# ChartScan/1400   Quick Start Guide

Reference Note: Adobe PDF versions of user manuals will automatically install onto your hard drive as a part of product support. The default location is in the **Programs** group, which can be accessed from the *Windows Desktop*. Refer to the PDF documentation for details regarding both hardware and software. Note that PDF versions of the documents can also be accessed directly from the data acquisition CD via the <**View PDFs**> button located on the CD's opening screen.
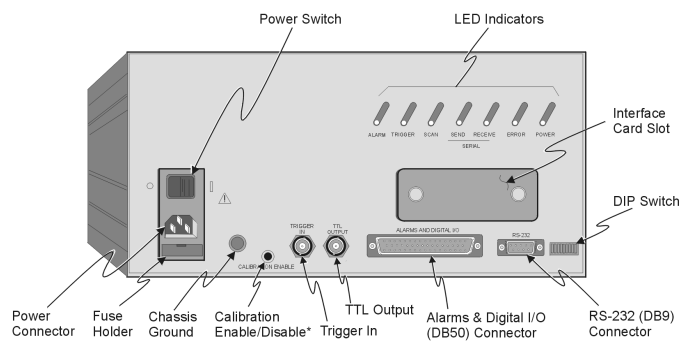
Minimum System Requirements

PC system with Pentium® Processor

Windows Operating System

RAM, as follows:

    16 Mbytes of RAM for Windows 3.x

    32 Mbytes of RAM for Windows 95/98/NT

    64 Mbytes of RAM for Windows Me

    64 Mbytes of RAM for Windows 2000

    64 Mbytes of RAM for Windows XP

Step 1: Install the Software & Documentation (PDF format)

1. Remove previous version Scan drivers, if present. You can do this through Microsoft's **Add/Remove Programs** feature.

2. Place the Data Acquisition CD into the CD-ROM drive. *Wait for PC to auto-run the CD. This may take a few moments, depending on your PC.* If the CD does not auto-run, use the Desktop's Start/Run/Browse feature to locate and launch the CD's **setup.exe** file.

3. After the intro-screen appears, follow the screen prompts.

    Upon completing the software installation, continue with step 2, *Check and Install Hardware*.

Step 2: Check and Install Hardware

1. Verify the Correct Voltage Setting.

    Based on your order, your ChartScan system was set at the voltage indicated on the sticker, or tag located on the rear of the unit, near the power switch. Verify that the voltage value indicated on the sticker matches the voltage of your intended AC power supply. If you need to change the voltage selection for any reason, refer to Chapter 3 of your user's manual, the section titled, *Power Aspects, Changing the Voltage Setting*.

2. Set the DIP Switch.

    The DIP switch is located on the lower right corner of ChartScan's rear panel. The recommended setting is indicated in the following figure. Note that units are not necessarily shipped with the recommended configuration. Refer to chapters 1 and 3 of the ChartScan/1400 User's Manual (p/n 483-0901) for details regarding other settings.

DIP Switch Configuration, Recommended Settings*		
Selection	**Micro-Switch No.**	**Setting**
COMM SELECT	1	0 – Serial Communication
H/S (HANDSHAKE)	2, 3	1, 0 – Hardware Handshake
PARITY	4, 5	0, 0 – No Parity
BAUD RATE	6, 7, 8	1, 0, 1 – 9600 Baud
RS-232 or RS-242	9	0 – RS-232

*Refer to the user's manual in regard to other configurations.
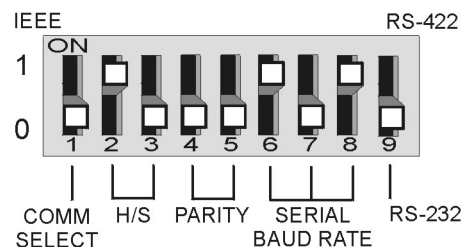
Recommended Configuration

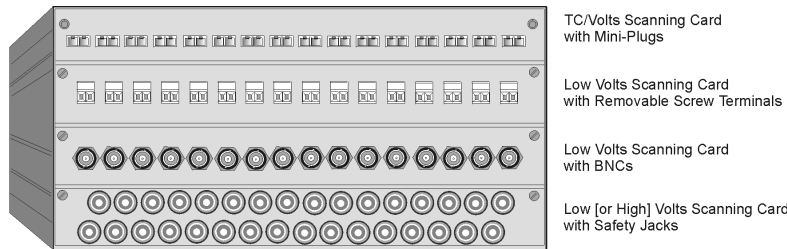3. Install the Signal Conditioning Card(s)

CAUTION
Use approved ESD precautions, including static-free work area and grounded wrist strap, when handling circuit boards and electronic components. Failure to do so could cause equipment damage due to electrostatic discharge.

Signal conditioning cards are pre-installed at the factory. However, if you need to install a card, perform the following steps.

(a) Ensure ChartScan is not connected to any power source.

(b) With *channel labels* oriented upright, carefully slide the signal conditioning card into the unit, and along the card support grooves. Gently force the card to engage its edge connector with ChartScan's internal mating connector.

(c) Tighten the external screws snug, at each end of the card.

TC/Volts Scanning Card with Mini-Plugs

Low Volts Scanning Card with Removable Screw Terminals

Low Volts Scanning Card with BNCs

Low [or High] Volts Scanning Card with Safety Jacks

*ChartScan Front Panel, One of Many Possible Setups*

Step 3: Connect ChartScan/1400 to Your Computer

Reference Note:
ChartScan is default configured for serial port connection to a PC. For IEEE 488 connection, refer to the *Hardware Installation* section of your user's manual. The PDF version of your manual is installed on your hard drive under Program Files, as a part of product support.

Use a CA-47 cable (or equivalent) to connect the ChartScan to your computer. The ChartScan end of the CA-47 cable has a DB-9 connector. The computer end has 2 connectors (DB9 and DB25). Other crossover-type cables can be used if wired as shown in the following figure.
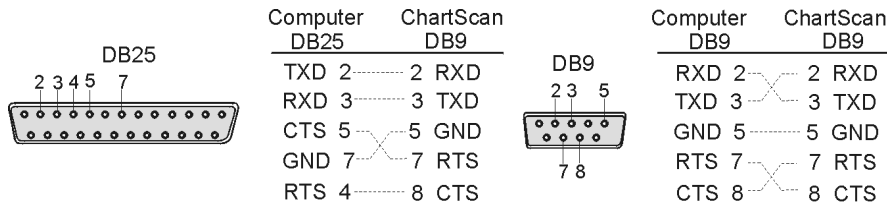
Interface Wiring Diagram

Step 4: Apply Power

ChartScan can be powered from a standard AC outlet. Use the following steps to connect power to your unit.

1. Make sure ChartScan's POWER switch is in the "**0**" (**OFF**) position.

2. Plug power cord CA-1 into ChartScan's power connector. Plug the other end of the cord into an appropriate receptacle.

3. Turn ChartScan's POWER switch to the "**1**" (**ON**) position. The *Power* LED should light up.

ChartScan performs automatic self-tests at initial power-up to ensure that it is fully functional. The self-test takes approximately 5 seconds to complete; after which, ChartScan is ready for normal operation. Note that errors, should occur, will be indicated by rear panel LEDs.

Reference Note:
For detailed information regarding error messages, refer to Chapter 1 and to Appendix G of the user's manual.

Connect channel inputs to your signal conditioning cards. Depending on the type(s) of cards used, your connections will be made via one or more of the following: terminal strip, mini-plug, BNC, or safety jack type input connector.

ChartScan has eight digital input lines and thirty-two digital output lines available on the rear panel DB-50 connector.

Each digital output line will drive five standard TTL loads. All digital input lines are one-eighth (0.125) TTL loads. All inputs are protected against damage from high static voltage. Normal precautions should be taken to limit the input voltages to the range of 0.0 to 5.3 volts. All digital I/O lines are referenced to digital ground.

CAUTION

⚠ **Do not exceed the 0.0 to 5.3 volts input levels described above. Exceeding these levels may damage the ChartScan unit in a way not covered by the warranty.**

Step 6: **Start ChartView, Configure the System, and Collect Data**

1. Double-click on the ChartView icon, or select the ChartView option from the ChartView program group. The *ChartView Startup* dialog box will appear with three selectable options: *Select Device*, *Load File,* and *Exit program*. See figure at right.

2. Click the < **Select Device**> button. The *Select Interface* dialog box will appear. The *Select Interface* dialog box presents four options: *IEEE 488, RS-232, Network,* and *Simulated Instrument*.

3. Select the **RS-232** radio button, then click <**OK>**.

   If using an **IEEE 488** or **Network** interface, refer to the *ChartScan/1400 User's Manual* (p/n 483-0901). You can access the manual directly from the data acquisition CD by using the <**View PDFs**> button located on the CD's opening screen. You can practice using *ChartView* with no instrument connected by selecting *Simulated Instrument* as the device interface.

4. When you choose *RS-232*, the *RS-232 Setup* dialog box appears. Information regarding *Comm Port, Baud Rate, Parity, Handshaking, and Modem* can be viewed and changed from this box. Make sure that the information matches the current hardware configuration of the DIP switch setting. Note that a baud setting of 9600 is recommended.

   Note: **Make sure that the information in the RS232 Setup box matches the hardware configuration of the DIP switch.**

   When the dialog box information is complete, click the <**OK**> button. At this point, the *Chart Setup Wizard* dialog box opens.

5. In the *Automatic Chart Creation* portion of the *Chart Setup Wizard* box, click the <**Create Charts>** button. *ChartView's* main window opens. Here we are using the program default settings. Note that you can go back later and edit the chart setup.

6. In *ChartView's* toolbar, click the <**Channel Configuration**> button (first figure, following page).

   The "Setup Channel Types, Alarms and Acquisition Parameters" window will open.

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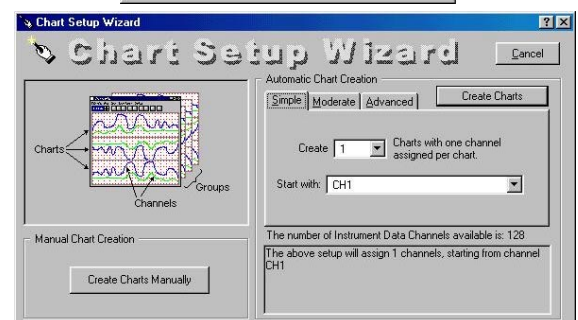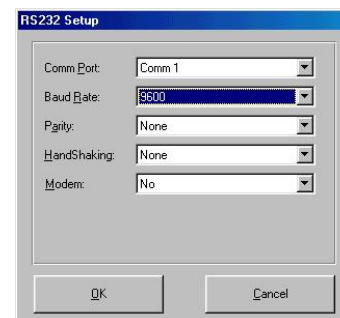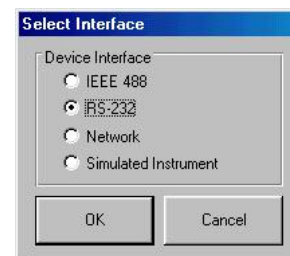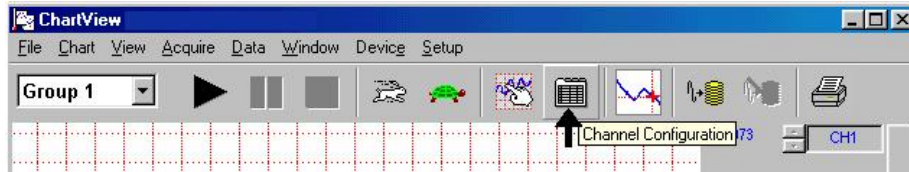
7. In the *Setup Channel Types, Alarms and Acquisition Parameters* window (following figure), perform the following actions:

    (A) Click the <**Turn On/Off Channel Readings**> button (item "A"). This activates the *Reading* column.

    (B) Click the <**OK**> button (item "B"). This accepts the settings. After clicking <**OK**> ChartView's main window will open.
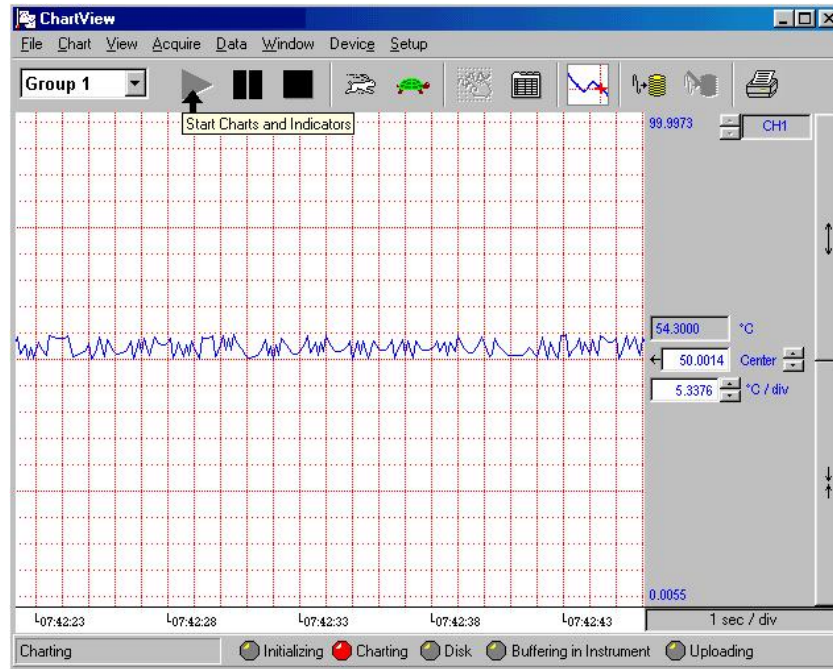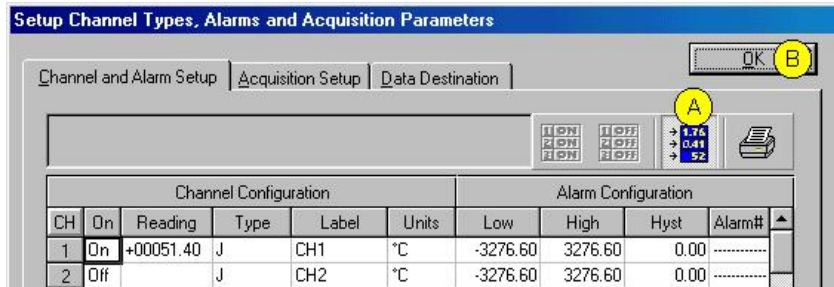
ChartView Main Window

8. To start the chart scrolling click on the <**Start Charts and Indicators**> (Black Triangle) button. To stop the chart scrolling click on the <**Stop Charts**> (Black Square) button.

    Feel free to continue exploring *ChartView* to become more familiar with the application.

Reference Note:
For detailed information regarding *ChartView* and the post-acquisition data viewer program, e.g., eZ-PostView, refer to the Adobe PDF version documentation. The default location of the electronic documents is the Programs group, accessible from the Windows Desktop Start menu.

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