



WorkbenchD Configuration Software

SW794

Installation & Operating Manual

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Section 1

Overview

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What is WorkbenchD SW794

WorkbenchD is a software tool used to configure Series 29, 30 and 38 controls. WorkbenchD runs on a PC compatible and has a graphical user interface that uses drawing tools that allow you to program the control quickly and easily. Use the mouse to create and diagram your configuration in an easy-to-understand visual format that represents your configuration. WorkbenchD is used to program the control rather than using the keypad. Source / Destination tags are connected using the cursor to “drag” connections together. Double clicking on a block allows each parameter value to be set.

Using WorkbenchD you can create an application, install the application in the controls memory, upload an application from control memory and save the application to disk.

- Create configurations for controls
- Install configurations into controls
- Modify configurations for controls
- Retrieve configurations from controls

You do not have to be connected to a control to create your system configurations. You may create the entire system off-line and then connect the PC to the control to install to program to your drive.

Installing Software on your PC

The setup software is Windows-based. The servo control connects to a serial port on your PC. The setup wizard will guide you through the necessary steps to set-up your servo control. Online-help to each topic is available.

Hardware requirements (minimum):

Processor: Intel 80486 / 33 MHz

RAM: 8 MB

Hard Disk Space: 5 MB

Screen: 600 x 480 (minimum)

Recommended: Intel Pentium, 64 MB RAM, 133 MHz, 100 MB Free Space

COM Port: DB9 connector (not USB) to interconnect to control.

Cable: CBLD030P3 – for P3 to COM port connection (3 meters)

Software requirements:

Operating system: Windows 95 (minimum)

Recommended: Win98 or Windows 2000

Installation The following procedure will install the setup software on your computer's hard disk:

1. Start Windows. Make sure that no other programs are running during this installation.
2. Place installation **Disk #1** in your computer's floppy drive.
3. Run A:\Setup.exe (if A:\ is your floppy drive) or double click the file **Setup.exe** from My computer, 3.5 inch Floppy (A:).
4. Follow the instructions and insert the other installation disk(s) as required.

Host Communications Setup

Be sure the communications port of the PC is correctly set for communications with the Drive software. The following examples assume COM1 of the PC is used. If you are using COM2 – 4, substitute the correct COM port number in the example.

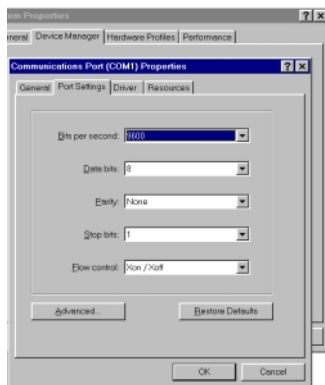
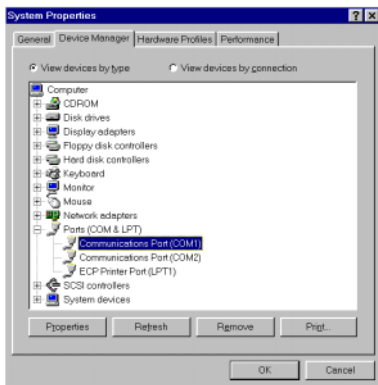
Windows 3.1 Terminal Emulation

1. Power up the Host and start Windows software.
2. In the "Windows Accessories Group" select "Terminal" ICON.
3. Select "Communications" from the Settings pull down menu within Terminal program.

-
- Set the communications settings for:
 - 19200 Baud rate
 - 8 Data Bits
 - 1 Stop Bit
 - No Parity
 - Xon/Xoff Flow Control
 - COM1
 - Select “Binary Transfers” from the Settings pull down menu within Terminal program.
 - Set the Binary Transfer protocol to XModem/CRC.
 - Close menu and save the settings.
 - Terminal Communications settings are now complete.

Windows 95

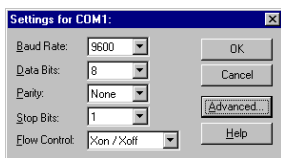
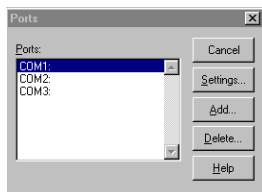
- Power up the Host and start Windows software.
- In “Control Panel” select and open “System”.
- Open “Ports”, select the COM port you are using then click “properties”.



- Be sure the port settings are as: Bits per second=19200, Data bits=8, Parity=none, Stop bits=1 and Flow control=Xon/Xoff.

Windows NT

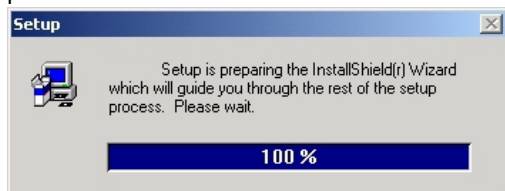
1. Power up the Host and start Windows software.
2. In "Control Panel", select and open "Ports" then click "Settings".



3. Be sure the port settings are as: Bits per second=19200, Data bits=8, Parity=none, Stop bits=1 and Flow control=Xon/Xoff.

Using The Setup Wizard

The setup software wizard guides you through each step to set the basic parameters. There are two diskettes (SW794) in your WorkbenchD package for Windows 95 or NT installation. With Windows launched, insert disk 1 and type a:setup under Start|Run for Windows 95 and NT. Then follow the prompts while setup guides you through the install process.



Choose Destination Location



Setup will install WBenchD in the following directory.

To install to this directory, click Next.

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

You can choose not to install WBenchD by clicking Cancel to exit Setup.

Destination Directory

C:\Program Files\Baldor\WBenchD

Browse...

< Back

Next >

Cancel

Setup Complete



Setup has finished installing the application on your computer.

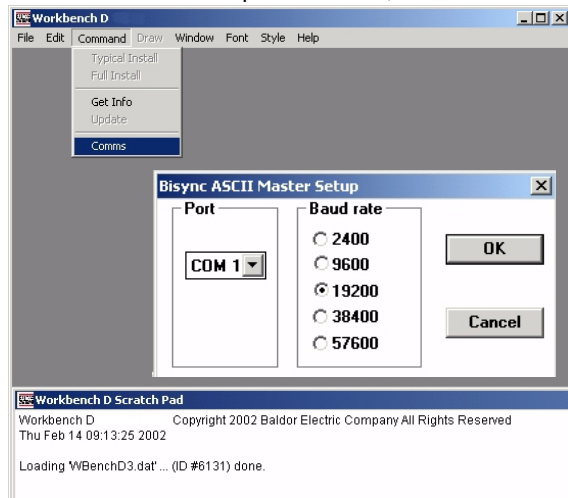
You may launch the application by selecting the icons installed.

Click Finish to complete Setup.

< Back

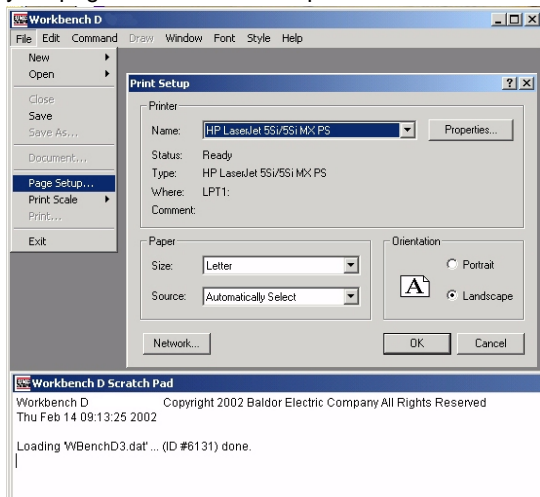
Finish

From the COMMS drop down menu, set the communications settings.



Select a serial port (COM1, COM2, COM3, or COM4) and then select one baud rate (2400, 9600, 19200, 38400, or 57600). Make sure the serial port you select is not the same one being used by the mouse. If the mouse is connected to COM1, you would normally use COM2 for your drive connection. 19,200 baud is recommended.

Select “File→Page Setup” to configure the printer you are going to use. Since WorkbenchD creates drawings in a horizontal format, make sure your page is set for Landscape mode.



Installation is now complete.

Communicating with the Control

A communications cable must be connected between the COM port of the PC and the P3 port of the control. Refer to the control manual to locate this P3 connector and connect the cable CBLD030P3. At the control, several parameter values must be set using the keypad.

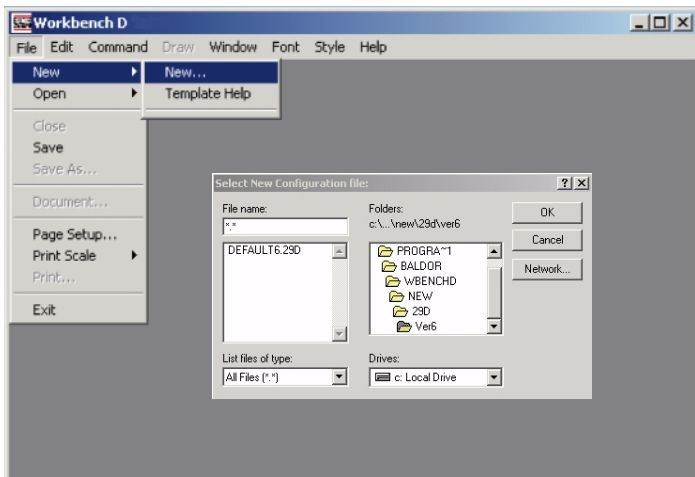
1. SERIAL LINKS::SYSTEM PORT::P3 SETUP::MODE to EIASCII.
2. SERIAL LINKS::SYSTEM PORT::P3 SETUP::P3 BAUD RATE to 19200.

Section 2

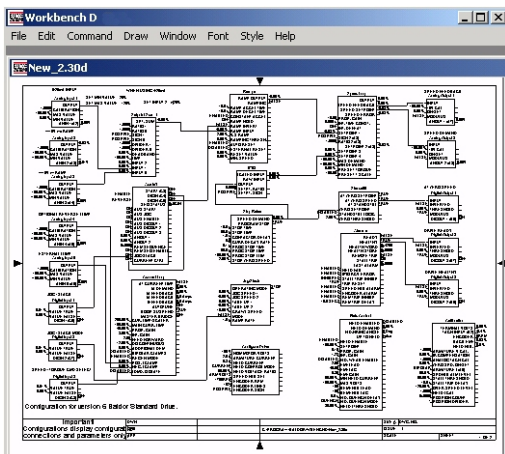
Customizing the Configuration File

Create/Save a Configuration

From the File menu, select New then choose from a list of all available template configurations. Selecting New again brings up a directory listing all default or template configurations available to you. Select a file name from the directory list and click on OK.



When the file opens, the page may be off center and the wrong magnification factor. Press “7” (for normal full page viewing) to change zoom factor and use the page scroll bars to center the image. Notice the gray outline frame surrounding the window. If the gray outline is not visible, try scrolling down or to the right until it appears. This frame marks the limits of the “page” (see “File→Page Setup”). You must allow an extra margin inside the gray outline for the edges of the paper where the printer cannot print. Items extending beyond the gray outline will not print.



Key Description

0 Scales to 10pt. font (1.67x drawing)

1 Scales to 11pt. font (1.83x drawing)

2 Scales to 12pt. font (2.00x drawing)

3 Scales to 3pt. font (0.50x drawing); homes to upper left

4 Scales to 4pt. font (0.67x drawing); homes to upper left

5 Scales to 5pt. font (0.83x drawing)

6 Scales to 6pt. font (1.00x drawing)

7 Scales to 7pt. font (1.17x drawing)

8 Scales to 8pt. font (1.33x drawing)

9 Scales to 9pt. font (1.50x drawing)

+ Increases scaling by factor of 1.33

- Decreases scaling by factor of 1.33

Home Sets origin of view to upper left corner

Page Up Moves view of drawing up by 7/8 of current size

Page Down Moves view of drawing down by 7/8 of current size

Up arrow Nudges view of drawing up

Down arrow Nudges view of drawing down

Left arrow Nudges view of drawing to the left

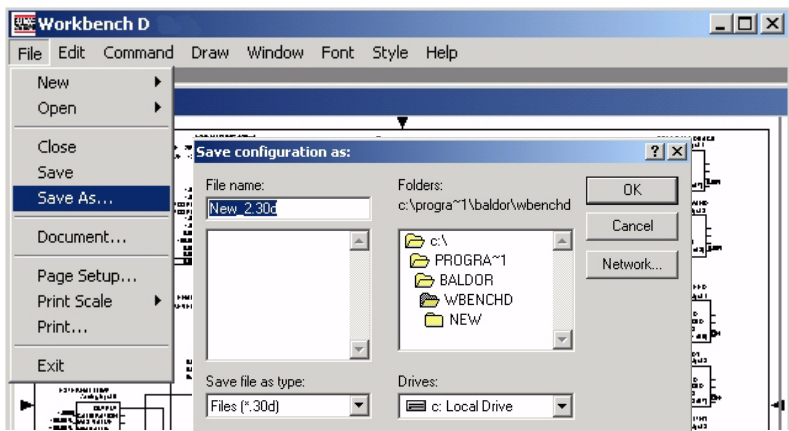
Right arrow Nudges view of drawing to the right

Shift Page Up Moves view of drawing to previous sheet

Shift Page Down Moves view of drawing to next sheet

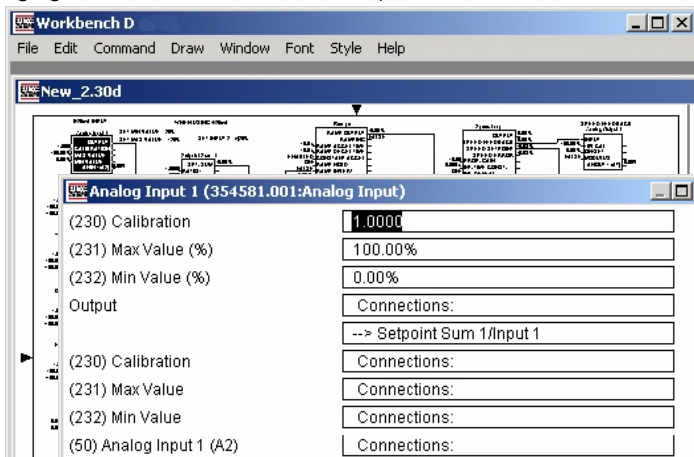
Backspace Deletes currently-selected item

Save the configuration by selecting "File→Save As" and then name the file.



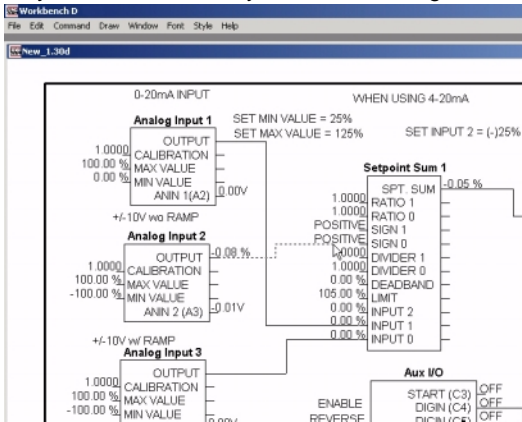
Display/Change Parameter Values

To display the parameters of a particular function block, double-click the block with your mouse. This opens a window listing all the parameters for that function block. Connections are also shown. Parameter values may be changed but connections cannot be changed in this menu (see Changing Connections Between Blocks).



Changing Connections Between Blocks

Connections between outputs and inputs are made using the mouse to drag the connection from an output to an input. Use the mouse to select the Analog Input 2 output. Click and hold the mouse button and drag the dotted connection line to the Sign0 input of Setpoint Sum 1 block. The new connection is made. To delete a connection, click on the connection and press the keyboard's "Delete" key. Save the configuration when done.



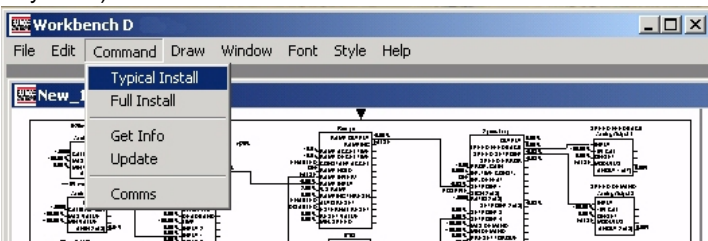
Align Function Blocks

If you have moved some of the blocks or added a new block, you may want to align several blocks so they are aligned either vertically or horizontally. Click on the box that is in the correct position. Next, select "Draw→Align" (a check mark will appear next to align). Select each element you want to align with the first, drag it to the general location you want, and release the mouse key. It will automatically snap into alignment with the original block. You can turn the alignment feature off by clicking on an empty section of the drawing (so no function block is selected) and selecting "Draw→Align". The check mark will now be gone. Save when done.

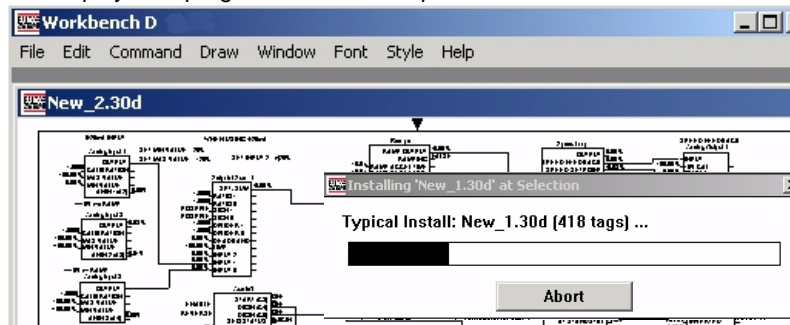
Install a Configuration

When your configuration is completed, it must be installed into the drive. To install a configuration, the computer must be connected to the drive's P3 port. The P3 port mode must be set to ASCII and the baud rate must be set to match the PC's baud rate (19200). The new configuration should be installed only when it is safe so that if the program has an error, it will not cause harm or damage to persons or equipment.

To install a configuration into a drive, first open the configuration to be installed “File→Open” and make sure it is the selected configuration if more than one is open. Select “Command→Typical Install” to begin the download process. (“Full Install” also overwrites motor data and is not normally used).



The configuration is downloaded to the control and the parameters set in the configuration replace the existing values stored in the drive. A status box displays the progress of the Install procedure.



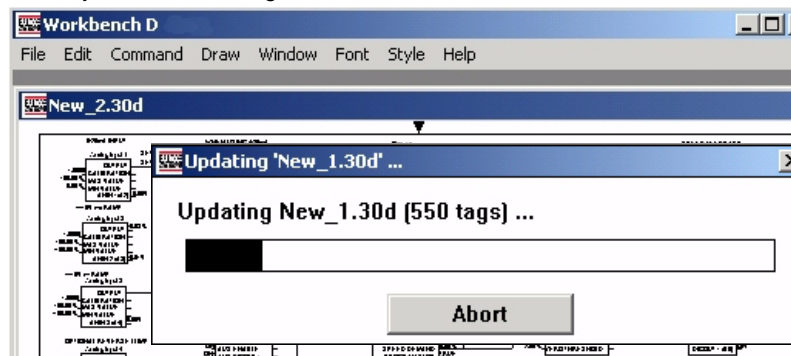
Update a Configuration

When a configuration is installed in the control memory, it can be retrieved to WorkbenchD, changed and downloaded to the controls memory.

To retrieve a configuration, the PC must be connected to the control's P3 port. The P3 port mode must be set to EIASCII and the baud rate must be set to match the PC's baud rate (19200). The configuration should be retrieved or installed only when it is safe so that if the program has an error, it will not cause harm or damage to persons or equipment.

Select “Command→Get Info” to make sure the connection to the drive is good and the drive is not running. The results of your Get Info query will appear in the scratch pad area.

Select “Command→Update” to retrieve the configuration from the control memory. A status box displays the progress. When complete, the configuration on the display will be the one that was stored in control memory. Save the configuration to a new file name.



Create a Configuration Template

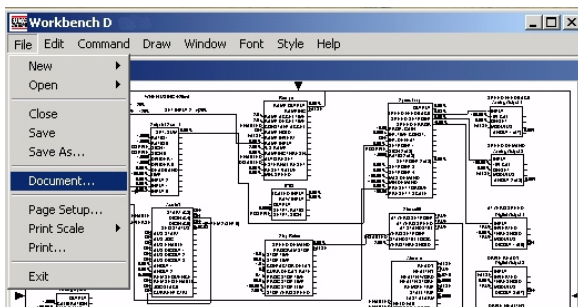
Template files are useful for reusing configurations and creating standard graphical presentations. They are not overwritten when saving a configuration. To create a template, open a configuration and modify it as needed. Select “File→Save As”. Change the file name (or destination directory if desired) and choose OK to close the configuration file. If this file is stored in the New directory, it will appear in the pop down menu when selecting New in the File menu.

Print a Configuration File

Be sure the page and printer setup are completed correctly, then print a copy of your configuration by selecting “File→Print”.

Document a Configuration File

It is very helpful to have a printed reference listing of configuration connections and parameter values. This is similar to a source code listing for other programs. First, make sure the desired configuration is opened and selected. Then select “File→Document”. A dialog box is displayed so you can name the documentation file and assign it to a directory of your choice. This file can be opened and printed using a text editor or word processor.



Sample:

Parameters by Function Block:
Diagnostics

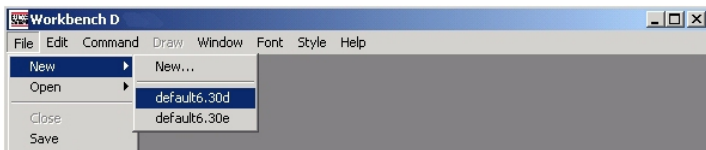
..(207) Speed Feedback (%)	0.05 %	<READ-ONLY>
..(297) Speed Error (%)	-0.05 %	<READ-ONLY>
..(299) Current Demand (%)	0.00 %	<READ-ONLY>
..(298) Current Feedback (%)	0.00 %	<READ-ONLY>
..(87) Pos. I Clamp (%)	200.0 %	<READ-ONLY>
..(88) Neg. I Clamp (%)	-200.0 %	<READ-ONLY>
..(67) Actual Pos I Lim (%)	200.0 %	<READ-ONLY>
..(61) Actual Neg I Lim (%)	-200.0 %	<READ-ONLY>
..(84) Drive Enable	Disabled	<READ-ONLY>

Create/Edit a Form

An outline or border inserted around your configuration diagram provides a uniform appearance when printed. Adding important text material can help make your diagrams more clear and easier to understand. Workbench D contains special drawing tools that let you design and produce your own forms and insert descriptive text. These forms (containing both graphical and text material) are stored as .frm files in WorkbenchD's working directory. By now, you have learned that your configuration diagram must reside within the gray border that appears on your computer screen in order to be printed. When you add a custom form to your diagram, that form must also reside within the gray border. The form will appear on your screen and your diagram must then be placed within its borders to be printed.

Note: The gray border represents the page size, not the printable area. Make sure to leave a margin inside the border to suit your printer.

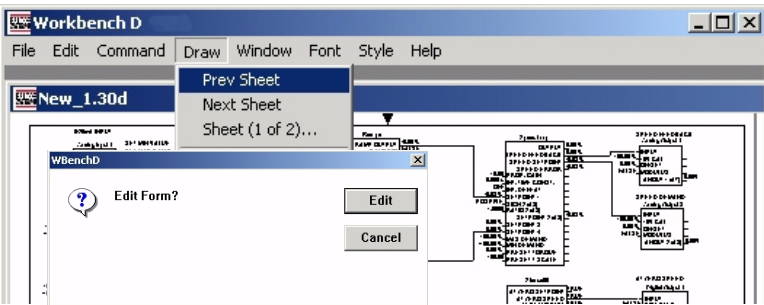
To create a custom form, you must be in a configuration window. You can either open an existing configuration or create a new one from the File menu.



A new configuration will appear on screen. You may now use the tools in the Draw menu to create your form.

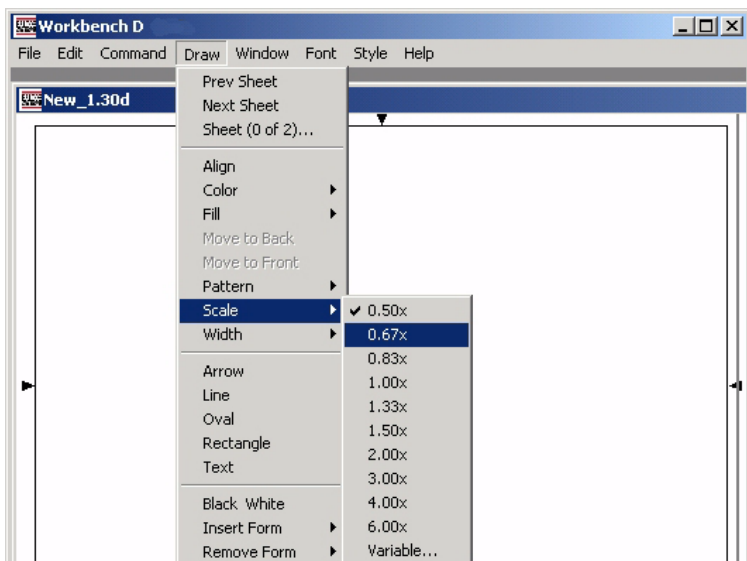
Note: Sheet 0 is designed only for creating forms or adding information that will print on every page of the current configuration. Do not place items on sheet 0 that you do not want reproduced on every page in that configuration.

Go to the Draw menu and confirm you are on sheet 1. Forms are created on sheet 0, so select “Draw→Prev Sheet” to move to that sheet. You will be prompted with a dialog box asking if you want to edit the form. Click Edit. The sheet 0 will appear for editing.



Be sure the view scale allows you to see the gray borders at the bottom and right side of your window. If the gray border is not visible, select a different magnification “Draw→Scale→0.67x”.

The drawing tools are used to add shapes, graphics and text that will appear on each page. Select a line and press the delete key to remove that line (or select Edit→Clear). To draw a line, select “Draw→Line”. The cursor changes to a crosshair in the shape of an x. Click and hold the mouse button as you move the mouse; notice that a line begins from the center of the crosshair. Carefully draw a line inside the gray border at either the bottom or right side of your configuration window. Make sure the line is straight and where you want it. If not, click once on the line and hit the Delete key to remove it.



When you reach the end of the first line, press and hold the Ctrl key and click and hold the mouse button until you reach the end of the next line segment.

Note: Holding down the Ctrl key when you click the mouse button repeats the previous operation allowing you to continue drawing or adding text, whichever was last done. In this example, we can add a second line starting at the end point of the first.

To add text, select "Draw→Text". Click where the text should begin and start typing. If the type is too small, or you want to change the typeface or style, select the type with the mouse. You may have difficulty clicking on the type inside the box because, as was mentioned earlier, boxes created with the rectangle tool are filled. In that case, click once in the box and then go to the Draw menu and select Move to Back. This moves the box to a layer behind the text block but still on the same sheet of the diagram. Click the type block; a gray box will appear around the type. Once selected, the type may be changed using the Font and Style menus. The text box, like any object can be dragged to a new position.

Automatic Data Entry

Text can be added that is coded to receive data automatically from your configuration specifications. The Baldor configuration diagram shown here and uses several codes for filename, date etc.

		SIZE A	DWG NO.
	^I^C	ISSUE 1	^D
		SCALE	SHEET ^S OF ^N

↑

- ^C (the configuration name)
- ^D (the date of the last modification to the configuration)
- ^I (the directory in which the configuration resides)
- ^N (the number of sheets in the diagram)
- ^S (the current sheet number)

Note: Make sure you enter the codes exactly as they are given in the Format Code table. Case is critical. The caret (“^” above the 6 on the keyboard) indicates formatting information for forms and text entered on sheet 0 only and should not be used on other sheets.

Save/Insert a Form

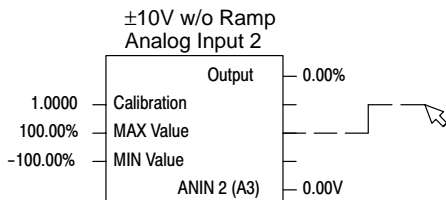
When the design of your form is completed save the form by selecting “Draw→Save Form”. A dialog window will ask you to name the form. In the future, this form can be used by simply inserting it into the new configuration file. To do this, open a new configuration file, go to sheet zero and select “Draw→Insert Form”. Pick the form you want to insert and it is placed on sheet 0.

You cannot have different forms for different sheets in the same multiple-sheet configuration. Only one form may be selected for each configuration. It is placed on sheet 0 and appears on every sheet of that configuration. Forms may be removed from configuration diagrams by selecting “Draw→Remove Form” and then choosing the form to be removed. Selecting “Draw→Show Form” makes the form visible while working on the configuration and for printing. (It must be selected for the form to appear in the printout).

Function Blocks

Parameters are arranged into groups called “Function Blocks”. Function blocks are graphic programming tools. You can visually locate a group or block, connect it’s inputs and outputs to other blocks and open it to set the parameter values associated with that function block. When making connections between blocks, the connection is made from the output side of a function block. For example, to connect the Max Value input of the Analog Input 2 block click and hold down on the line at the right of the block that corresponds to the Max Value Input.

Drag the mouse to make the connection. Do not try to click on the lines on the left of the block, only the lines on the right may be used for connections.



Connections between function blocks on different sheets are possible. To make inter-sheet connections, do the following.

1. Begin a connection from an output terminal of a function block on sheet1 (or sheet 2).
2. Hold the mouse button down and drag the connection to the Draw menu and select Next Sheet. Notice that the connection line becomes a dashed line.
3. Complete the connection to a function block input terminal on the other sheet. The dashed line will change to a solid line. It will be labeled with generic text identifying the connection and the source sheets (for example, ITEM 1 SHT 1).
4. On the previous sheet, the text will show the destination sheet for the connection (for example, ITEM 1 SHT 2).
5. Rename the connection by double-clicking on the arrow or the descriptive text to bring up a dialog box. Enter the label you prefer. The new information will appear on both sheets.

Split Connections

Similar to inter-sheet connections, split connections can help keep complex configurations from being cluttered with many lines that cross over each other. Split connections resemble inter-sheet connections in that they include labels identifying their source and destination. Split connections may also be made in read-only configurations, since only the on-screen appearance has been modified and the connection itself has not been changed. To draw a split connection:

1. Choose a connection between two distant function blocks.
2. Double-click the connection with the mouse pointer or click once and press the Enter key. A dialog box will ask for a name for the connection.

-
3. Enter the name and click the OK button. The connection will be split and labels will be attached to each end identifying the source and destination of the connection.
 4. To change the connection name, double-click either the connection or the label and enter the new information in the dialog box.

Drawing Tools

Creating configurations graphically is a main feature of Workbench D. The Draw menu contains a variety of tools to assist you in your work. These commands are used to modify objects drawn in or text added to the configuration. The color, fill, or width of the lines of function blocks and connecting lines cannot be modified. Only objects or lines you have drawn in a configuration can be modified with these tools.

To apply color, fill, pattern, or width commands to an existing object, select the object with the mouse pointer. Then select “Draw→Pattern” (for example). A pop up list of pattern options will appear on screen; Hollow is the normal pattern. Select a different pattern (for example, Solid) with the mouse and release the mouse key. The box will automatically be filled on screen. The normal fill setting is white.

Color The “Draw→Color” command is used to specify the outline color for rectangles and ovals and the display color for lines, arrows, and text you have added to your drawing. To apply color to an object or text, either select a color and then a line or object to draw or text to place, or select an already-placed object or block of text and then change the color. The normal color setting is black.

Fill The “Draw→Fill” command is used to color the contents of an object and highlight its appearance on a color display. To change the color for new objects, select “Draw→Fill” and choose the new color. All new objects will be drawn with that color. To change the fill color of an existing object, select the object. Then select “Draw→Fill” and choose the new color. The normal color setting is white.

Pattern The Pattern command is used to set the fill pattern of an object. To change the fill pattern for new objects, select “Draw→Pattern” and choose the new style. All new objects will be drawn with that fill pattern. To change the fill pattern of an existing object, select the object. Then select “Draw→Pattern” and choose the new fill pattern. The normal pattern setting is hollow.

Width The Width command is used to specify the thickness of lines created with the Arrow, Line, Oval, and Rectangle commands. One point is equal to 1/72 of an inch. Line width ranges from 0.5 points to 16.0 points; the normal line width setting is 0.5 points.

Drawing Tools Continued

Arrow The Arrow command is a variation of the Line command. It is used to add lines with arrows to your drawings. Combined with text and other tools, arrows can be an effective tool to bring attention to a particular item.

Line The Line command allows you to draw straight lines anywhere in your drawing. It can be used to create form outlines and text boxes, and to add highlighting to drawings. When you select "Draw→Line", your cursor turns into an X, showing it is now a drawing tool. Place the X where you want to begin your line. Press and hold the mouse key, and drag a line to the desired end point. Release the mouse key when your line is finished. To draw a series of connected lines, hold the Ctrl key down when you click the mouse the second time. A new line, starting where the first one finished, can then be dragged with the mouse.

Oval The Oval command allows you to add an oval or circle to your drawing. When you create an oval on screen, the borders formed during the drawing process are rectangular. Only after you release the mouse key does the oval appear. When you select the oval to move it or modify its shape, it is highlighted by a rectangular gray box outlining its perimeter.

Rectangle The Rectangle command allows you to add a rectangle to your drawing.

Text The Text command allows you to add text to your drawing.

Display Options

The zoom factor (Scale) and black & white background display options are used to change the view of a configuration on your computer screen.

Scale

The Scale command selects the magnification ratio of your configuration display. The "Draw→Scale" menu presents a list of preset ratios as well as a variable dialog function. The variable dialog asks for a magnification setting within the range of .34x to 10x. Keyboard commands may also be used to change the scale.

Key Description

0	Scales to 10pt. font (1.67x drawing)
1	Scales to 11pt. font (1.83x drawing)
2	Scales to 12pt. font (2.00x drawing)
3	Scales to 3pt. font (0.50x drawing); homes to upper left
4	Scales to 4pt. font (0.67x drawing); homes to upper left
5	Scales to 5pt. font (0.83x drawing)
6	Scales to 6pt. font (1.00x drawing)
7	Scales to 7pt. font (1.17x drawing)
8	Scales to 8pt. font (1.33x drawing)

Display Options Continued

9	Scales to 9pt. font (1.50x drawing)
+	Increases scaling by factor of 1.33
-	Decreases scaling by factor of 1.33
Home	Sets origin of view to upper left corner
Page Up	Moves view of drawing up by 7/8 of current size
Page Down	Moves view of drawing down by 7/8 of current size
Up arrow	Nudges view of drawing up
Down arrow	Nudges view of drawing down
Left arrow	Nudges view of drawing to the left
Right arrow	Nudges view of drawing to the right
Shift Page Up	Moves view of drawing to previous sheet
Shift Page Down	Moves view of drawing to next sheet
Backspace	Deletes currently-selected item
Ctrl + Mouse	See object move

Object Move

Move blocks to arrange drawing sheets as follows:

1. Press the CONTROL (Ctrl) key.
2. Use the mouse to select (highlight) the block(s) to be moved.
3. Release the Ctrl and mouse button
4. Move the function block(s) to the new location.
5. After positioning the blocks, press the Ctrl key.
6. Click the mouse button.
7. Release the Ctrl key.

Black & White

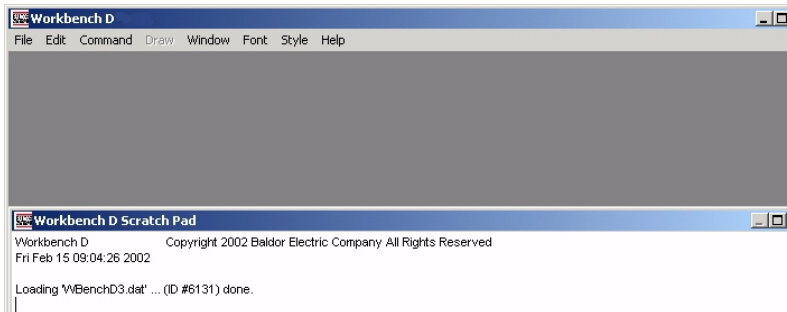
The Black & White command is used to switch the display of your configuration to/from color and monochrome (black and white) modes. This is useful when taking a drawing created on a color monitor and viewing it on a black and white monitor. It is also used when sending a color configuration to a black and white printer. With this command set to on, it prevents printing the drawing in gray scale, which may result in poor printout quality.

Annotating Drawings

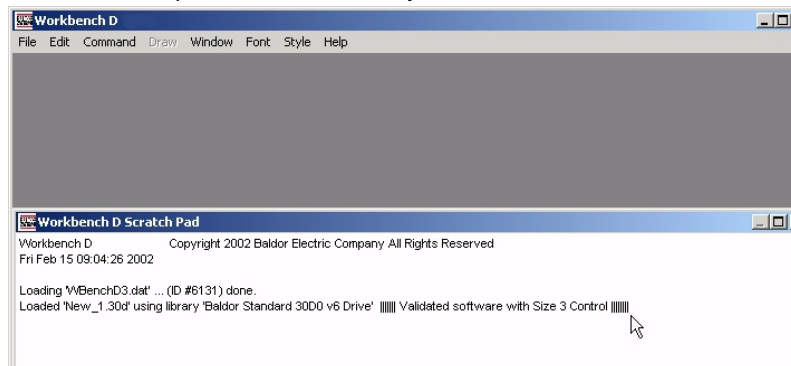
Objects and/or text may be added to your drawings in the same manner as is used for creating forms. Annotations made on individual configuration sheets do not show on all sheets (as on sheet 0).

Scratch Pad The scratch pad provides a written record of your actions regarding the configurations, including loading, saving, and deleting drawings. That record is kept in the WBenchD.tex file, which is created automatically when you first launch Workbench D. Every time the program is run, the information written to the scratch pad is added to the end of the WBenchD.tex file. It is located in the working directory for Workbench D (C:\Program Files\Baldor\WBenchD\WBenchD.tex). The WBenchD.tex file may be edited using any text or word processing program that reads text files. The scratch pad window appears on screen whenever Workbench D is launched. It responds to the same sizing commands and actions as any other Windows' element. The launch time for Workbench D is recorded automatically in the scratch pad when the program opens. You can manually insert the current time at any point by selecting Edit→Paste Time menu.

It is a good idea to edit your WBenchD.tex file periodically, as it can grow quite large. Before deleting portions of the file or the entire file, make a copy (either printed or saved to a floppy disk) to retain for your records. Scratch pad is opened each time you start WorkbenchD. Entries are automatically logged to create a historical record of each session. When WokbenchD is started, the entire log is not shown, only the logged entry for the present session as shown here.



You can type comments into this file as part of the history record. Simply click into the area you want to edit and begin typing (or delete something). This is an example of a comment entry.



Section 3

Troubleshooting

Communication Problems

Missing Communications Cable

A communications cable must be connected between the COM port of the PC and the P3 port of the control. Refer to the control manual to locate this P3 connector and connect the cable CBLD030P3.

Mismatched Baud Rates

The baud rates in the drive must match those in Workbench D. Check the BAUD RATE setting on the drive under SERIAL LINKS.

Baud Rate Set Too High

Some PC's can experience difficulty with the 19200 baud rate. For those computers, reduce the baud rate to 9600 on both the PC and in the configuration file for the control.

Wrong Communications Port

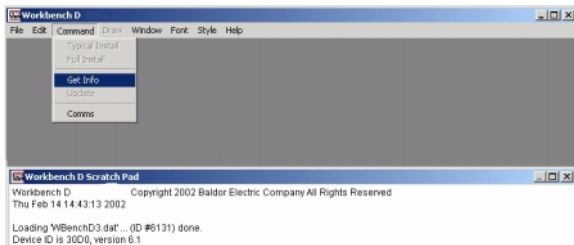
Another common error is attempting to select a communications port already in use, (typically by the mouse, COM1). Go to the Command→Comms menu, select another communications port, and ensure your control is connected to that port.

Drive P3 Mode Set Wrong

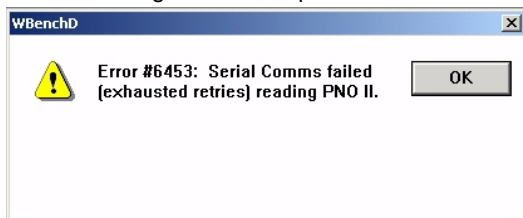
At the control, several parameter values must be set using the keypad. SERIAL LINKS::SYSTEM PORT::P3 SETUP::MODE to EIASCII and SERIAL LINKS::SYSTEM PORT::P3 SETUP::P3 BAUD RATE to 19200 (to match the PC's baud rate).

Communication Quick Check (PC and Control)

Verify that these 5 items are correct. Next, start WorkbenchD. Select "Command→Get Info" and verify the device ID appears in the scratch pad area ("Device ID is 30D0, version 6.1" as shown here). This indicates communication exists between the control and the PC.



A sample error message (resulting from no cable installed at P3) is shown. See "Error Messages" for an explanation.



Error Messages

Error detection is designed to help prevent the execution of an inappropriate or dangerous command. Workbench D software displays an error messages when it discovers a problem. The messages contain an error number and a brief description. Some messages also have an error code expressed as PNO plus a two-character code identifying the type of error.

The most common error messages are as follows.

Error Code	Description	Corrective Action
6405	Could not access configuration. Could not find the ".dat" file in the directory.	Be sure the correct WBenchD3.dat file is in the same directory as your configurations (C:\Program Files\Baldor\WBenchD\WBenchD3.dat).
6449	Marginal or interrupted communications. Serial Comms failed.	Reduce baud rate settings on drive and WorkbenchD. Reset the port by cycling power to the drive. Cable damaged? Cable must not be longer than 10 feet (3Meters).

6453	<p>Serial comms has not responded as expected.</p> <p>PNO II, indicates that it failed to read ID (II).</p>	<p>Ensure drive has power and the cable is plugged into the correct correct serial port.</p> <p>Set port in ASCII mode and ensure that baud rate of drive matches that of WorkbenchD. If not, communications will resume only if the baud rate setting at the keypad is reset to match WorkbenchD.</p> <p>Group ID and Unit ID must be set to "0".</p> <p>CONFIGURE I/O parameter must be "Disabled" Comms failed.</p>
6459	<p>Could not open Serial Comms Library. The Comms port on the computer is not active, turned off, or used by another device.</p>	<p>Check comms port allocation and settings.</p>
6462	<p>Cannot update configuration while drive is running.</p>	<p>The drive must be stopped and disabled to install or update the configuration. The RUN/START signal must be off to use the Install command or the Update command. This safety feature prevents dangerous consequences caused by modifying the operation of the drive while equipment is running.</p>
6463	<p>Cannot install configuration while drive is running.</p>	<p>Note: If WorkbenchD aborts during installation, it is possible that an "anti-virus" program is running on the computer. Close the program and try again. It is best that all programs are closed while loading any software.</p>

Appendix A

Menus

Menus When WorkbenchD is started, the main menu appears. The following pages describe the main menu selections.



File Menu

File	Edit	Command
New		Start a new configuration. (Only one configuration can be open at one time).
Open		Open an existing (previously saved) configuration.
Close		Close the current configuration file.
Save		Save the current configuration file to the current filename.
Save As...		Save the current configuration file to a different filename.
Document...		Create a editable text file to document the parameter values and connections.
Page Setup...		Specify printer and settings.
Print Scale		Specify the scale factor of the printed configuration.
Print...		Send the configuration file to the printer.
Exit		Save the scratch pad, close the configuration file and exit WorkbenchD.

Edit Menu (Edits the Scratch Pad area of the WorkbenchD window)

These commands only work with the displayed scratch pad entry. To make changes to the rest of the scratch pad file, an editor must be used (notepad etc.).

Edit	Command
Undo	Undo last change.
Cut	Save the active project page to a file.
Copy	Save the active project page to a different file than the current filename.
Paste	Print your entire project, a summary, pages, alarms, or variables.
Clear	Removes the selected text from the scratch pad entry.
Select All	Select all text within the displayed scratch pad entry (not the entire file).
Paste Time	Adds a date and time stamp at the cursor position within the scratch pad.

Loading 'W\BenchD3.dat' ...
Fri Feb 15 10:16:25 2002

Command Menu

Command	Draw
Typical Install	→ Loads the displayed configuration file to the control memory.
Full Install	→ Loads the displayed configuration file and motor parameters to the control memory.
Get Info	→ Establishes communication with the control and displays the control information in the scratch pad window.
Update	→ Retrieves the configuration from control memory and modifies the displayed configuration file with this information.
Comms	→ Sets the communications port parameters used by WorkbenchD.

Draw Menu Drawing tools are used to change the appearance of a selected item or to change the appearance of new items. For example, selecting a line and changing the width to 1.5 will only change the width of the selected line. With no lines selected, changing the width to 1.5 will only change the line width for all new objects (not previously created objects on the page).

Draw	Window	Font	
Prev Sheet	→		Display the previous sheet of the configuration file. (If sheet 1 is displayed, use this to display form page 0).
Next Sheet	→		Display the next sheet of the configuration file.
Sheet (1 of 2)...	→		The sheet number of the presently displayed page.
Align	→		Used to align function blocks (left/right or top/bottom).
Color	→		Select the color for lines, arrows and text and the outline color for rectangles and ovals.
Fill	→		Select the fill color of an object.
Move to Back	→		Sends the selected object to the back (behind other objects).
Move to Front	→		Brings the selected object to the front.
Pattern	→		Select the fill pattern of an object.
Scale	→		Start a new configuration. (Only one configuration can be open at one time).
Width	→		Select the line thickness to use. (Thickness is specified in points or $1/72$ of an inch).
Arrow	→		Create a line segment with an arrow termination at the ending point.
Line	→		Create a line segment.
Oval	→		Create an oval or circle.
Rectangle	→		Create a rectangle or square.
Text	→		Create a text box to type information or labels.
Black White	→		Changes the drawing to black & white (to prevent poor quality by printing a color drawing in gray scale).
Insert Form	→		Insert a border etc. from a file onto sheet 0.
Remove Form	→		Remove a border etc. from sheet 0.
Save Form...	→		Save the form to a file name so it can be used to create other configuration files.
✓ Show Form	→		Display/Hide sheet 0 form information from each page of the configuration file display.

Window Menu



Allows a hierarchy of window organization.

→ Identifies the parent file.

→ Identifies the Child file.

→ Identifies the sibling file.

} → Displays names of presently opened files.

Font & Style Menus



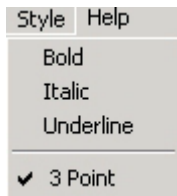
Defines the type style for text.

→ Helvetica

→ Futura Demi Bold

→ Times

→ Courier



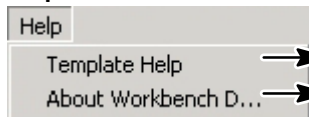
→ **Bolds text**

→ *italic*

→ Underlined

} → 3 to 72 point
(1 inch) type size

Help Menu



→ Displays the Help file.

→ Displays software revision information.



BALDOR ELECTRIC COMPANY
P.O. Box 2400
Ft. Smith, AR 72902-2400
(479) 646-4711
Fax (479) 648-5792
www.baldor.com

CH TEL: +41 52 647 4700 FAX: +41 52 659 2394	D TEL: +49 89 90 50 80 FAX: +49 89 90 50 8491	UK TEL: +44 1454 850000 FAX: +44 1454 859001	F TEL: +33 145 10 7902 FAX: +33 145 09 0864
I TEL: +39 11 562 4440 FAX: +39 11 562 5660	AU TEL: +61 29674 5455 FAX: +61 29674 2495	CC TEL: +65 744 2572 FAX: +65 747 1708	MX TEL: +52 477 761 2030 FAX: +52 477 761 2010