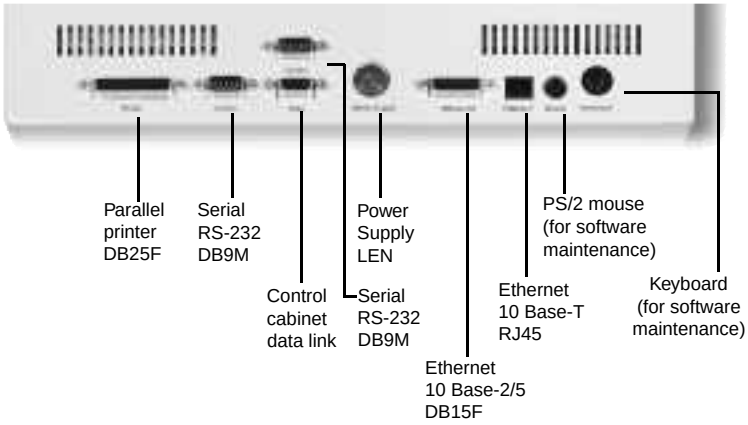
SERIES HRC-TS TOUCHSCREEN CONTROLS

A SYSTEM ENGINEERED FOR TOTAL PERFORMANCE.

Athena® HRC-TS Touchscreen Interfaces have the raw computing power and capacity to perform some dazzling functions. The ergonomically styled touch-screen console is available in two styles -- the standard flat pack version which is front-sealed to IP54/NEMA12 or a fully sealed version. The standard version can also be supplied without handles for panel mounting. Various support arm options are available for attachment to a machine or cabinet.



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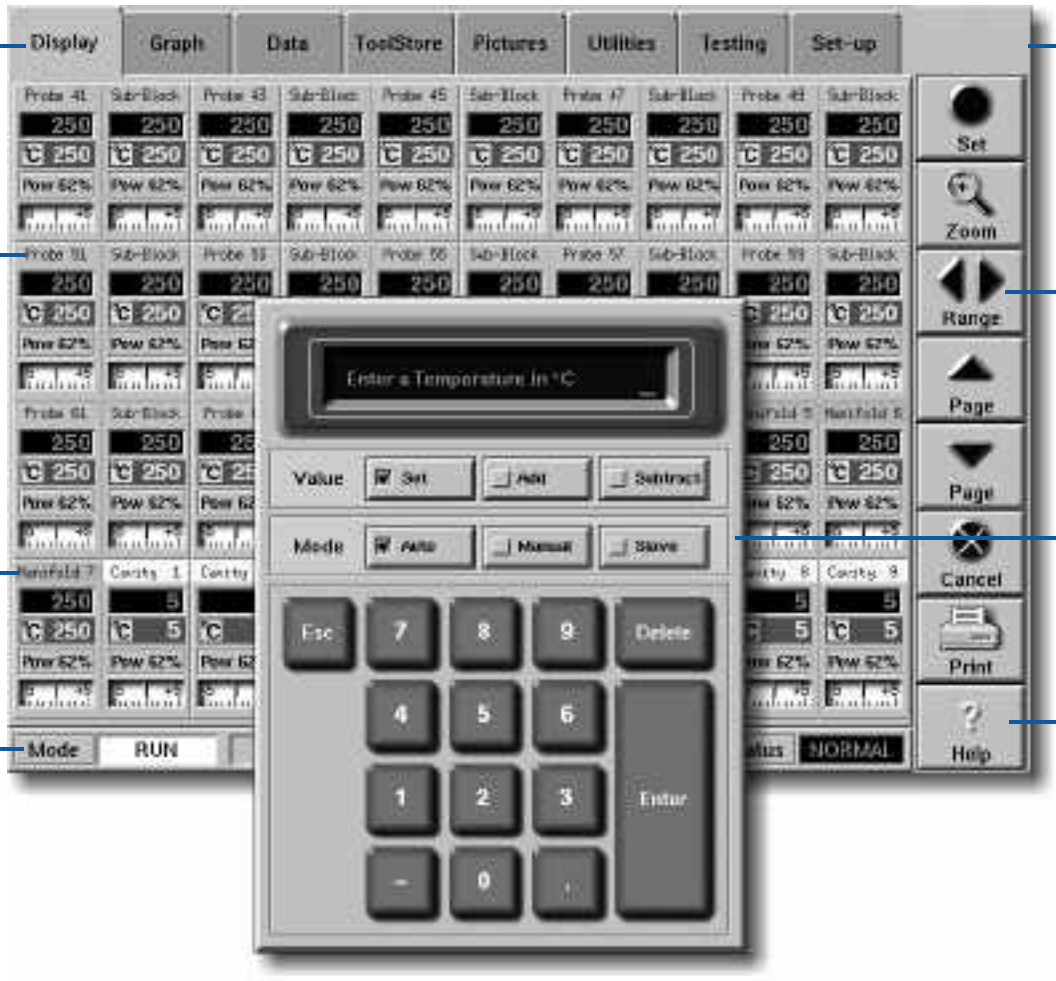
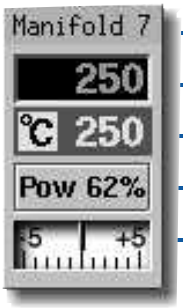
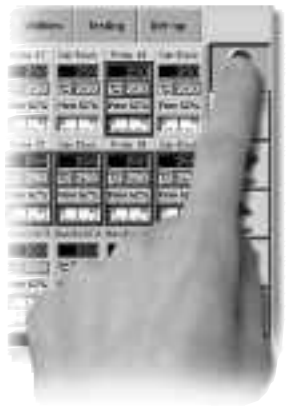


"Operator friendliness" moves to a higher level with the Athena Series HRC-TS touchscreen control console. Easy to follow visual prompts and 3-D selection buttons that move as you "press" them make setup and operation simple and virtually foolproof. Designed for maximum flexibility, the console comes network-ready, enabling remote operation.



SET VALUES WITH A TOUCH OF YOUR FINGER

1 ***Select the zones you wish to change***



2 ***Press the Set button***

3 ***Enter a temperature***

With the Athena® HRC-TS Touchscreen Interface, you can quickly make settings and view the results. Just touch the zones you wish to change, touch the Set button, then enter the new value with the keypad. Several zones can be selected at once, if required. There is also a range button for selecting groups, rows or all zones at once.

The same simple operation is used to add or subtract values. This can be very useful, on startup for example, for adjusting a range of balanced settings up or down, without losing the relationship between values. The setting keypad also has mode selection for operating in one of three modes:

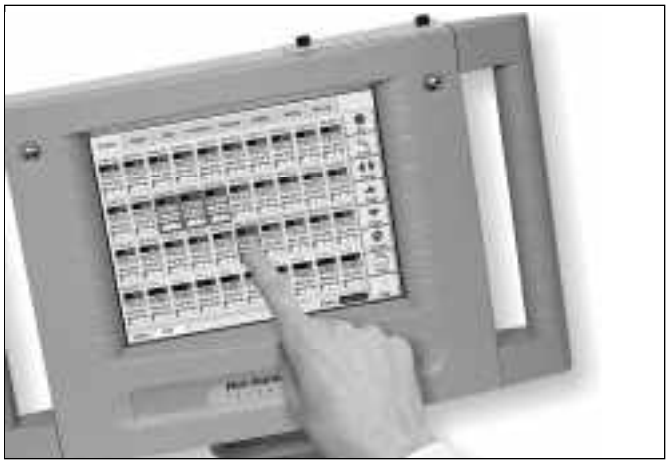
Auto - Normal closed loop operation using set temperatures.

Manual - Open loop operation using power values.

Slave - In the event of thermocouple failure you can elect to emulate the output of a similar closed loop zone.

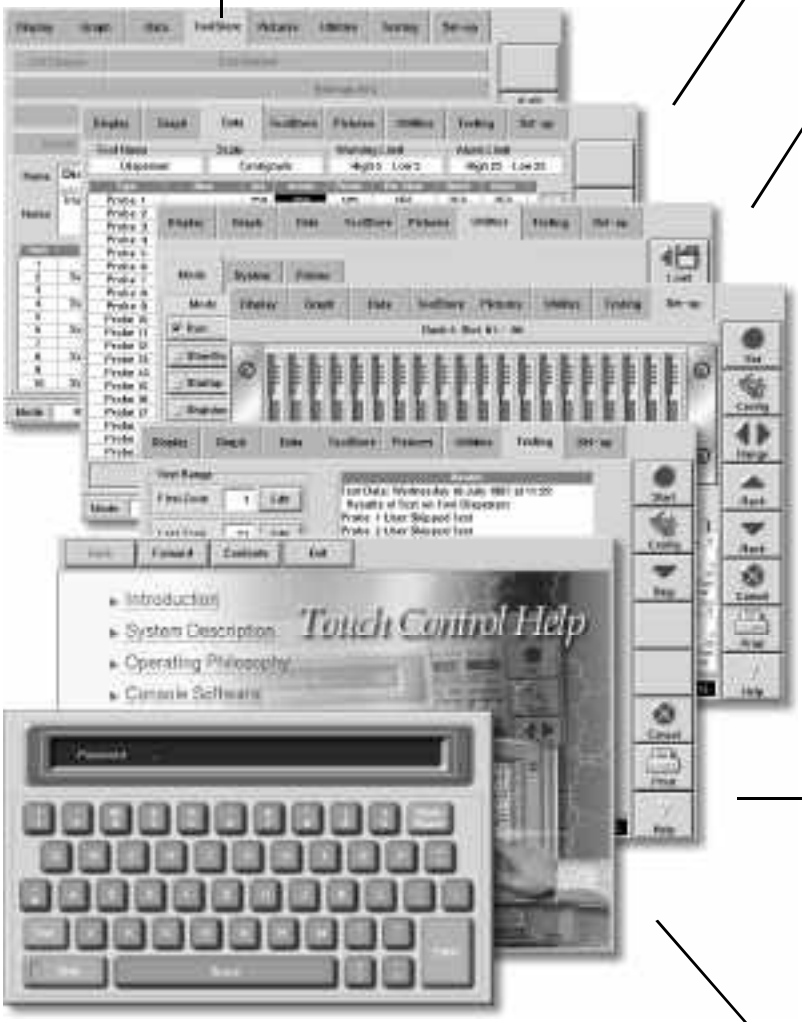
If the software has been configured for running cycle- synchronized thermal gate probes, an additional button is displayed for setting tip boost parameters from the entry keypad in the same way.

Above all, the human interface has been designed to be as intuitive and simple to use as possible. Even first- time users can quickly get results.



SOFTWARE TOOLS YOU NEED TO DO THE JOB

The Tool Store page allows you to quickly save and reload complete tool setups and settings. Everything is saved, including tool layout, zone names, temperature settings, and the results from the last tool test, for comparison. Settings can also be saved and restored from floppy disk or central network drive, if connected, for transfer to other controllers.



For those who relate better to columns of figures, we've included the data display information in spreadsheet format. Finger-sized scroll bars allow you to easily move around the sheet to see all available information about every control zone.

The main function of the Utilities page is to set the control modes. This includes Startup mode, which brings probes and manifolds up to temperature together. Shutdown mode and Standby mode which backs off heat to the probes by a set amount while idling.

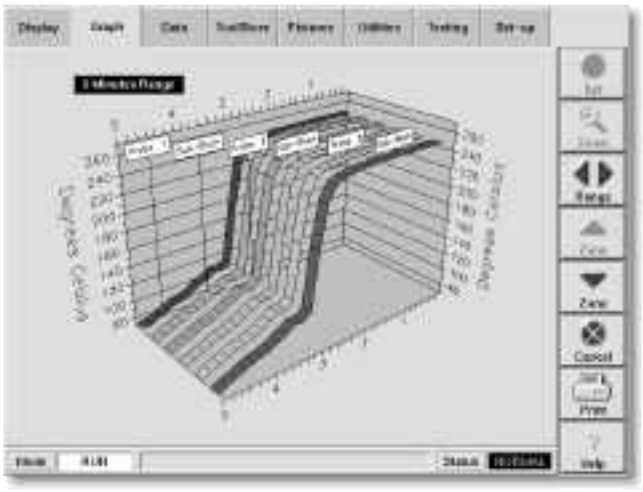
Using a graphical representation of the control cabinet card racks, the Setup page allows the user to configure the console to handle a wide range of tools. This is factory set to suit the customer's initial requirements. Zone numbers can be given an alias to simplify the display page. For example, manifold zone 6 can be renamed to display as "Sprue" on the main page. Another feature is the ability to set limits on entering settings, using an administrator's password, to protect your tooling investment from accidental damage.

An essential function when maintaining a hot runner system is the tool Testing diagnostics page. Control zones are sequentially tested for incorrect or cross wiring, thermocouple integrity, heater open circuits, and other system faults. With the hardware diagnostic option fitted, the software can also track changes in heater resistance and ground leakage over time, to help predict imminent heater failure.

Entry of alphanumeric information for password entry, tool naming, and descriptions, etc., is made fast and easy with the Text Entry pad.

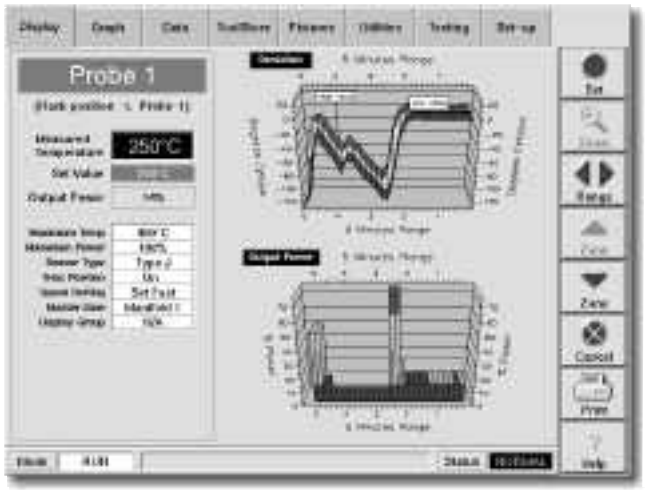
The complete user manual is always available in full color by selecting the Help button. This includes many illustrations and connection diagrams to assist the user with readily available information. The Help pages make use of an Internet standard HTML file format browser. Later versions of the software will also be able to browse company Intranet or Internet pages via the network.

MORE CONTROL WITH LESS EFFORT



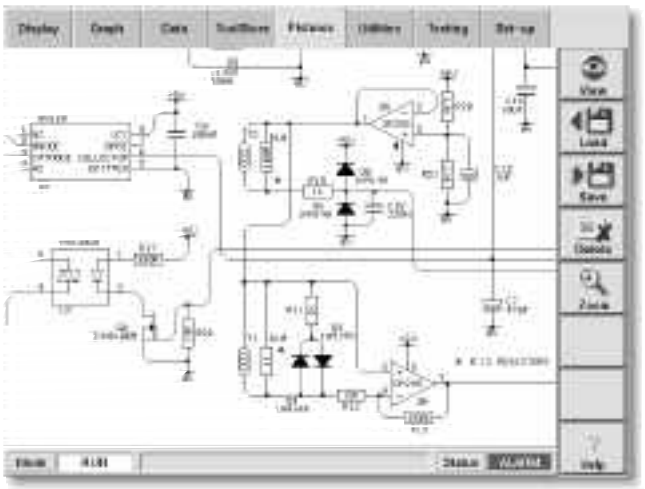
TOUCH AND ROTATE GRAPHS

One of the most remarkable features of the HRC-TS software is the 3D graph page. It shows an auto ranging tape graph to represent up to six control zones in 3D with perspective. Even more, you can touch and smoothly rotate the graph, multi-axis, in real time. This allows you to get a better view and understanding of the temperature changes inside the tool. The graph is constantly updated with the latest readings while you view. Data plots are flagged with the zone identifier or alias name. Control buttons allow you to increment the displayed zone numbers and change the graph time base.



ZOOM IN FOR MORE DETAIL

The Zoom button displays a more detailed view of any user-selected control zone. The zoomed-in view contains two additional 3D perspective graphs which can also be smoothly rotated for a better view. The deviation graph shows the minimum and maximum deviation from setpoint during a sample period. Like the main graph, the program auto scales the data to fit the lowest and highest values, allowing an excellent view of both the startup curve and running control stability. The second graph monitors power output to the zone. Control buttons increment the displayed zone number and change the graph time base.



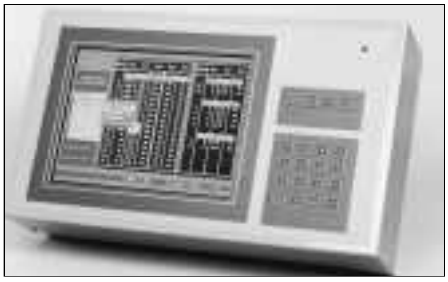
STORE AND VIEW PICTURES

Another feature of the HRC-TS system is the ability to store and view drawings and photos. Pictures are viewed through a window which can be smoothly panned around by touching and dragging with your finger. New pictures can be easily added via the floppy drive or over the network, if connected. This can give the operator immediate access to tool drawings, QA photos and information, electrical drawings, machine drawings, and other useful information. The zoom button allows you to see more detail. If you've ever searched for that elusive drawing while trying to solve a problem, you'll appreciate this feature.

SERIES HRC CONTROL INTERFACES AND OPTIONS

SERIES HRC-LCD REMOTE CONTROL PANEL

The HRC-LCD remote control panel may be hand-held or wall mounted, and its rugged steel case and sealed membrane keypad stand up to tough industrial environments. Inside the compact enclosure are user-friendly features found only in much larger units, including simple menus, tool wiring diagnostics, and storage of up to 10 complete tool settings that can be made by zone, group, or globally. A serial port for output to a printer or host computer is standard.



SERIES HRC-CLCD COLOR CONTROL PANEL

The HRC-CLCD color control panel uses the latest 10.4" TFT display technology. Complex operations are controlled via user-friendly software and easy-to-use on-screen menus. Built-in help screens are available at any point in the program by pressing a key on the unit's sealed elastomer, tactile keypad. Software features include a graphing function that displays the temperature of a zone over the last 5 or 10 minutes.

The HRC-CLCD is PC-compatible and features an embedded microprocessor, a 200 MB hard disk, and a 3.5" floppy drive to enable software upgrades and tool settings to be saved. A serial port is provided for output to a printer or to a host computer for SPC data collection.

As with all HRC controllers, the HRC-CLCD includes advanced tool diagnostics that automatically check for faulty tool wiring and shorts, easing maintenance procedures, and keeping downtime to an absolute minimum.

Ordering Information

CONTROL INTERFACES

H R C – ☐☐☐☐

Code	Description
TS	= Color touchscreen interface
TSN	= NEMA 12 touchscreen interface
LCD2	= HRC-LCD monochrome LCD interface, 60-zone max.
CRTI	= Monochrome CRT interface, 60-zone max. (not shown)
CLCD	= Color monitor with Pentium PC interface, 160-zone max.

OPTIONS (not shown)

H R C – ☐☐☐

Code	Description
SA	= Alarm relay output and connector
SAB	= Alarm relay output, with beacon
SMX	= High-power, off-board triac
*ET	= Cabinet trolley

*Available on HRC-E controller only