

Technical Reference

Capstone Remote Monitoring System (User Edition)

This document presents the control and monitoring features for the User Edition Capstone Remote Monitoring System (CRMS) software.

Chapter 10: MultiPac Display Window

The software defaults to the MicroTurbine Display window. To select the MultiPac Display, select **[Window][MultiPac Display]** from the Windows Menu Bar or select MultiPac Display from the Windows Tool Bar.

Figure 10-1 presents an overall view of the MultiPac Display window.

There are two key panels displayed: the MultiPac Display Panel with various selectable and non-selectable operating status and parameter displays, and the MultiPac Control Panel.

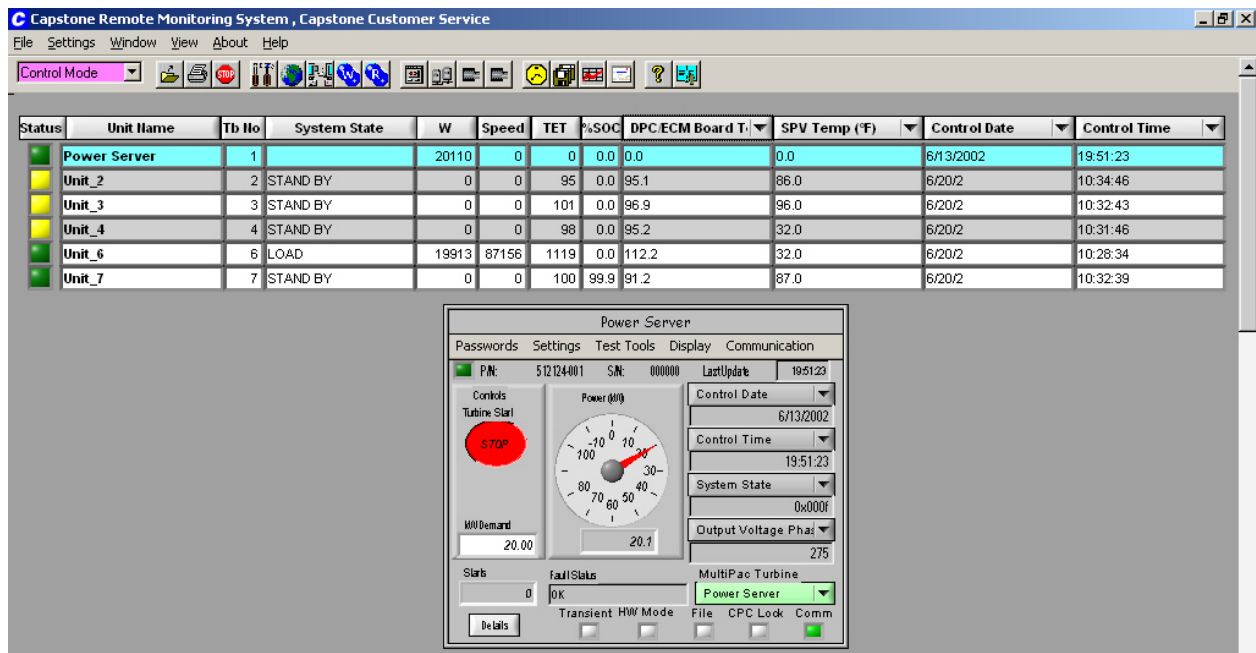


Figure 10-1. MultiPac Display Window

MultiPac Display Panel

The MultiPac Display Panel can display up to 100 MicroTurbines connected together as a single MultiPac system. See Figure 10-2.

Note: The Site Configuration Panel should be properly setup, with the **Total No Units** equal to the greatest **MicroTurbine No.** set for any MultiPac MicroTurbines (see MultiPac Settings), and all MicroTurbines within the MultiPac should be activated.

CRMS can support simultaneous communication with up to 100 MultiPac MicroTurbines.

All units connected within a MultiPac system will be communicating with the Master MicroTurbine or with the CPS PowerServer, and displayed on the MultiPac Display panel.

However, the Master Turbine (or the CPS Controller), can control **MultiPac Enabled** MicroTurbines only.

There are no settings required for MultiPac Display Panel. CRMS will automatically detect the MultiPac System, acquiring and displaying data for each locked Micro Turbine.

During connection to the MultiPac System, the background color for Turbine Number 1 (Master or CPS controller) is set as light blue (color). The background color for **MultiPac Enabled** MicroTurbines is set as white (color). Otherwise, the background color is set as gray (color).

The MultiPac Display Panel will always display the following parameters: Fault Status, Unit Name, Turbine No, System State, Power (W), Speed (RPM), TET, and Battery SOC. An additional four parameters (Parameters 1 thru 4) can be custom selected and displayed on the MultiPac Display Panel.

The following control settings are available from the MultiPac Display panel:

- **MicroTurbine Fault Status**

An LED on the MultiPac Display provides immediate feedback on the MicroTurbine operating status.

To view status and fault information, click on the status LED of the MultiPac Control panel.

- **Parameter 1 thru Parameter 4**

These controls are used to display Operator-selectable parameters on the MultiPac Display panel.

Status	Unit Name	Tb No	System State	W	Speed	TET	%SOC	DPC/ECM Board T.	SPV Temp (°F)	Control Date	Control Time
■	Power Server	1		20281	0	0	0.0	0.0	0.0	6/13/2002	19:33:29
■	Unit_2	2	STAND BY	0	0	96	0.0	95.4	86.0	6/20/2	10:16:48
■	Unit_3	3	STAND BY	0	0	100	0.0	96.6	96.0	6/20/2	10:14:45
■	Unit_4	4	STAND BY	0	0	99	0.0	95.8	32.0	6/20/2	10:13:48
■	Unit_6	6	LOAD	20149	87088	1128	0.0	112.5	32.0	6/20/2	10:10:36
■	Unit_7	7	STAND BY	0	0	102	99.9	89.6	87.0	6/20/2	10:14:41

Figure 10-2. MultiPac Display

MultiPac Control Panel

The MultiPac Control Panel controls the MultiPac System Controller (the Master Turbine or CPS Server). It allows for: start/stop MultiPac operations, it controls and sets the type of communication, it sets power demand, and it sets different modes of operation.

It also monitors system parameters and displays associated MultiPac controls.

The MultiPac Control Panel has the same appearance, functionalities, and control settings as the MicroTurbine Control Panel. See Figure 10-3.

In addition to the MicroTurbine Control Panel, the MultiPac Control Panel has the **MultiPac Turbine** selection control button. This button is located on the lower right-hand corner of the MultiPac Control panel and allows the Operator to receive and view data from an individual MultiPac MicroTurbine.

The default setting is Master or PowerServer Controller. In the case of other than the default selection, CRMS will acquire data from the MultiPac system for the selected MicroTurbine only. Selection (from **MultiPac Turbine** selection control button) of the MultiPac turbine, other than MultiPac Controller, allows for speedy acquisition and display of data.

The MicroTurbine selection is synchronized with the MicroTurbine number, which is displayed on the System Strip Chart panel and on the Display Data windows.

The acquisition data rate for a single MicroTurbine (that is not a part of a MultiPac System) depends upon the Acquisition Control Timer setting. The MicroTurbine Acquisition Control Timer setting can be changed via the Timers panel. The acquisition data rate for a MultiPac System (besides the Acquisition Control Timer setting) also depends upon the total number of MultiPac MicroTurbines. See Chapter 15.

In the case of selection (from the **MultiPac Turbine** selection control button) of the MultiPac MicroTurbine (other than MultiPac Controller), the acquisition data rate will be the same as for a single MicroTurbine. In this event, the Operator can display and review the MicroTurbine data with the same speed as for a single MicroTurbine.

During MultiPac operation, there will be no communications with non-locked MicroTurbines.

While connected to the MultiPac Controller, the Operator will be able to control any MultiPac MicroTurbine from the MultiPac Control Panel, including sending commands through the Command Panel interface, acquiring data, setting control parameters, and displaying Strip Charts.

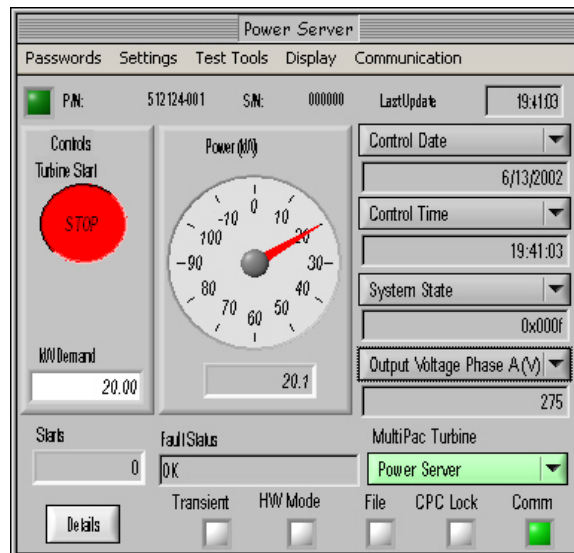


Figure 10-3. MultiPac Control Panel

Notes and Related Information