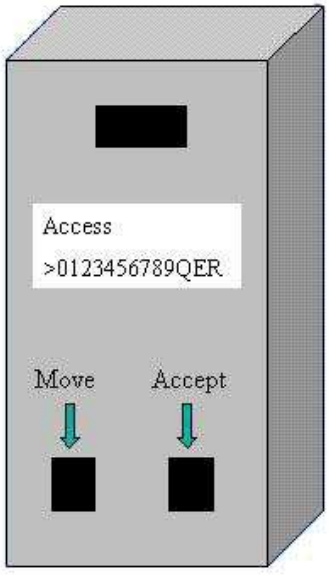
When in the field, the parameters to be programmed into the PVT-192 may be done on the device itself. At the PVT-192 device main Select menu screen:

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com



NOTE: **The LEFT button on the PVT-192 is used to move the cursor. The RIGHT button on the PVT-192 is used to select the option.**

Select Setup and the next menu appears as:



This access is protected by a 1-4 digit access low level (non-supervisory) password code. This password can be set when the PVT-192 device and the computer are interfaced, and the computer is in the PVTCommW program. It is recommended that an easily remembered password be used if altered by the user. **NOTE: The default password is 123.** Should the device's battery drain, an altered password entered by the user may return to the default of 123.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

To enter the access code, use the LEFT button to move the cursor to the first number, then press the RIGHT button to accept the digit. Note that the cursor always moves to the right, so that if you go past the item you wanted you must go all the way around the display line to get back to it. If you hold the LEFT button down, the cursor will move continuously.

Continue as above until all access password code digits are displayed on the top line of the LCD display, then move the cursor to Q (QUIT) and press the RIGHT button. This completes entry. The E (ERASE) selection will wipe out the characters selected so that you can begin entry again. The R (RETURN) button will display the previous Menu, abandoning the current entries.

Once the PVT-192 recognizes and accepts the access password code, it will enter:

Select Setup
PARAM CLOCK RET

NOTE: Test **PARAMETER** and **CLOCK** settings may be done directly on the PVT-192 in the field, or in the laboratory when interfaced with a computer. Following setting of the **CLOCK** parameters, the PVT-192 device will revert back to the Select Setup Menu. This allows the user to select Setup items again without re-entering the low-level password access code. Therefore, it is recommended that the **CLOCK** features be set *before* the **PARAMETER** features.

CLOCK
Under this selection, the user may examine and/or modify the current settings of the PVT clock and calendar.

NOTE: The PVT-192 device WILL NOT reject meaningless entries for the time and date. Therefore, when altering the time and date in the field, the experimenter must be very careful to make accurate entries. "Q" should follow each entry in order to move to the next parameter. If a mistake is made during entry, "E" will erase the entry and allow the user to re-enter the correct digits. If the proper time-stamping of test data is important to the experimenter's investigator (e.g. to control for circadian influences, etc.), frequent checking of the clock data is encouraged. To check the date and time, when in the **CLOCK** mode, the user may enter "Q" at each selection to skip through the parameters, and alter those which are incorrect.

Hour
> 0123456789QER

Enter the hour (2 digits) using 24-hour clock time, and then Q.

Minute
> 0123456789QER

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Enter the minutes (2 digits) and then Q.

Month

> **0123456789QER**

Enter the month (2 digits) and then Q.

Day

> **0123456789QER**

Enter the day (2 digits) and then Q.

Year

> **0123456789QER**

Enter the year (2 digits) and then Q.

Following entry of all of the above items, the PVT-192 device will revert back to the Select Setup menu. This allows the user to select Setup items again without re-entering the low-level password access code.

PARAM

Under this menu, the user may examine and/or modify the eleven Test Parameter items used by the PVT-192. If the user simply presses the RIGHT button (which rests on the "Q") when each item is displayed, the current value will be retained. On items, which require an alphabetic entry, the LCD screen displays the whole alphabet in 3 segments. To see the next segment of the alphabet, select the "+" symbol. Then select individual characters until done. The "Q" symbol accepts the entire entry. The "E" symbol erases it and starts over.

The device displays:

Study - Enter 2-8 letters to identify the study about to be recorded

> **ABCDEFGHIJ+QE (first alphabet segment – move to second with +)**
> **KLMNOPQRST+QE (second alphabet segment)**
> **UVWXYZ_ +QE (third alphabet segment)**

Enter the study name and then Q.

Mood - Enter any word or phrase up to 8 letters. This will be displayed on the pre and post-test analog mood scale.

> **ABCDEFGHIJ+QE (first alphabet segment – move to second with +)**
> **KLMNOPQRST+QE (second alphabet segment)**
> **UVWXYZ_ +QE (third alphabet segment)**

Enter the mood word or phrase and then Q.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

E Initials - Enter up to 3 letters to identify the Experimenter or test administrator.

> ABCDEFGHIJ+QE (first alphabet segment – move to second with +)
> KLMNOPQRST+QE (second alphabet segment)
> **UVWXYZ_ +QE (third alphabet segment)**

Enter the Experimenter's Initials and then Q.

S Initials - Enter up to 3 letters to identify the Subject.

> ABCDEFGHIJ+QE (first alphabet segment – move to second with +)
> KLMNOPQRST+QE (second alphabet segment)
> **UVWXYZ_ +QE (third alphabet segment)**

Enter the Subject's Initials and then Q.

Subject - Enter up to 4 digits to further identify the person to be tested.

> 0123456789QER

Enter the Subject ID number and then Q.

Trial – Enter up to 3 digits to identify the Trial sequence number for a particular subject.

> 0123456789QER

Enter the Trial number (using 2 digits – e.g., 02) and then Q.

ISTmin ms – Enter the minimum or lower boundary of the Inter-Stimulus Interval, in milliseconds. The smallest value permitted is 1 second (1000 ms). Since the LED stimulus display remains illuminated after a response for about a second, in practice it is necessary to use a minimum ISI value long enough to allow distinguishing one stimulus from another, e.g. at least 1500ms.

> 0123456789QER

Enter the minimum ISI in ms and then Q.

ISTmax ms - Enter the maximum or upper boundary of the Inter-Stimulus Interval, in milliseconds. Note that the MAX ISI must be a larger value than the MIN ISI or the PVT-192 will indicate an error.

> 0123456789QER

Enter the maximum ISI in ms and then Q.

NOTE: IST min and **IST max** provide limits to the inter-stimulus interval, between which the PVT-192 will randomize its presentation of stimuli. For constant inter-stimulus intervals, make **IST max** 1 millisecond greater than **IST min**.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

TTT sec – Enter the Total Test Time for each trial, in seconds. This does not include the time taken for pre and post-test Mood Scales. A typical value is 600 seconds (10 minutes).

> **0123456789QER**

Enter the total test time, in seconds, and then Q.

Task Code – Enter visual, auditory or both (Visual and Auditory combined). The standard test is "V" – Visual-only – using the LED display as stimulus and performance feedback display.

Vis **Aud** **Both**

Handedness – Enter the subject's dominant hand.

Left **Right/Ext**

When the review and/or modification of the Parameters values are completed, the PVT-192 will revert to the initial **Select** menu.

Introduction To The Field Testing With The PVT-192

When beginning a series of reaction time trials, at the main Menu screen:

Select

Test **Setup**

NOTE: The LEFT button on the PVT-192 is used to move the cursor. The RIGHT button on the PVT-192 is used to select the option.

The **Test** menu has the following features:

Select Test

REAL **DEMO** **RET**

REAL – will start a trial of the PVT-192 with the parameters already set on the PVT-192 device. See instructions above if these parameters must be changed in the field. All the responses made during a real test are logged and timed. The pre and post-test mood word will be presented. The numbers for successive trials will be automatically incremented. Of course, the data collected from the subject will not be meaningful or useful unless the subject understands the task procedures and is motivated to perform as well as possible at all times. Distractions or competing stimuli should be avoided. If the trial is compromised in any way, and the experimenter wishes to discard the trial, TURN OFF THE PVT-192'S POWER before the end of the reaction time portion of the test. This will prevent the data being stored or the Trial Number from incrementing.

NOTE: When analyzing the raw data from individual sets of trials, please note that the first reaction time in a set should be discarded from the analysis. This reaction time value is a standard that the PVT-192 automatically enters, and does not reflect the subject's actual

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

reaction time. The REACT Analysis Program (version 1.1.02) always discards the first data point of every PVT trial.

DEMO – will run a 1-minute sample visual reaction time trial, including display of the mood scales, using typical parameters for familiarization practice. Once the trial is completed, the device will revert to the **Setup** menu and allow the experimenter to re-select **Test**, and start a **REAL** Trial.

RET **-** will return the user to the previous menu screen.

WARNING: If the PVT-192 is turned off DURING a trial (either at the first presentation of the mood word, or during the reaction time portion of the trial), then ALL data in that trial will be lost and the trial number will not increment. If the PVT-192 power is switched off while the LCD screen is presenting the second mood word, then the reaction time data is stored, but BOTH Mood Scale responses for the trial will be logged with spurious values and the Trial Number will NOT increment –the NEXT Trial will be assigned the SAME Trial Number as the last. If the experimenter realizes the PVT-192's power was switched off inappropriately, he or she should enter Parameter setup mode on the affected PVT-192 and increment the Trial Number manually to avoid confusion in the trial header information. A note should also be made the test records indicating that the mood scale values for that trial will be invalid. **SUBJECTS AND TEST ADMINISTRATORS MUST BE INSTRUCTED TO LEAVE THE PVT-192 POWER ON UNTIL THE MAIN MENU SCREEN APPEARS AGAIN, AFTER COMPLETING A TRIAL.**

Altering The PVT-192 Parameters In The Field

When the parameters, which have been programmed into the PVT-192, must be changed in the field, at the PVT-192 device main Select menu screen:

Select

Test **Setup**

NOTE: The LEFT button on the PVT-192 is used to move the cursor.
The RIGHT button on the PVT-192 is used to select the option.

Select Setup and the next menu appears as:

Access

> 0123456789QER

This access is protected by a 1-4 digit access low level (non-supervisory) password code. This password is set when the PVT-192 device and the computer are interfaced, and the computer is in the PVTCommW program.

To enter the access code, use the LEFT button to move the cursor to the first number, then press the RIGHT button to accept the digit. Note that the cursor always moves to the right,

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

so that if you go past the item you wanted you must go all the way around the display line to get back to it. If you hold the LEFT button down, the cursor will move continuously.

Continue as above until all access password code digits are displayed on the top line of the LCD display, then move the cursor to Q (QUIT) and press the RIGHT button. This completes entry. The E (ERASE) selection will wipe out the characters selected so that you can begin entry again. The R (RETURN) button will display the previous Menu, abandoning the current entries.

Once the PVT-192 recognizes and accepts the access password code, it will enter:

Select Setup
PARAM CLOCK RET

NOTE: Test Parameter and Clock settings are most conveniently performed in the laboratory when the PVT-192 device is interfaced with the user's computer, however if a computer is not available or only small changes are required, then the set-up can be done directly on the PVT-192. Following entry of **CLOCK** items, the PVT-192 device will revert back to the Select Setup menu. This allows the user to select Setup items again without re-entering the low-level password access code. Therefore, it is recommended that the Clock features be set before the Parameter features.

Select Setup

PARAM

Under this menu, you will be able to examine and/or modify the eleven Test Parameter items. If the user simply presses the RIGHT button when each item is displayed, the current value will be retained. On items which require an alphabetic entry, the LCD screen displays the whole alphabet in 3 segments. To see the next segment of the alphabet, select the "+" symbol. Then select individual characters until done. The "Q" symbol accepts the entire entry. The "E" symbol erases it and starts over.

The device displays:

Study - Enter 2-8 letters to identify the study about to be recorded
> ABCDEFGHIJ+QE (first alphabet segment – move to second with +)
> KLMNOPQRST+QE (second alphabet segment)
> **UVWXYZ_ +QE (third alphabet segment)**

Enter the study name and then Q.

Mood - Enter any word or phrase up to 8 letters. This will be displayed on the pre and post-test analog mood scale.
> ABCDEFGHIJ+QE (first alphabet segment – move to second with +)
> KLMNOPQRST+QE (second alphabet segment)

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

> **UVWXYZ_ +QE (third alphabet segment)**

Enter the mood word or phrase and then Q.

E Initials - Enter up to 3 letters to identify the Experimenter or test administrator.

> ABCDEFGHIJ+QE (first alphabet segment – move to second with +)
> KLMNOPQRST+QE (second alphabet segment)
> **UVWXYZ_ +QE (third alphabet segment)**

Enter the Experimenter's Initials and then Q.

S Initials - Enter up to 3 letters to identify the Subject.

> ABCDEFGHIJ+QE (first alphabet segment – move to second with +)
> KLMNOPQRST+QE (second alphabet segment)
> **UVWXYZ_ +QE (third alphabet segment)**

Enter the Subject's Initials and then Q.

Subject - Enter up to 4 digits to further identify the person to be tested.

> 0123456789QER

Enter the Subject ID number and then Q.

Trial – Enter up to 3 digits to identify the Trial sequence number for a particular subject.

> 0123456789QER

Enter the Trial number (using 2 digits – e.g., 02) and then Q.

ISTmin ms – Enter the minimum or lower boundary of the Inter-Stimulus Interval, in milliseconds. The smallest value permitted is 1 second (1000 ms). Since the LED stimulus display remains illuminated after a response for about a second, in practice it is necessary to use a minimum ISI value long enough to allow distinguishing one stimulus from another, e.g. at least 1500ms.

> 0123456789QER

Enter the minimum ISI in ms and then Q.

ISTmax ms - Enter the maximum or upper boundary of the Inter-Stimulus Interval, in milliseconds. Note that the MAX ISI must be a larger value than the MIN ISI or the PVT-192 will indicate an error.

> 0123456789QER

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Enter the maximum ISI in ms and then Q.

TTT sec – Enter the Total Test Time for each trial, in seconds. This does not include the time taken for pre and post-test Mood Scales. A typical value is 600 seconds (10 minutes).

> 0123456789QER

Enter the total test time, in seconds, and then Q.

Task Code – Enter visual, auditory or both (Visual and Auditory combined). The standard test is "V" – Visual-only – using the LED display as stimulus and performance feedback display.

Vis **Aud** **Both**

Handedness – Enter the subject's dominant hand.

Left **Right/Ext**

When the review of Parameters values is completed, the PVT-192 reverts to the initial **Select** menu.

Select Setup

CLOCK

Under this selection, you are allowed to examine and/or modify the current settings of the PVT clock and calendar. Following entry of each of the Clock items, the PVT-192 device will revert back to the Select Setup menu. This allows the user to select Setup items again without re-entering the low-level password access code. Therefore, it is recommended that the Clock features be set before the Parameter features.

NOTE: The PVT-192 device WILL NOT reject meaningless entries for the time and date. Therefore, when altering the time and date in the field, the experimenter must be very careful to make accurate entries.

Hour

> 0123456789QER

Enter the hour (2 digits) using 24-hour clock time, and then Q.

Minute

> 0123456789QER

Enter the minutes (2 digits) and then Q.

Month

> 0123456789QER

Enter the month (2 digits) and then Q.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Day

> 0123456789QER

Enter the day (2 digits) and then Q.

Year

> 0123456789QER

Enter the year (2 digits) and then Q.

Following entry of each of the above items, the PVT-192 device will revert back to the Select Setup menu. This allows the user to select Setup items again without re-entering the low-level password access code. Therefore, it is recommended that the Clock features be set before the Parameter features.

Quick Set Up Instructions For Testing A Subject With PVT-192

1.) Turn on the power, and wait for the **SELECT** menu to appear.

2.) Select **TEST.**

3.) Select **REAL** to begin a scheduled test

4.) The **MOOD WORD** will be displayed.
Have the Subject move the cursor on the 10-position line between YES and NO

5.) The Display will now read, "Ready to test… Press any button to start"

6.) The Subject will then press either button and perform the test. The standard run time is 10 minutes. At the end of the test time, the PVT-192 will automatically end the test.

7.) The **MOOD WORD** will again be displayed.
Have the Subject move the cursor on the 10-position line between YES and NO

8.) After the Mood Scale response has been entered, there will be a short blank pause on the PVT-192 display screens and then the main **SELECT** menu will appear.

At this point, the PVT-192 unit may be turned off.

NOTE: Do NOT allow the PVT-192 to be turned OFF during a test, as data will be lost. If the PVT-192 is turned off while displaying the Second Mood Scale (post-test), then the Trial Number will not increment and the Mood Scale values will be corrupted.

The PVT-192 will increment the **TRIAL NUMBER**, ready for the next test. If the experimenter needs to change the PVT-192 test parameters, such as a different stimulus mode or setting up for a different subject or study, the parameters may be edited in the field

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

or revised via computer link. Please see instructions for altering parameters via computer or in the field.

Sample Instructions To Subjects

It is important to work up a standardized presentation of the PVT task to the subjects. Tests should be conducted in a quiet area with even lighting and a comfortable way for the subject to sit and hold the PVT-192. The following is recommended as a minimal explanation of the task to the subject:

First indicate how you feel right now (when the Mood Word is displayed) by using the LEFT button to move the cursor closer to NO or YES. Press the RIGHT button to register your choice. During the test, as soon as you see the red numbers in the top window, press and release the button using your RIGHT (or dominant as previously programmed) hand. You may use your thumb or finger, but use the SAME FINGER for all the tests once you have decided. The numbers in the display show how fast your responded each time- the smaller the number, the better you did. Try to do your best and get the lowest number you possibly can. If you press too early (before the numbers appear) you will see an error message FS. If you press the other button (the one not used for this test), you will see an error message – ERR. If you forget to release the button, after a short time the test screen will remind you. When the test is completed, the mood word will be presented again. When done, do not turn the PVT-192 off, the test administrator will do this.

NOTE: At the end of the vigilance portion of each test, the Experimenter should make sure that the PVT-192 remains turned on until the second mood scale is completed and the **Select** menu is redisplayed.

Using the PVT-192/Computer Interface

Once the PVT-192 is well charged, connect it to the computer's serial port via the 9-pin male to 9-pin female cable supplied. If the user is unsure whether the device is fully charged, it may be run directly from the charger.

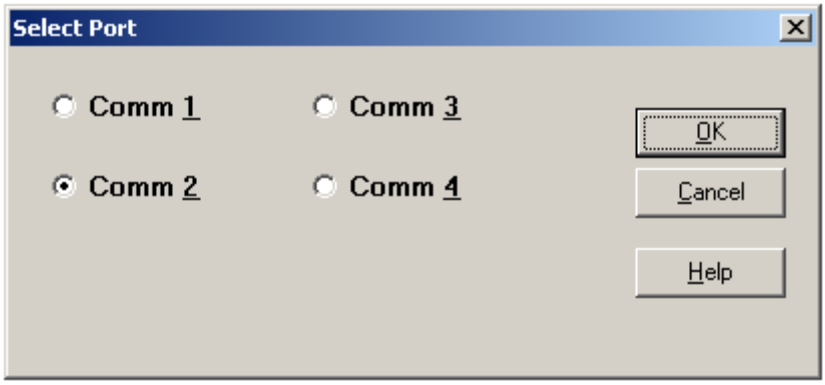
Click on the PVTCommW icon.

Prior to attempting any of the **PVT** functions (e.g. clear, initialize, download, memory free or set password), click on **Configure** and select the port the computer will use for communicating with the PVT-192.

The options are:

* Comm1
* Comm2
* Comm3
* Comm4

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com



And all selections may be made using the hot key and keyboard or by pointing your mouse at the selection and clicking.

It may be necessary for the user to try a couple different ports before figuring out which port the computer is using, based on different types of computer configurations. Once the user has established the proper COMM port, the following **PVT** functions may be accessed:

PVT:

Clear
Initialize
Download
Memory Free
~ Set Password

In order for the computer and PVT-192 to communicate with one another, the PVT-192 device must be in **Supervisory Mode**.

Clearing The PVT-192 Using The PVTCOMMW Interface

PVT

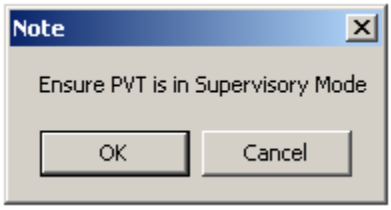
Clear

When the **Clear** function  is chosen from the PVT menu selection, the computer will clear any data on previous trials that are currently on the PVT-192.

WARNING: BE SURE THAT ALL FILES HAVE BEEN DOWNLOADED PRIOR TO CLEARING THE PVT, OR THAT DATA WILL BE IRRETRIEVABLY LOST WITH THE CLEAR FUNCTION.

The first message is shown in the window below. If you do not wish to continue with the **Clear** function, click the Cancel button. Click on the OK button to proceed.

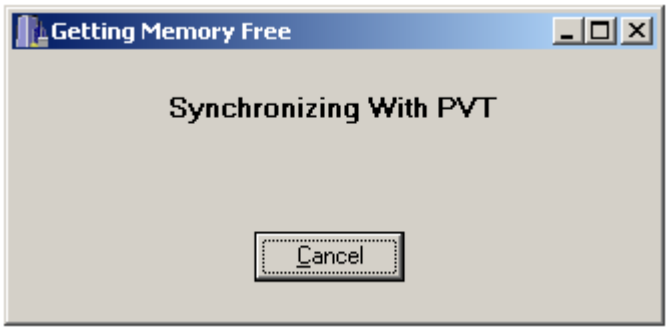
Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com



If unit is not already in Supervisory Mode, the warning below will be displayed. Once the unit is in Supervisory Mode, click the OK button to proceed.



The computer will next display the message as shown in the figure below:

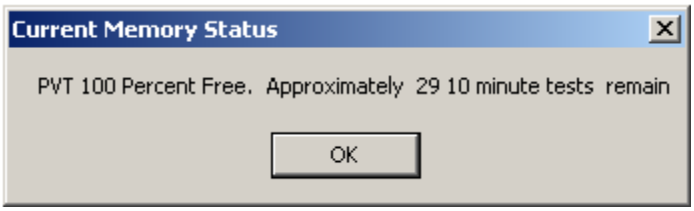


At this point, the user once again has the option of exiting the **Clear** function by clicking on the Cancel button. By **NOT** clicking Cancel, the computer will get all the available records and the following window will be displayed:

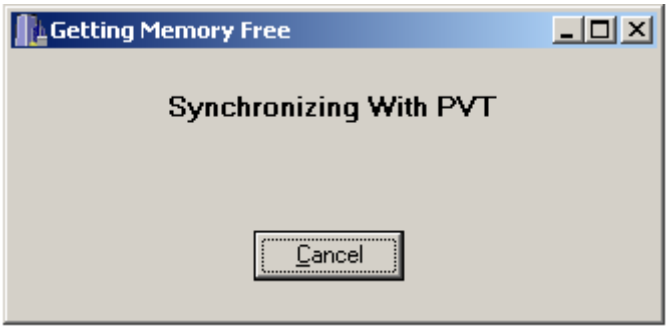


When all available records are found, the following message will be displayed. Click the OK button to proceed.

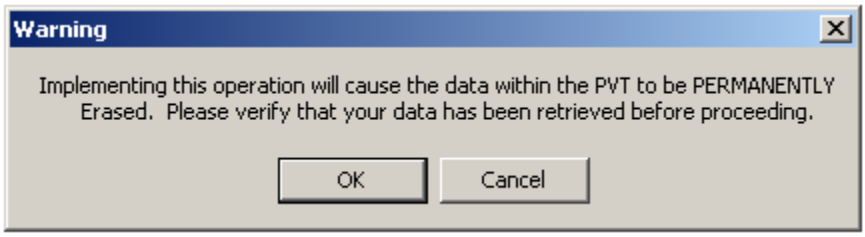
Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com



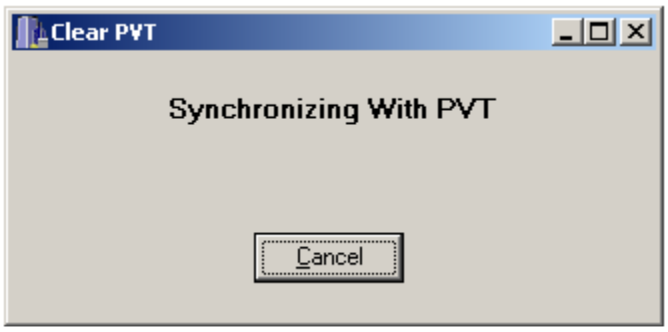
The computer will next display the message as shown in the figure below:



At this point, the user once again has the option of exiting the **Clear** function by clicking the Cancel button. By **NOT** clicking Cancel, the computer will display the warning as shown in the figure below:

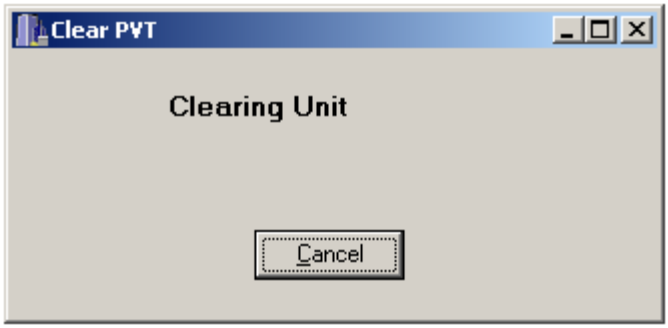


Again, selecting Cancel at this point will prevent the clearing of the files currently stored on the PVT device. The computer moves on to:

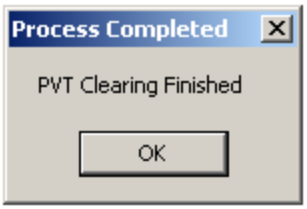


The computer will next display the message as shown in the figure below:

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com



If not cancelled at this time, the clearing process will be finished and the following window will be displayed:
Congratulations, you have successfully cleared a PVT!!!



Initializing The PVT-192 Using The PVTCOMMW Interface

This process may be accomplished in the field without the use of a computer (please see FIELD SETUP OF THE PVT-192). The following discussion covers initialization using the computer connection.

PVT

Initialize

When Initialize function  is chosen from the PVT menu selection, the computer will immediately begin to move through several interactive screens:

Set Current Time

Study Information
- **Study**
- **Experimenter's initials**
- **Trial Length seconds**
- **Mood**

Subject Information
- **Subject initials**
- **Subject ID number**

ISI Information

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

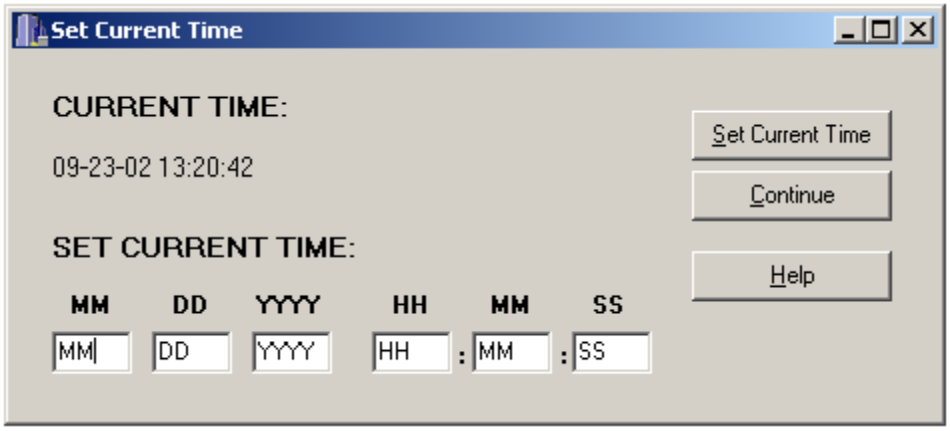
ISI Minimum
ISI Maximum

Test Options
Task
Hand

PVT

Initialize

In the Set Current Time window as shown in the figure below, the computer will display its own current time, and provide the user with the opportunity to make changes.

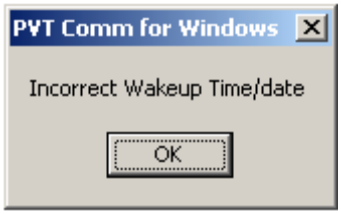


WARNING: If the time displayed is reset, the PVTCommW program will reset the computer's internal time as well.

If the time needs to be reset, place the cursor in the first block (Month - MM), and use a 2-digit number to indicate the month. Tab to the next block (Day – DD), and again use a 2-digit number to indicate the day of the month. Continue in this manner until all blocks of information have been entered, and choose:

Set Current Time to make the changes. If Set Current Time is chosen WITHOUT making changes to the date and/or time, the computer will display a warning as shown in the figure below. Exit from the warning by clicking on the **OK** button, and continuing to the next window via the **Continue** button, or should make changes to the date and/or time and then choose **Set Current Time**.

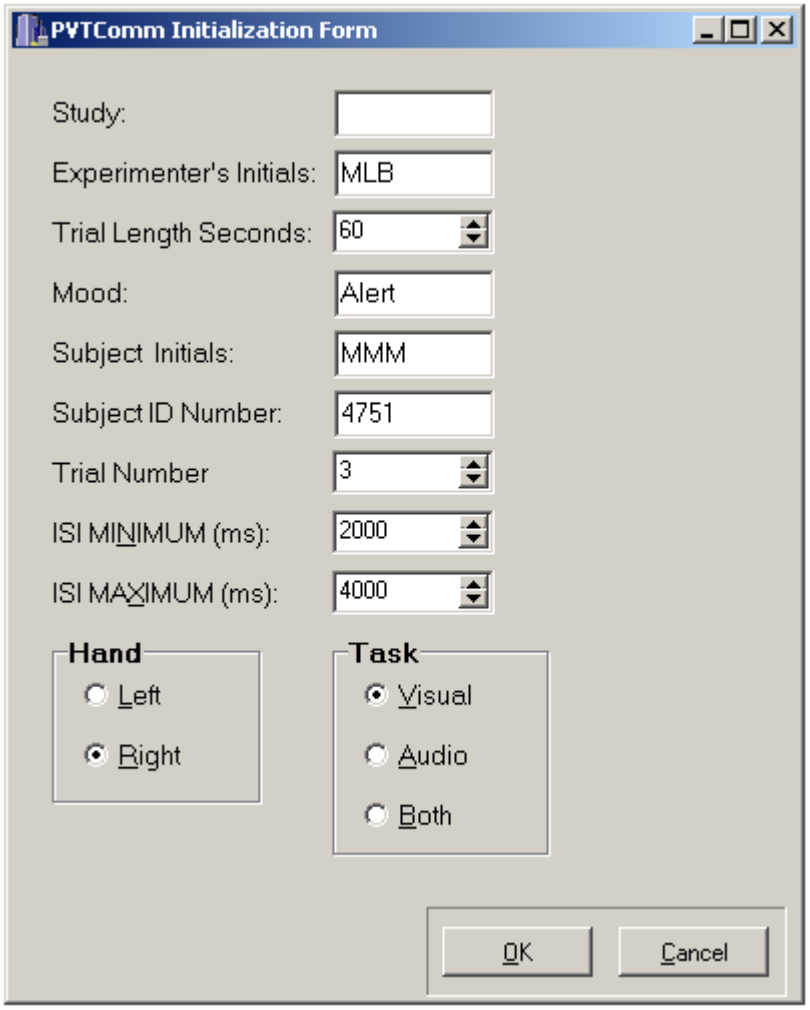
Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com



If NO changes are required, click the **Continue** button or proceed.

The **Help** button– will provide the user with information regarding this and other PVTCommW functions.

In the Study Information window as shown in the figure below, the user may enter the following information regarding the study or trial about to take place:



Study - this is an abbreviated study name; 2-8 characters may be entered to identify the experiment or procedure for the trials which will be recorded. If several studies are utilizing the PVT-192, it is suggested that this name be very descriptive in order to differentiate

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

between studies. In addition, when the individual files are created for each trial, the first one or two letters of the file name will be the first one or two letters of the study name. If the user has several ongoing studies, which begin with the same letter, it may be wise to assign them different alpha characters to distinguish them from one another.

Experimenter's Initials – enter up to 3 characters to identify the Experimenter.

Trial Length Seconds – this is the total test time for each trial in seconds. It does not include the time taken for pre and post-test mood scales. A typical value is 600 seconds (10 minutes). A maximum of 3 characters is permitted.

Mood – this is a mood scale word, chosen by the Experimenter; up to 8 characters may be entered. This word will be displayed on the pre- and post-test analog mood scale, giving the subject an opportunity to respond by placing the cursor along a 10-position scale between the words "NO" and "YES".
Subject Initials – enter up to 3 characters to identify the Subject to be tested.

Subject ID Number – enter up to 4 characters to further identify the Subject to be tested.

ISI MINIMUM (ms) - enter the minimum or lower boundary of the Inter-Stimulus Interval, in milliseconds. The smallest value permitted is 1 second (1000 milliseconds). Since the LED stimulus display remains illuminated after a response for about a second, in practice it is necessary to use a minimum ISI value long enough to allow distinguishing one stimulus from another, e.g. at least 1500ms. Note – in the AUDITORY-ONLY task there is no LED feedback display to wait for, but the minimum inter-stimulus interval is still limited to 1 second.

ISI MAXIMUM (ms) - enter the maximum or upper boundary of the Inter-Stimulus Interval, in milliseconds. Note that the ISI maximum must be a larger value than the ISI minimum or the computer will indicate an error. To set a constant ISI (no random interval) simply enter an ISI maximum value 1 millisecond longer than the ISI minimum.

NOTE: All stimuli generated during a test will occur after a randomized delay limited by the two ISI values chosen by the experimenter. Typical ISI values would be 2,000 milliseconds for the ISI minimum and 10,000 milliseconds for the ISI maximum. The inter-stimulus intervals are then generated by a 32-bit random number routine. Over a large number of presentations, the ISI distribution within the specified limits will be rectangular.

Hand

* Left
* Right

HAND NOTE: The subject's dominant hand should be entered. This parameter determines which pushbutton (Left or Right) will be considered the "correct" response and which the "incorrect" response, in order to ensure that subjects maintain the same responding method

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

for all trials. If RIGHT is chosen here, but the LEFT button is pressed following a stimulus, an error message is displayed.

Task

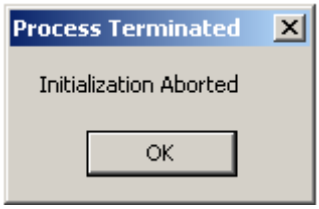
* Audio
* Visual
* Both

TASK NOTE: The standard task for PVT-192 testing is Visual only, using the LED display as both stimulus and performance feedback. The Audio task presents 1000Hz tones via stereo headphones plugged into the PVT-192 headphone jacks. Either jack may be used. The Test Administrator may wish to listen on a second set of headphones to check the progress of the test. When the device is programmed to utilize Both tasks, it will generate stimuli simultaneously on the LED screen and the headphones. This is intended for monitoring the progress of the test rather than for dual-channel stimulation testing.

When all this information has been entered, the user may choose on of the following buttons:

OK – to continue to the next screen

Cancel – to cancel and return to the PVTCommW menu. If you do click the Cancel button the following message will be displayed. Click the OK button to revert back to the PVTCommW main menu.



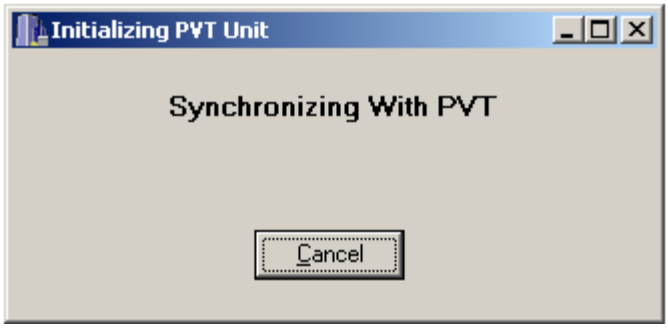
Help – for help with this or other PVTCommW topics

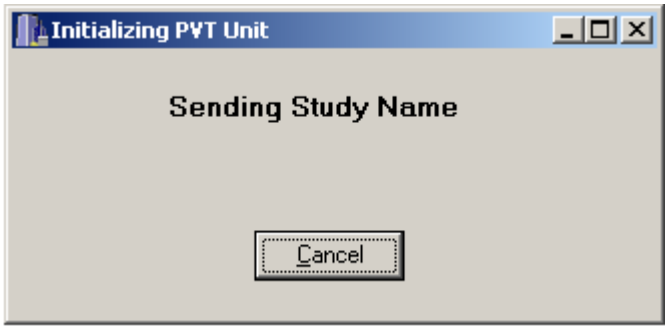
If you proceeded to initialize the PVT, the following window will be displayed:

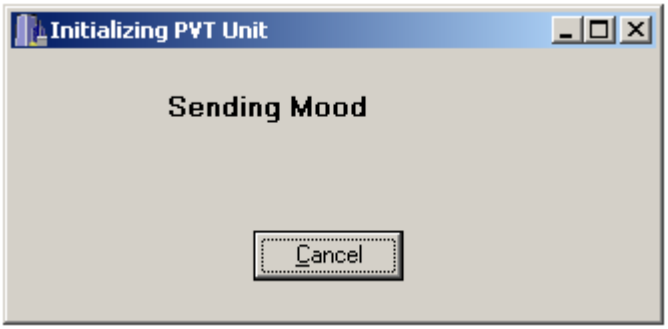


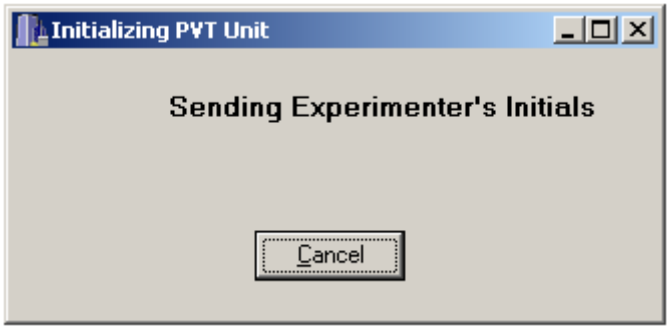
If the user selects the OK button, the computer will synchronize with the PVT-192 and will send all the information indicated above to the device. In addition, if the date and/or time have been changed, the computer's date and time will be updated. See the figures below for examples, these will run rather quickly and will only last for a few seconds total:

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

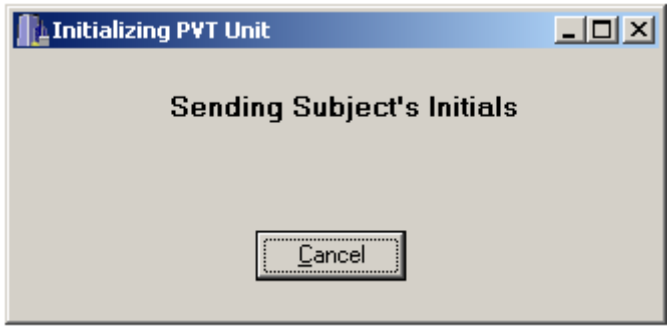


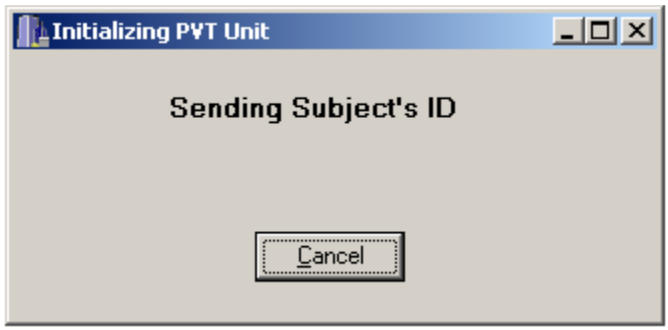


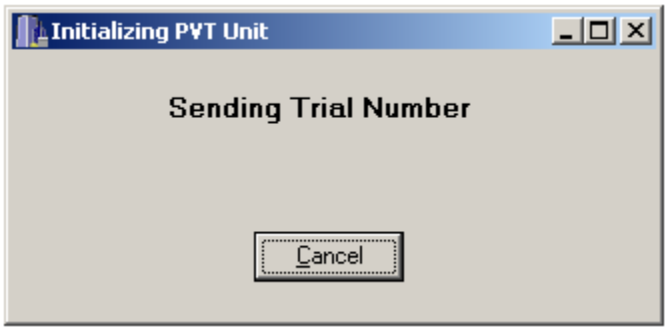




Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com





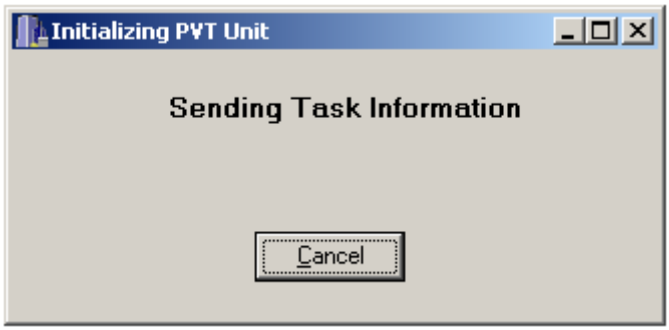


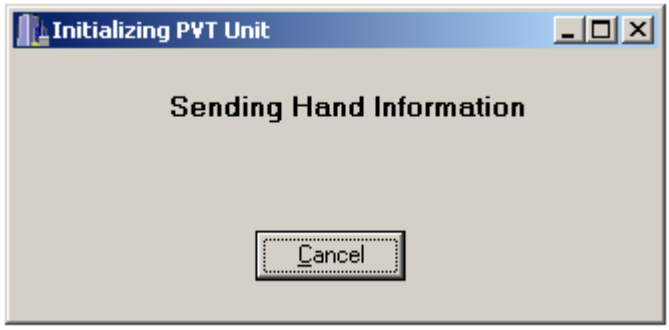


Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

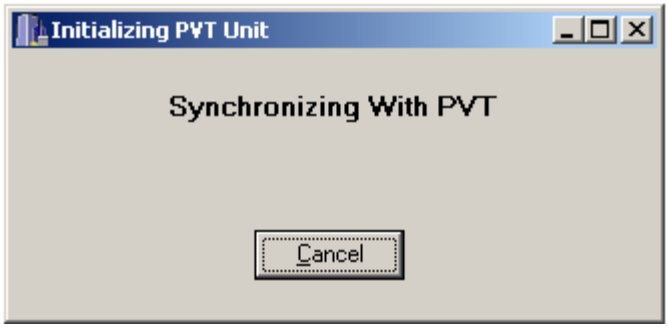


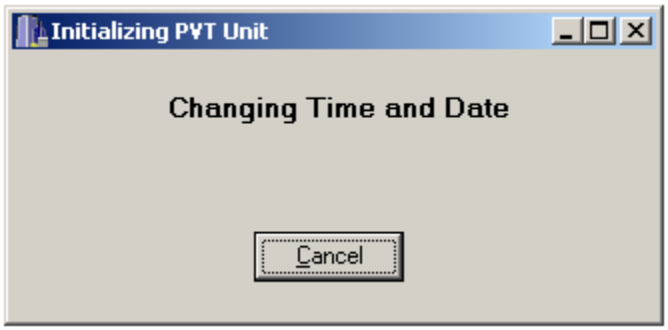


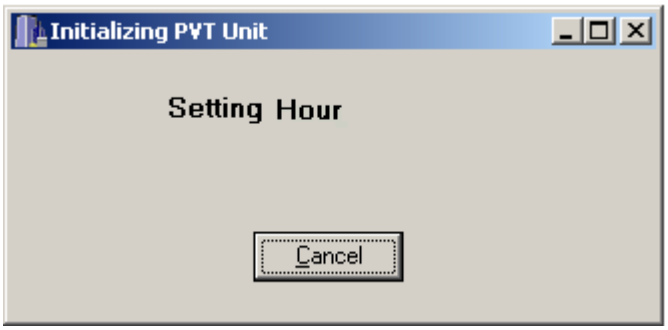


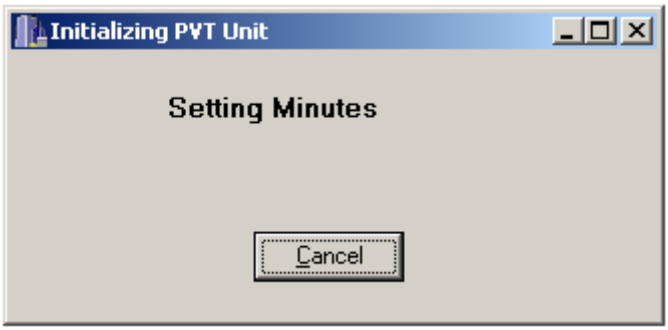


Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

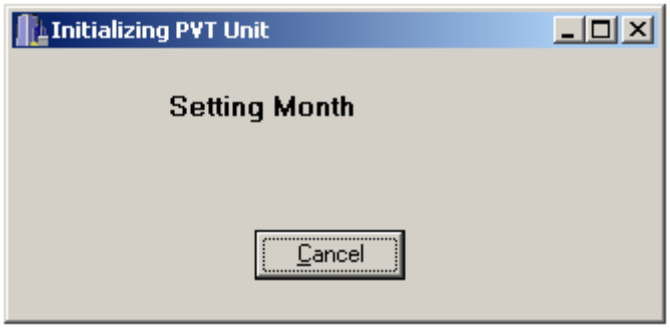


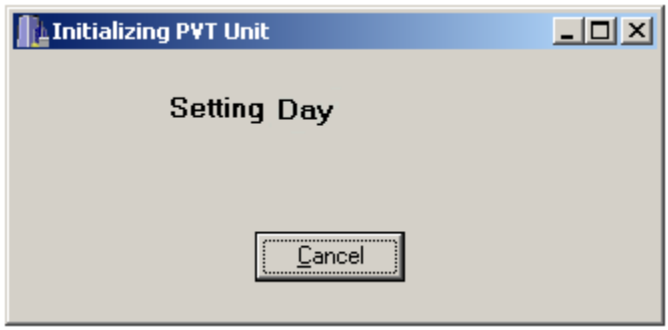


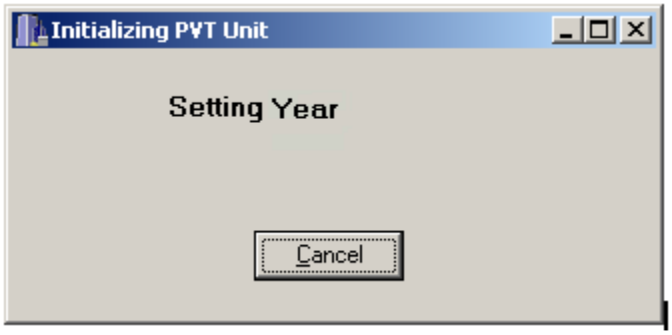


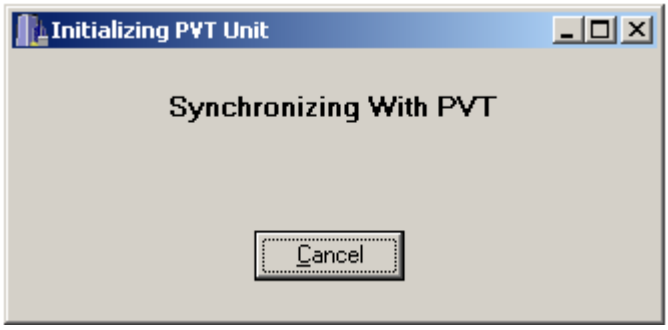


Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com



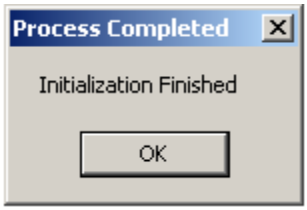






The Initialization process is now finished.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com



Click the OK button to close the window and to revert back to the PVTCommW main menu, and the PVT-192 device will reset itself out of Supervisory Mode back to the Select menu.

Downloading Data From The PVT-192 To Your Computer

PVT

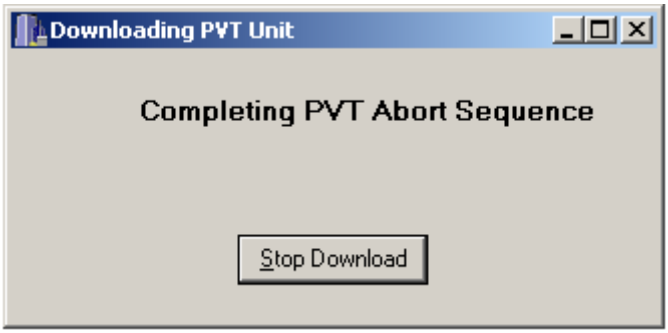
Download

The first message is shown in the window below. If you do not wish to continue with the **Download** function , click the Cancel button. Click on the OK button to proceed.

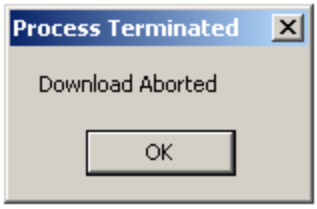


If the user selects the Cancel button, the process will be aborted and one or all of the following messages will be displayed.

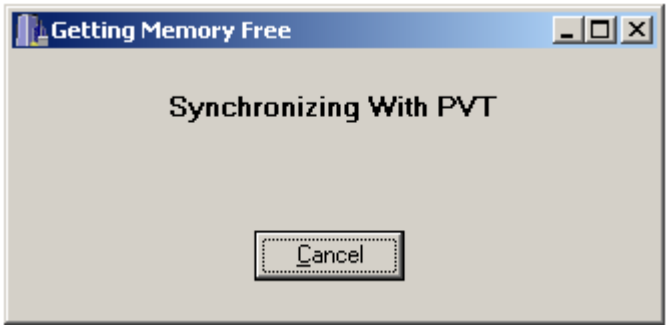




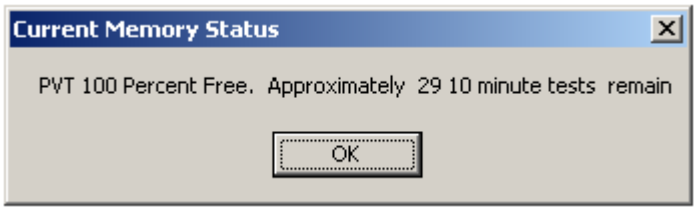
Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com



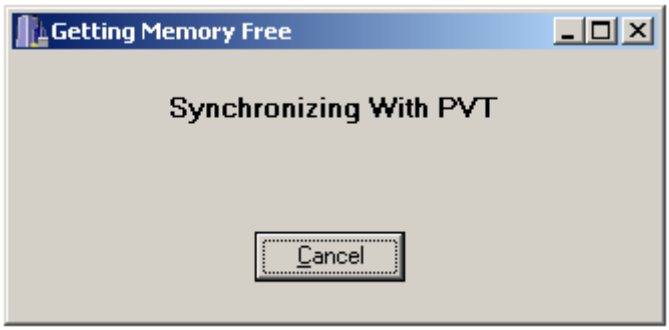
If the user selects the OK button, the computer will synchronize with the PVT-192 and the following window will be displayed:



When all available records are found, the following message will be displayed. Click the OK button to proceed.



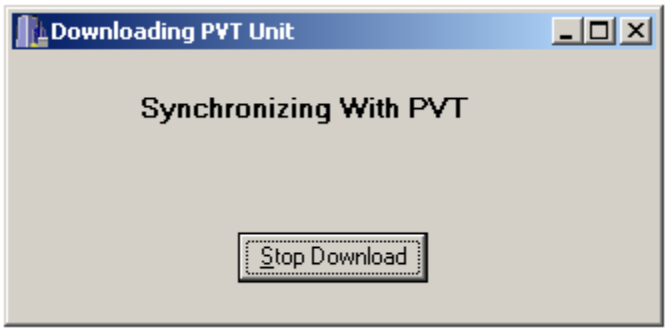
The previous screen will still be displayed for a moment as shown in the figure below:



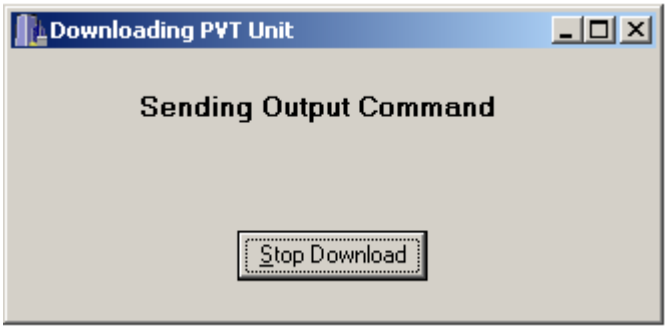
The computer will continue to interface with the PVT-192 and send commands and retrieve the records stored on the PVT-192, the figure below will be displayed:

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

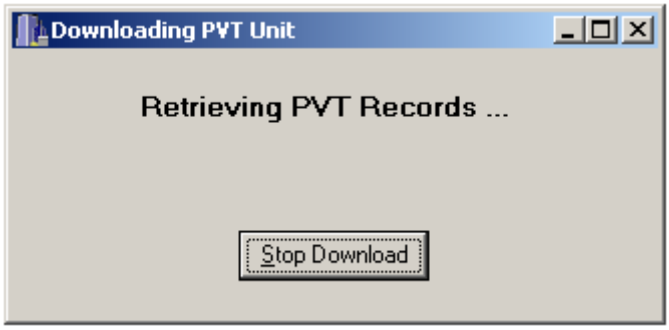
The user is offered the opportunity to discontinue the download at any time during this process by clicking the Stop Download button. The user can only discontinue the download as long as the Stop Download button is displayed.



The computer will next display the message as shown in the figure below:



The computer will next display the message as shown in the figure below:



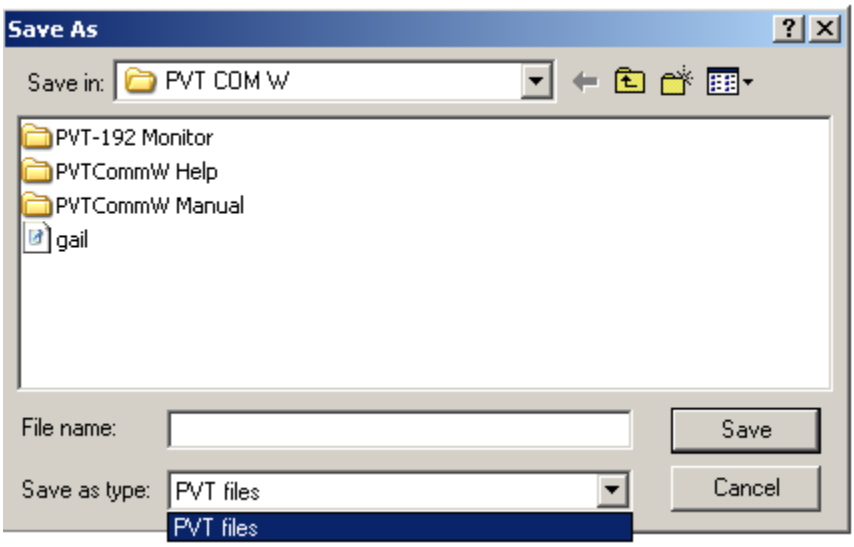
If not cancelled at this time, the download process will be finished and the following window will be displayed:

Congratulations, you have successfully downloaded a PVT!!!

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com



At this point the PVT-192 device will revert back to the Select Menu, and the computer will offer the user an opportunity to save the files that have been downloaded from the PVT-192.



Checking Memory Free On The PVT-192 Device

PVT

Memory Free

The first message is shown in the window below. If you do not wish to continue with the **Memory Free** function , click the Cancel button. Click on the OK button to proceed.

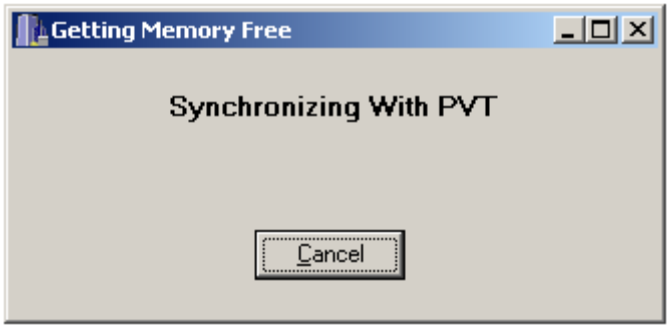


If the user selects the Cancel button, the process will be aborted and one or all of the following messages will be displayed.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com



If the user selects the OK button, the computer will synchronize with the PVT-192 and the following window will be displayed:

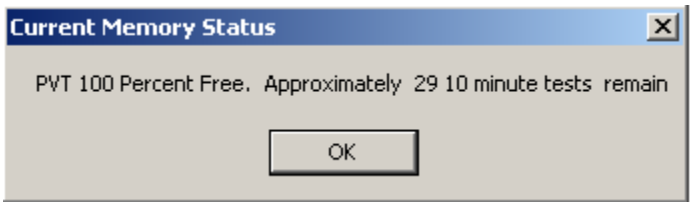


The computer will get all available records and the following window will be displayed:



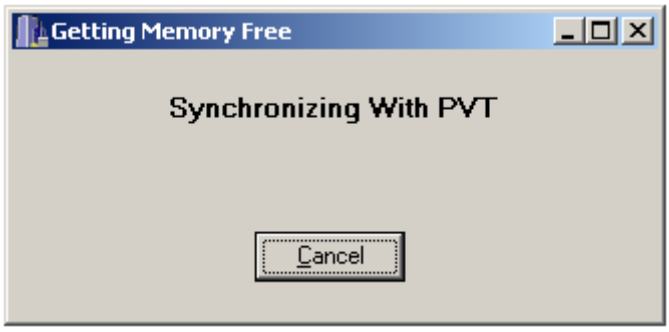
When all available records are found, the following message will be displayed. Click the OK button to proceed.

NOTE: The PVT-192 is capable of performing approximately 29 10-minute tests when fully charged. However, the display of Free Memory is just an estimate, which will vary by the length of the test bouts chosen (if they are different from 10 minutes long) and the user should be careful not to exceed the available memory or data will no longer be recorded. A warning is issued by the PVT-192 when the memory is approximately 80% full.



Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

The previous screen will still be displayed for a moment as shown in the figure below:



The screen will disappear when the PVT-192 has completed the Checking Memory Free process.

Setting The Low Level Password On The PVT-192 Device

Because the SETUP menu on the PVT-192 device allows the user to examine and modify the PVT-192's date and time and all the test parameters, access to it is protected by a numeric password. In addition to the password required for entering the Supervisory Mode (which allows access to ALL parameters for the PVT-192), a secondary programmable low-level password protection is available so that subject information and test parameters may be modified without the aid of a personal computer. This is particularly useful to the experimenter who may be running multiple studies in the field.

PVT

Set Password

The first message is shown in the window below. If you do not wish to continue with the **Set Password** function , click the Abort button.



Password (a maximum of 4 easily remembered numbers may be entered) **THE DEFAULT PASSWORD (IF UNCHANGED HERE) IS 123. SHOULD THE PVT-192 DEVICE LOSE ALL BATTERY POWER, IT MAY RETURN TO THE DEFAULT LOW-LEVEL PASSWORD OF 123.**

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

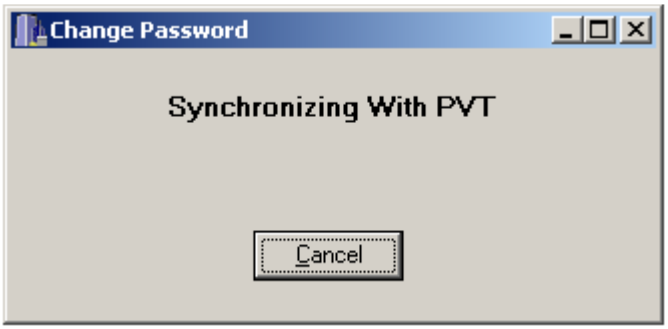
Click on the OK button to proceed.



The next message is shown in the window below. If you do not wish to continue with the **Set Password** function, click the Cancel button. Click on the OK button to proceed.



If the user selects the OK button, the computer will synchronize with the PVT-192 and the following window will be displayed:

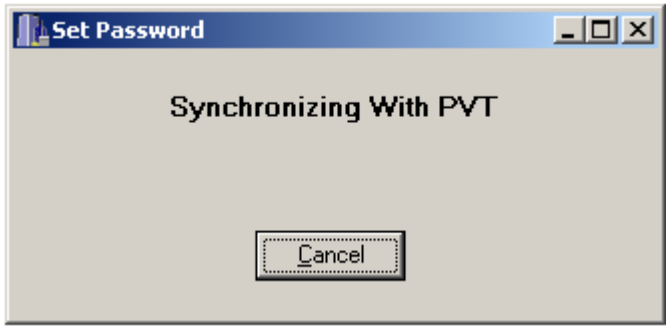


The computer will next display the message as shown in the figure below:



The computer will next display the message as shown in the figure below:

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com



Once the computer has synchronized with the PVT-192, it will set the password.

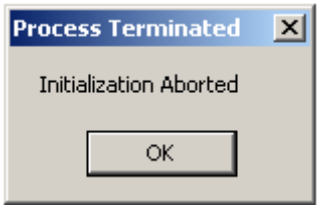
Congratulations, you have successfully changed the password on the PVT!!!



Error Messages During Computer Interface With The PVT-192

From time to time, the user may experience an error message on the computer screen while attempting to perform one or more of the functions from the Main PVTCommW menu.

The error message, which appears, is:



At this point, it is important to make sure that everything needed by the computer and the device is in place to ensure smooth communication.

Check that the cable connecting the computer and device is tightly seated in each port. The user may have indicated the incorrect Comm port, and must choose another one. Alter the Comm port from the Main PVTCommW menu, under Configure.

The PVT-192 device may be low on battery power if it has not been charged lately. Connect the device to its adaptor and plug it in to an electrical outlet. After a few minutes have passed, it may be possible (while still connected to the adaptor) for the device and the computer to communicate again. If the device is very low on battery power, it may be

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

necessary to charge it overnight before smooth communication with the computer may be established.

Be certain that the device is in Supervisory Mode for each of the functions, which require Supervisory Mode. Following alterations of settings for the PVT-192, the device will often default out of Supervisor Mode, back to the Select menu.

Error messages may be corrected by exiting the PVTCommW program, turning off the PVT-192 device, and waiting a moment, and re-entering the program, and turning the device back on.

If none of these solutions fix the problem, and the error messages continue, please call Ambulatory Monitoring, Inc. at 1-800-341-0066.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP