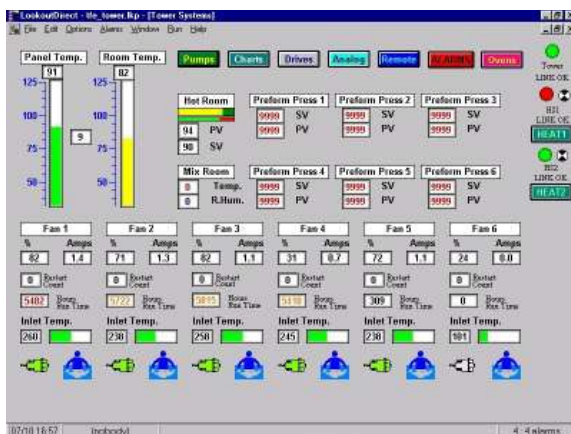




**S.C.A.D.A.**  
**Supervisory Control And Data Acquisition.**

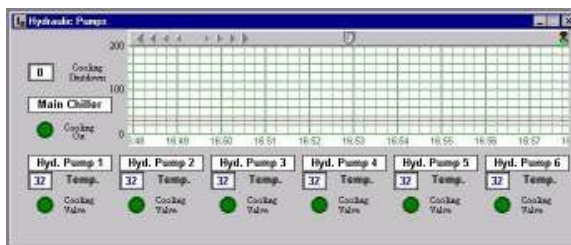
This system monitors and controls 6 plastic curing ovens.  
 The system also monitors and regulates the temperatures of the 6 hydraulic pumps powering paste extrusion systems.  
 This helps to controls oil viscosity to increase repeatability and to help minimize wear to the systems.

The screens below display the S.C.A.D.A. systems software running on a Windows based P.C.  
 The software is made by [National Instruments](#) but is sold by [Automation Direct](#) as Lookout Direct.  
 The [main system](#) is running on a [Automation Direct](#) DL250 P.L.C. with a expansion rack.



This is the main window that displays all of the core process data for the plastic curing ovens. The data displayed includes the ovens air flow speeds, drive loads and temperatures of the exhaust air. This air is ducted into a catalytic air oxidizer to burn of the waste products in compliance with E.P.A. rules.

All data collected is logged in real time every minute to and excel spread sheet file to allow engineering and manufacturing to see the process and to look back at archived records

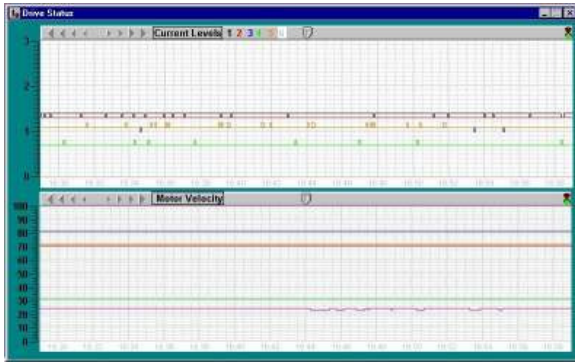


This window monitors the hydraulic pump temperatures and cools them when temperatures reach a set point by opening a valve. The valve allows cooling water to flow through the pumps heat exchangers. If no pump needs cooling for 30 minutes then the main chiller, that cools the water down, will shut down to save energy. The chiller will restart when any pump calls for cooling.

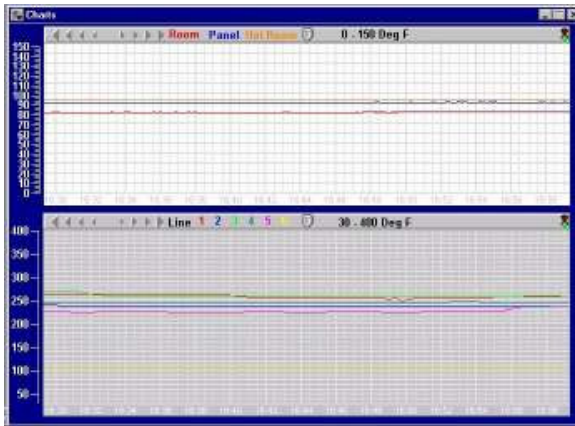
This is a diagnostic page. It gives maintenance and engineering personnel the ability to view the, real time analog, process values coming into the 12 bit, 8 channel analog input cards.



This window charts the exhaust fans velocity and power consumption levels. This allows personnel to see the trend of a motor starting to fail, or when someone has changed the exhaust parameters which could have an adverse change in the process.



Data is displayed in real time and allows a person to look back at past runs and to look for peaks or slumps in the process.



This charts real time operational temperatures of the exhaust air. It also displays temperatures in the raw products hot room, The extrusion room's temperature and the temperature inside the process control panel.

Last Updated on 4/5/2004  
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