

LeaderLine PC Software

Specification

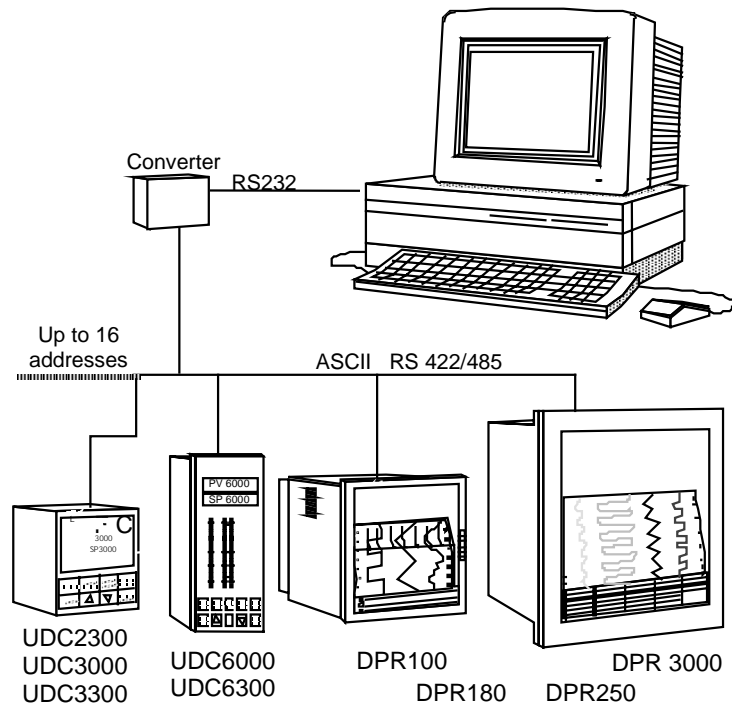
Overview

Honeywell's LeaderLine PC Software (LPCS) is a cost effective and efficient means to monitor, archive, and configure Honeywell's LeaderLine controllers and recorders using a Windows™-based Personal Computer program. These products include:

- UDC2300 Universal Digital Controller
 - UDC3000 Universal Digital Controller
 - UDC3300 Universal Digital Controller
 - UDC6000 Process Controller
 - UDC6300 Process Controller
 - DPR3000 Digital Process Recorder
 - DPR100C/D Pen/Multipoint Digital Recorders
 - DPR180 Digital Process Recorder*
 - DPR250 Digital Process Recorder*
- *Monitoring and Archiving only

The software has been developed around the industry standard Windows™95/98/NT operating system and is designed for either novice or experienced computer users.

The familiar windows environment and the on-line and context-sensitive help utility allow the first time user to quickly accomplish the required tasks.



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Figure 1 - LeaderLine PC Software

Software Capabilities

Software capabilities include:

Set-up - installs the LPCS software into the personal computer and allows changes to the installed settings and languages.

Network Configuration - selects device node addresses and tag names.

Product Configurator - configure devices either on-line or off-line. All devices, except DPR180/250 are totally configurable with full configuration dependencies supported. Default device database templates provide for ease of initial device configuration.

Operator Displays - let the operator monitor, archive, and selectively change device variables on-line to tune your process.

Help - program accesses On-line and Context sensitive help.

Standard Features

Easy Set-up and Use - the software package is simple to install and requires no advanced PC skills. The set-up procedure uses pre-formatted displays and on screen selection.

Transportable Software - this software is transportable across Windows® 95 based, IBM® equivalent desktop and portable Personal Computers having a minimum 486 processor and 16 MB of memory.

Network Configuration - lets you specify the name of a network. Products are assigned to the network with associated addresses and tag names.

Standard Features, cont.

On-line/Off-line Device Configuration - all devices, except DPR180/250 are totally configurable either On-line or Off-line with full configuration dependencies supported during configuration. Default device database templates are provided for ease of initial device configuration. A record of device configuration can be printed out.

Real Time Monitoring - real time operating displays are pre-formatted. Multiple display selection and organization within the workspace is supported. UDC displays can be mixed with a DPR Trend display on the same screen. DPR Trend displays can be mixed with loop displays. Front Panel, and Trend views are available for UDCs.

Standard Features, cont.

Archiving - is run as a background task, allowing you to run other operations while archiving is in progress. For recorders you can store PV's (up to 32 for DPR3000) plus related Alarm and Digital Input status per recorder.

For controllers, you can store PV's, Setpoint values, Output values, and On/Off Alarm states.

Standard Features, cont.

Data Logging and Storage with Analysis - data is stored in ASCII format on the PC hard disk and can be easily imported to most spreadsheet programs such as Microsoft Excel™ and Lotus 1,2,3™ to enable presentation in graphical format or for further calculations.

Standard Features, cont.

Multilingual - support for international sales include English, French and German.

Communications - lets you supervise 16 addresses with a mix of recorders and controllers. There are 128 points of data available.

Main Menu

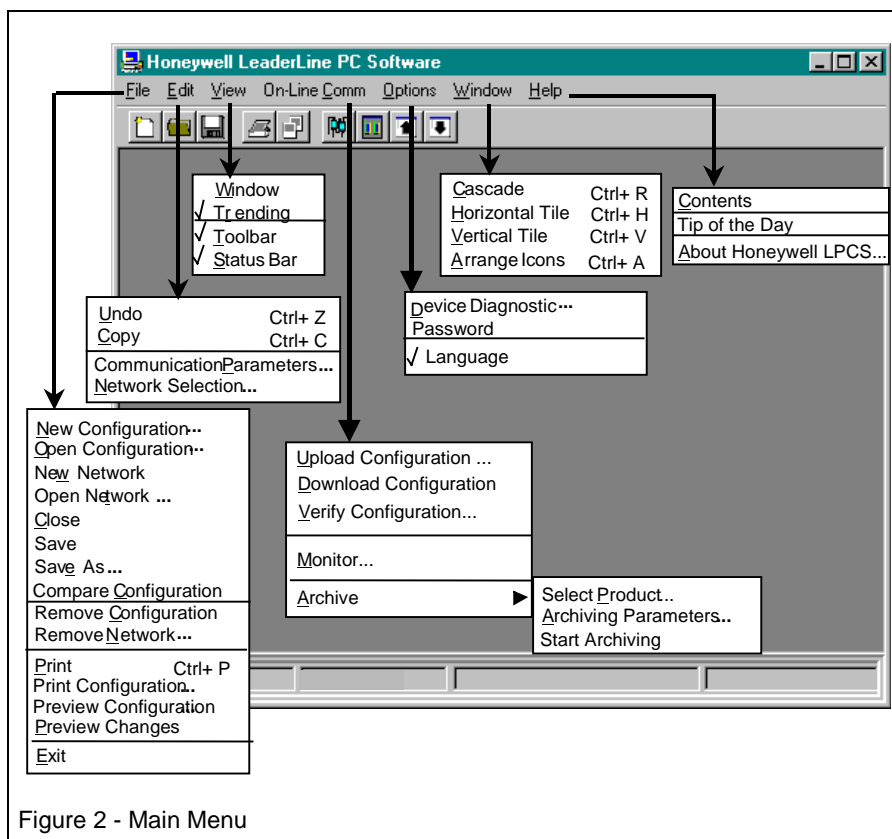
The Main Menu bar is located along the upper edge of the window (See Figure 2).

The LPCS program's Main Menu is the top level menu that allows access to drop-down menus that will navigate you through the application and let you quickly select a specific function.

Each menu item describes its functionality.

A Toolbar at the top of the window offers shortcuts to the most common menu items.

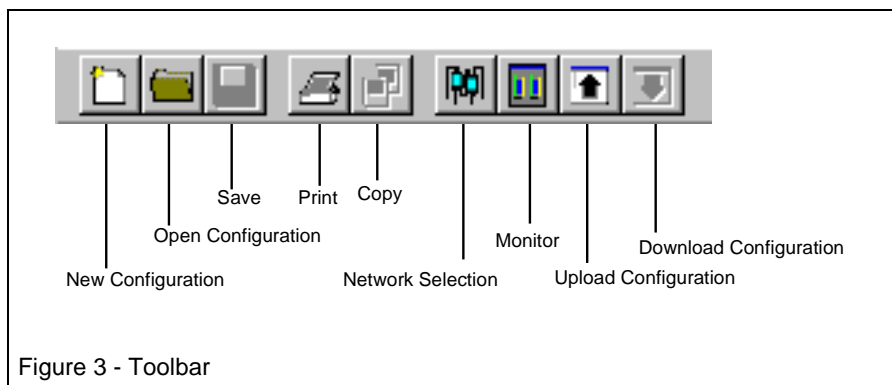
A Status bar at the bottom of the window indicates information about the current window including downloading and uploading status.



Toolbar

The toolbar (Figure 3) contains several commonly used functions that can be accessed by clicking on the corresponding button.

The buttons are grouped to show relationships.



Configuration Display and Template for Product Configuration

Full Product Line configuration: Off-line or On-line. (except DPR180 and DPR250 Recorders)

This function includes checks and adjustments for all dependencies associated with configuration.

Off-line configuration lets you create new configuration databases from a template.

On-line configuration lets you upload configuration data and modify the displayed configuration of a device that is connected to the link.

In either case, configuration can be saved and downloaded to specific devices on the network.

Figure 4 is an example of a UDC3300 default configuration template with all options selected.

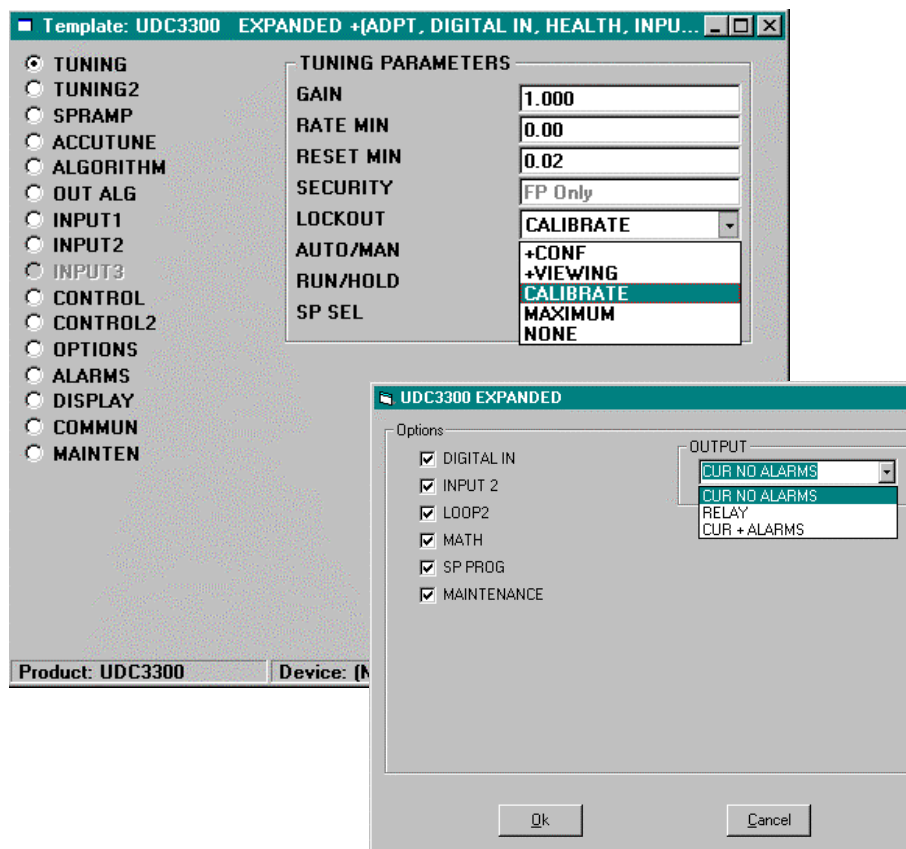


Figure 4 - Configuration Option Selection and Template

Controller Monitoring Display (Windows Format)

You can group displays by opening multiple windows in the work space to create a monitoring display for control loops. (See Figure 5)

The displayed operating parameters are:

- Process Variable Value
- Setpoint Value*
- Setpoint Source*
- Mode* - (Auto/Manual)
- Alarms Status (On/Off only)
- Rate Value in minutes*
- Bargraph of
 - Setpoint(Optional SP Pointer)
 - Process Variable (Eng. Units)
 - Output Values* (%)
- Proportional Band or Gain value*
- Reset Value in min or rpm*

*Value or selection can be changed.

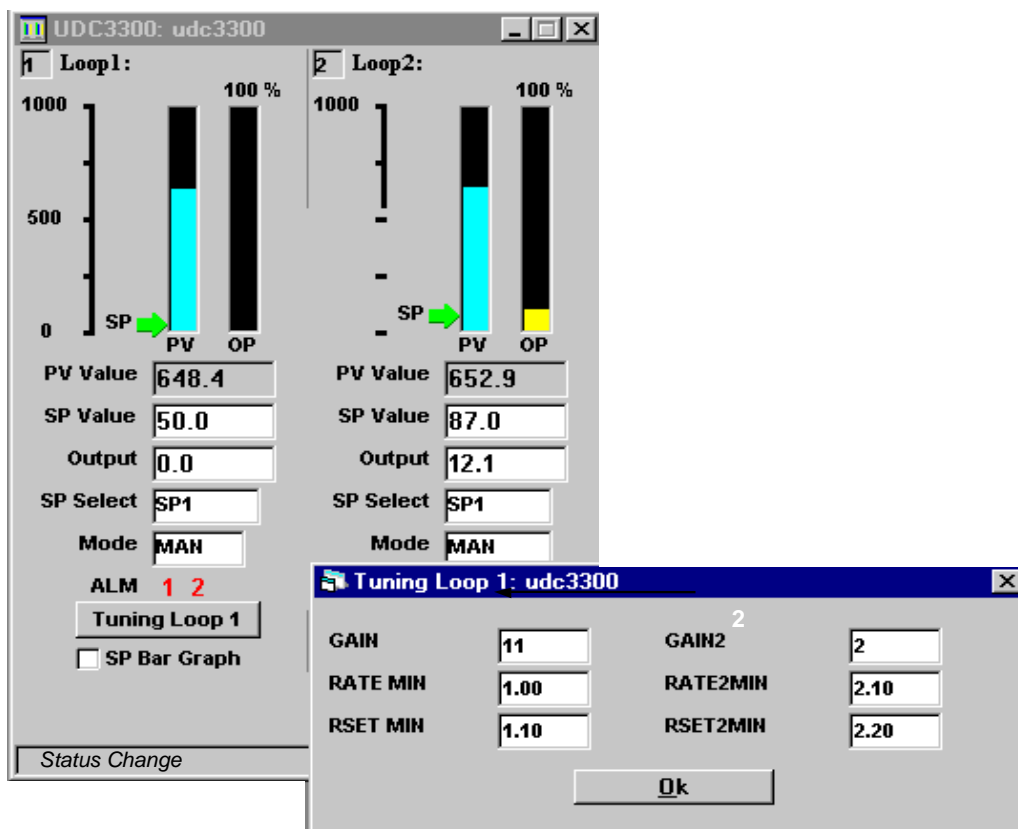


Figure 5 – Monitor Display for Control loops

Monitoring/Trending Display For Controllers

A Trending Set Up window lets you choose, at trending start-up, up to four parameters to trend for each loop address selected.

A page assignment tab in the set-up window lets you assign two loops (addresses) per page to be displayed in the controller trending display window.

The Controller *Monitoring /Trending* window enables operations such as:

- Displays the address and tag name of the device.
- Four parameter fields display the parameters chosen in the Set Up window.
- Four alarm fields indicate alarm states, if configured
- Color coded indication of selected parameters to be scaled for the viewing area
- MIN and MAX fields let you position the trend display appropriately in the window.
- Page selection button allows display of up to 8 pages of two addresses each
- Operating Window button at the top of the window lets you edit On-line Setpoint, Output, Setpoint Source and Mode values of device selected.

Figure 6 is an example of a Controller Monitor/Trend window.

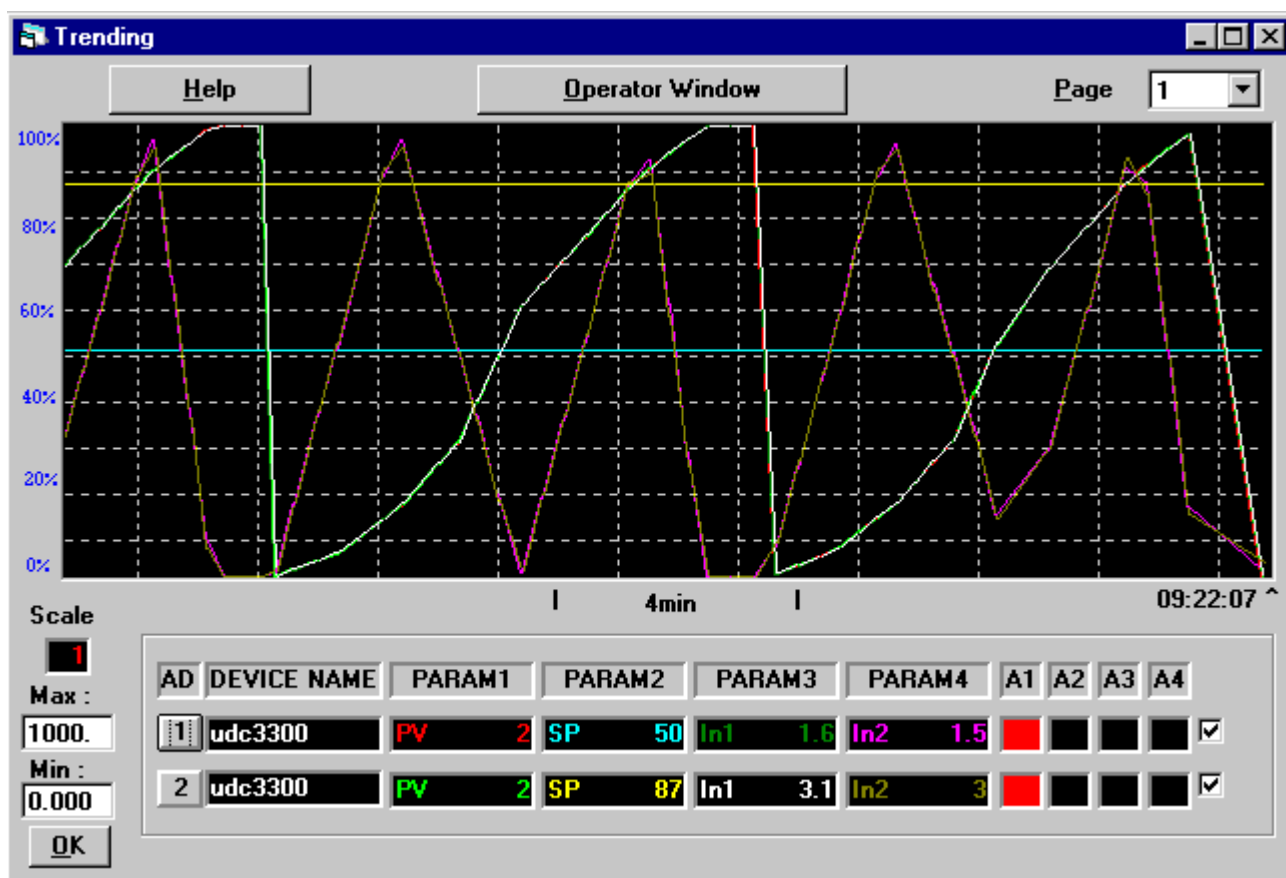


Figure 6 - Controller Monitor /Trend Window

Monitoring/Trending Display For Recorders

The Recorder *Monitoring /Trending* window enables operations such as:

- Trending of 8 Inputs per page can be displayed in real time.
- Change the vertical scale of the curves
- Display the tag name, value in engineering units of each channel, up to 8 channels per page, up to 4 pages (for DPR3000)
- Display the alarm states
- Send user messages of up to 30 characters to the recorder to be printed on the recorder chart
- Display a warning message on alarm
- Page selection button allows display of up to 32 channels per recorder (DPR3000)
- Capability to change background selection to Black or white

Figure 7 is an example of a DPR3000 recorder Monitor/Trend window.

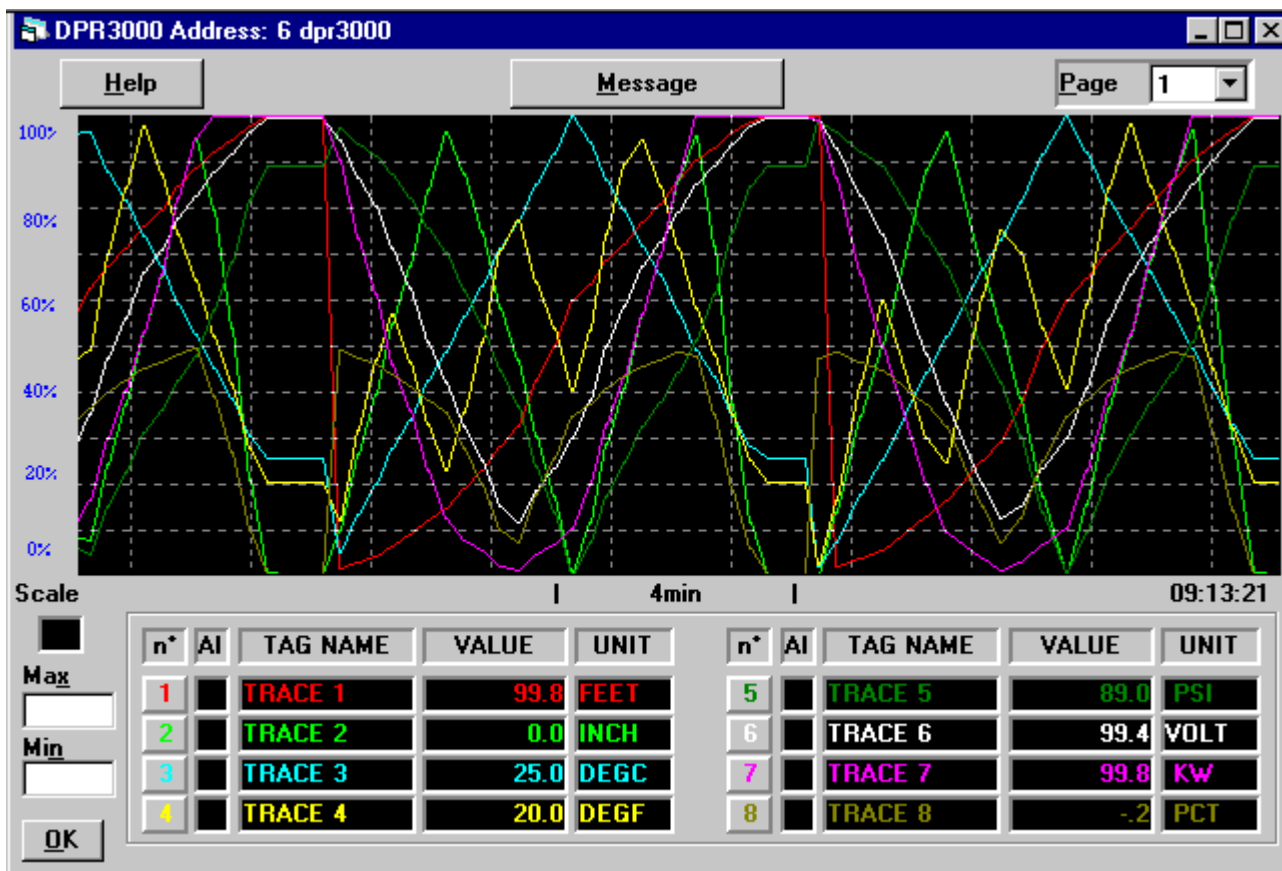


Figure 7 - DPR3000 Recorder Monitor /Trend Window

Archiving

The LPCS software package lets you store data from up to 16 addresses (Max 128 data points) on the PC's hard disk.

The software can save PV, Alarm, or Digital Input status data for recorders and PV, SP, Output and On/Off alarm states through a parameter selection window.

The current date, time and channel numbers (DPR only) are also systematically saved each time the inputs are scanned and the data is archived.

After enabling the archiving function for a specific device or group of devices, the software will automatically start the storage for a user-configured time period.

A screen indication on the monitoring/trending display alerts the operator that the archiving function has been activated for the current device (DPR only) in a Status Bar indication.

The archiving function is still active when you switch to display another device

The software automatically indicates the free space available on the hard disk and the memory space required for data storage.

Archiving Set Up Window

The *Archiving Parameter Window* is set up for all the devices connected on the communications link and enables operations such as:

- Data storage - ASCII files
- Archiving time - Days, Hours, and Minutes selectable
- Scanning Period - Based on multiple of the scanning rate.
- Number of consecutive files
- Selection of various parameters for recorders and controllers

Figure 8 is an example of an Archiving Parameter Window.

The screenshot shows a window titled "Archiving Parameters" with a teal header bar. Inside, there are several sections for configuring archiving settings:

- Archiving Time:** A section with three spinners for "Days" (set to 1), "Hours" (set to 0), and "Min" (set to 0).
- Number of consecutive Files :** A spinner set to 1.
- Archive one Sample out of :** A spinner set to 1.
- Scan Rate (s):** A text input field containing the value 1.
- Size of one File (KB):** A text input field containing the value 1.
- Number of devices to archive :** A text input field containing the value 0.
- Global Size (KB):** A text input field containing the value 0.
- Samples by File :** A text input field containing the value 86400.
- Free space on disk (KB):** A text input field containing the value 393216.

At the bottom of the window, there are three buttons: "OK", "Cancel", and "Help".

Figure 8 - Archiving Parameter Window

Archiving Data File

Data can be stored in ASCII format (See Figure 8) either on the PC's hard drive or on a floppy disk

Tag name, Device Type, address, File Name, Chart Min. and Max., Channel #, Date and Time are systematically stored.

Archiving DATA file name can be selected as well as data to be stored such as PV value, Alarm, and Digital Input status for recorders and PV, SP, Output and On/Off alarm states for controllers..

Data is stored in such a way that it can be imported into most current spreadsheet software packages such as EXCEL™ and LOTUS™ for further manipulation.
(For example: Graphical and computing).

File:	c:\pcs\boiler01.dpr						
Recorder:	DPR3000						
Address:	1						
Tag Name:	BOILER						
Name:	SINE	TRI-WAVE	SQUARE	CHANNEL			
Unit:	mV	mV	mV	mV			
Low:	30	20	0	0			
High:	50	55	40	60			
DATE	TIME	CH1	CH2	CH3	CH4	DIG 1	ACH 1
11/01/1996	19.33	46.66	50.95	34.84	34.52	0	0
11/01/1996	19.33	46.85	51.12	34.95	34.51	0	0
11/01/1996	19.33	46.94	51.46	34.94	34.51	0	0
11/01/1996	19.33	47	51.63	34.97	34.49	0	0
11/01/1996	19.33	47.21	51.8	35.12	34.49	0	0
11/01/1996	19.33	47.35	51.98	35.2	34.5	0	0
11/01/1996	19.33	47.23	52.14	35	34.51	0	0
11/01/1996	19.34	47.37	52.32	35.11	34.51	0	0
11/01/1996	19.34	47.54	52.38	0.14	33.48	0	0
11/01/1996	19.34	47.48	52.19	0.14	30.64	0	0
11/01/1996	19.34	47.24	51.98	0.14	28.07	1	1
11/01/1996	19.34	47.43	51.8	0.14	25.73	1	1
11/01/1996	19.34	47.33	51.61	0.14	23.59	1	1
11/01/1996	19.34	47.22	51.42	0.14	21.63	1	1
11/01/1996	19.34	47.19	51.23	0.14	19.85	1	1
11/01/1996	19.34	47.06	51.04	0.14	18.23	1	1
11/01/1996	19.34	47	50.85	0.14	16.75	1	1

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Figure 8 - Archiving Data File

File Import Capability

Figure 9 shows the ASCII file that has been imported into an spreadsheet. The graph has been made with EXCEL™ graphic tools.

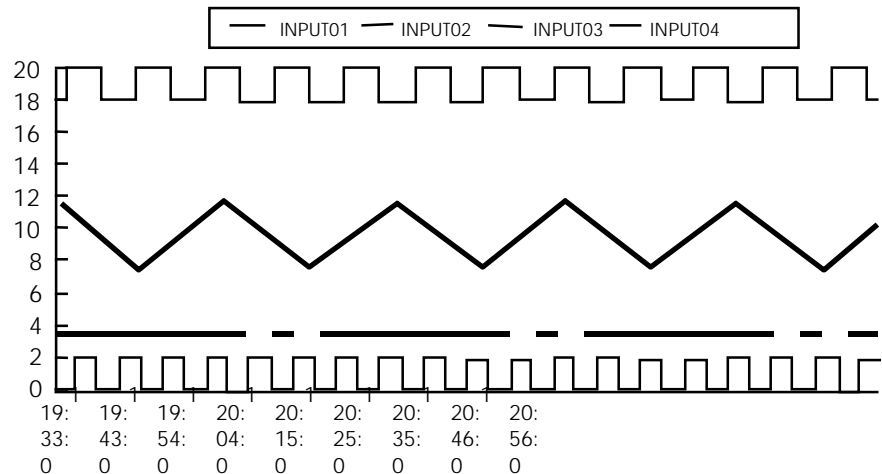


Figure 9 - Excel™ Spreadsheet

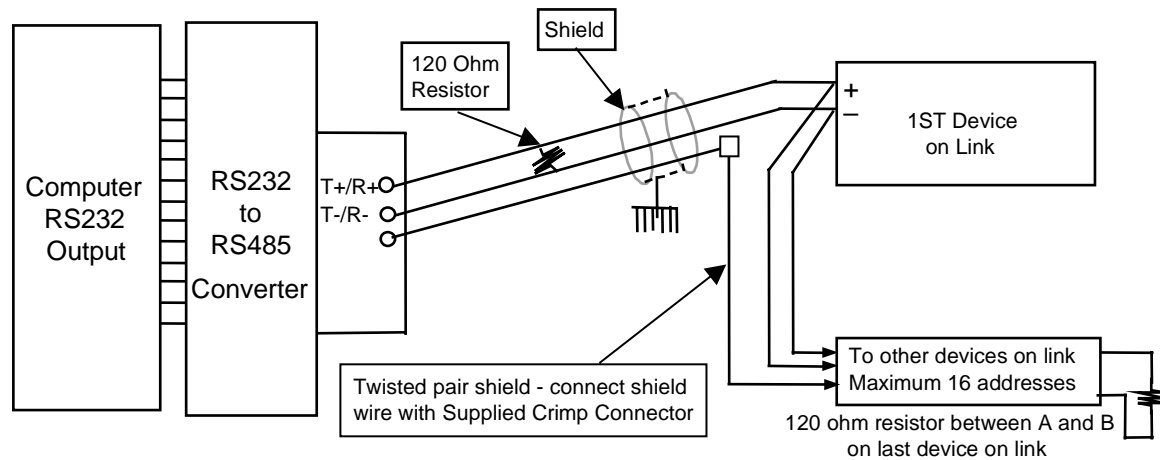
Condensed Specifications

Platform	<p>The LPCS makes use of commercially available desktop and laptop PC platforms:</p> <p><i>CPU:</i> 80486, 66MHz Pentium families*, KG-2** <i>Display:</i> VGA Color, VGA Monochrome for configuration displays only <i>RAM:</i> 16 MB min. <i>Hard Disk</i> 50 MB min. for LPCS application <i>Floppy:</i> 3.5" 1.44 MB <i>Ports:</i> Serial: Converter required for RS232 to RS485/422 conversion•</p>																				
Communications	<ul style="list-style-type: none"> • The LPCS communicates with the specified devices through the PC serial ports. The computer must be connected to the devices by way of the RS232 to RS485 converter or by way of a RS485 PC card, which utilizes standard communication resources. • Multi-drop RS485 ASCII, up to 16 addresses, mixed product type. For example: Recorders and controllers <ul style="list-style-type: none"> - Link supports up to 128 data points - Multi-port switching capability • RS232 to RS485/422 converter required: <ul style="list-style-type: none"> - recommend Black Box (Model IC109A) or Westermo (Model MA42) 																				
Operating System	Operates in the Windows 95/98/NT environment.																				
Compatibility	<p>The LPCS is compatible with the following commercially available packages:</p> <p><i>Operating System:</i> Windows 95™ release 4.00.950A or later, Windows 98, or Windows NT 4.0 or later (Service Pack 4) <i>Database:</i> Microsoft Access <i>Spreadsheet:</i> Microsoft Excel, Lotus 1-2-3 <i>Word Processing:</i> Microsoft Word for Windows <i>Archiving File:</i> Lotus 1-2-3, Excel, ASCII Editor</p>																				
Archived Data	An ASCII format file for recorder historized data that can be opened from packages such as Excel, Lotus 1,2,3, or any ASCII Editor.																				
Documentation	<ul style="list-style-type: none"> • On-line Help • User Manual and displays in English, German, or French 																				
Honeywell Products Supported	<p>Universal Digital Controllers and Digital Process Recorders with RS485 Communications Option:</p> <table> <thead> <tr> <th>Device</th><th>Software Version</th></tr> </thead> <tbody> <tr> <td>UDC6000 Controller</td><td>7115 or later</td></tr> <tr> <td>UDC6300 Controller</td><td>8102 or later</td></tr> <tr> <td>UDC2300 Controller</td><td>Basic version A103, Indicator Version A104</td></tr> <tr> <td>UDC3000 Controller</td><td>3109, 3111 or later</td></tr> <tr> <td>UDC3300 Controller</td><td>3X04 or later</td></tr> <tr> <td>DPR3000 Recorder</td><td>Rev BD or later</td></tr> <tr> <td>DPR100 Recorders</td><td>Rev A*38A or AK or later</td></tr> <tr> <td>DPR180 Recorders</td><td>001AG or later</td></tr> <tr> <td>DPR250 Recorders</td><td>001AG or later</td></tr> </tbody> </table>	Device	Software Version	UDC6000 Controller	7115 or later	UDC6300 Controller	8102 or later	UDC2300 Controller	Basic version A103, Indicator Version A104	UDC3000 Controller	3109, 3111 or later	UDC3300 Controller	3X04 or later	DPR3000 Recorder	Rev BD or later	DPR100 Recorders	Rev A*38A or AK or later	DPR180 Recorders	001AG or later	DPR250 Recorders	001AG or later
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DPR180 Recorders	001AG or later																				
DPR250 Recorders	001AG or later																				
User Configuration Database	Available through menu selections																				

Communications Link Wiring

Using an RS232 to RS485 Converter

Figure 10 shows the Honeywell communications link connecting a personal computer through an RS232 to RS485 converter to a maximum of 16 addresses.



22949.ppt

Figure 10 - Communications Link Wiring Using a RS232 to RS485 Converter

Ordering Information

For the complete ordering information for LeaderLine PC Software, call 1-800-343-0228 in the U.S. or contact your local Honeywell Sales Office.

Warranty/Remedy

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Contact your local sales office for warranty information. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace without charge those items it finds defective. The foregoing is Buyer's sole remedy and is **in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose.** Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

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