

DVS[™] installation manual

DVS®

Dose Verification System

Installation and Set-up Guide



DVS System Installation and Setup Guide

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Sichel Technologies, Inc.
3800 Gateway Centre Blvd.
Suite 308
Morrisville, North Carolina, 27560
USA

Part Number: 934-00553-02 rev. 04

Model #: DVS-R-200

FCCID: TS9-DVS-R-200

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: For Qualified Service Personnel Only.

This product is covered by one or more issued or pending U.S. patents including one or more of the following:

U.S. Patent Nos. 6,047,214; 6,345,203; 6,263,247; 6,402,689; 6,963,770; 6,963,771; 7,010,340 and 7,011,814.

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1 Introduction

The Dose Verification System consists of three main components that need to be set up. These are as follows:

- DVS Plan and Review Software
- DVS Dosimetry Database Server
- DVS Reader System

This guide contains information on the installation and configuration of these components. It will be broken up into the following steps:

- DVS Software Installation Overview
- Network Configuration Checklist
- Installing the DVS Plan and Review Software
- Installing the DVS Dosimetry Database Server
- Installing the DVS Reader System

1.1 Warnings and Cautions

See Dosimeter Instructions for Use and Reader Operator Manual. The following section explains the warnings, cautions and notes for DVS.

The terms Warning, Caution, and Note have specific meanings throughout this manual:

- A Warning advises against actions or situations that could result in personal injury or death.
- A Caution advises against actions or situations that could damage equipment or produce inaccurate or invalid data.
- A Note provides useful information regarding the operation or function of the system.

Warnings

The DVS system is not intended to specify adjustments to dose.

Dose measurement data obtained using the DVS system should be used in conjunction with existing planning and delivery tools to verify delivered dose rather than as a stand alone tool for determining dose adjustments.

- Electric Shock Hazard – Do not remove the covers of the Reader or Reader Wand assemblies. Do not open the case or touch the internal parts. The DVS Reader and Reader Wand contain no user serviceable internal parts. Contact the local representative for technical support and return information.
- Electric Shock Hazard – The Dose Verification System is grounded with a three-conductor cable and three-prong plug. Insert the power cable only into a properly grounded three-contact outlet.
- Electric Shock Hazard – Do not use in wet environment. May result in electrocution.

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- Only use the manufacturer-supplied power cord, data cables, or other accessories. The use of accessories other than those supplied by the manufacturer with or as replacement parts for the DVS system may result in increased emissions or decreased immunity of the equipment or system..
- Replace fuse only with same type and rating: 2 AMP 250V, Time-Lag Fuse, Failure to replace the fuse with the same type and rating may pose a fire hazard.
- The DVS equipment or system should not be used adjacent to or stacked with other equipment. If adjacent or stacked use is necessary, the equipment or system should be observed to verify normal operation.
- The DVS system is not suitable for use in the presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide.
- Be sure that the cables do not pose a trip hazard.
- The Reader Wand is not for use in direct contact with the patient – especially near wounds. Contact with gowns or other clothing is acceptable. The Reader Wand is not intended to be sterile. Clean the Reader Wand after direct skin contact using isopropyl alcohol-based disinfectants.
- Do not allow patients with a DVS Dosimeter to receive the following treatments: shortwave diathermy, microwave, diathermy, or therapeutic ultrasound. These could result in serious injury.

Cautions

- **Proper use of this system depends on careful reading of all instructions and labels.**
- Do not use cellular phones or hand held two-way radios in close proximity to the DVS Reader.
- Keep CRTs at least 3 feet from the DVS Reader to prevent the DVS Reader from interfering with the CRT image. Also, interference from CRTs may result in reduced read range.
- Turn OFF the system power before connecting or disconnecting any system components or accessories. Connecting components with power applied may cause damage to the connectors or connecting circuitry.
- If the dosimeter is tested prior to implantation, (1) do not remove the dosimeter from its package as this will compromise sterility and (2) do not place the dosimeters near metal.
- Do not use a dosimeter near implanted metal objects. Read range may be compromised.
- Do not store dosimeters near stray radiation.
- Enter the predicted dose in cGy, not monitor units. Entry in monitor units will cause a false error in the planned vs. actual dose report.
- The DVS Reader Wand should not be used within 1-2 feet of large metal objects. Using the Reader Wand close to large metal objects has the potential to reduce the read range of the Reader Wand.
- Do not conduct the pre-dose or post-dose reading while the patient is on a metal table. If the treatment table is metal, conduct the pre-dose reading before the patient is placed on the table and the post-dose reading after the patient is removed from the table. A metal table or other metal objects will interfere with the functioning of the DVS Reader Wand.
- Take the post-dose reading within 10 minutes after the end of therapy. Readings taken beyond 10 minutes decrease dose accuracy.












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- Do not implant the dosimeter deeper than 12 cm or less than 3 cm from the surface of the skin. Implanting deeper than 12 cm may result in the inability of the Reader to communicate with the implanted dosimeter. Implanting at least 3 cm deep ensures adequate build-up and minimizes potential for mechanical damage.





1.2 Notes

The dosimeter is factory calibrated and does not require calibration during use.

1.3 Symbols

SYMBOL	DESCRIPTION
	Indicates an attention to users to consult accompanying documents (Dosimeter Instructions for Use) for more information on the device.
	Type B Equipment
	Protective earth (ground)
	ON
	OFF
	Manufacturer
	Date of Manufacture (YYYY-MM-DD or YYYY-MM)
	Catalog Number
	Do not use if package is damaged.
	Serial Number
	Fragile, handle with care.

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	Consult Instructions for Use.
	Temperature Limitation
	Keep dry.
	Non-ionizing radiation

1.4 Glossary of Terms

Base Station – The main part of the DVS Reader, which contains the touch-screen display for operating the Reader.

cGy – Centi-Gray (hundredths of a Gray (Gy)) unit of radiation

CT – Computed Tomography

Dosimetry Database – The database used by the DVS system for storing patient, dosimeter, planning, and result information.

Fraction – One radiation treatment session. A treatment plan is made of one or more fractions.

Isodose Curve – The plot of the radiation dose plan showing lines of equal radiation dose in cGy.

Plan – Dosimetric representation of a prescribed radiation treatment course.

Predicted Dose – The dose, in cGy, expected at a dosimeter for a treatment session.

Reader – The DVS Reader system, which is composed of the Base Station and the Reader Wand.

Reader Wand – The hand-held part of the DVS Reader that contains the electronics to read the dose measurement from a dosimeter.

1.5 Statement of Compliance

DVS has been tested and complies with the following standards:

- IEC/EN/UL 60601-1
- CSA C22.2 No. 601-1-M90
- IEC/EN/UL 60601-1-2
- FCC 47 CFR Part 15 - Subpart C
- RTT&E Directive, 1999/5/EC

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

1.6 Essential Performance

The Essential Performance of the DVS System is:

- Interpretation (dose calibration algorithm) of dosimeter data for accurate dose response storage/display
- error free data transmission (dosimeter to database)
- mechanical integrity during normal use for protection from electrical hazards
- maintenance of the integrity of the protective earth connection

1.7 Electromagnetic Compatibility/Immunity

Notes:

- Medical Electrical Equipment needs special precautions regarding EMC and needs to be installed and put into service according to the EMC information provided below.
- Portable and mobile RF (radiofrequency) communications equipment can affect medical electrical equipment.
- The use of accessories and cables other than those specified, with the exception of parts sold by the manufacturer of the equipment or system as replacement parts, may result in increased emissions or decreased immunity of the equipment or system.
- The DVS equipment or system should not be used adjacent to or stacked with other equipment. If adjacent or stacked use is necessary, the equipment or system should be observed to verify normal operation in the configuration in which it will be used.
- In the event operation of the DVS System is suspected of adverse electromagnetic effects on other equipment, please contact Sichel technical support for further assistance.


Guidance and Manufacturer’s Declaration – Electromagnetic Emissions		
<p>The DVS-R-200 is intended for use in the electromagnetic environment specified below. The customer or the user of the DVS-R-200 should assure that it is used in such and environment.</p>		
Emissions test	Compliance	Electromagnetic environment – guidance
RF emissions CISPR 11	Group 2	The DVS-R-200 must emit electromagnetic energy in order to perform its intended function. Nearby electronic equipment may be affected.
RF emissions	Class A	<p>The DVS-R-200 is suitable for use in all establishments other than domestic, and may be used in domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes, provided the following warning is heeded:</p> <p>Warning: This system is intended for use by healthcare professionals only. This system may cause radio interference or may disrupt the operation of nearby equipment. It may be necessary to take mitigation measures, such as re-orienting or relocating the DVS-R-200 or shielding the location.</p>
Harmonic emissions	Class A	
Voltage fluctuations/flicker emissions IEC 61000-3-3	Complies	

IEC 60601-1-2 Table 1

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Guidance and Manufacturer's Declaration – Electromagnetic Immunity			
The DVS-R-200 is intended for use in the electromagnetic environment specified below. The customer or the user of the DVS-R-200 should assure that it is used in such an environment.			
Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment – guidance
Electrostatic discharge (ESD) IEC 61000-4-2	± 6 kV contact ± 8 kV air	± 6 kV contact ± 8 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.
Electrical fast transient/burst IEC 61000-4-4	± 2 kV for power supply lines ± 1 kV for input/output lines	± 2 kV for power supply lines ± 1 kV for input/output lines	Mains powered quality should be that of a typical commercial or hospital environment.
Surge IEC- 61000-4-5	± 1 kV line(s) to line(s) ± 2 kV line(s) to earth	± 1 kV line(s) to line(s) ± 2 kV line(s) to earth	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	$< 5\% U_T$ ($> 95\%$ dip in U_T) for 0,5 cycle $40\% U_T$ (60% dip in U_T) for 5 cycles $70\% U_T$ (30% dip in U_T) for 25 cycles $< 5\% U_T$ ($> 95\%$ dip in U_T) for 5 sec	$< 5\% U_T$ ($> 95\%$ dip in U_T) for 0,5 cycle $40\% U_T$ (60% dip in U_T) for 5 cycles $70\% U_T$ (30% dip in U_T) for 25 cycles $< 5\% U_T$ ($> 95\%$ dip in U_T) for 5 sec	Mains power quality should be that of a typical commercial or hospital environment. If the user of the DVS-R-200 requires continued operation during power mains interruptions, it is recommended that the DVS-R-200 be powered from an uninterruptible power supply or a battery.
Power frequency (50/60 Hz) magnetic field IEC 610000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at level characteristics of a typical location in a typical commercial or hospital environment.
NOTE U_T is the a.c. mains voltage prior to application of the test level.			

IEC 60601-1-2 Table 2

Guidance and Manufacturer's Declaration – Electromagnetic Immunity			
<p>The DVS-R-200 is intended for use in the electromagnetic environment specified below. The customer or the user of the DVS-R-200 should assure that it is used in such and environment.</p>			
Immunity Test	IEC 60601 test level	Compliance level	Electromagnetic environment – guidance
<p>Conducted RF IEC 61000-4-6</p> <p>Radiated RF IEC 61000-4-3</p>	<p>3 Vrms 150 kHz to 80 MHz</p> <p>3 V/m 80 MHz to 2,5 GHz</p>	<p>[3] V</p> <p>[3] V/m</p>	<p>Portable and mobile RF communications equipment should be used no closer to any part of the DVS System, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.</p> <p>Recommended separation distances</p> $d = \left[\frac{3.5}{3} \right] \sqrt{P}$ $d = \left[\frac{3.5}{3} \right] \sqrt{P} \quad 80 \text{ MHz to } 800 \text{ MHz}$ $d = \left[\frac{7}{3} \right] \sqrt{P} \quad 800 \text{ MHz to } 2,5 \text{ GHz}$ <p>where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in metres (m).</p> <p>Field strengths from fixed RF transmitter, as determined by an electromagnetic site survey ^a, should be less than the compliance level in each frequency range. ^b</p> <p>Interference may occur in the vicinity of equipment marked with the following symbol:</p> <div style="text-align: center;">  </div>
<p>Note 1 At 80 MHz and 800 MHz, the higher frequency range applies.</p> <p>Note 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.</p>			
<p>^a field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, and electromagnetic site survey should be considered. If the measured field strength in the location in which the DVS-R-200 is used exceeds the applicable RF compliance level above, the DVS-R-200 should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the DVS-R-200.</p> <p>^b Over the frequency range 150 KHz to 80 MHz, field strengths should be less than 3 V/m.</p>			

Recommended separation distances between portable and mobile RF communications equipment and the DVS Dose Verification System (DVS-R-200).			
<p>The DVS-R-200 is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the DVS-R-200 can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the DVS-R-200 as recommended below, according to the maximum output power of the communications equipment.</p>			
Rated maximum output power of transmitter W	Separation distance according to frequency of transmitter m		
	150 kHz to 80 MHz $d = \left[\frac{3.5}{3} \right] \sqrt{P}$	80 MHz to 800 MHz $d = \left[\frac{3.5}{3} \right] \sqrt{P}$	800 MHz to 2,5 GHz $d = \left[\frac{7}{3} \right] \sqrt{P}$
0,01	0.12	0.12	0.23
0,1	0.37	0.37	0.74
1	1.17	1.17	2.33
10	3.69	3.69	7.38
100	11.67	11.67	23.33
<p>For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.</p> <p>NOTE 1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.</p> <p>NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.</p>			

IEC 60601-1-2 Table 6

1.8 Changes or Modifications to the System

Changes or modifications to the DVS system not expressly approved by Sichel Technologies could void the user's authority to operate the equipment.

1.9 Equipment Supplied

- Reader Base Station
- Reader Wand
- Power Cord -(see Specifications section for appropriate power cord information)
- Ethernet cord
- Bar code scanner

1.10 User Equipment Requirements (Not Supplied)

The following equipment and software are required to use DVS:

- Personal Computer with LAN or network access for DVS Dosimetry Database
- Operating System Requirements:
 - Windows XP Professional, Windows Vista Business, or later

The equipment must be certified for the Application and in accordance with National, State, or Local codes.

Accessory equipment connected to the analog and digital interfaces must be certified according to the respective IEC standards (i.e. IEC 60950 for data processing equipment and IEC 60601-1 for medical equipment). Furthermore all configurations shall comply with the system standard IEC 60601-1-1.

Everybody who connects additional equipment to the signal input part or signal output part configures a medical system, and is therefore responsible that the system complies with the requirements of IEC 60601-1-1. If in doubt, consult the technical services department or your local representative.

2 DVS Installation Overview

The DVS Software has three parts, the DVS Plan and Review Software (client), and the DVS Dosimetry Database (server), and the DVS Reader configuration.

The DVS Dosimetry Database software can be installed on the same computer as the DVS Plan and Review Software or it can be installed on a separate computer on a network (e.g. The DVS Dosimetry Database Server can be installed on a computer or server in a server room or other remote location, and the DVS Plan and Review Software can be installed on several workstations or laptops elsewhere on the client's network).

The DVS Plan and Review Software can be installed on multiple computers and connect to a single database server. For administrative purposes, a version of the Plan and Review Software should be installed on the same computer as the DVS Dosimetry Database Server.

2.1.1 System Requirements

The DVS Plan and Review and Database Server Software must be installed on machines with the following minimum requirements.

- Windows XP, Service Pack 1 or later recommended
 - The DVS Dosimetry Database Server software must be installed on Windows XP Professional machines as it needs access to the Internet Information Server (IIS) functionality that is not installed as part of Windows XP Home Edition.
- 5 GB (Giga-bytes) free space
 - min. 200 MB (Mega-bytes) of disk space for the Plan and Review software
 - min. 4 GB (Giga-bytes) disk space for the DVS Dosimetry Database Server software
- The Windows XP Firewall should be turned *off* on the machine where the DVS Dosimetry Database is installed.

The following components will be installed during installation.

- Microsoft Internet Information Services Web Server (IIS) (DVS Dosimetry Database only)
- Microsoft .NET Framework (.NET) v1.1 SP1
- Microsoft Data Access Components (MDAC) v2.7 or newer
- Microsoft SQL Server 2000 Desktop Engine (MSDE) Release A (SP3a) (DVS Dosimetry Database only)
- Microsoft SQL Server CE 2.0 Tools (CE Tools) (DVS Dosimetry Database only)

2.1.2 Data Security

Database access between the DVS Reader and the DVS Dosimetry Database occurs over a network using Microsoft's SQL Server CE and Remote Data Access methods. Database accesses from the DVS Reader are sent using HTTP to the IIS Server on the Database computer which then passes the request to the Database.

Neither of these methods is inherently encrypted, and the ability to enable SSL or other internet encryption schemes on the DVS Reader is not supported. Therefore, it is recommended that the DVS Dosimetry Database computer and associated DVS Readers be contained within the same facility unless other measures can be implemented to guarantee data security.

2.1.3 Contacting Customer Support

For Technical Support, contact

Sicel Technologies, Inc.
3800 Gateway Centre Blvd.
Suite 308
Morrisville, NC 27560

Telephone: 1-888-DVS-6697 (1-888-387-6697)
E-mail: helpdesk@siceltech.com

2.2 How to Use this Manual

If the intention is to set up the system for the first time or to perform a full clean install (i.e. the database, Plan and Review software, configure the readers), then the installation should proceed as follows:

1. Install the Plan and Review Software as described in Section 4.
2. Install the DVS Dosimetry Database as described in Section 5
3. Run the Post-Installation Software Configuration instructions from Section 4.1.2.
4. Configure the DVS Reader(s) as instructed in Section 6.

If, instead, only the DVS Plan and Review Software is to be installed on machines other than the one where the DVS Dosimetry Database is located, the installation consists of the following:

1. Install the Plan and Review Software as described in Section 4
2. Run the Post-Installation Software Configuration instructions from Section 4.1.2.

Lastly, if additional DVS Readers are being added to an existing installation, simply execute the instructions found in Section 6.

3 Network Configuration Checklist

The following information is required before attempting to install the DVS Software as this information may be needed during the installation and later configuration of the software. If the information is unknown, consult the client's IT Department.

3.1.1 Network Configuration

YES **NO** Does the network use DHCP to assign IP Addresses?

If **Yes**, then the following information is required for the computer containing the DVS Dosimetry Database installation:

- Database Computer Name:

The computer name is identified using the following procedure on the computer where the Database will be installed:

1. Press the **Start** menu button
2. Right-Click on the **My Computer** icon and select **Properties**
3. Select the **Computer Name** tab
4. The first part of the *Full Computer Name* entry is the Database Computer Name to use (e.g. if the entry lists *thispc.domain.com*, the Database Computer Name would be *thispc*).

If **No**, then network uses Static IP Addresses, and the following information is required for the network and the computers where the DVS Database will be installed:

- Database Computer Static IP Address:

.	.	.	.
- Subnet Mask (usually 255.255.255.0):

.	.	.	.
- Default Gateway:

.	.	.	.
- Primary DNS Server:

.	.	.	.
- (optional) Alternate DNS Server:

.	.	.	.
- Static IP Address for Base Station:

.	.	.	.

Most of this information can be determined using the following procedure:

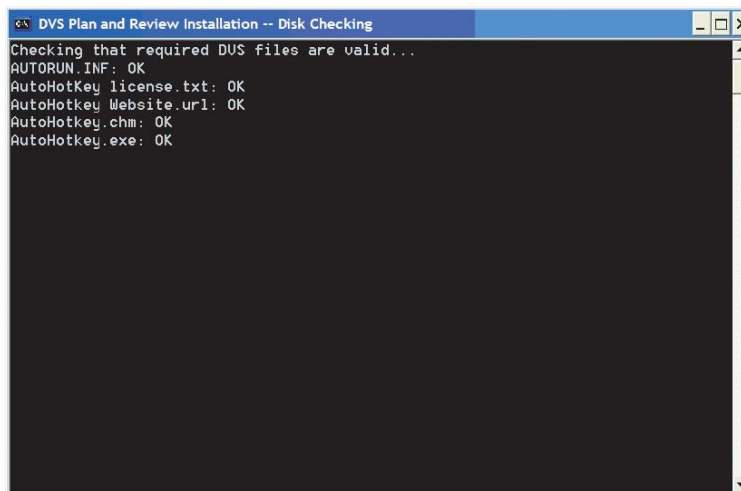
1. Press the **Start** menu button, and select **Control Panel**
2. When the Control Panel window opens, if the link on the left-hand side of the window says *Switch to Classic View*, press it to switch into Classic View.
3. Double-Click on the **Network Connections** icon.
4. Right-Click on the **Local Area Connection** or whichever connection is active and select **Properties**
5. From the *This connection uses the following items* list, select **Internet Protocol (TCP/IP)** and then press the **Properties** button
6. Record the information displayed.

4 Installing the DVS Plan and Review Software

The DVS Plan and Review Software is installed on a computer connected to your network. It is the interface for accessing the patient and dosimeter information stored in the DVS Dosimetry Database. To install the DVS Plan and Review Software, perform the following steps:

1. Login to the machine using account with Administrative privileges.
2. If not already done, disable the Windows Firewall. For instruction on how to do this, see Section 4.4.
3. Place the DVS Software Installation CD into the CD-ROM drive. The installation program should start automatically.
 - a. If it does not automatically start, browse to the CD-ROM drive using Windows Explorer and double-click **setup.exe**.

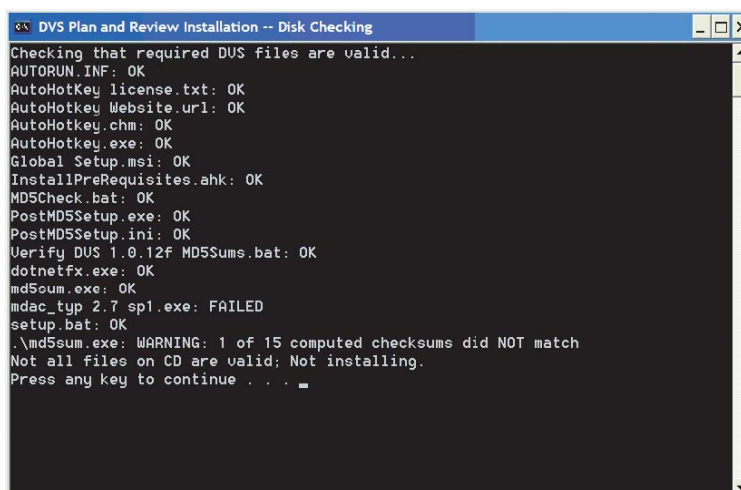
Shortly after inserting the DVS Software Installation CD, a command window appears. The installation program automatically verifies the files on the CD-ROM.



```
DVS Plan and Review Installation -- Disk Checking
Checking that required DUS files are valid...
AUTORUN.INF: OK
AutoHotKey license.txt: OK
AutoHotKey Website.url: OK
AutoHotKey.chm: OK
AutoHotkey.exe: OK
```

Figure 1 - CD File Checking

If the verification process ends with a failure message, press any key to exit the program, and contact Technical Support, otherwise, the installation starts.



```
DVS Plan and Review Installation -- Disk Checking
Checking that required DUS files are valid...
AUTORUN.INF: OK
AutoHotKey license.txt: OK
AutoHotKey Website.url: OK
AutoHotkey.chm: OK
AutoHotkey.exe: OK
Global Setup.msi: OK
InstallPreRequisites.ahk: OK
MD5Check.bat: OK
PostMD5Setup.exe: OK
PostMD5Setup.ini: OK
Verify DUS 1.0.12f MD5Sums.bat: OK
dotnetfx.exe: OK
md5sum.exe: OK
mdac_typ 2.7 sp1.exe: FAILED
setup.bat: OK
.\md5sum.exe: WARNING: 1 of 15 computed checksums did NOT match
Not all files on CD are valid; Not installing.
Press any key to continue . . .
```

Figure 2 - CD File Checking Failed

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4. If the .NET Framework is not installed, then the following message will appear. In this case, execute the procedures in Section 4.2. When completed, execute the procedure in this section once more from the beginning.

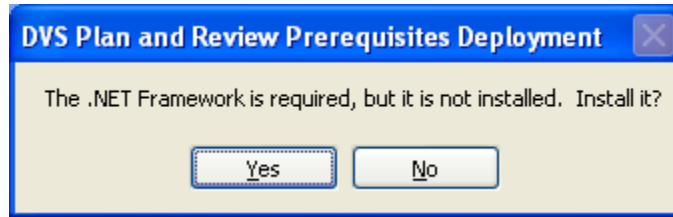


Figure 3 - .NET Framework NOT Installed

5. If the .NET Framework is installed, but is not at least version 1.1.4322, then the following message will appear. In this case, execute the procedure in Section 4.3. When completed, execute the procedure in this section once more from the beginning.

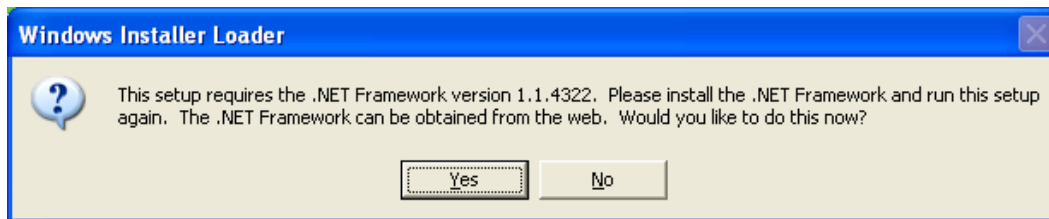


Figure 4 - .NET Framework Version Incorrect

6. On the *Welcome* panel, click **Next >**. The **Next >** and **< Back** buttons can be used to move forward or backward through the setup application's panels. Clicking **Cancel** will exit the setup wizard without making any changes to your computer.

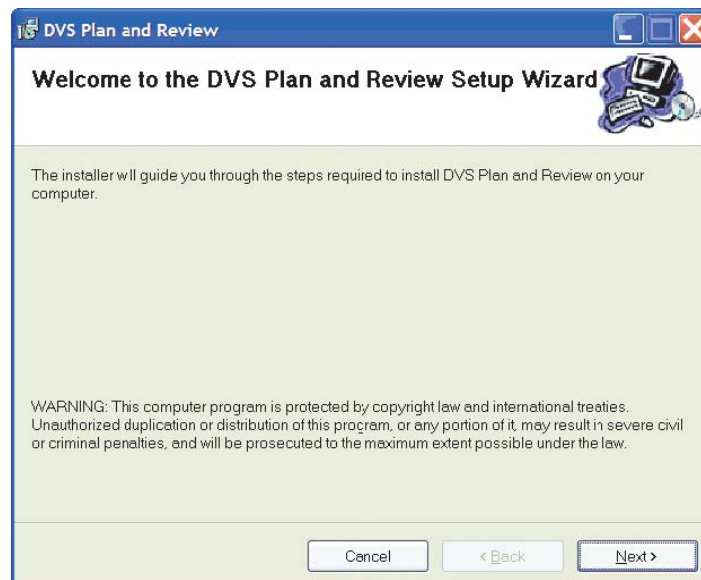


Figure 5 - Welcome Panel

7. On the *Server Setup Option* panel, select the **Server Setup** check box if you want to install the DVS Dosimetry Database on the computer.
 - a. If selected, the DVS System Server Setup program installs the database after the Plan and Review Software installation finishes.

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- b. If this check box is cleared, only the Plan and Review Software will be installed.

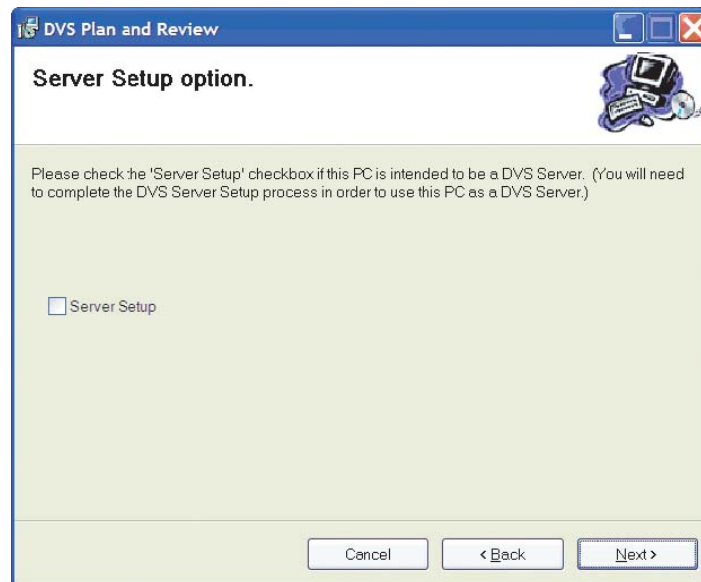


Figure 6 - Server Setup Option Panel

8. Click **Next** to display the *Select Installation Folder* panel. By default, the setup wizard installs the Plan and Review software in the *C:\Program Files\DVS\DVS Plan and Review* folder. To change the location where the software will be installed, click **Browse** and select a new location using the **Open** dialog box that appears.

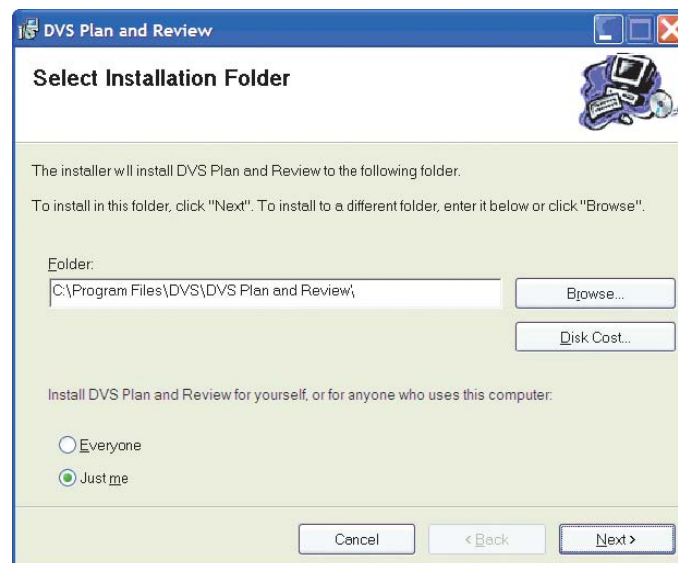


Figure 7 - Select Installation Folder Panel

9. Select the **Everyone** or **Just Me** option to indicate whether this software will be available to everyone who logs into this computer or only the account used to install the Plan and Review Software.
10. Click **Next** to display the *Confirm Installation* panel. If you want to change any of the setup information you entered into the setup wizard, click **Back** to change the information.
11. When you are ready to start installing the software, click **Next**.

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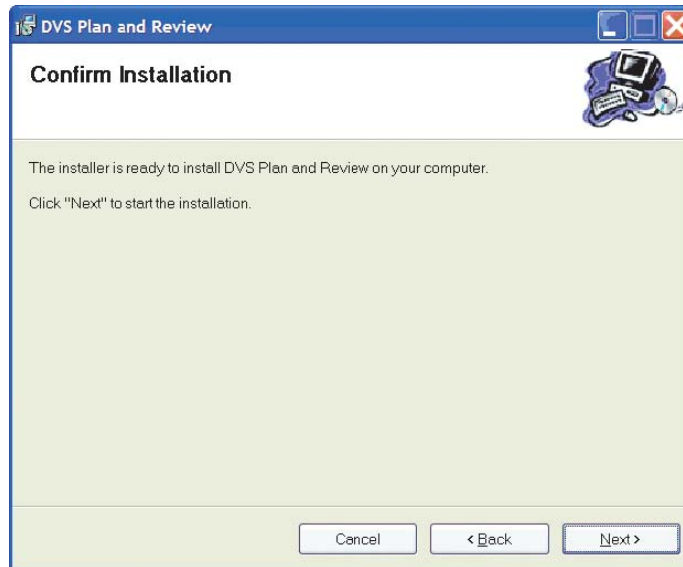


Figure 8 - Confirm Installation Panel

12. The next panel that appears displays a progress bar for the installation program. If you need to stop the installation before it finishes, click **Cancel**.

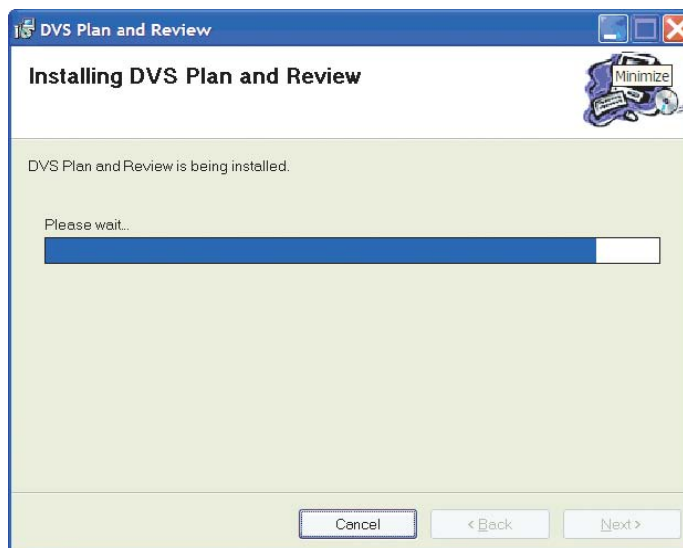


Figure 9 - Installing DVS Plan and Review Progress Panel

13. When the DVS Plan and Review Software installation finishes, the *Installation Complete* panel appears. Click **Close** to exit the setup wizard.
 - a. If the **Server Setup** check box was selected, then the *DVS Server System Software Setup* application will launch (see Section 5) before continuing.
 - b. If the Windows Service Pack Version selected is SP1 or earlier, even when the **Server Setup** check box is selected, no further installation software will launch after the Plan and Review software is installed.
 - i. In this case, the installation software can be launched manually by double-clicking the **DVS Server Setup** icon found in the *Administrative* folder on the desktop (see Section 5) before continuing.

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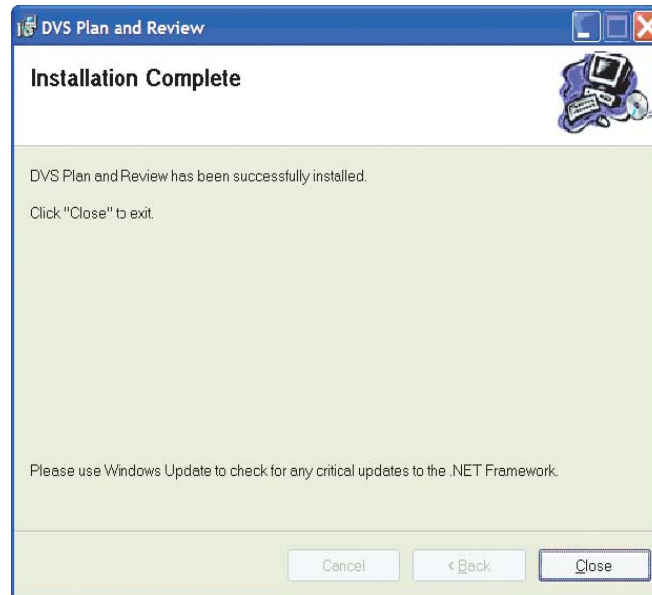


Figure 10 - Installation Complete Panel

4.1.1 Installation Errors

If the installation program encounters any errors during installation, the installation is aborted and an error message appears. If an error occurs, fix the problem and restart the installation program. The following issues may prevent the software from installing and result in an error message:

- *Low disk space* - reinstall the software in a location where you have enough disk space. The Plan and Review Software requires at least 200 MB of disk space.
- *Inadequate write permissions* - Make sure the user ID you used to log into the computer has Administrator privileges. The user ID needs the rights to install applications and modify the application folders.
- *Corrupted files on the installation CD* - Contact Technical Support.

4.1.2 Post-Installation Configuration Notes

After installing the DVS Plan and Review software, and assuming the DVS Dosimetry Database Server software is also installed, do the following to ensure that the software is installed and configured properly.

1. Launch the DVS Plan and Review software by double clicking on the Plan and Review icon on the desktop.
2. If an *Incorrect Version* error for the .NET Framework appears, press **OK** and then execute the procedure in Section 4.3 to upgrade the .NET Framework. When completed, try to launch the software once more before continuing.

4.1.2.1 Setting up Database Connection

If the Plan and Review Software is installed on a computer other than the machine where the DVS Dosimetry Database Server is installed, or an error message like the one shown in Figure 11 appears, then do the following:

1. Launch the DVS Plan and Review Application by double clicking on the **DVS Plan and Review** icon.
 - a. This is accessible inside the *Administrative* folder on the desktop or from **Start -> All Programs -> DVS -> DVS Plan and Review**.

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- If the following error dialog box appears (after an approximate 30 second timeout), click **No** and then skip to Step 5.

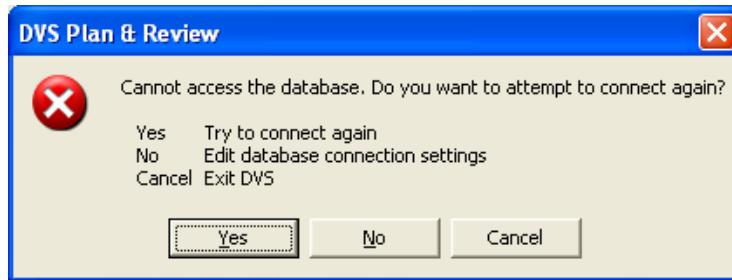


Figure 11 - Plan and Review Database Detection Error

- Login as the “Admin” user (the default password, if not changed, is blank)
- Select the **Database** tab so the screen looks like the one below.

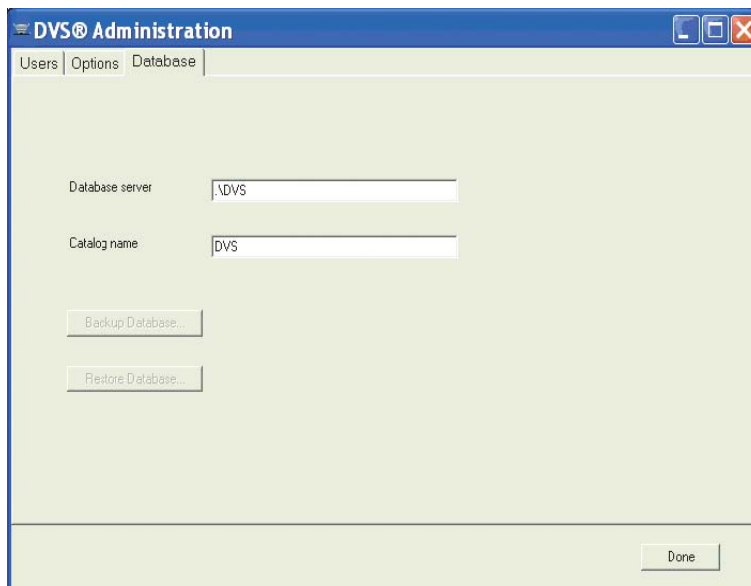


Figure 12 - Plan and Review Database Configuration Tab

- Make sure the *Database server* entry is set to the database computer name from the Network Configuration checklist plus “**DVS**” (e.g. DBSERVER\DVS)
 - By default, the value is set to “**.\DVS**” which implies the locally installed instance of the DVS Dosimetry Database.
- Make sure the *Catalog name* entry is set to “**DVS**”
- Press the **Done** button.
- Press the **Exit DVS** button to close the application.

4.1.2.2 Editing the “Admin” User

By default, the *Admin* login, which is for administrative access, has a blank password. It is highly recommended that this password be changed. To change the password, do the following:

- Launch the DVS Plan and Review Application by double clicking on the **DVS Plan and Review** icon.
 - This is accessible inside the *Administrative* folder on the desktop or from **Start -> All Programs -> DVS -> DVS Plan and Review**.

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2. Enter **Admin** (case sensitive) in the *Login Name* text box, and leave the *Password* text box blank.
3. Click **OK**. The login dialog box will disappear and the DVS Main Menu will be showing.

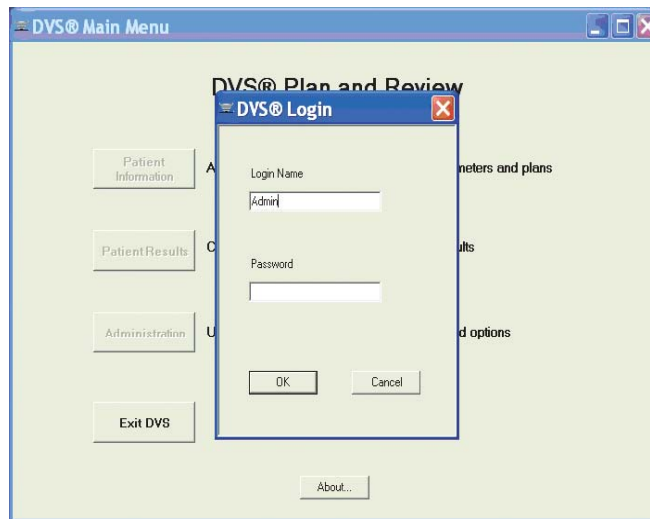


Figure 13 - Plan and Review Login Dialog Box

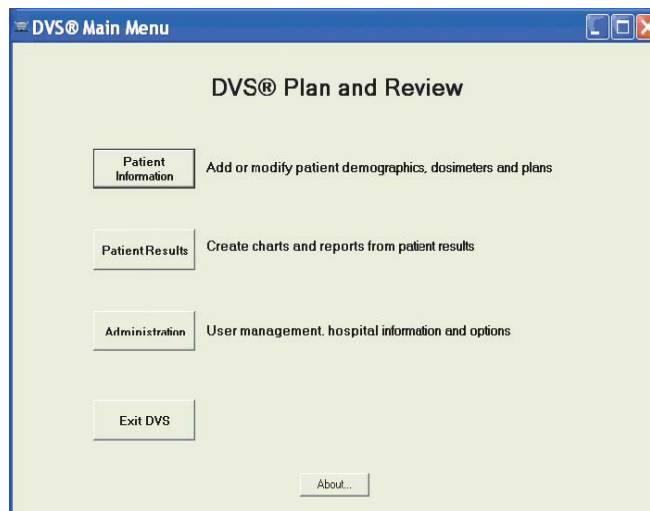


Figure 14 - Plan and Review Main Menu

4. Press the **Administration** button to display the *DVS Administration* window.
5. Click the **Users** tab, and in the *Users List* that appears, select the **Admin** user.
6. Press the **Edit...** button to bring up the *DVS User Data Entry* dialog box.

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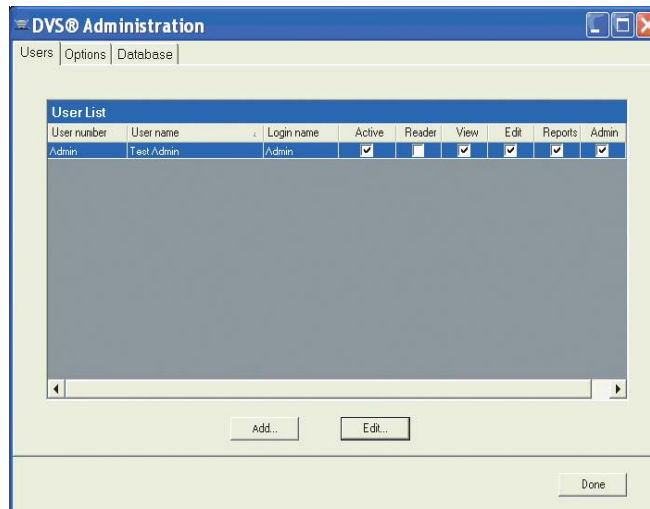


Figure 15 - Plan and Review Administration Users Tab



Figure 16 - DVS User Data Entry Dialog Box

7. In the *DVS User Data Entry* dialog box, edit the user information, password, and authorizations.
 - a. *Password* - must be numeric (0-9) and at least 4 digits long. Be sure to set a secure password for the default Admin user.
 - b. *Authorizations* – select the tasks you want the user to be able to perform. The Admin user should only have at least Administrator authorization. Administrator authorizations let the user access the Administration dialog box.
8. When finished editing the *Admin* user, press the **OK** button to close the dialog box and return to the *Users* tab.
9. Press the **Done** button.

4.1.2.3 Entering Institution Information and System Options

To enter the Institution information and/or set options for the DVS system, do the following:

1. If not already running, launch the DVS Plan and Review Application by double clicking on the **DVS Plan and Review** icon.
 - a. This is accessible inside the *Administrative* folder on the desktop or from **Start -> All Programs -> DVS -> DVS Plan and Review**.
 - b. Enter **Admin** (case sensitive) in the *Login Name* text box
 - c. Enter the *Admin* user's password in the *Password* text box (blank by default).
 - d. Press the **OK** button. The login dialog box will disappear and the DVS Main Menu will be showing.
2. Press the **Administration** button, and then select the **Options** tab.

The screenshot shows the 'DVS Administration' window with the 'Options' tab selected. The form fields are as follows:

- Institution's name:** A text box with the label 'Name'.
- Address:** A text box with the label 'Address'.
- On Reader, time for automatic logout (in minutes):** A text box containing the value '480'. Below it, a note says 'To disable automatic logout, set to 0.'
- How to show measured dose on the Reader's Notes Screen:** A dropdown menu currently set to 'Percent error'.
- Done:** A button at the bottom right of the window.

Figure 17 - Plan and Review Administration Options Tab

3. Edit the information on this screen (e.g. *Institution Name*, *Address*).
4. Enter the time in minutes after which you want the DVS Reader to automatically logout.
 - a. To disable automatic logout, set the value to 0 (zero).
5. Select how you want to display measured doses on the DVS Reader Notes screen. The choices are as follows:
 - a. None
 - b. Percent Error
 - c. Absolute Dose
6. Press the **Done** button when finished to commit the changes.

4.2 Installing the .NET Framework

If, during the installation, the application detects that the .NET Framework needs to be installed, it will display a dialog message like the one shown below. To install the .NET Framework, do the following:

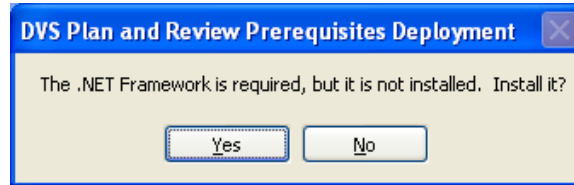


Figure 18 - .NET Framework Installation Request

1. Press the **Yes** button. This will cause another dialog box to appear asking whether to install the Microsoft .NET Framework 1.1 Package.

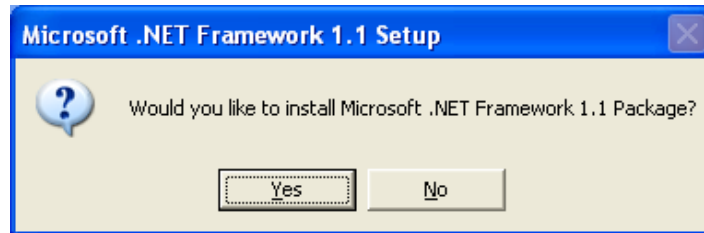


Figure 19 - .NET Framework Installation Confirmation

2. Press the **Yes** button. This will cause the .NET Framework v1.1 Setup application to be launched using the included installation file(s) on the CD. The following screen will then appear.

Note: The .NET Framework version included on the CD (v1.1.4322) does not include the .NET Framework v1.1 Service Pack 1 patch that is required.



Figure 20 - .NET Framework v1.1 Setup License Agreement Screen

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3. Select **I agree** and then press the **Install** button to begin the installation. The installation process will take a few minutes.

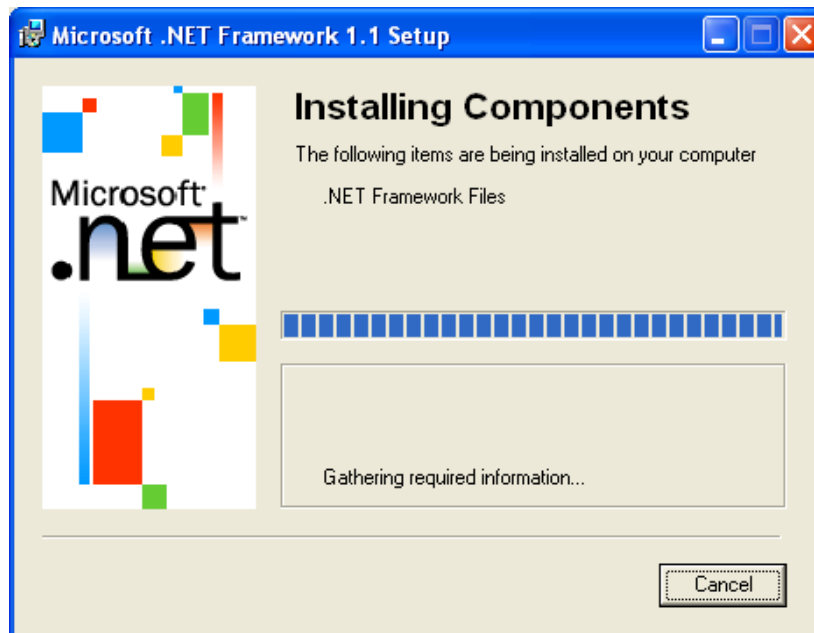


Figure 21 - .NET Framework v1.1 Setup Installation Screen

4. When finished, the following message will be displayed. Press the **OK** button to close the installation screen.

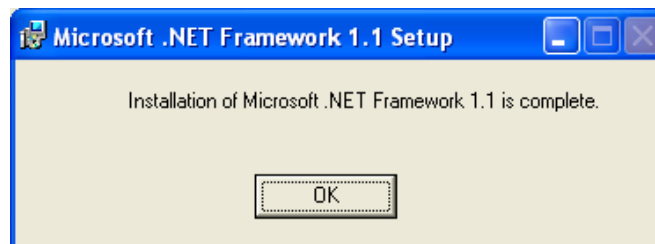


Figure 22 - .NET Framework Installation Complete

5. The following dialog message from the DVS software installation may still be displayed. If so, then perform the procedure in Section 4.3.

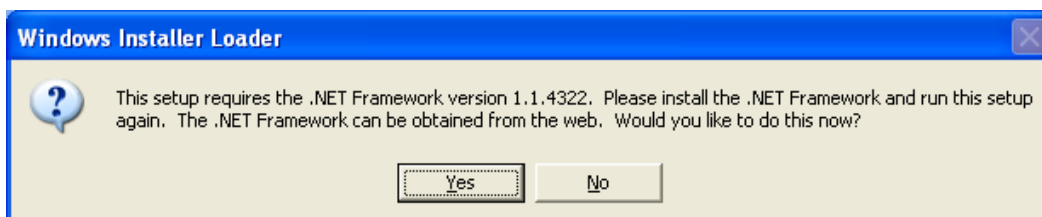


Figure 23 - Installer Detects Correct Version of .NET Framework NOT Installed

4.3 Upgrading the .NET Framework

If the message box as shown in Figure 4 is displayed, the version of the installed .NET Framework is not the version required for the Plan and Review software to function properly. There are actually two options to acquire the required version of the .NET Framework:

4.3.1 Option 1 – Microsoft Windows Update (Recommended)

Microsoft's Windows Update is the most automatic way to retrieve and install updates for the operating system installation. To use the Microsoft Windows Update utility, do the following:

1. Press the **No** button on the dialog message shown in Figure 4.
2. Run the *Windows Update* utility included with every Windows XP installation
 - a. This can be launched by pressing the **Start** button, selecting **All Programs**, and then clicking on the **Windows Update** icon.
 - b. A Web Browser will launch.
3. After the Windows Update page is loaded, two buttons will be visible in the main section of the page. Press the **Custom** button to start the updates detection process.
 - a. Pressing the **Express** button is also valid, but in this case, Steps 4 through 6 can be skipped.
4. When the list of updates appears, find and select the update named *Microsoft NET Framework 1.1. Service Pack 1* (i.e. Make sure the item's check-box is checked).
5. Press the **Review and install updates** link
6. After the summary page loads, press the **Install Updates** button.
7. After the update is installed, the computer will request a reboot. Reboot the computer.

4.3.2 Option 2 – Download and Install

1. Press the **No** button on the dialog message shown in Figure 4.
2. Make sure the *Plan & Review* CD-ROM is still in the CD-ROM drive. Open the CD-ROM folder.
3. In the CD-ROM folder, double-click on the file "NDP1.1sp1-KB867460-X86.exe". The following window will appear.

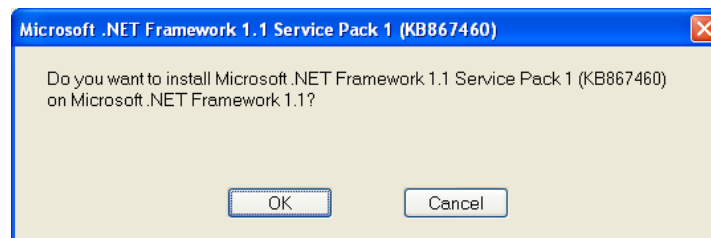


Figure 24 - .NET Framework v1.1 SP1 Installation Confirmation

4. Press the **OK** button. The License Agreement screen will appear (see Figure 25).

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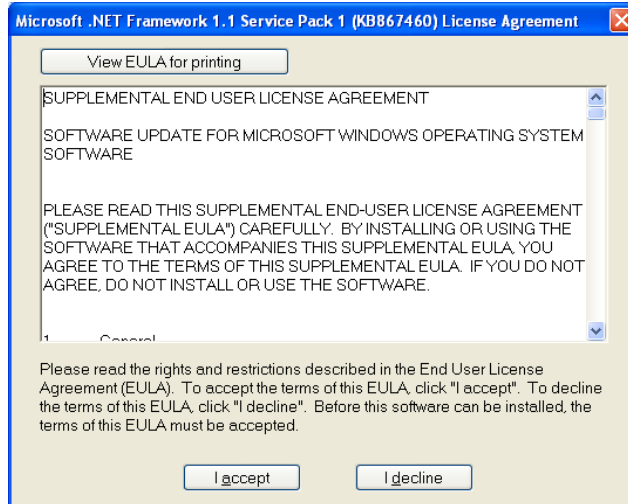


Figure 25 - .NET Framework v1.1 SP1 Setup License Agreement Screen

5. Press the **I accept** button to commence the installation.
6. The installation will commence and when complete, the following dialog box will be shown. Press **OK** to complete the installation.

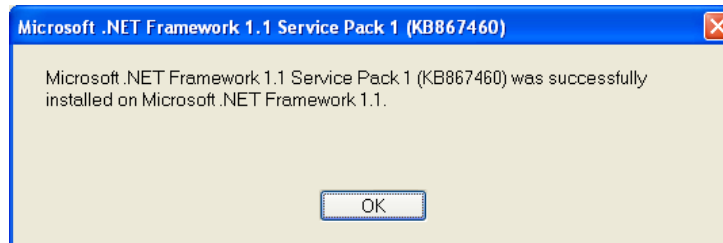


Figure 26 - .NET Framework v1.1 SP1 Installation Complete

7. The following message will appear. Do the following:
 - a. Remove the CD from the CD-Drive.
 - b. Press the **Yes** button to reboot the system

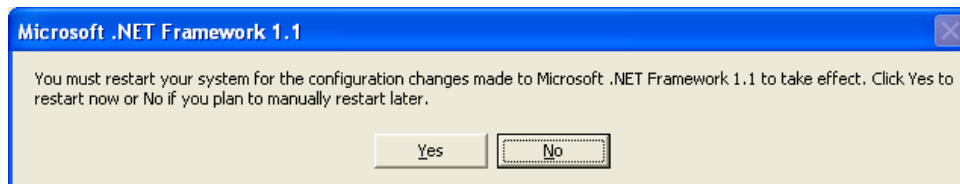


Figure 27 - Reboot Required

8. When the reboot operation is complete, re-insert the CD to restart the installation.

4.4 Windows Firewall

On the computer on which the DVS Dosimetry Database software is to be installed, the Windows Firewall (a feature built-in to Windows XP) should be disabled. Depending on the Service Pack level of the Windows XP installation, this can be done in different ways.

4.4.1 Service Pack 1 or Earlier

The Windows Firewall in Service Pack 1 or earlier versions of Windows XP can be “customized” for each network connection that is setup. In order to disable the Windows Firewall, do the following:

1. Press the **Start** menu button, and then select **Control Panel**
2. When the *Control Panel* window appears, check the left-hand side of the window.
 - a. If a link that says *Switch to Classic View* exists, press it to switch into classic view.
3. Double-Click on the **Network Connections** icon.
4. Right-Click on the **Local Area Connection** or whichever connection is active and select **Properties**
5. Press the **Advanced** tab and make sure the check-box is cleared.

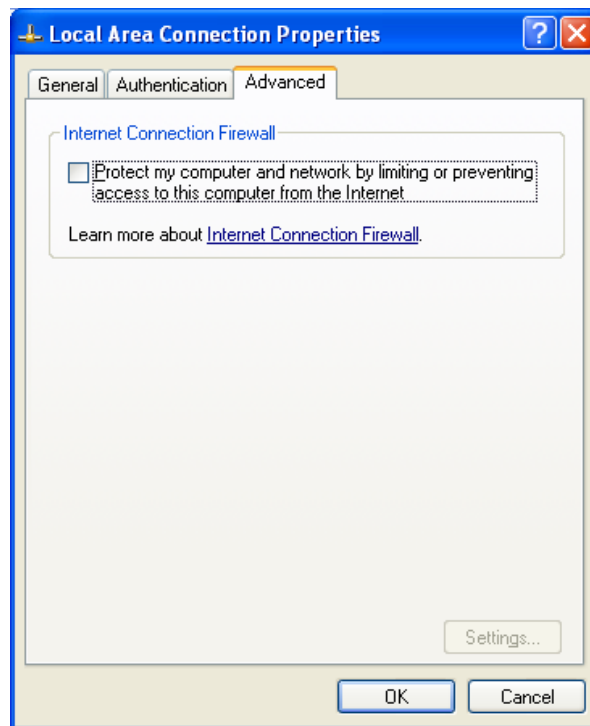


Figure 28 - Windows XP SP1 Firewall Configuration

6. Close the *Connection Properties* dialog box and then close the *Control Panel* window.

4.4.2 Service Pack 2

Starting with Windows XP Service Pack 2, the Windows Firewall is a system service and is accessible directly from the Windows *Control Panel*. In order to disable the Windows Firewall, do the following:

1. Press the **Start** menu button, and select **Control Panel**
2. When the *Control Panel* window appears, check the left-hand side of the window.
 - a. If a link that says *Switch to Classic View* exists, press it to switch into classic view.
3. Double-Click on the **Windows Firewall** icon to launch the Windows Firewall utility

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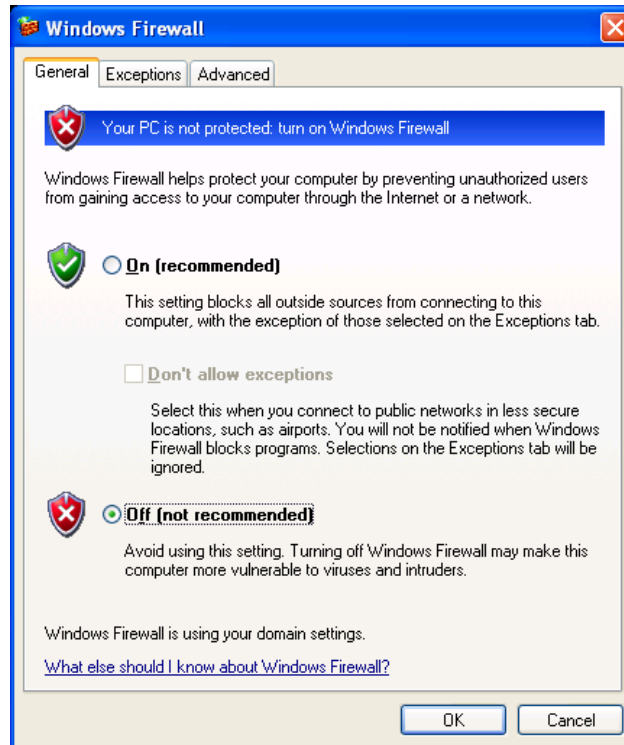


Figure 29 - Windows Firewall Utility

4. Make sure that the **Off** option is selected in the *General* tab to indicate that the Windows Firewall is turned OFF.
5. Close the *Windows Firewall* utility and then close the *Control Panel* window.

5 Installing the DVS Dosimetry Database Software

Note: The DVS Dosimetry Database stores the client and dosimeter measurement data. It is accessed using the DVS Plan and Review software. Even if the Plan and Review software is installed on other computers, it is recommended that the Plan and Review software also be installed on the same computer as the DVS Dosimetry Database Server.

- None** **SP1** **SP2** Select the Windows XP Service Pack Version for the machines where the DVS Dosimetry Database will be installed.

If the **Server Setup** checkbox was selected during the CD installation, the DVS Dosimetry Database and its associated software will be installed. The process of installing the DVS Dosimetry Database involves the installation or configuration of the following items, and should be handled automatically by the installation program.

- Create a Microsoft SQL Server 2000 Desktop Engine (MSDE) instance called “DVS” which will be the actual database engine.
- Install or configure the Microsoft SQL Server CE 2.0 Tools to allow access to the newly created MSDE instance.
- Install or configure the machines Internet Information Services (IIS) application to provide access for remote devices like the DVS Reader to gain access to the DVS Dosimetry Database via Remote Data Access (RDA) Components.
 - These components use HTTP access through the local web server (IIS) to communicate with the database.
- Configure or “seed” the database with the default configuration items for a new DVS Dosimetry Database installation.

To install the DVS Dosimetry Database Server and the Dosimetry Database, perform the following steps:

1. Before going forward, verify that the Windows Firewall is disabled (see Section 4.4 if unsure).
2. On the computer where the DVS Dosimetry Database Server is to be installed, perform the steps for Installing the DVS Plan and Review Software first (see Section 4).
 - a. Be sure to select the **Server Setup** check box on the *Server Setup Option* panel in the *DVS Plan and Review Setup Wizard*.
3. When the *DVS Plan and Review Setup Wizard* completes, the *DVS Server System Software Setup* window appears.
 - a. If the window does not appear, then launch the *DVS Server System Software Setup* application by opening the **Administrative** folder on the desktop and then double-click on the **DVS Server Setup** icon.

Note: For installations on Windows XP SP1 and earlier, the DVS Server System Software Setup may NOT automatically launch after a Plan and Review installation.

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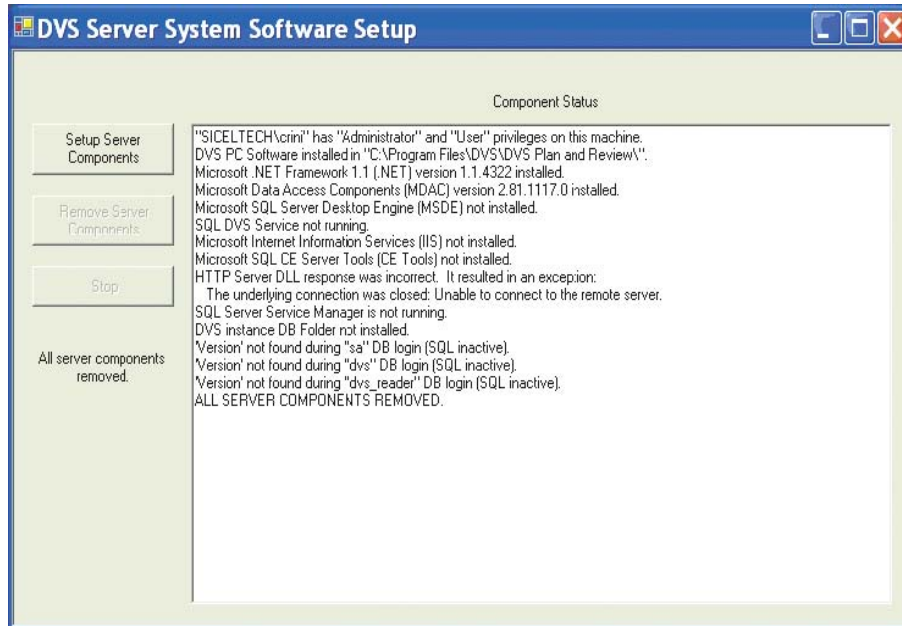


Figure 30 - DVS Server System Software Setup Application Main Window

4. Click the **Setup Server Components** button. Several windows may appear while MSDE Database Engine installs.
5. Once completed, the application checks to see if the *Microsoft Internet Information Services Web Server (IIS)* is installed or not.
 - a. If *IIS* is already installed, then the installation will skip to Step 7.
 - b. If not, the following dialog box appears. Click **Yes**.



Figure 31 - IIS Installation Message

6. During *IIS* installation, the following dialog box may appear to indicate the setup application may need system files from the *Windows XP Professional Operating System Installation CD* if they are not found on the computer. Click **Yes** to continue.
 - a. If the *Windows XP Professional CD Auto-Launch Window* appears (see Figure 33), press the **Exit** button as the configuration should be handled automatically.

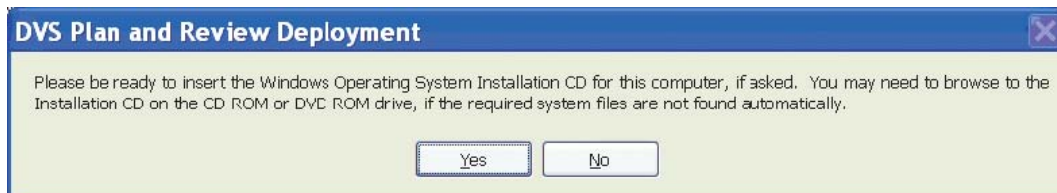


Figure 32 - IIS Installation CD Needed Message



Figure 33 - Windows XP Professional CD Auto-Launch Window

7. When the *IIS* installation is complete, the following dialog box appears. Click **OK** to start the *SQL Server CE Tools Setup Wizard*.

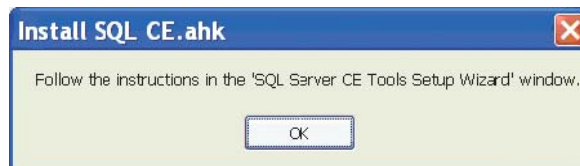


Figure 34 – SQL Server CE Tools Pre-Installation Message

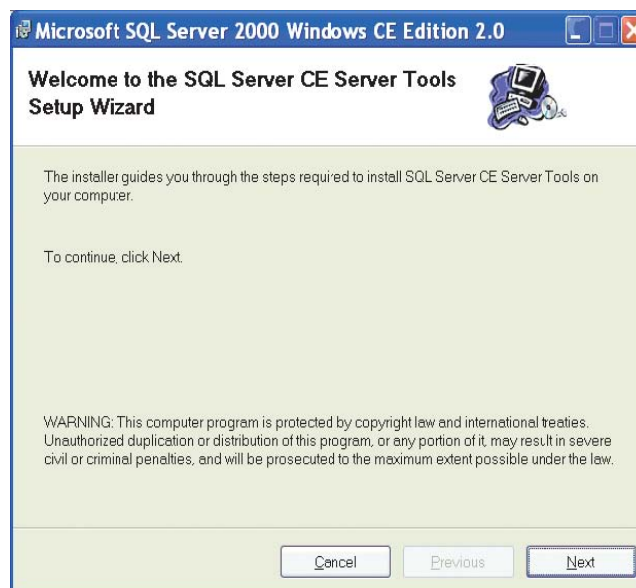


Figure 35 - SQL Server CE Tools Setup Wizard

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8. Click **Next** to continue with the installation.
9. The *License Agreement* panel should appear. Select the **I Agree** option and then press the **Next** button.



Figure 36 - License Agreement Panel

10. On the *Specify a Destination Folder* panel, it is recommended (though not required) that the default locations be kept, so click the **Next** button.

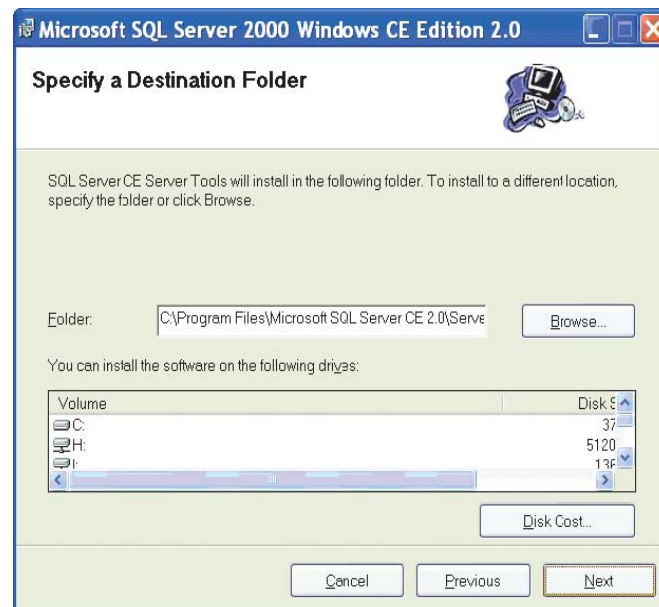


Figure 37 - Specify a Destination Folder Panel

11. On the *Start the Installation* panel, click **Next**.
 - a. When the SQL Server CE Tools Setup Wizard begins, the setup program displays a number of windows as it installs the software and configures the database.

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- b. If a message box showing *When the SQL Server CE Connectivity Management screen is displayed, please double-click on 'Create a Virtual Directory' and allow the wizard to complete.* appears, press the **OK** button.

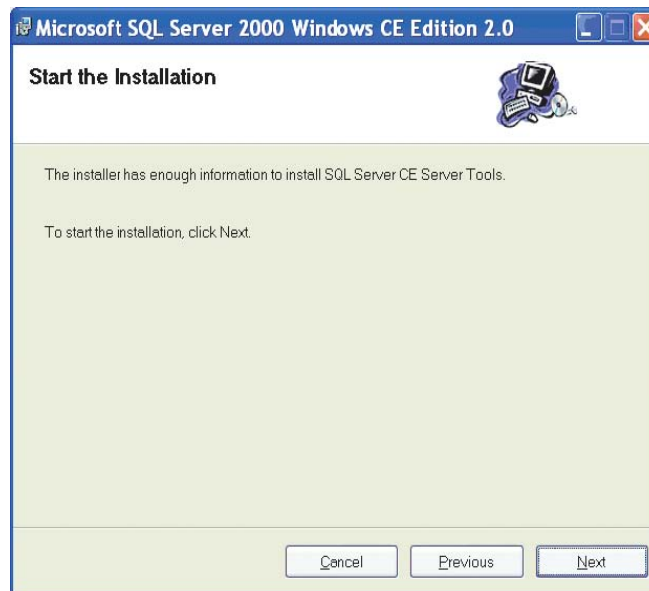


Figure 38 - Start the Installation Panel

12. When the setup program completes, the *DVS Server System Software Setup* window displays *ALL SERVER COMPONENTS FULLY INSTALLED* in the last line of *Component Status* window.
 - a. Regardless of the Windows XP Service Pack level of the machine where the software is installed, if *IIS* has to be installed, the *DVS Server System Software Setup* will issue an *OSQL* error like the one shown below. To correct this, run the procedure in Section 5.1.1 before proceeding to the next step.

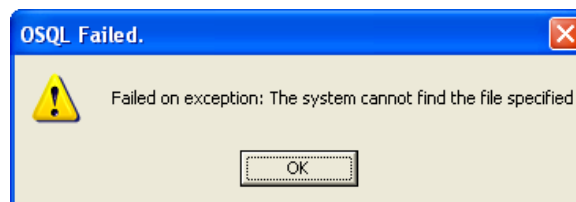


Figure 39 - OSQL Exception Error

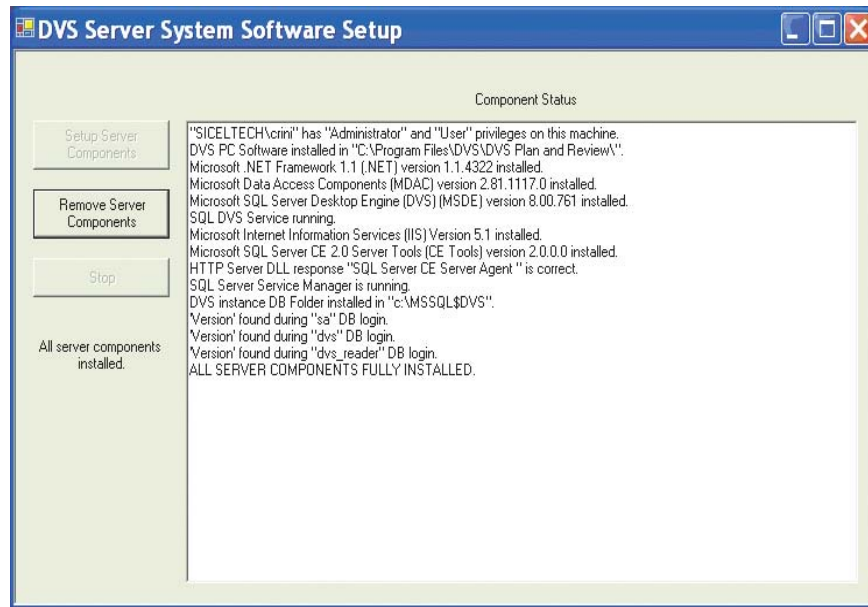


Figure 40 - Setup Complete

13. Click the **Close (X)** button to exit the setup program.

5.1.1 Installation Errors

If the *DVS Server System Software Setup* application continues to fail for an extended period of time or an error message box appears with a title *OSQL Failed* and message of *Failed on exception. The system cannot find the file specified.*, do the following to correct the problem.

1. Stop the Installation by pressing the **Stop** button in the *DVS Server System Software Setup* application's main window.
2. Close the *DVS Server System Software Setup* application by pressing the **Close (X)** button.
3. From the **Administrative** folder on the desktop, double-click on the **DVS Server Setup** icon to re-launch the *DVS Server System Software Setup* application.
4. Press the **Setup Server Components** button to complete the installation.
 - a. In most cases, this is where the Database will be configured so a *Command Prompt* window will appear during this configuration.
5. When the installation is completed, the *All SERVER COMPONENTS FULLY INSTALLED* message should appear in the *Component Status* window.
 - a. If it doesn't, contact Technical Support for more assistance (see Section 2.1.3).

5.1.2 Backing up the DVS Dosimetry Database

There are two ways to perform backups of the DVS Dosimetry Database.

1. Manually - Consult *Backing up and Restoring the DVS Database* in Section 5.5 of the DVS Operator Manual (Part Number 934-00553-00).
2. Automatically - Information on setting up and performing these operations can be obtained from technical support (see Section 2.1.3) and requesting document number 934-00552-04.

6 Installing the DVS Reader

To set up the DVS Reader so that it can properly communicate with the DVS Dosimetry database, the following steps need to be performed:

- Unpack the Reader Components
- Choose a Location
- Make the Connections
- Power on the Reader
- Connect to the DVS Dosimetry Database

6.1 Unpack the Reader Components

Carefully remove the Reader Components from the shipping cartons. Confirm the following components have been provided:

- Reader Wand
- Reader Base Station
- Power Cord, Hospital Grade, 10 feet or 3 meters
- Ethernet Cable, CAT 5e FTP, Shielded, 3 meters
- Bar Code Scanner

6.2 Choose a Location

Find a location for the DVS Reader in or near the treatment room. The DVS Reader can be placed on a counter top or attached to a wall-mounted pole. If the DVS Reader is attached to a pole, the pole should be 1.25" in diameter and able to support at least 25 pounds. It is important to consider the following when choosing a location for the DVS Reader.

- Near an electrical outlet
- Near a local area network (LAN) connection
- Not in the radiation path of the linear accelerator

6.3 Make the Connections

There are three physical connections that must be made for the DVS Reader to properly operate:

1. *Reader Wand* - Connect the Reader Wand cable to the back of the Reader Base Station. Turn the connector until it is securely in place.
2. *Ethernet Cable* - Connect the Ethernet cable to the back of the base station and then to a LAN connection in the room.
3. *Power cord* - Connect the power cord to the back of the base

Note: There is also a USB connection on the back of the Base Station used for field service and/or future upgrades.

6.4 Barcode Scanner Connections

Connect one end of the USB cable into the end of the barcode scanner. Press the cord in firmly to assure a proper connection.

Plug the opposite end of the cable into a USB port on a computer containing the DVS Plan and Review software application.

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To test the barcode scanner, depress the trigger. A red line should appear. If the redline doesn't appear, check the connection between the cable and barcode scanner.

6.5 Power on the Reader

To power on the Reader, use the switch on the back of the base station near the power cord. It may take a few seconds before anything appears on the screen while the DVS Reader boots up.

6.6 Connecting to the DVS Dosimetry Database

Each time the DVS Reader is booted, it starts its own initialization process (see the screenshots below) before it launches into the main application.

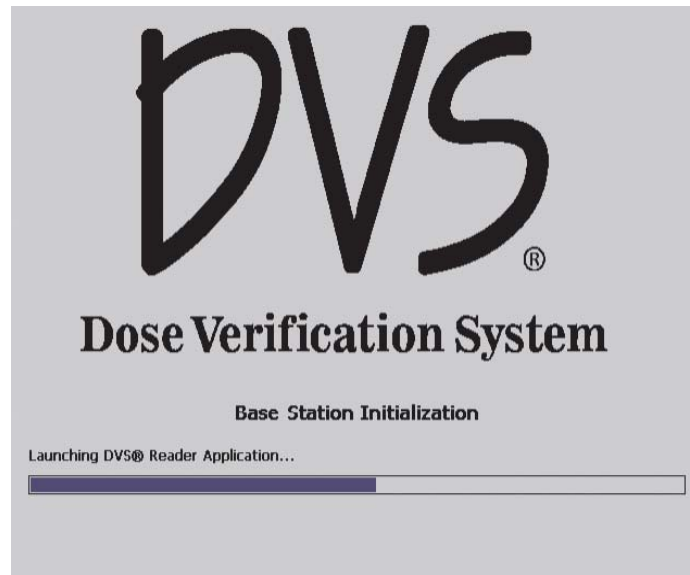


Figure 41 - DVS Reader Initialization Screen

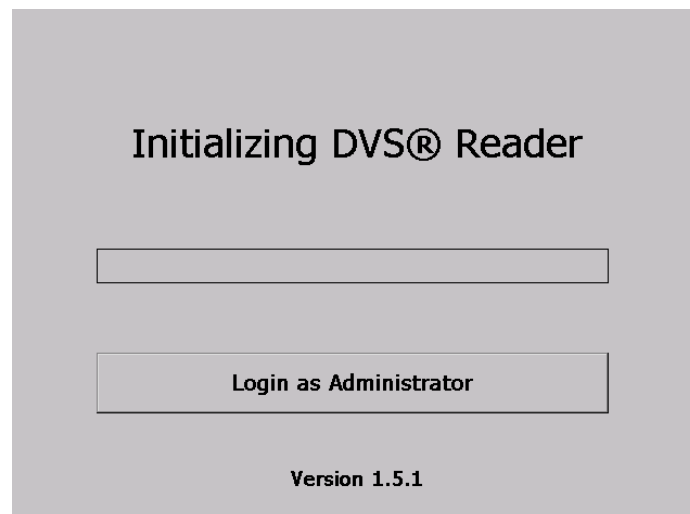


Figure 42 - Main Application Initialization Screen

In order to configure the application so that it can properly connect to the DVS Dosimetry Database, the application must be configured within its *Administration* options screen. To do this, do the following:

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1. Obtain the Administrative Login “Password of the Day” from Technical Support (see Section 2.1.3).
2. After booting the DVS Reader, when the *Initializing DVS Reader* screen appears, press the **Login as Administrator** button.
 - a. If you fail to press this button before it disappears (roughly 3 seconds), wait for the *Cannot access the Dosimetry Database.* message box to appear, press the **OK** button and the application will start its re-initialization process and the **Login as Administrator** button will re-appear.
3. When the *Login* screen appears, select **Administrator** from the users.
4. Press the *Password* text box, and then using the on-screen key-pad that appears, enter the “Password of the Day” and then press the **Enter** button.
5. When the key-pad disappears, press the **Scan Patient** button to log in as the *Administrator*. The *Administration* screen will appear.

Figure 43 - Administrative Options Screen

6. In the *Database Server* field, enter the IIS Server value you just entered followed by the SQL server instance name for the DVS Dosimetry Database, which is usually “**DVS**”.
 - a. For example, if the DVS Dosimetry Database is installed on a machine called *DBSERVER*, then the Database Server value entered would need to be *DBSERVER\DVS*.
7. In the *IIS Server* text box, use the on-screen keyboard that appears when the text box is touched to enter the Computer Name of the machine where the DVS Dosimetry Database is installed (if unsure, check the Network Configuration Checklist, Section 3).
8. If you are using Anonymous Access (default), leave the *Use Anonymous Access* checkbox checked, otherwise, do the following:
 - a. Un-check the *Use Anonymous Access* checkbox. The Username and Password text fields will become enabled (white).
 - b. Select the *Username* text field and using the on-screen keyboard, enter the Web Access username to use. Press **Enter** to commit the changes, or **Cancel** to undo them.
 - c. Select the *Password* text field and using the on-screen keyboard, enter the Web Access password to use. Press **Enter** to commit the changes, or **Cancel** to undo them.
9. Select the **Local Time Zone** from the drop-down list box.
10. (*optional*) Select the **Automatically Adjust for Daylight Saving Time** check box.



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- a. The date and time are automatically set when the DVS Reader connects to the DVS Dosimetry Database Server.
11. Press the **Save** button to commit the changes made.
12. Wait for the *Initializing DVS Reader* screen to appear and then turn off the DVS Reader.
13. Turn ON the DVS Reader.

Yes **No** Does the network use DHCP to assign IP Addresses? If unsure, check the Network Configuration Checklist (see Section 3).

If **No**, then execute the process in Section 6.7, and when complete, restart this section. Otherwise, configuration is complete.

6.7 Configuring DVS Reader for Static IP Addressing

In cases where the network connecting the DVS Reader to the DVS Dosimetry Database uses static IP Addressing, the DVS Reader must be configured to support this. When in the *Administrator* screen, do the following. If not in the *Administrator* screen, execute Steps 1 through 5 in Section 6.6.

1. Connect a USB Keyboard using the USB Port on the back of the DVS Reader.
2. When the *Administration* screen appears, press **Ctrl + Alt + Delete** on the attached USB keyboard.
3. When the *Windows Taskbar* appears, either press the **End Task** button on the touch screen or press the **Tab** button twice on the USB keyboard and then press the **Enter** button on the keyboard to exit the DVS Reader Application.
4. On the error box that appears, press the **Quit** button on the touch screen to close it. The Windows desktop should now be showing.
5. Press the **Start** menu button, then **Settings**, and then **Network and Dial-Up Connections**.
6. Double-Click on the **PCI-RTL81392** connection (or which-ever is currently enabled). The configuration options dialog will appear.

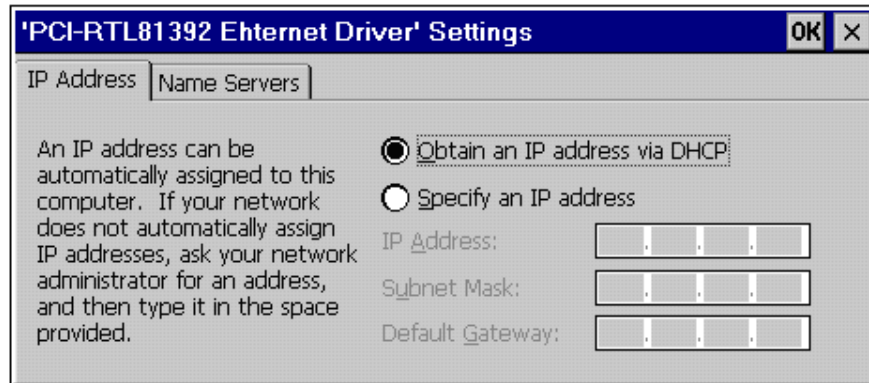


Figure 44 - DVS Reader Network Connection Settings Dialog

7. On the **IP Address** tab, enter the information as gathered from the Network Configuration Checklist (*Static IP Address for the Base Station, Subnet Mask, Default Gateway*) in Section 3.
8. Press the **Name Servers** tab and enter the *Primary* and *Alternate DNS Server* values (if known) as gathered from the Network Configuration Checklist.
9. Press **OK** to close the configuration options dialog.
10. Turn Off the DVS Reader.
11. Turn On the DVS Reader.

7 System Specifications

Parameter	Rating
Time to Read Dosimeter	Up to 10 minutes following radiation therapy. Optimal read time is 2 to 3 minutes following irradiation.
Power	110-240V~, 50-60 Hz 1A @ 120V~, 0.5A @ 240V~
RF Frequency Transmission Effective Radiated Power (ERP)	133 kHz Backscatter modulation 12.1 dBm (16.2mW)
Inputs/Outputs	1-Ethernet port 1-Wand Cable Assembly Connection 1-USB Connection (For Field Service Use Only)
Power Cord – 10ft (3.05m) maximum length	US & Canada – Hospital Grade cordset 10A/120V/60Hz with NEMA 5-15 plug & IEC 60320 C13 connector UK, Ireland, Cyprus, & Malta – International style cable 10A/230V/50Hz with BS 1363 plug & IEC60320 C13 connector France, Spain, Belgium, Czech Republic, & Slovakia – International style cable 10A/230V/50Hz with CEE7/7 plug and IEC 60320 C13 connector Italy – International style cable 10A/230V/50Hz with CEI 23-16/VII plug & IEC60320 C13 connector Denmark – International style cable 10A/230V/50Hz with Afsnit 107-2-D1 plug & IEC 60320 C13 connector Switzerland – International style cable 10A/230V/50Hz with SEV1011 plug & IEC60320 C13 connector Remaining members of the European Union –International style cable 10A/230V/50Hz with CEE7/7 plug & IEC 60320 C13 connector Please contact Technical Support with any questions regarding power cords
Operating Conditions	Temperature: 10°C to 40°C (50°F to 104°F). Humidity at 10% to 95%, non-condensing Pressure: 700 hPa-1060 hPa System not suitable for use in the presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide
Storage and Transport Conditions	Temperature: -18°C to 55°C Humidity at 10% to 95%, non-condensing Pressure: 700 hPa-1060 hPa
Fuse	Type T2AL250V ; 5x20mm or 3AG- ¼”X 1 ¼”
Classification	Class I equipment, Type B Applied Part IPX0
Mode of Operation	Continuous Operation



8 Technical Support and Product Service

For technical support or to request product servicing, contact the local representative or ,

Sicel Technologies, Inc.

Telephone: 1-888-DVS-6697 (1-888-387-6697) / Outside the US: 1-919-465-2236, ext. 361

E-mail: helpdesk@siceltech.com

Sicel Technologies, Inc.

3800 Gateway Centre Blvd.

Suite 308

Morrisville, NC 27560

USA



Dose Verification System

Manufactured by: Sichel Technologies®, Inc. 3800 Gateway Centre Blvd, Suite 308 Morrisville, NC 27560
Toll-free tech support (US): 1-888-DVS-6697 Fax: (919) 465-0153 www.dvssmartmarker.com