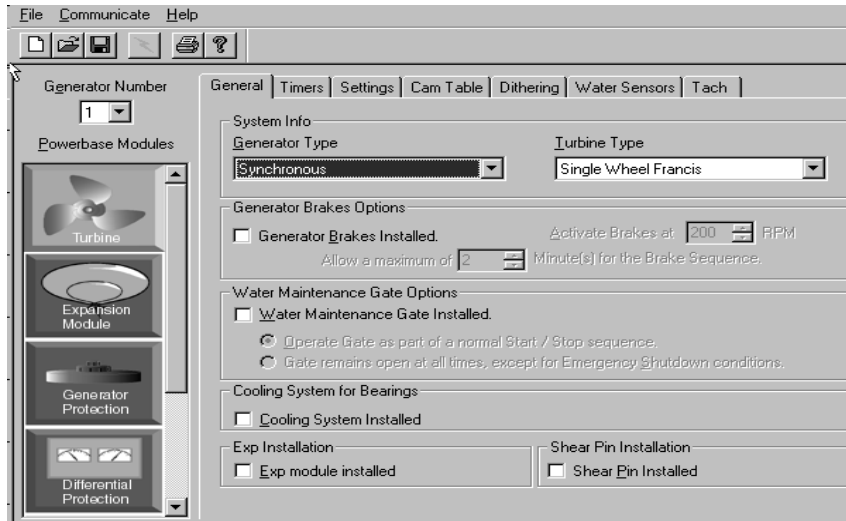


Powerbase Setup Guide

The Powerbase Platform is programmed with the Powerbase Setup Guide software. This software allows the user to enter system parameters for each function of a particular Powerbase Module. This software is included with the Powerbase Graphic Display Interface (GDI-20).

Figure 1 Turbine Control Parameters Programmed with Powerbase Setup Guide



Traditionally, protection and control devices for hydro power generation systems use generic programmable logic controllers (PLCs) and/or combine control components from several manufacturers. This method requires considerable system integration, and increases hardware and software engineering costs. The Setup Guide eliminates the need for PLC type programming and allows non-programmers to set the system parameters.

The user enters the desired parameters and the information is downloaded and saved into the various modules. The Setup Guide uses an “expert system” to prevent the user from inadvertently entering an incorrect system parameter.

Powerbase offers a print option which creates records all the Setup Guide program parameters.

Features	
<ul style="list-style-type: none"> •“expert system” prevents the user from entering incorrect parameter values •fast commissioning •easy to read screens •online help 	<ul style="list-style-type: none"> •Windows based system •easy to review parameter values •changes to parameter values are made quickly and effectively •training time reduced
System Requirements	
<ul style="list-style-type: none"> •Intel P100 or higher •64MB RAM •Windows 98 or higher •minimum 50MB free drive space •serial communication port •800 x 600 color display monitor (recommended) •CD-ROM drive 	
Turbine Control Parameters	Protection Modules Parameters
<ul style="list-style-type: none"> •timers •setpoints for all functions •2D CAM table (double regulated systems) •Hydraulic Power Unit control •headpond/trashrack/tailrace •tachometer 	<ul style="list-style-type: none"> •complies with IEEE Std. 37.102-1995 •user auxiliary current •frequency •RTD alarm/trip temperature •special trips/lockout •system alarms •user auxiliary alarm and trip notification