DIGITAL SOLAR TECHNOLOGIES

MPR-9400

Advanced Photovoltaic Power System Controller

(Transparent front panel and hinged instrument panel are optional and do not appear on all systems)

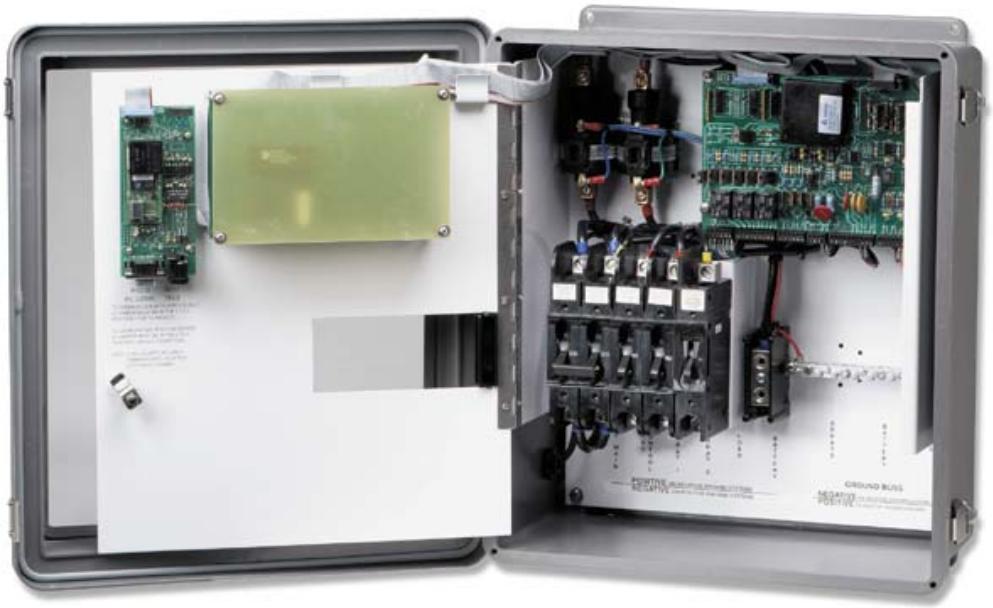
The MPR-9400 Advanced Photovoltaic System Controller from Digital Solar Technologies is the turn-key solution for all of your remote power station monitoring and control requirements

Key features of the MPR-9400 controller and software include:

- Modular design allows flexible configuration of PV arrays, loads, generators, and devices.
- Temperature-compensated Boost, Equalize and Float charging of batteries -- with staged taper charge and pulsed finish charge, by EBBM™ charging algorithm.
- May accommodate multiple 30-amp to multiple 100-amp simultaneous PV array inputs at 12, 24, 36, or 48 volts DC, positive- or negative-ground. Systems up to ten – 100 amp sub-array inputs.
- Real-time load disconnect / reconnect capability, supporting loads up to four - 100 amp Loads.
  -- 1 or 2 stages, load prioritized.
  -- ±5% Load voltage regulation, 1- to 3-stage “CEMF”.
- Provides startup/shutdown signals for a generator with scheduled periodic maintenance runs, fault monitoring for one or two connected generators/rectifier systems.
- Provides manual or automatic battery cell equalization functionality.
- Front panel LCD and 3x3 keypad provide access to all system parameters.
- Supports serial communications for monitoring via modems, direct-cable, or wireless RF.
- Serial network compatibility of addressing thousands of controllers on a single network.
- Optional Ethernet connectivity supports local- or wide-area Ethernet networks (internet).
- Ethernet-connected units provide real-time alarm reporting to one or more specified central offices via the SNMP networking protocol.
  -- All major SNMP monitoring software packages supported.
  -- Instant email forwarding of received alarm reports is provided if desired.
- Data log functions available as an option.

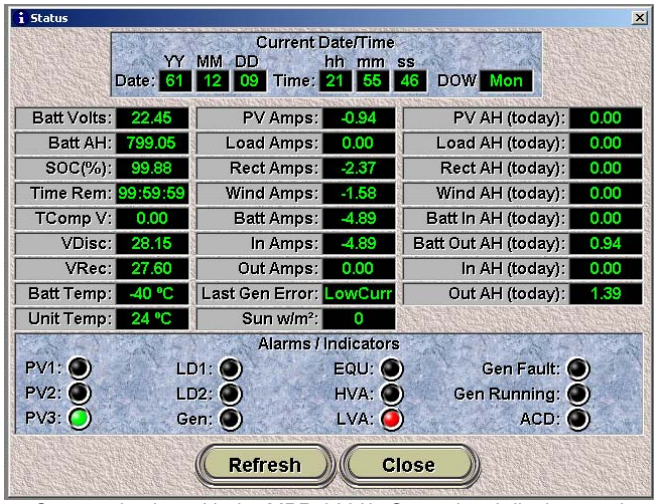
5775 Arapahoe Ave., Boulder, CO 80303 USA, 303-442-6553, FAX 303-442-6555
Web Site – www.digitalsolar.com Email – dpringle@sdicommtech.com

DIGITAL SOLAR TECHNOLOGIES



Shown with optional Ethernet
(Hinged door panel is optional and does not appear on all systems)

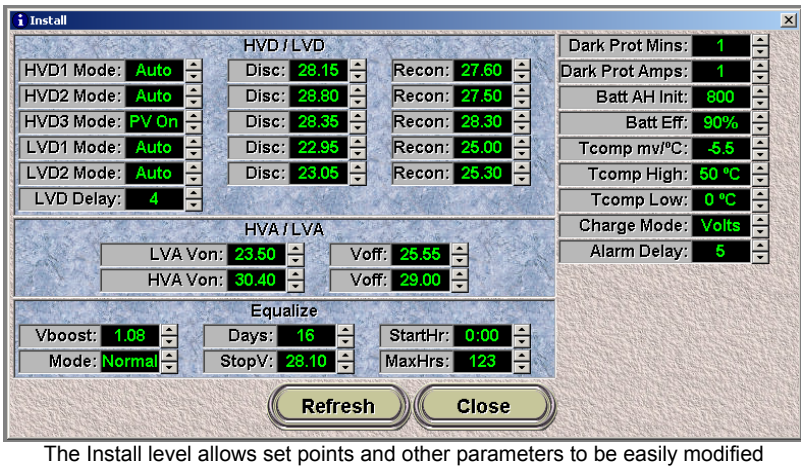
- For remote communications, the included MprComm software provides a full graphical interface to all system parameters.
  -- Continuous update of real-time operating parameters.
  -- Configurable to automatically poll sites to download periodic logs and summary information.
  -- Critical windows are password-protected.
- Digital Solar Technologies has a proven track record of responsiveness in providing customer-requested software- and hardware configurations.



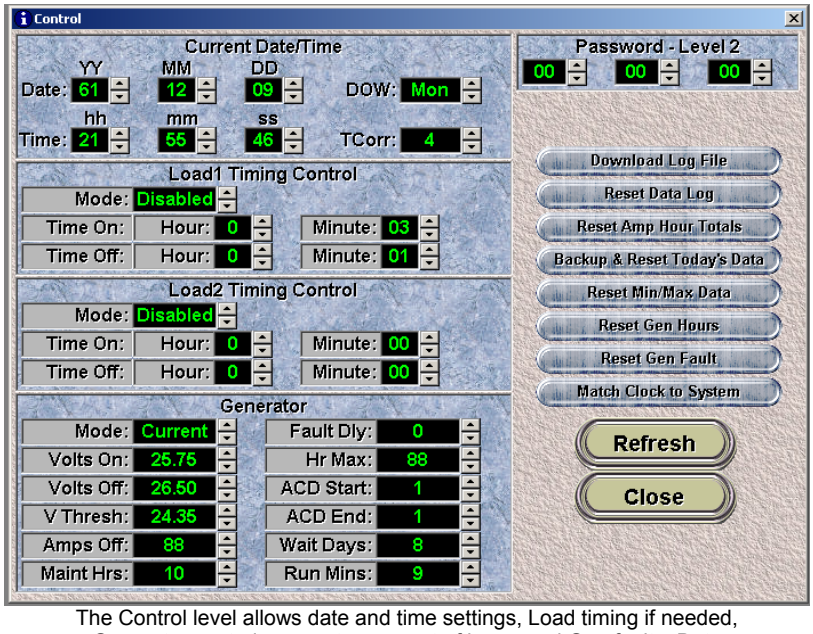
Communication with the MPR-9800's Status level displays real time system conditions

5775 Arapahoe Ave., Boulder, CO 80303 USA, 303-442-6553, FAX 303-442-6555
Web Site – www.digitalsolar.com Email – dpringle@sdicommtech.com

DIGITAL SOLAR TECHNOLOGIES



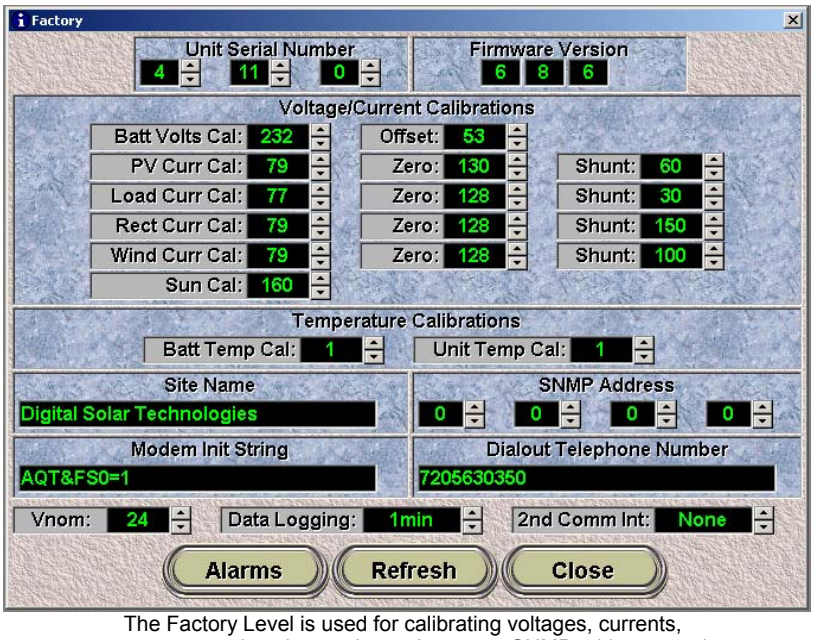
The Install level allows set points and other parameters to be easily modified



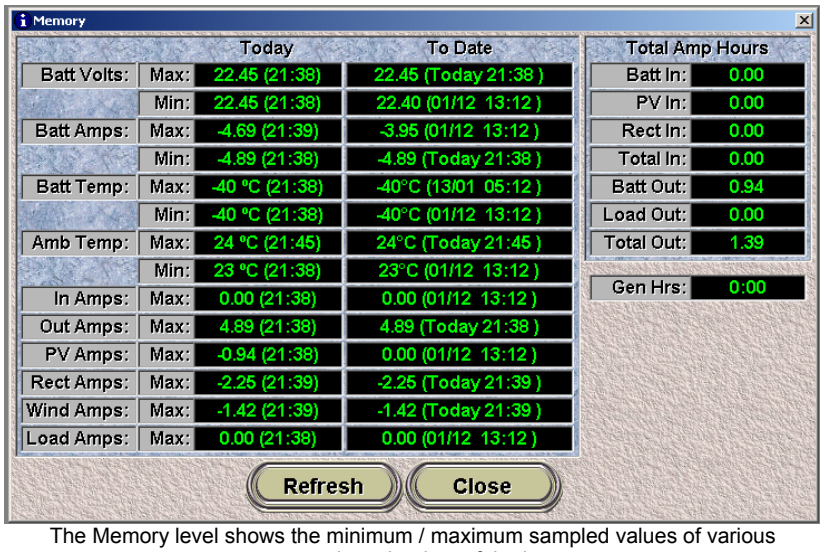
The Control level allows date and time settings, Load timing if needed, Generator control parameters, re-set of hours and Gen faults, Data logging re-sets and downloads, memory level re-sets.

5775 Arapahoe Ave., Boulder, CO 80303 USA, 303-442-6553, FAX 303-442-6555
Web Site – www.digitalsolar.com Email – dpringle@sdicommtech.com

DIGITAL SOLAR TECHNOLOGIES



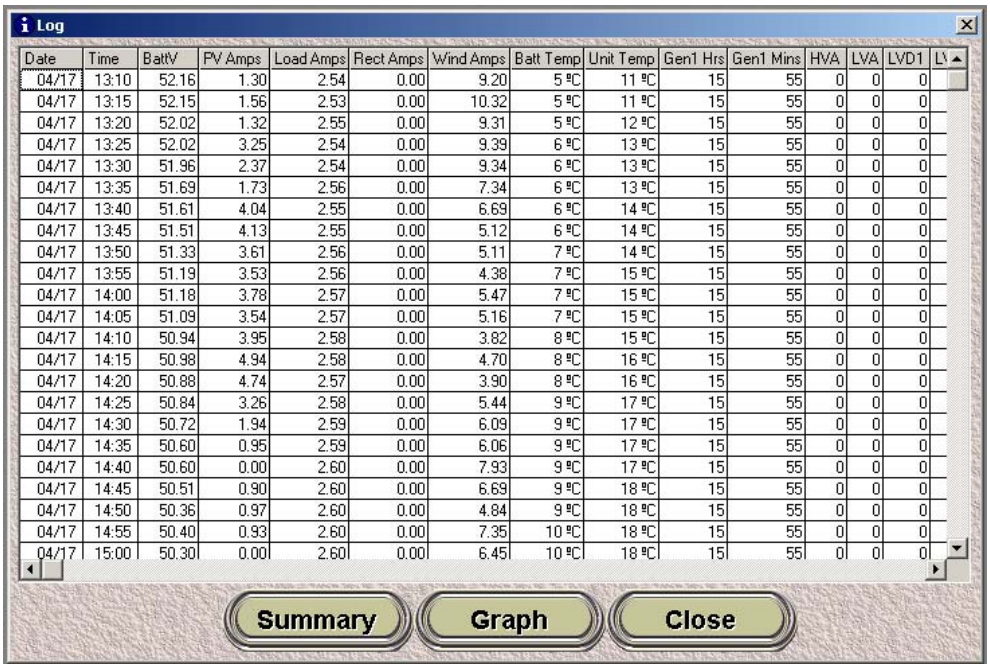
The Factory Level is used for calibrating voltages, currents, temperatures, setting shunt values, site name, SNMP address, modem string, dial out telephone number and data logging interval.



The Memory level shows the minimum / maximum sampled values of various system parameters, since the time of the last memory reset

5775 Arapahoe Ave., Boulder, CO 80303 USA, 303-442-6553, FAX 303-442-6555
Web Site – www.digitalsolar.com Email – dpringle@sdicommtech.com

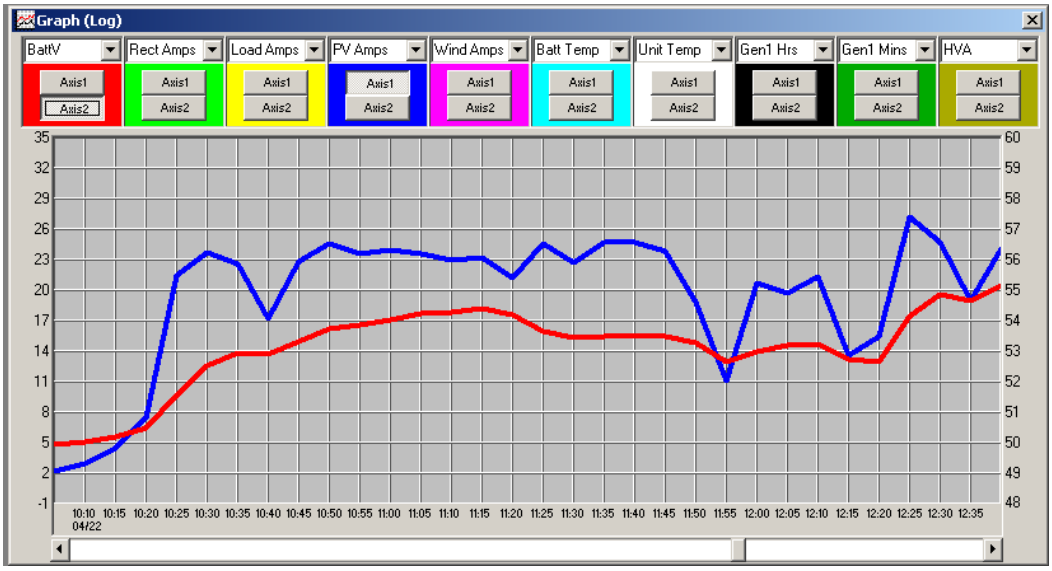
DIGITAL SOLAR TECHNOLOGIES



Date	Time	BattV	PV Amps	Load Amps	Rect Amps	Wind Amps	Batt Temp	Unit Temp	Gen1 Hrs	Gen1 Mins	HVA	LVA	LVD1
04/17	13:10	52.16	1.30	2.54	0.00	9.20	5 ºC	11 ºC	15	55	0	0	0
04/17	13:15	52.15	1.56	2.53	0.00	10.32	5 ºC	11 ºC	15	55	0	0	0
04/17	13:20	52.02	1.32	2.55	0.00	9.31	5 ºC	12 ºC	15	55	0	0	0
04/17	13:25	52.02	3.25	2.54	0.00	9.39	6 ºC	13 ºC	15	55	0	0	0
04/17	13:30	51.96	2.37	2.54	0.00	9.34	6 ºC	13 ºC	15	55	0	0	0
04/17	13:35	51.69	1.73	2.56	0.00	7.34	6 ºC	13 ºC	15	55	0	0	0
04/17	13:40	51.61	4.04	2.55	0.00	6.69	6 ºC	14 ºC	15	55	0	0	0
04/17	13:45	51.51	4.13	2.55	0.00	5.12	6 ºC	14 ºC	15	55	0	0	0
04/17	13:50	51.33	3.61	2.56	0.00	5.11	7 ºC	14 ºC	15	55	0	0	0
04/17	13:55	51.19	3.53	2.56	0.00	4.38	7 ºC	15 ºC	15	55	0	0	0
04/17	14:00	51.18	3.78	2.57	0.00	5.47	7 ºC	15 ºC	15	55	0	0	0
04/17	14:05	51.09	3.54	2.57	0.00	5.16	7 ºC	15 ºC	15	55	0	0	0
04/17	14:10	50.94	3.95	2.58	0.00	3.82	8 ºC	15 ºC	15	55	0	0	0
04/17	14:15	50.98	4.94	2.58	0.00	4.70	8 ºC	16 ºC	15	55	0	0	0
04/17	14:20	50.88	4.74	2.57	0.00	3.90	8 ºC	16 ºC	15	55	0	0	0
04/17	14:25	50.84	3.26	2.58	0.00	5.44	9 ºC	17 ºC	15	55	0	0	0
04/17	14:30	50.72	1.94	2.59	0.00	6.09	9 ºC	17 ºC	15	55	0	0	0
04/17	14:35	50.60	0.95	2.59	0.00	6.06	9 ºC	17 ºC	15	55	0	0	0
04/17	14:40	50.60	0.00	2.60	0.00	7.93	9 ºC	17 ºC	15	55	0	0	0
04/17	14:45	50.51	0.90	2.60	0.00	6.69	9 ºC	18 ºC	15	55	0	0	0
04/17	14:50	50.36	0.97	2.60	0.00	4.84	9 ºC	18 ºC	15	55	0	0	0
04/17	14:55	50.40	0.93	2.60	0.00	7.35	10 ºC	18 ºC	15	55	0	0	0
04/17	15:00	50.30	0.00	2.60	0.00	6.45	10 ºC	18 ºC	15	55	0	0	0

Data Logging presented in tabular format

- Supports data-logging of battery voltage, PV, Rectifier, Wind and Load currents, Battery and Controller temperatures, generator runs (with hours/ minutes since last reset), alarms, LVD's, Faults etc. Sample intervals programmable at 1, 5, 15, 30 or 60 minutes.
- Non-volatile memory internally stores from 45 days up to 7½ years of log data, depending on selected sample interval.

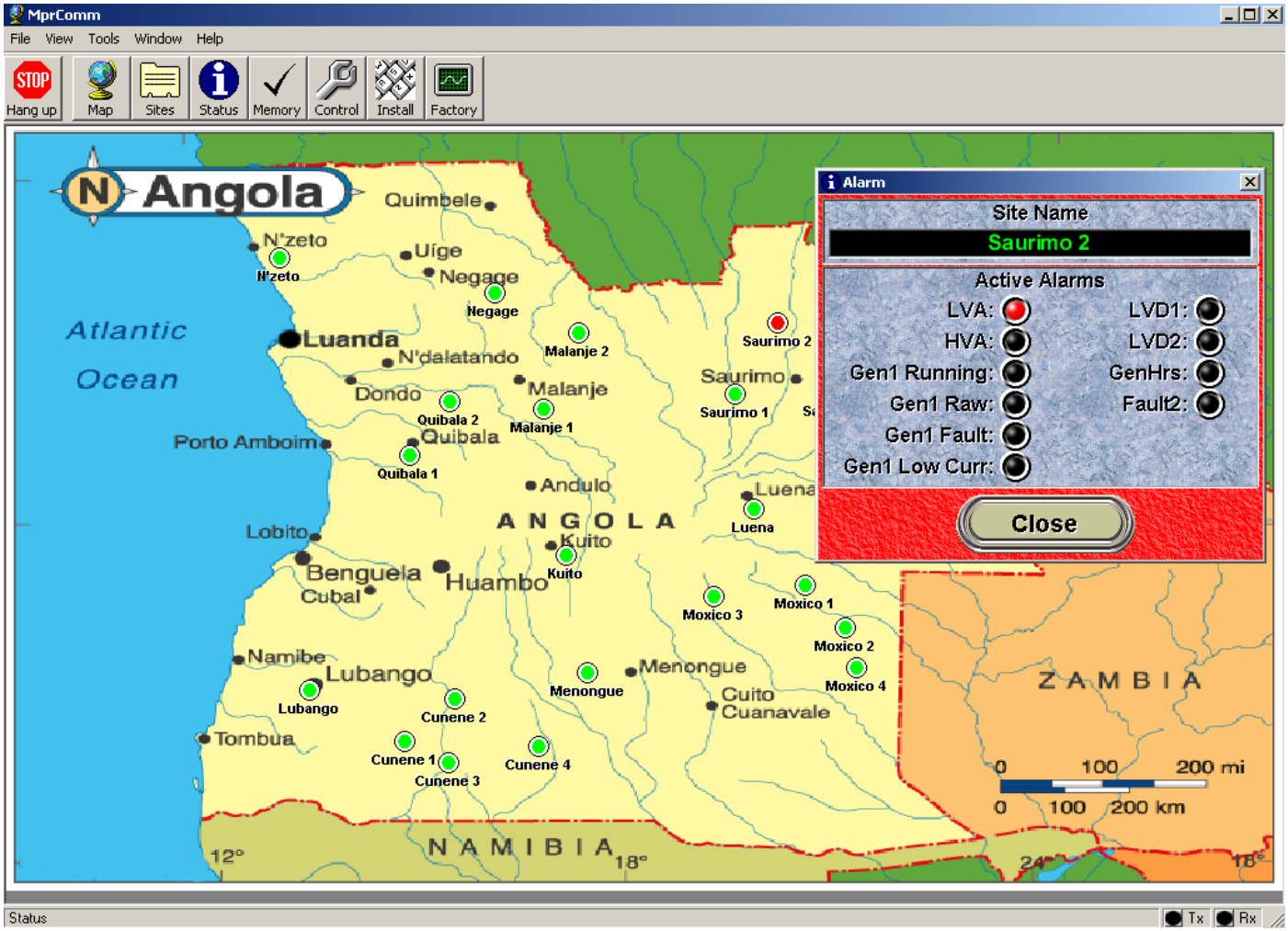


The graphical data shown above are the PV amps and Battery voltages

- Any logged parameter may be displayed in a continuously-scrollable on-screen graph display.
- Multiple parameters may be displayed simultaneously on the same graph for comparison purposes.
- Two independently-scalable vertical axes are provided.

5775 Arapahoe Ave., Boulder, CO 80303 USA, 303-442-6553, FAX 303-442-6555
Web Site – www.digitalsolar.com Email – dpringle@sdicommtech.com

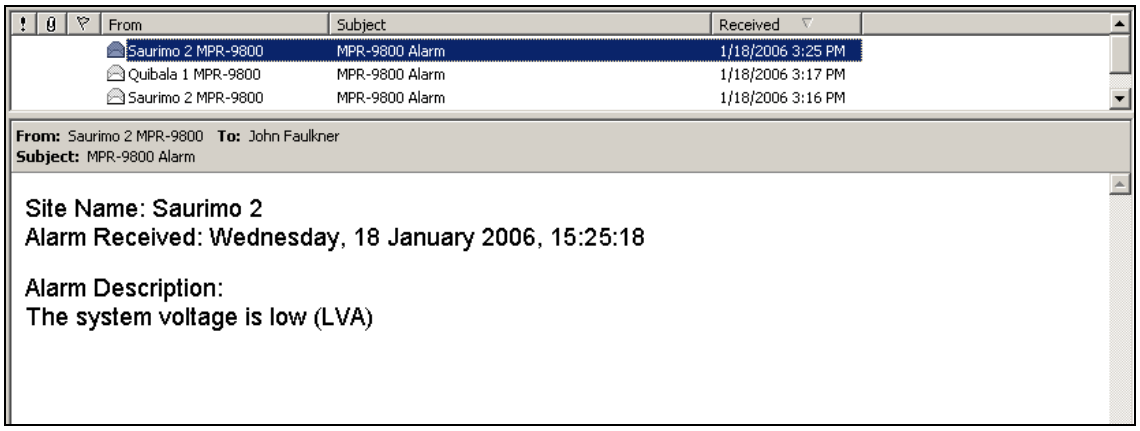
DIGITAL SOLAR TECHNOLOGIES



MprComm software provides full site mapping functionality

- All remote sites may be created on the site map. Connection to the site is accomplished by simply double clicking on the site's icon.
- When an alarm is transmitted from the MPR-9400, the site's icon will turn red and the alarm information is displayed.
- Supports multiple map images, with each regional image containing its own collection of MPR-9400 site icons.

5775 Arapahoe Ave., Boulder, CO 80303 USA, 303-442-6553, FAX 303-442-6555
Web Site – www.digitalsolar.com Email – dpringle@sdicommtech.com



Using the Ethernet option with SNMP alarm traps, The SNMP management software provided automatically alert technicians of a site's problem

- Automatic email capability for received alarms.
- Any number of clients/offices may be emailed when an alarm is received.
- Descriptions can be modified to support different languages.

Digital Solar Technologies
5775 Arapahoe Ave
Boulder, CO 80303
Tel: (303) 442-6553
Fax: (303) 442-6555
Web: www.digitalsolar.com
Email: dpringle@sdicommtech.com