ESCA 2000 UPGRADE V102.02

ESCA 2000 V102 is compatible with NT 4.0, Windows 2000 and XP. It comes in five versions.

ESCA 2000 A -	Standalone Data Analysis
ESCA 2000 B -	ESCA Capture and Analysis, No Motion Control
ESCA 2000 D -	Demo only. Can Not run Instrument
ESCA 2000 E -	ESCA Capture and Analysis
	Ethernet communication to new 4 axis controller.
ESCA 2000 G -	ESCA Capture and Analysis
	GPIB communication to old 2100 Indexers.

The following improvements are included:

1. Export to Vamas and EXCEL from the Analysis Application. Peak fit curves and backgrounds can also be exported to EXCEL.
2. Import from the DOS Vectra data files.
3. Editing of the Scofield tables from the Analysis Application
4. Backup and Compact of database from Analysis Application
5. Improved Assignment of Elements after auto-find. Just click on the BE label that marks the peak center. Then select the Element and Transition from the list.
6. New Tools for add, subtract, smooth, differentiate integrate and satellite subtract.
7. Axes are labeled.
8. Auto compact of database each time the database is loaded. The compact can not take place if the database also open by another program. It will simply load.
9. Depth profile capture has a number of major bugs fixed. It runs much better.
10. Time can be entered as second (as large as desired), mm:ss or hh:mm:ss. Your may use number of scans or time for scanned spectra. The program will compute the number of scans from the time. The time will exceed the request to allow for completion of the last scan.
11. A Capture Settings has been added under the settings menu in the Capture Application. This provides a number of instrument settings that should be reviewed. Support for non-monochromatic X-ray sources is included.
12. Improved print out template.
13. Much improved manual is included on the CD.
14. Minor bugs in the calibration program have been fixed.

Thank you for supporting our continuing effort to bring the Surface Science ESCA users a productive software program.

Very truly Yours

Bob Chaney

QUICK UPGRADE INSTRUCTIONS

1. Use windows software install/uninstall to remove the current ESCA 2000 programs. Select remove all shared files.

2. Check the C:\Program Files\ESCA 2000 folder. Make a copy of the sig.txt file and the Start.mdb file. These may be copied over by the upgrade. If a Viewer folder remains delete the View.ocx and the Viewer folder.

3. Check the C:\Wnnt\System32 folder. Be sure your explorer is set to view system files .dll, .ocx, .sys etc. Go to the bottom of the list of files and look for any files that start with xps… or xprob…. Delete any such file.

4. Place the CD in the CD drive and open the "CD Install ESCA 2000 B" folder. Open the ESCA 2000 B folder and double click on the Setup.exe icon. During installation you may receive a notice that the files being loaded are not newer than the files on your hard drive. Do you want to keep your files. You should keep all system files (they end in .dll, .ocx etc). You may keep your start.mdb file. Do not keep the Programdb.mdb and the ESCATemplate.mdb file that is on your drive.

5. Replace the sig.txt file loaded by ESCA 2000 V1.02 with the file you saved in step 2. You may delete the newly installed start.mdb file and copy back the Start.mdb you save above.

6. This upgrade will not effect your calibration settings. You will not need to reregister this program.

If you have any questions please call. 541-318-8688

Installation Overview

1. New installations
   a. Computer check list

      i. Set up CMOS BIOS for IRQ 10. Hit Delete button during boot-up to access CMOS BIOS. Select PCI/PnP set up. Reserve IRQ 10 slot for ISA/EISA operation.
      ii. Three each 2420 GPIO cards must be installed in ISA slots. The cards have jumper blocks to determine their I/O address and IRQ number. The card parameters are:

          1. Detector board   Nbr. 12   I/O 280   IRQ 10
          2. Spectrometer board Nbr. 13   I/O 2C0   None
          3. Accessories board   Nbr. 14   I/O 300   None

      iii. National Instruments GPIB 488.2 interface card for original motion system interface. Use Driver Version 1.7 with NT operating system. Driver Version 2.0 with Windows 2000 operating system. Install and verify before installing ESCA software. Driver V 2.0 is on ESCA 2000 CD.
      iv. Install a dedicated Ethernet card for use with new 6K4 Motion system. If a GPIB card is present it should be disabled or removed. The Ethernet card should have a TCP/IP Internet protocol installed. The card IP address can NOT be assigned automatically. Assign a fixed address of 10.0.0.100 and a subnet mask of 255.255.255.0. No other entries are required.
      v. Run the latest Service Pack for the operating system. SP6a for NT or SP3 or later for Windows 2000.

   b. Software checklist.

      i. This instruction is used for all five installation CD's. Find your installation situation in the following directions. Use only the short instruction set that pertains to your situation.
      ii. On the CD's for full system installation,(B, G and E) you will find Folders named ESCA 2000 B, G or E and a folder ESCA 2000 A. Folder 2000 A is available for installation of the Data Analysis program on a standalone computer. The folder ESCA 2000 B, G or E contains a full installation of both the ESCA Capture and ESCA Data Analysis applications. There is no need to make a separate installation of ESCA 2000 A.
      iii. In upgrades your existing Database files will be left in place. The ESCAVB folder will not be removed.
      iv. You will find you old sig.txt file in the ESCAVB folder and a new blank sig.txt file in the ESCA 2000 folder. If you use signature correction you should copy your old sig.txt file to the new ESCA 2000 folder. To set up

signature use Main Toolbar > Settings > Capture Preferences then supply path to your sig.txt file.

v. When the program is first started it may be unable to find a database to open. Ignore the message and let the application open with out a database. Then use the file menu to open any database you choose. This will get the program started.

Installation Instructions

General comments

The CD ROM contains a complete program for first time installation. This program can be used for new installations or for upgrading an existing program. If it is used to upgrade an existing program there will be no need to register the installation. The upgrade process is also greatly simplified.

The CD ROM contains a number of folders. Various folders are required depending on the operating system and depending on rather a new installation or an upgrade is performed. You may need the CD at a later date so keep it handy.

We assume knowledge of general Windows file operations. If this instruction lacks sufficient detail please free to call and ask for assistance. You won't be put in a long hold queue.

We will use a shorthand description. The key word "Folder" means – go to the named folder and open it to find the named file. Next we will give the file name. Double click the file to open it. All of the named files will install the desired program. Next we will describe actions that must be taken before the next step in the installation.

New Installation – If upgrade from ESCAVB skip this section.

Windows NT 4.0 – New Instillation of ESCA 2000 series.

       A. ESCA 2000 A – (NT, new)

Folder – NTsp6a. Reboot computer.	Install file – sp6i386.exe. Updates service pack 6a
Folder – MDAC Reboot computer	Install file – mdac-typ.exe. Install MDAC services.
Folder – ACCESSRT Reboot computer	Install file- SETUP.exe. Installs Runtime Access.
Folder – ESCA 2000 A	Install file – setup.exe. Installs Data Analysis.

On computer desk top select – RUN > Programs > ESCA Data Analysis A.
If there are warnings about not loading files just continue.
Follow directions. You will be given a Serial Number that is unique to your computer. Call Barbara or Bob at Service Physics, Inc., 541-318-8688, and we will provide you a matching Registration Number. If you shut down the computer, log off or force the application to close you will loose this number. The next time you start the application it will provide a different number. Don't send us a serial number and then shut down the computer.

B. ESCA 2000 B (NT, new)

Folder – NTsp6a.   Install file – sp6i386.exe. Updates service pack 6a
Reboot computer.

Folder – MDAC   Install file – mdac-typ.exe. Install MDAC services.
Reboot computer

Folder – ACCESSRT   Install file- SETUP.exe. Installs Runtime Access.
Reboot computer

Folder – ESCA 2000 B   Install file – setup.exe. Installs Capture and Analysis.

On computer desk top select –
      RUN > Programs > ESCA 2000 > ESCA Data Analysis B.

If there are warnings about not loading files just continue.   See note above on
sig.txt. Follow directions. You will be given a Serial Number that is unique to
your computer. Call Barbara or Bob at Service Physics, Inc., 541-318-8688, and
we will provide you a matching Registration Number. If you shut down the
computer, log off or force the application to close you will loose this number.
Don't send us a serial number and then shut down the computer.

C. ESCA 2000 D (NT, new)

Folder – NTsp6a.   Install file – sp6i386.exe. Updates service pack 6a
Reboot computer.

Folder – MDAC   Install file – mdac-typ.exe. Install MDAC services.
Reboot computer

Folder – ACCESSRT   Install file- SETUP.exe. Installs Runtime Access.
Reboot computer

Folder – ESCA 2000 D   Install file – setup.exe. Installs Capture and Analysis.

On computer desk top select –
      RUN > Programs > ESCA 2000 > ESCA Data Analysis G.

If there are warnings about not loading files just continue.   See note above on
sig.txt. Follow directions. You will be given a Serial Number that is unique to
your computer. Call Barbara or Bob at Service Physics, Inc., 541-318-8688, and
we will provide you a matching Registration Number. If you shut down the
computer, log off or force the application to close you will loose this number.
Don't send us a serial number and then shut down the computer.

D. ESCA 2000 E (This version cannot be loaded on NT)

E. ESCA 2000 G (NT, new)

    Install the GPIB card and the National Instruments driver according to National Instruments instructions. You should be sure the driver is version 1.7. Go to www.ni.com to obtain this driver if not available. Use the Ni 488.2 Getting Started utility to test you installation. Be sure the communication to the GPIB card is established before continuing.

    Folder – NTsp6a.   Install file – sp6i386.exe. Updates service pack 6a
    Reboot computer.

    Folder – MDAC   Install file – mdac-typ.exe. Install MDAC services.
    Reboot computer

    Folder – ACCESSRT   Install file- SETUP.exe. Installs Runtime Access.
    Reboot computer

    Folder – ESCA 2000 G   Install file – setup.exe. Installs Capture and Analysis.

    On computer desk top select –
        RUN > Programs > ESCA 2000 > ESCA Data Analysis G.

    If there are warnings about not loading files just continue.   See note above on sig.txt. Follow directions. You will be given a Serial Number that is unique to your computer. Call Barbara or Bob at Service Physics, Inc., 541-318-8688, and we will provide you a matching Registration Number. If you shut down the computer, log off or force the application to close you will loose this number. The next time you start the application it will provide a different number. Don't send us a serial number and then shut down the computer

Windows 2000 operating system –New Installations of ESCA 2000 series.

Note: YOU ONLY NEED to install Windows Service Pack 3 (sp3) or higher if it is not already installed. This is true for ALL ESCA 2000 installations on Windows 2000.

F. ESCA 2000 A (Win 2000, new)

Folder – 2000SP3   Install file – sp3express.exe. If required
Reboot computer.

Folder – ACCESSRT   Install file- SETUP.exe. Installs Runtime Access.
Reboot computer

Folder – ESCA 2000 A   Install file – setup.exe. Installs Data Analysis.

On computer desk top select – RUN > Programs > ESCA Data Analysis A.

If there are warnings about not loading files just continue.
Follow directions. You will be given a Serial Number that is unique to your computer. Call Barbara or Bob at Service Physics, Inc., 541-318-8688, and we will provide you a matching Registration Number. If you shut down the computer, log off or force the application to close you will loose this number. Don't send us a serial number and then shut down the computer.

G. ESCA 2000 B. (Win 2000, new)

Folder – 2000SP3   Install file – sp3express.exe. If required
Reboot computer

Folder – ACCESSRT   Install file- SETUP.exe. Installs Runtime Access.
Reboot computer

Folder – ESCA 2000 B   Install file – setup.exe. Installs Capture and Analysis.

On computer desk top select –

RUN > Programs > ESCA 2000 > ESCA Data Analysis B.

If there are warnings about not loading files just continue.   See note above on sig.txt. Follow directions. You will be given a Serial Number that is unique to your computer. Call Barbara or Bob at Service Physics, Inc., 541-318-8688, and we will provide you a matching Registration Number. If you shut down the computer, log off or force the application to close you will loose this number. Don't send us a serial number and then shut down the computer.

H. ESCA 2000 D (Win 2000, new)

Folder – 2000SP3   Install file – sp3express.exe. If required
Reboot computer

Folder – ACCESSRT   Install file- SETUP.exe. Installs Runtime Access.
Reboot computer

Folder – ESCA 2000 D   Install file – setup.exe. Installs Capture and Analysis.

On computer desk top select –

RUN > Programs > ESCA 2000 > ESCA Data Analysis D.

If there are warnings about not loading files just continue.   See note above on sig.txt. Follow directions. You will be given a Serial Number that is unique to your computer. Call Barbara or Bob at Service Physics, Inc., 541-318-8688, and we will provide you a matching Registration Number. If you shut down the computer, log off or force the application to close you will loose this number. Don't send us a serial number and then shut down the computer.

I. ESCA 2000 E. (Win 2000, new)

Connect Ethernet crossover cable between computer and 6K4 controller. Also connect RS232 cable between computer and 6K4 controller.

Connect Joystick to USB port. Go to Start > Settings > Control Panel and select the Game Controllers Icon.
The dialog will list the controller as "CH 3Axis/4 button OEM" and the status as "OK". Select the Properties button in the lower right of the dialog. A test panel will be displayed. Play with the joystick to verify that all motions are active.

Go to CD ROM.

Folder – CH Products   Install file – SETUP.exe. Installs driver/mapper.
After message that Aux1 and Aux2 drives are installed then reboot computer.

Folder – Motion Planner   Install file – Motion Planner.exe Installs 6K4 driver.

Folder – ACCESSRT 2000 Install file SETUP.exe Installs Run Time Access.
Reboot computer

Folder – ESCA 2000 E   Install Setup.exe. Installs Capture, Data Analysis, Joystick Test and Ethernet Setup (SixKWiz).
On the computer desk top select

Programs > ESCA 2000 > Ethernet Setup
Set motor connection to 6K4 and turn on all axes that are installed.

Click next. Compare the Ethernet and Hardware addresses entered into the registry and those recovered from the 6K4 controller. The program will attempt to set the registry correctly. The IP address should be 10.0.0.10 for both entries. The hardware address will be 00-90-55-00-xx-yy. Where the values for xx and yy are unique for each 6K4 controller. If the setup program has problems a message will be provided. Call Service Physics, Inc. if this step fails.

Click Next. Click the Test connection button. The message should read: "Ping succeeded". If the Ping failed then close the dialog. Turn off the 6K4 controller for 30 seconds to reset its communication interface. Reboot the computer to reset the registry configuration. Reopen the ESCA 2000 Ethernet Setup wizard. Step through the wizard. The ping should be successful.

Click Next. Let the wizard start the Joystick maper. If the Wizard cannot find the map browse to:

C:\Program Files\CH Products\OEM Maper\Maps. Open Bob1.map

The map must be Activated, Enabled and Calibrated. These are the 4,6 and 7 Icons reading left to right in the toolbar. Follow the instruction on calibration of the Joystick. Finish the Ethernet setup wizard.

You will find a Snoopy Icon in the Windows Tray in the lower right corner of the Windows desktop. Snoopy lives by the clock. Right mouse click Snoopy. Choose open from the menu. The dialog has 4 blue bands, one for each axis. Each band should cover its axis window from the left edge to the center of the window. As you move each axis of the Joystick the blue band should reflect your motion. Test each motor. Try various speed settings.

Snoopy must be installed for the Joystick to operate. You may hide the setup dialog. Click the Form close box in the upper right corner of the form. Then select Hide. Snoopy will continue to be displayed in the tray. If Snoopy is closed he may be reopened. Go to Start > Programs > ESCA 2000 > Joystick Test.

> RUN > Programs > ESCA 2000 > ESCA Data Analysis E.

If there are warnings about not loading files just continue.   See note above on sig.txt. Follow directions. You will be given a Serial Number that is unique to your computer. Call Barbara or Bob at Service Physics, Inc., 541-318-8688, and we will provide you a matching Registration Number. If you shut down the computer, log off or force the application to close you will loose this number. Don't send us a serial number and then shut down the computer.

J. ESCA 2000 G.

Install the GPIB card in computer.
Folder – NI488.2 2000　　　Install file – ni488220.exe Installs GPIB driver.
Use the Ni 488.2 Getting Started utility to test you installation. Be sure the communication to the GPIB card is established before continuing.

Folder – 2000SP3　　　Install file – sp3express.exe. If required
Reboot computer

Folder – ACCESSRT　　　Install file- SETUP.exe. Installs Runtime Access.
Reboot computer

Folder – ESCA 2000 G　　Install file – setup.exe. Installs Capture and Analysis.

On computer desk top select –

RUN > Programs > Esca 2000 > Esca Data Analysis G.

If there are warnings about not loading files just continue.   See note above about sig.txt. Follow directions. You will be given a Serial Number that is unique to your computer. Call Barbara or Bob at Service Physics, Inc., 541-318-8688, and we will provide you a matching Registration Number. If you shut down the computer, log off or force the application to close you will loose this number. Don't send us a serial number and then shut down the computer.

Upgrade from ESCAVB – Windows NT 4.0 and Windows 2000

    A. ESCA 2000 A.   (upgrade ESCAVB)

        Navigate to Start > Settings > Control Panel > Add/Remove programs.
        Remove ESCAVB.

        If ask if you want shared programs removed select [Yes to All]

        Folder – ESCA 2000 A   Install file – setup.exe. Installs Data Analysis.
        If you are informed that the file being loaded is not newer than the file on your
        computer. Would you like to keep your file? Say Yes. (You want to keep the
        newer file.)

        On computer desk top select – RUN > Programs > ESCA Data Analysis A.
        If there are warnings about not loading files just continue.

    B.   ESCA 2000 B, D or G. (Upgrade ESCAVB)

        Navigate to Start > Settings > Control Panel > Add/Remove programs.
        Remove ESCAVB.

        If ask if you want shared programs removed select [Yes to All]
        Manually delete Viewer.ocx form C:\Program files\ESCAVB\Viewer. Also
        delete the following from ESCAVB folder:

            Gviewer.exe
            All files ending in .ocx
            All files ending in .dll
            Viewer folder

        Folder – ESCA 2000 B, D orG.   Install file – setup.exe.
        This installs both the Capture and Data Analysis. If you are informed that the file
        being loaded is not newer than the file on your computer. Would you like to keep
        your file? Say Yes. (You want to keep the newer file.)

        On computer desk top select –

            RUN > Programs > ESCA 2000 > ESCA Data Analysis B, D or G.

        If there are warnings about not loading files just continue.   See note above about
        sig.txt.

Upgrading from NT to Windows 2000

This upgrade has had mixed results. It is very important to have drivers for Windows 2000 for your Video Card and Ethernet card. Some read/write CD drives require drivers from the manufacture. Our CD supplies the driver for the GPIB if it is used. You must work through the upgrade and establish the Windows 2000 environment with at least Service Pack 3. IF GPIB is used uninstall the V 1.7 driver and install the V 2.0 driver on the ESCA 2000 CD. Be sure to reboot after the driver is installed.

We have found the most reliable results are obtained if the ACCESS 2000 Runtime is uninstalled and then reinstalled from the ESCA 2000 CD.

With these precautions in mind use the (Win 2000, new) installation procedures after preparing the Windows 2000 environment.

Upgrading ESCA 6K4 installations

A.   ESCA 2000 E (Win 2000, upgrade existing 6K4 installations)

Navigate to Start > Settings > Control Panel > Add/Remove programs.
Remove ESCAVB.

If ask if you want shared programs removed select [Yes to All]
Delete Viewer.ocx form C:\Program files\ESCAVB\Viewer
Delete following from ESCAVB folder:

TestJoystick.exe
Gviewer.exe
All files ending in .ocx
All files ending in .dll
Viewer folder

Folder – ESCA 2000 E.   Install file – setup.exe. If you are informed that the file being loaded is not newer than the file on your computer. Would you like to keep your file? Say Yes. (You want to keep the newer file.)
This installs ESCA Capture, Data Analysis, Joystick Test and Ethernet setup.
The new Ethernet setup will eliminate many of the problem with the Ethernet connection.
On computer desk top select –

Programs > ESCA 2000 > Ethernet Setup
Set motor connection to 6K4 and turn on all axes that are installed.

Click next. Compare the Ethernet and Hardware addresses entered into the registry and those recovered from the 6K4 controller. The program will attempt

to set the registry correctly. The IP address should be 10.0.0.10 for both entries. The hardware address will be 00-90-55-00-xx-yy. Where the values for xx and yy are unique for each 6K4 controller. If the setup program has problems a message will be provided. Call Service Physics, Inc. if this step fails.

Click Next. Click the Test connection button. The message should read: "Ping succeeded". If the Ping failed then close the dialog. Turn off the 6K4 controller for 30 seconds to reset its communication interface. Reboot the computer to reset the registry configuration. Reopen the ESCA 2000 Ethernet Setup wizard. Step through the wizard. The ping should be successful.

Click Next. Let the wizard start the Joystick maper. If the Wizard cannot find the map browse to:

C:\Program Files\CH Products\OEM Maper\Maps. Open Bob1.map

The map must be Activated, Enabled and Calibrated. These are the 4,6 and 7 Icons reading left to right in the toolbar. Follow the instruction on calibration of the Joystick. Finish the Ethernet setup wizard.

You will find a Snoopy Icon in the Windows Tray in the lower right corner of the Windows desktop. Snoopy lives by the clock. Right mouse click Snoopy. Choose open from the menu. The dialog has 4 blue bands, one for each axis. Each band should cover its axis window from the left edge to the center of the window. As you move each axis of the Joystick the blue band should reflect your motion. Test each motor. Try various speed settings.

Snoopy must be installed for the Joystick to operate. You may hide the setup dialog. Click the Form close box in the upper right corner of the form. Then select Hide. Snoopy will continue to be displayed in the tray. If Snoopy is closed he may be reopened. Go to Start > Programs > ESCA 2000 > Joystick Test.

     RUN > Programs > ESCA 2000 > ESCA Data Analysis E.

If there are warnings about not loading files just continue.   See note above on sig.txt. Follow directions.