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CH+ Getting Started Guide

For using the Signature CH+ with *easy-wire* software

Use this guide to setup the CH+ tester, install the *easy-wire* software, checkout the system, get the overview of the test system, and find more information to use the tester.

Note: Prior to June 1, 2001 the Signature CH+ shipped with the *Signature Plus Series software*, which included a complete printed user's manual. The CH+ can now also be controlled with the *easy-wire software,* which utilizes this getting started guide and an on-line help system/manual (included on the *easy-wire* software CD). There is no printed user's manual for the *easy-wire* software.

You should have received

- **CH+ Base Unit**
  One required per system.



- **Scanner Test Point Box**
  One box required per system. Maximum 21.



- **Hand Held Probe**



- ***easy-wire* software CD**



- **9-pin Serial Cable**



- **Loop Back Plug**



- **Power Transformer**
  One required for each Base unit and Scanner



- **Power Cord Adapter**
  Required only for 220V Power systems.



- **Right Angle Mounting Brackets**
  Available upon request. Used for rack mounting the system.



Computer Requirements for a Station or Network Server

- ❑ **Computer CPU**
  1.6 GHz or better.
- ❑ **RAM**
  Minimum: 1 GB
- ❑ **CD ROM Drive**
  Required
- ❑ **Free Disk Space**
  Minimum: 5 GB
  Recommended: 10 GB
- ❑ **Serial Port or USB***
  1 Required
  *If no serial port, must use Keyspan USB-to-Serial Adapter USA-19HS
- ❑ **Internet Connection**
  Not required, but can facilitate support issues.



- ❑ **Monitor**
  Recommended: 1024X 768
- ❑ **Video Card**
  64 Meg On Board Memory
- ❑ **Windows Environment**
  Windows XP Professional, Windows 2003 Server, or Windows 2000 Server
- ❑ **Speaker & Sound Card**
  Required
- ❑ **Mouse**
  Required for installation and test setup. Can be replaced with a barcode scanner on the production floor.

If you plan on using a Networked Server:
Accessing test data from a network is a nice way to make sure that all the stations on the production floor use the same test information. The requirements for a network server are the same as a workstation with the exception that the server must use either 2000 or 2003 Windows Server software. The computer that runs the network database should be dedicated to running the database software. The network database server should not be used as a workstation.

You may want to add optional accessories

These accessories can be purchased through computer and office supply stores. Each accessory is easy to integrate with your computer and CH+ test system.

- ❑ **Sheet Printer**
  Used to print test reports and fixturing information.





- ❑ **Label Printer**
  Allows printed labels to be applied to the tested product.

- ❑ **PC Network Card**
  Allows the test stations to share test information with each other.





- ❑ **Barcode Scanner**
  Used on the production floor instead of the mouse.

Warning!

Possible electric shock! ← **Please Note** 

Cirris hipot testers are designed to be safe for operators. Injuries from hipot test equipment are rare. Still, not every hipot test situation is safe. Hipot testing does not present a danger to healthy individuals; however, occasional mild electric shock may be experienced. Small shocks only occur during a hipot test when the operator touches an energized connection point. Any shock from the tester may result in a hipot test failure.

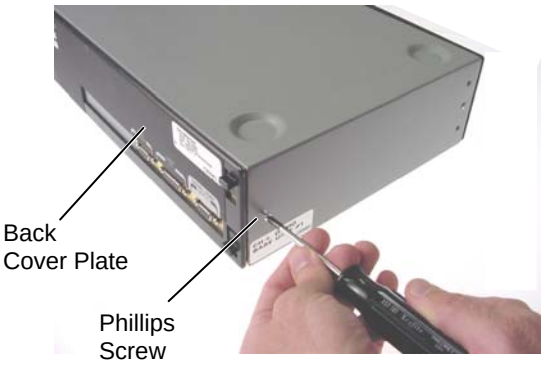
Medical Warning!
A child or individual wearing a cardiac pacemaker, an insulin pump, or any electronically controlled medical device should NOT perform hipot testing.

For ideas on improving hipot safety visit:

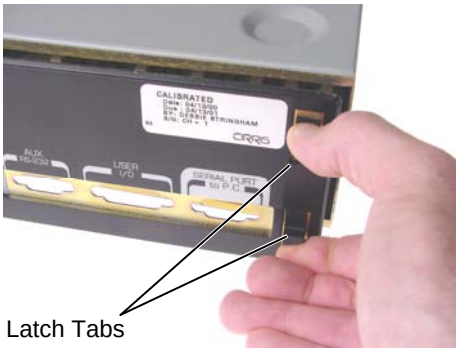
www.cirris.com/testing/guidelines/hipot_safety.html

Assemble the CH+ System

1. Remove the Phillips-head screws that lock the back cover plates on the base unit and scanner boxes.

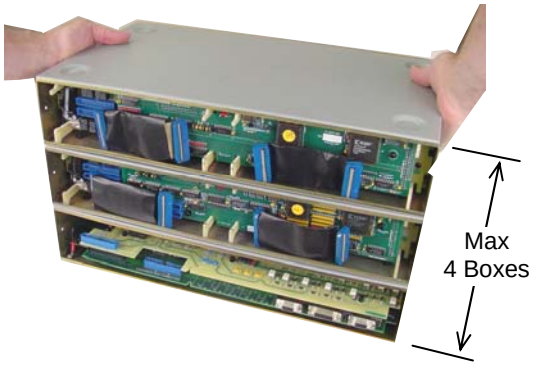


2. Pinch the latch tabs toward each other as shown, and remove the back cover plates.

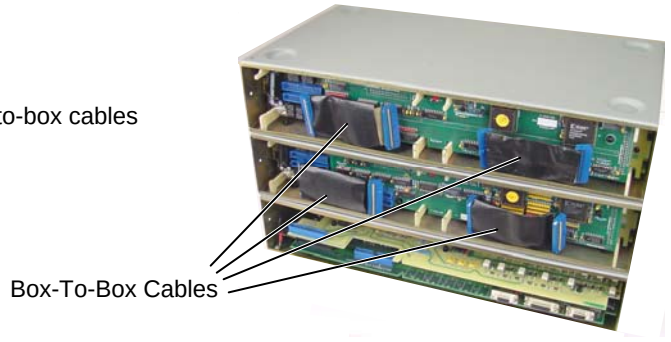


3. Stack the scanner box(es) on top of the base unit.

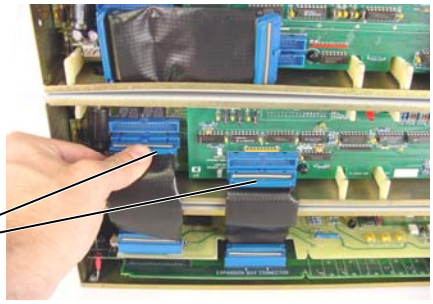
   Important: The base unit is not designed to support the weight of more than 4 scanner boxes. For more than 4 scanner boxes, we suggest you rack mount the CH+ system. See *Rack Mounting* at the end of this procedure.



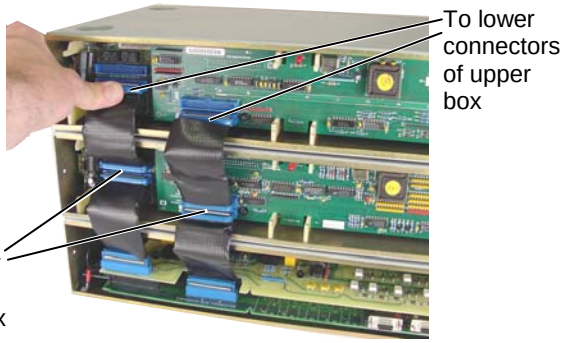
Note: Each scanner box has two box-to-box cables sitting inside the case.



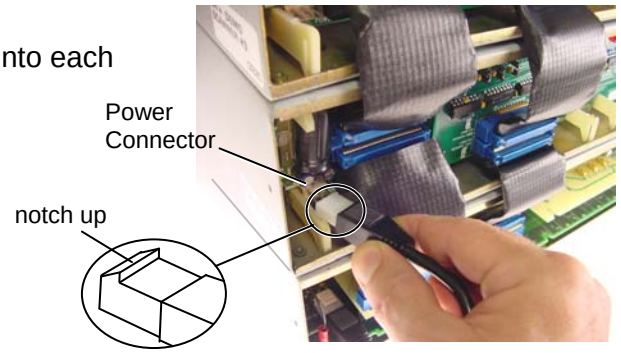
4. Use box-to-box connectors to plug from the base unit to the lower connectors of the first scanner box.



5. If using more than one scanner box, connect from the upper connectors of a lower box to the lower connectors of an upper box.



6. Plug a power cord (notch side up) into each box's power connector.



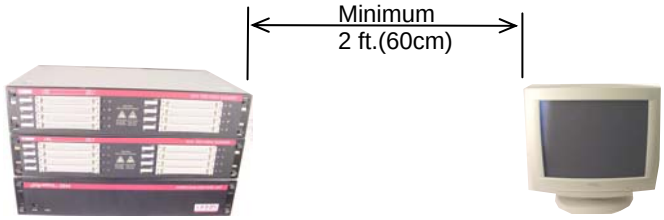
7. Attach the back cover plates and screw in the cover plate screws.



8. Set up the computer that will operate the CH+.

   CRT video monitors, florescent lights, and equipment motors are electrically noisy devices and should be kept at least 2 feet from the test system (including the test fixturing and tested device); otherwise measurement accuracy can be compromised.

   Note that LCD monitors (flat screens) do not emit excessive noise and may be placed anywhere convenient for the operator.



9. Connect one end of the 9-pin serial cable to the port on the back of the base unit labeled *Serial Port to PC*.



9-Pin Serial Cable

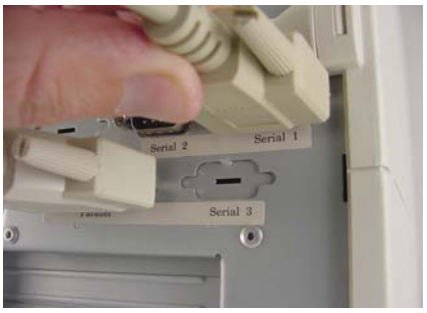
IF YOUR PC DOES NOT HAVE A SERIAL PORT…

Many new computers sold today do not include a serial port as a default part of the standard computer package.

Cirris Systems has recently qualified a **USB port to Serial port converter** from Keyspan. You can purchase this adapter direct from Cirris or from many other sources commercially. If you choose to purchase another make or model, we have discovered that many other USB converters do not work with our equipment. This adapter (out of many that we have tried) has consistently performed without any difficulties.



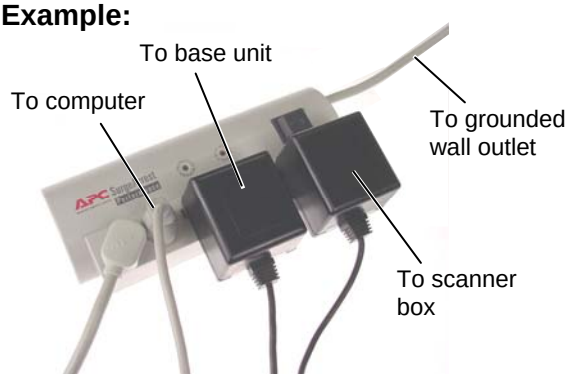
10. Connect the other end of the 9-pin serial cable to a serial port on the back of your computer.



11. If possible, plug each wall transformer into the same grounded plug strip as the computer that will operate the system.

    For optimum measurement accuracy, the CH+ must have a consistent earth ground to the entire system. Make sure to use grounded (3-prong) outlet strips and plug them into a single outlet.

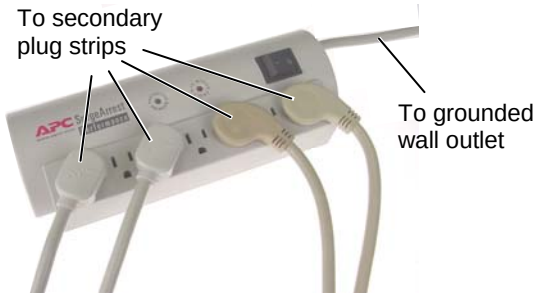
Example:



If more than one outlet strip is needed for the system, plug secondary outlet strips into a primary strip, and then plug this strip into a grounded wall outlet.

You shouldn't have to worry about overloading a single outlet. Even a 5000 point CH system uses less than 500 watts of power.

Example:



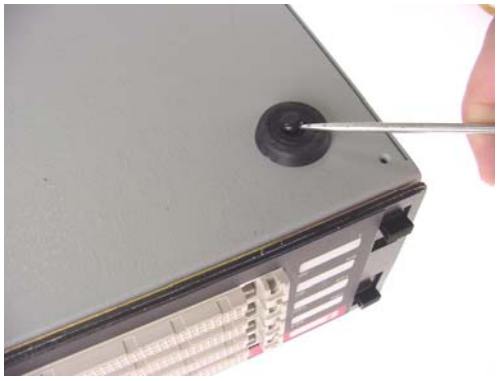
If you are rack mounting the CH+ System, proceed to the following section. Otherwise skip to *Installing the easy-wire Software* on *page 9.*

Rack Mount the CH+ System

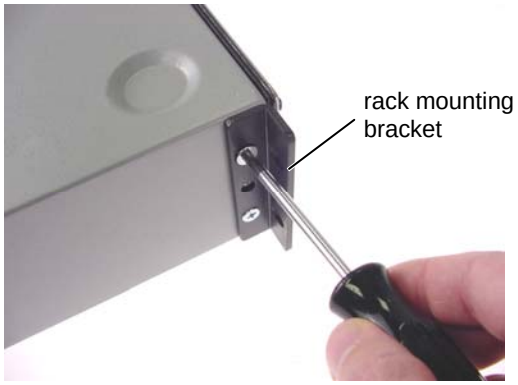
For a CH+ system with more than 4 scanner boxes, you must rack mount the CH+ system.

If you remove the feet of your CH+ system, you will be able to remove each box separately from the rack.

1. Pry up the plastic plunger in the center of each foot; then you can remove the foot.



2. Install the rack mounting brackets on the front of each box.



3. Mount the boxes on top of each other in the rack with the base unit on the bottom.

   Cirris does not provide the screws to attach brackets to the rack.

   Continue with step 3 in the main assembly procedure.



Installing the easy-wire Software

Before starting the Installation

Review the following for the appropriate installation.

- **Are you going to set up a stand-alone station, or a shared network installation?**

  On a Stand Alone Station

  If you install the test database on a local station drive, only that workstation will access its test database. If you want to use the same test information on other stations, you'll have to set up the tests on each station, or use floppy disks to export and import test information between stations. To install the software only on a stand-alone station or stations, you will only do the section below entitled *Installing the easy-wire Software.*

  On a shared network

  This is a nice way to make sure that all the stations on the production floor use the same test information. To setup a network you must have a computer that meets the network server requirements as specified on page 2.

  If choosing to install on a network, note that there are now two ways to do this. Typically you will want to choose the *network only install*. This newer network installation method allows you to install both the easy-wire software and the easy-wire database together on the network. All easy-wire stations load the same copy of easy-wire software and the database from the network. This method greatly simplifies installing and updating the easy-wire software. For this install do the section entitled *Installing the Software* only on the Windows Server. Continue with the section entitled *Completing a Network Only Install.*

  An older method to install easy-wire on a network has been to setup a *network database server*. With this method you install only the easy-wire database on the server. The easy-wire software is installed locally on each easy-wire station. If you use this method, when installing a new easy-wire version you will have to update the network database and each local easy-wire station. This method does allow you use the *unreliable network* option when it is needed. In the event that you want to setup a network database server, first do the section below entitled *Installing the Software* on each work station. Continue with the section *Installing a Network Database Server,* and then *Attaching a Station to a Network.* .

- **Have you previously installed the software to do the demo?**

  If you've previously installed the *easy-wire* software for demo purposes, the test database is installed on a local hard drive. Reinstalling the software from the Install CD will ensure that you have the latest version of the software. If you've installed the easy-wire software on a station and now want to do a *network only install*, call Cirris Technical Support for assistance.

Installing the Software

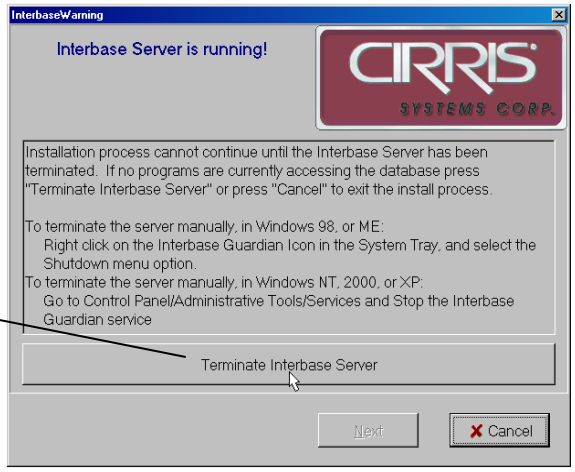
1. Close all Windows applications on the computer.

2. Place the CD into the CD-ROM drive and wait. After a moment the CD should auto-load.

If the software does not auto-load, from the Windows taskbar, click *Start*, and then *Run.* Type: d:\install.exe (where d: is the CD-ROM drive). Then click *OK.*

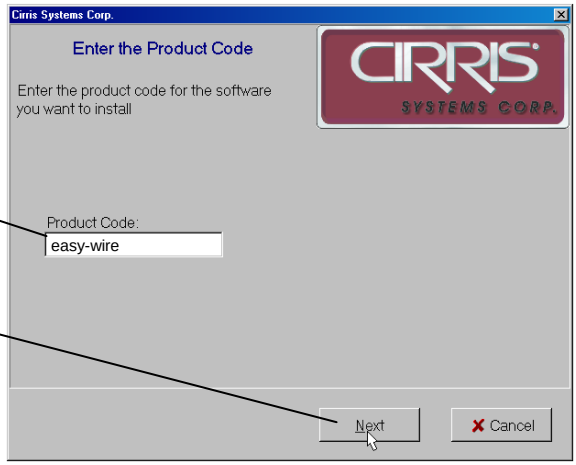
3. If this window appears, click on *Terminate Interbase Server*.

   If this window appears, the following window should say that the Interbase Server was successfully terminated. Click *Next* to continue.



4. Enter **easy-wire** for the product code.

   Then, click *Next*.

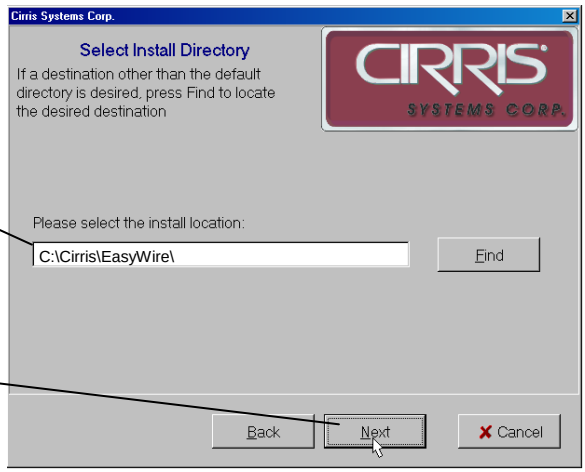


5. Click *Next* to confirm a Single User Station installation. Click *Next* after reading the license agreement and the release notes.

The default install location will be displayed here.

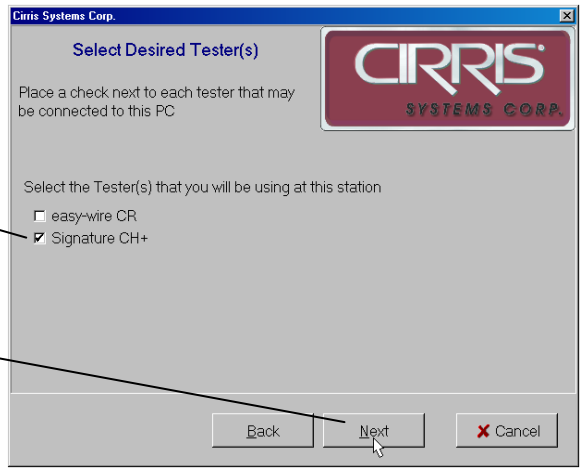
Do not change the default install location unless there is a specific reason to do so as it may cause problems in the future.

6. Click *Next*.



7. Select *Signature CH+* for the type of tester that will be attached to this station.

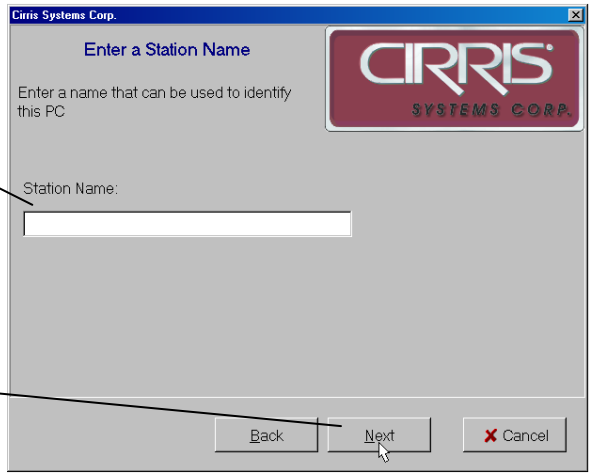
   Then click *Next*.



8. Enter a name that can be used to identify this station or server.

   Note: If this is a *station* or *network database installation*, the station name entered here will be used on reports generated by this station. If needed you can change the station name at a later time (see *Station ID or Station Name* in the help system).

   Then click *Next.*



9. After the installation is complete, click *Finish*.

If you are installing a stand-alone station, you have completed the installation and can skip to *Checking the System* on *page 16.* Otherwise complete the appropriate following sections to complete a network installation.

Completing a Network Only Install

On the server where the easy-wire software has been installed, share and set user rights for the Cirris folder. The following steps describe this process.

1. Open Windows File Explorer. You can do this by right clicking on *Start* and selecting *Explore*.
2. Using Windows File Explorer expand the Program Files folder on the root drive.
3. In the Program Files folder find the folder named *Cirris*. Right Click on *Cirris*, and select *Sharing and Security* in the pop up menu.
4. In the Cirris Properties dialog box, select the *Sharing* tab. Select the option *Share this folder*.
5. Click the Permissions button. In the Allow column make sure that at least the check boxes for Change and Read Control are checked for each user group that will access the easy-wire software.

At each station, create icons for the easy-wire application and help system. The following steps describe the process to create the icons:

1. Using Windows File Explorer browse to the EasyWire folder under the Cirris folder you shared in the previous steps.
2. Right click on *easy-wire.exe*. From the pop up menu select *Create Shortcut*. A shortcut called *Shortcut to easywire* will be created in the folder.
3. Drag *Shortcut to easywire* to the desktop.
4. Using Windows File Explorer browse to the Help folder under the Cirris folder.
5. Right click on *CirrisHelp.htm*. From the pop up menu select *Create Shortcut*. A shortcut called *Shortcut to CirrisHelp* will be created in the folder. Drag this shortcut to the desktop as well.
6. On the desktop rename *Shortcut to easywire* and *Shortcut to CirrisHelp* to simply *easy-wire* and *easy-wire help* respectively. Renaming is done by slow clicking on the shortcut name field. (i.e. Click once to select the name field, after at least one second, click again on the name field). When the name changes to editable text, change it to the new name.

At each station, test the newly created icons and complete the station configuration by doing the following steps.

1. *Double click on the newly created easy-wire icon. When the easy-wire software is run for the first time, you will be prompted to select the type of testers used at the station and the line voltage frequency.*
2. *Make sure that the easy-wire software correctly accesses the server database.*

   A random number is initially assigned for the station name. The station name will be recorded with test data used for reporting. You can change this number to a representative name such as Station 1*.*
3. *To change the station name, from the easy-wire main menu, click* Utilities*,* Setup System Options*,* Station Name *Tab, and edit the S*tation Name *field.*

Setting up a Network Database Server

Check that the Computer is capable:
The computer that runs the network database should be dedicated to running the database software, and must meet the other system requirements listed at the beginning of this guide. The network database server should not be used as a workstation.

Install the Software on the database server:

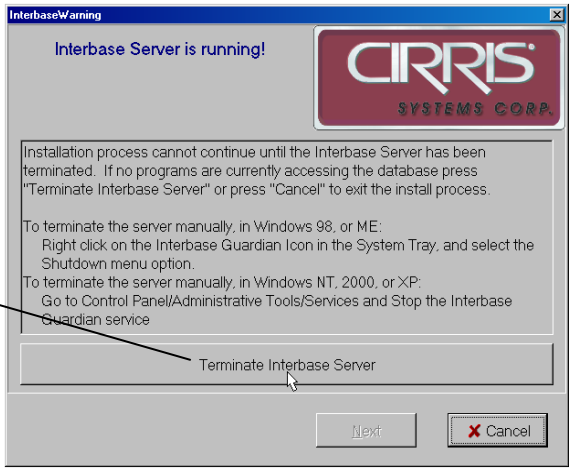
1. Close all Windows applications on the computer.

2. Place the CD into the CD-ROM drive and wait. After a moment the CD should auto-load.

If the software does not auto-load, from the Windows taskbar, click on *Start*, then on *Run.* Type: d:\install.exe (where d: is the CD-ROM drive). Then click OK.

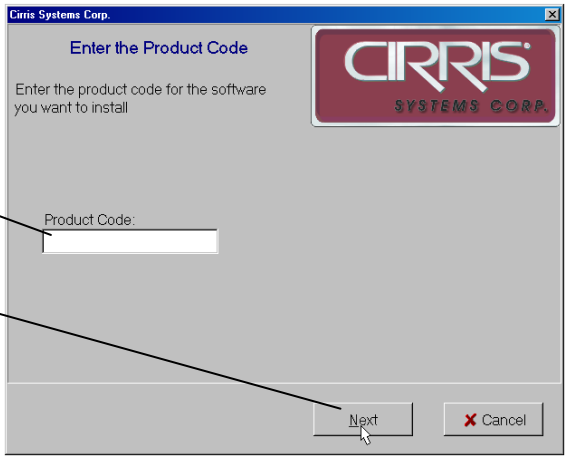
3. If this window appears, click *Terminate Interbase Server*.

   Note that the *Cancel* button can be pressed at any time to terminate the install process.



4. Enter the Product Code for the Network Database Server included on the software CD case.

   After entering the product code, click *Next*.

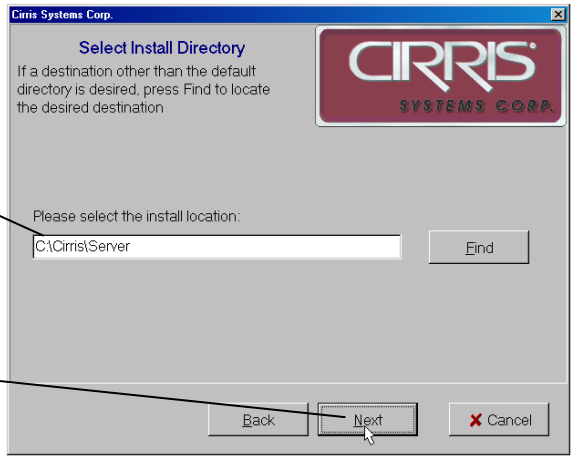


5. Click *Next* to confirm a Network Database Server installation. Also click *Next* after reading the license agreement and release notes

6. The default install location will be displayed here.

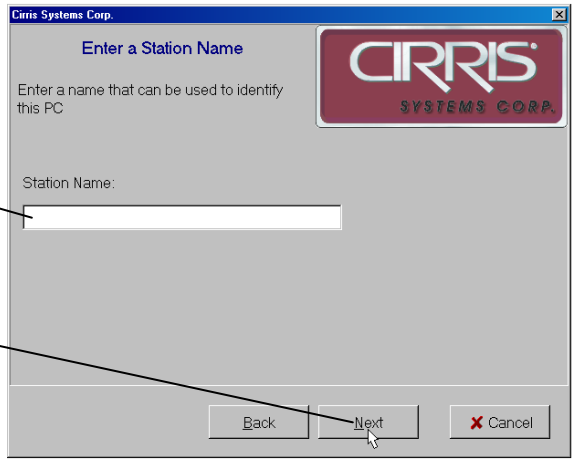
   Do not change the default install location unless there is a specific reason to do so as it may cause problems in the future.

7. Click *Next*.



8. Enter a name that can be used to identify this server.

   Then click *Next.*



9. After the installation is complete, click *Finish*.

Before proceeding to the next section, check that the folder *c:\Cirris\Server\Database* on the network server is shared. You can check the folder is shared by opening Windows Explorer on the server. Right click on *c:\Cirris\Server\Database*. In the displayed pop down menu, click *Sharing*. In the properties box make sure the option *Share this folder* is checked.

Attaching a Station to the Network Database Server

You must do the following procedure at each station computer (not at the network database server). Before performing this process you should have previously installed the software on the Network Database Server.

1. Click the Windows *Start* button.



2. Click *Programs.*

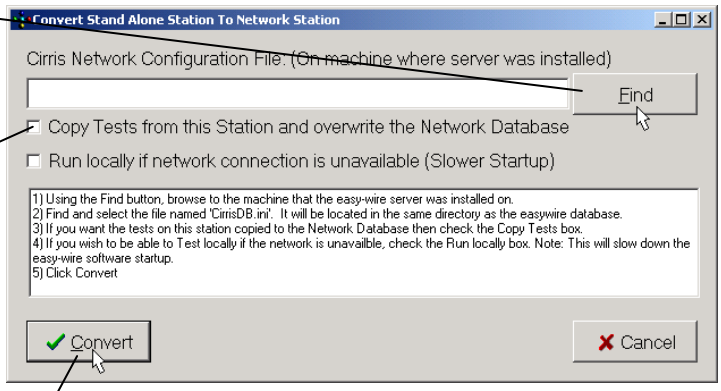
3. **If attaching an *easy-wire* station**, move the mouse to *Easywire* and click *Attach Station to Network*.

4. When this window appears, use *Find* to locate the network configuration file.

   This file will be located on the Network Database Server in the C:\Cirris\Server\Database directory.

5. If you previously created tests on stand alone stations, you can copy the test programs from one stand alone station to the network database. Check this box only if this situation applies to you and if the test programs you want to copy to the network database are on this station.

   Note: Test programs from other stand alone stations must be exported, and afterwards imported at a station connected to the network database.



6. Click *Convert*.

If installing easy-wire software, the conversion process may take anywhere from a few minutes to several hours depending on how much data is being converted to the network database.

After the conversion process completes, you should see a Conversion Complete Window. The station is ready for use.

Proceed to the next section, *Checking the System*.

Starting the Software and Checking the System

The easy-wire software icon should be on the desktop. You will also find an *easy-wire* folder in the programs menu.

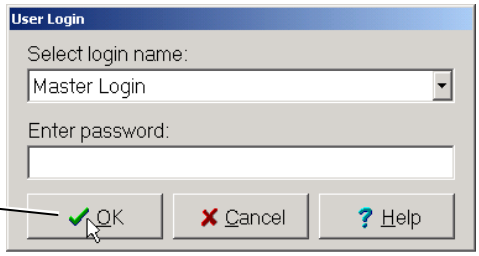
1. Double-click on the *easy-wire* icon.



If you don't see the icon on the desktop you can run the program from the task bar. Click Start button, select programs, easy-wire Software, then click *easy-wire*.

The User Login screen appears. Unless this is a network station where password security has previously been setup, the default is no password.

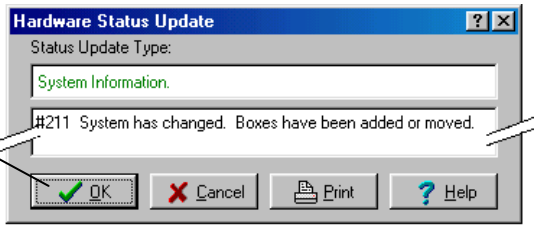
2. Click on OK.



Passwords can be set up to identify users and prevent unauthorized changes.

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3. Click *OK* to all *Hardware Status Updates*.



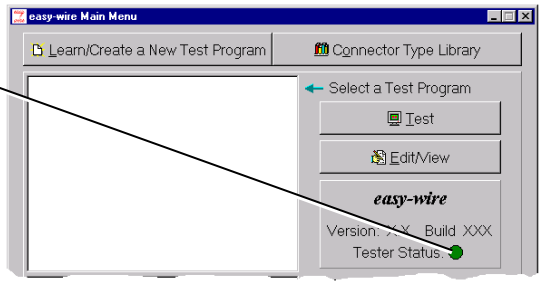
After the first time you load the software, the *Hardware Status Update* screens should not reappear unless the system has changed.

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4. Check that the status indicator is green.

   If the indicator is green, Go to step 5.

   If red, see the next heading: *Troubleshooting a Red Status Indicator*.



A green status LED indicates the tester is working.

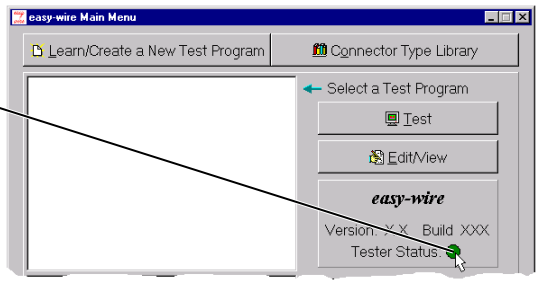
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5. *Click* on the green status indicator. You should hear a tone.

   If you hear the tone, proceed to the last section: *Find Information to Use the CH+*.

   If not, on the next page see *If System Sound is Not Working*.

   For any other unresolved problems, see *Startup and Verify* in the help system, or call Cirris Technical Support at 1-800-441-9910.



It is imperative that sound is working on the test computer. The easy-wire software relies heavily on sound prompts to provide feedback to the operator.

Troubleshooting a Red Status Indicator

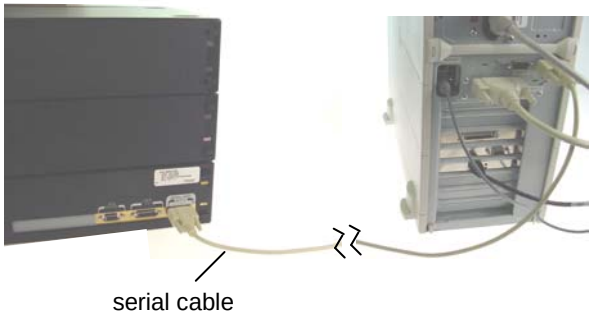


If you have a red status indicator in the *easy-wire* main menu, check that:

1. A powered wall transformer is plugged into each box.



2. The serial cable is connected from the serial port of the computer to the serial port on the base unit of the tester.



If power and serial cable are correctly connected, you can check your computer's serial port using the loop back plug provided. For assistance, call Cirris Systems Technical Support at 1-800-441-9910.

If System Sound is Not Working

If system sound is not working or is not sufficiently loud, check that:

1. Speakers are connected to the PC, and if required, plugged into a power outlet.

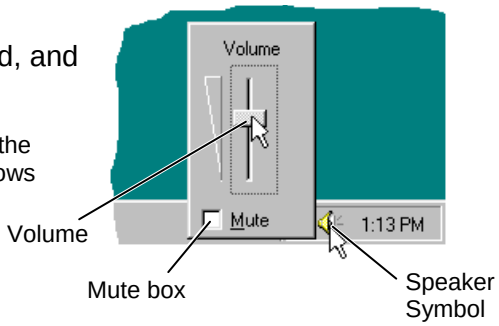


2. Speakers are turned on and the volume turned up.



3. The Windows sound mute box is *not* checked, and the volume is adjusted.

   Note: To access the Windows sound control, click on the speaker symbol in the bottom right corner of the Windows screen.



If none of these things remedies your computer's sound problems, you should use a different computer, or seek further help from where you purchased your computer. System sound is critical for proper operation of the easy-wire software.

Maintenance

Tester Maintenance

The CH+ tester requires no maintenance. If desired you may clean the outside surfaces of the CH+ tester. Since some cleaning agents leave a conductive residue, take special care to not allow the cleaning agents to come into contact with the test point connectors or the circuitry inside the casework.

Fixture Maintenance

The contacts on the fixturing that mate to the device under test may wear due to repeated insertion cycles. Contact wear can result in higher connection resistances which in turn will increase the measured resistances for the tested device. For this reason Cirris recommends that customers evaluate the number of mating cycles and the cycle life of fixture contacts to determine maintenance intervals for testing and/or replacing fixturing contacts. A good way to check fixture contact resistance is to construct and use a shorting block. For more information on creating shorting blocks, see http://www.cirris.com/adapters/test-adapt.html.

Service

All Cirris Testers are designed as modules for easy servicing. Should your Cirris tester require service, as directed by Cirris support personnel, you may need to send the affected module or the entire tester back to Cirris for repair. If needed during the repair period, a loaner tester can be sent to you. You should not attempt to service any circuit board at the component level. All component-level service should be performed by Cirris technicians.

Calibration

With your CH+ tester you should have received a Certificate of Calibration. Before leaving the factory every CH2 tester is calibrated in compliance with ANSI/NCSL Z540-1-1994 and MIL-STD-45662A to standards traceable to the NIST in the United States. The tester should thereafter be calibrated annually.

To verify calibration and functionality, you can purchase the CH+ Performance Check Kit. The CH+ Performance Check kit has a valid calibration period of 5 years after which it must be replaced. In addition to the performance check kit, you need a calibrated volt meter and high voltage probe capable of measuring up to 1500 VDC. Note that in the event a Cirris tester is found to be out of calibration there are no adjustable controls; the tester, or the affected portions of the tester, must be sent back to a Cirris facility for repair.

Tester Symbols

The symbols on the outside of the tester are explained as follows:



Caution: See manual for more Information



Risk of shock

When performing a high voltage test the CH+ tester limits the applied current to 1.5 milliamps and the applied charge to 45 micro coulombs. These electrical levels are considered safe for adults; however, some people could be affected adversely even at these levels. For this reason avoid touching the high voltage. Whenever possible using a DC voltage for high voltage testing provides an added level of operator safety.

Conditions for Operation

Your CH+ Tester is intended to be used indoors at a temperature of 10 to 40 degrees Celsius. Best performance can be obtained at a relative humidity less than 70%. Insulation Resistance Measurements will degrade over 70% relative humidity. The unit can be mounted in a ventilated compartment. Be sure not to block the vents on the sides and back of the tester.

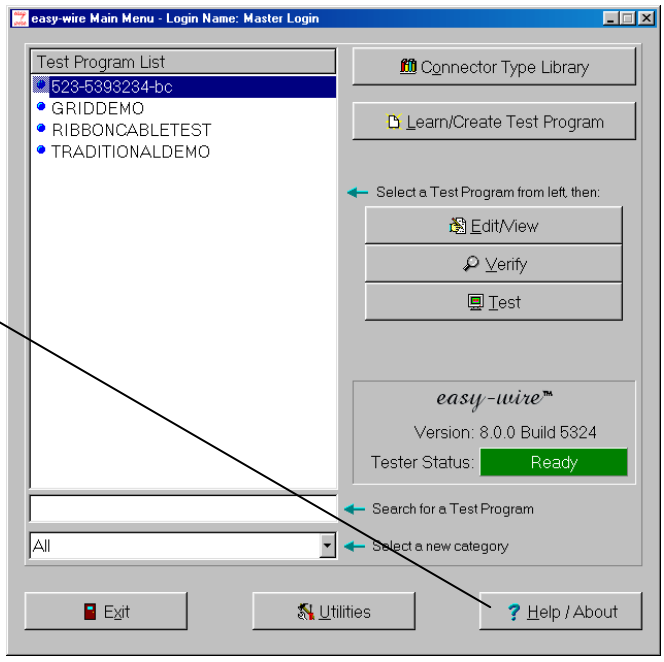
Never apply live voltages to the test points or probe input of your Cirris tester. Power supplies and other accessories not approved by Cirris may cause damage or present a hazard. If you use a Cirris product in a manner not specified in this manual and the accompanying help system, the protection provided by the product may be impaired.

For More Information

Using the On-line Help System/Manual

Rather than a printed user's manual, the CR tester has an on-line help system manual. Sections of the on-line manual may be printed as desired.

To access the on-line help, click on the help button at the bottom of each program screen.



Customer Support

If you need additional help, a Cirris Customer Support representative is ready to assist you. Inside the U.S.A. call Sales and Customer Support toll-free at 1-800-441-9910.

Warranty

Cirris Systems Corporation warrants the CR / CH+ analyzer to be free of defects in materials and workmanship for a period of one (1) year from the date of delivery to you, as evidenced by receipt of your warranty registration form. In the event a defect develops due to normal use during the warranty period, Cirris Systems will repair or replace the analyzer with a new or reconditioned unit of equal value. For this warranty to be valid you must complete and return the warranty registration card.

In the event of replacement with a new or reconditioned model, the replacement unit will continue the warranty period of the original analyzer. Replacement units will be returned by the same method shipped; generally within one (1) working day.

If analyzer failure results from accident, abuse, or misapplication, Cirris Systems Corporation shall have no responsibility to replace the analyzer or refund the purchase price. Defects arising from such causes will be considered a breach of this warranty. Cirris Systems Corporation is not responsible for special, incidental, or consequential damages resulting from any breach of warranty, or under any other legal theory, including lost profits, downtime, goodwill, damage to or replacement of equipment and property, and any costs of recovering materials used with the CR / CH+ Analyzer.

ANY IMPLIED WARRANTIES ARISING OUT OF SALES OF THE CR / CH+ ANALYZER, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE LIMITED IN DURATION TO THE ABOVE STATED ONE (1) YEAR PERIOD. Cirris Systems SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGE, EXPENSES, OR ECONOMIC LOSS.

Some states do not allow limitations on length, or implied warranty, or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

This warranty gives you specific legal rights and you may also have other rights, which vary from state to state.

Cirris Systems Corporation
Salt Lake City, Utah.

PLEASE RECORD PURCHASE DATE AND SERIAL NUMBER BELOW.

DATE:_____
SERIAL NUMBER: _____

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