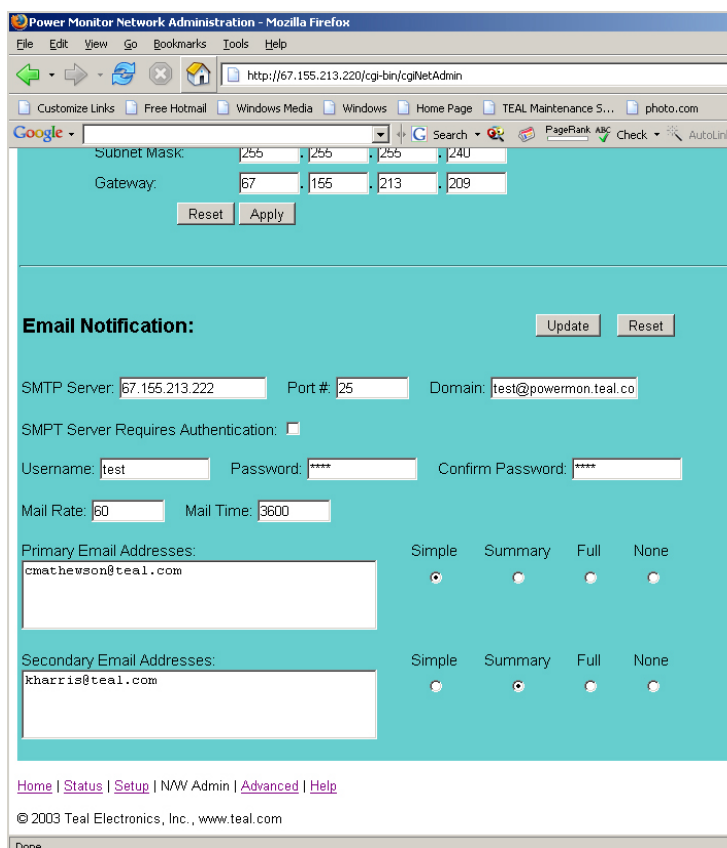


TEALwatch© Release 3.0 Changes

New Features in Release 3.0 of the TEALwatch© firmware:

1. **Automated Email notification option** – enables control over email notification process. The controls for email notification are located under the “NW Admin” tab and contain the following options:
 - Primary Email Addresses -> separated by commas with user choice of:
 - Simple
 - Summary – email contains the event summary information (what kind of event, how bad, when...)
 - Full – email contains the summary information as well as an attached data file (*.DAT) of the event, which can be viewed with the TEALwatch© Viewer excel spreadsheet.
 - None – no information sent in the email, just an email with subject heading



Power Monitor Network Administration - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://67.155.213.220/cgi-bin/cgiNetAdmin

Subnet Mask: 255.255.255.240

Gateway: 67.155.213.209

Reset Apply

Email Notification: Update Reset

SMTP Server: 67.155.213.222 Port #: 25 Domain: test@powermon.teal.co

SMTP Server Requires Authentication:

Username: test Password: **** Confirm Password: ****

Mail Rate: 60 Mail Time: 3600

Primary Email Addresses: Simple Summary Full None

cmathewson@teal.com

Secondary Email Addresses: Simple Summary Full None

kharris@teal.com

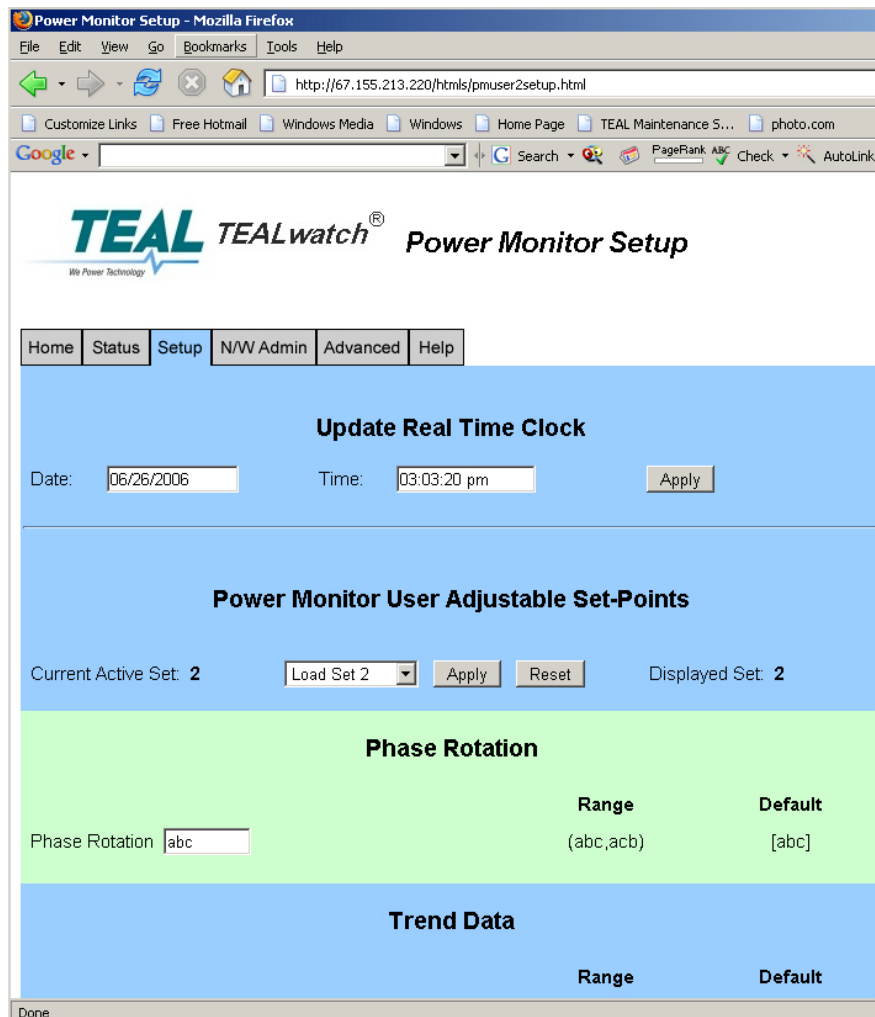
[Home](#) | [Status](#) | [Setup](#) | [NW Admin](#) | [Advanced](#) | [Help](#)

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Done

- Secondary Email Addresses -> separated by commas with user choice of:
 - Simple
 - Summary – email contains the event summary information (what kind of event, how bad, when...)
 - Full – email contains the summary information as well as an attached data file (*.DAT) of the event, which can be viewed with the TEALwatch© Viewer excel spreadsheet.
 - None – no information sent in the email, just an email with subject heading
- Mail Rate [Default 60] -> The rate in seconds at which multiple event emails are sent out. If multiple events occur, emails are only sent out at this interval (not a constant string of emails)
- Mail Time [Default 3600] -> The rate in seconds at which the software checks for new events to send notification via email.
- SMTP Server IP Address (the customer’s IT or IS administrator can help with this if needed) and Port # (Standard is 25).
- Domain: This is often required by a local mail server behind a company’s firewall and depending on the mail server this field may not be required (i.e. leave it blank), or a valid email account (i.e. joe@teal.com), or just the email domain name (i.e. teal.com).
- SMTP Server Authentication Checkbox Option (low-level authentication).
- Username & Password (and password confirmation) fields to control access.

2. **Ability to adjust the device clock** - added to "Set-Up" page, previously only in the "Advanced" page.



Power Monitor Setup - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://67.155.213.220/htmls/pmuser2setup.html

Customize Links Free Hotmail Windows Media Windows Home Page TEAL Maintenance S... photo.com

Google Search PageRank ABC Check AutoLink

TEAL *TEALwatch*[®] **Power Monitor Setup**
We Power Technology

Home Status **Setup** N/W Admin Advanced Help

Update Real Time Clock

Date: Time:

Power Monitor User Adjustable Set-Points

Current Active Set: 2 Displayed Set: 2

Phase Rotation

	Range	Default
Phase Rotation <input type="text" value="abc"/>	(abc,acb)	[abc]

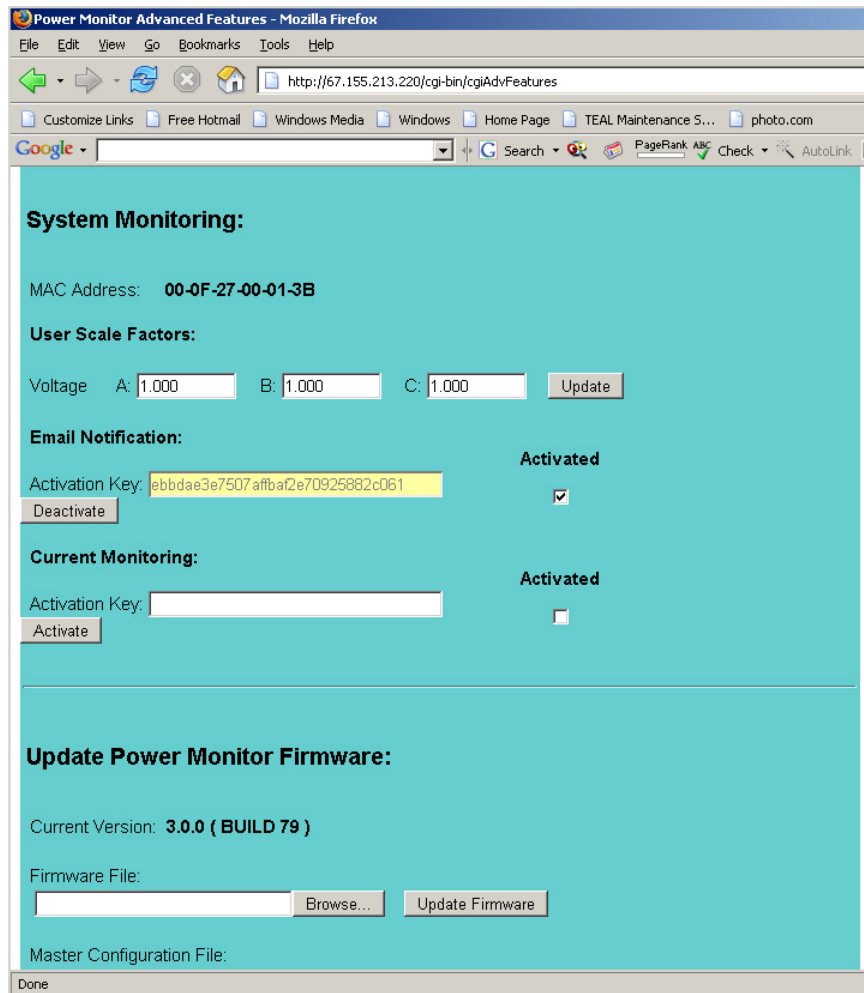
Trend Data

	Range	Default

Done

3. **Added Min. & Max values to the Trend Logger.** The RMS value of each captured cycle for each of the 3 phases is tested against the current min and max value within the user defined sample window (i.e. 5 minutes).
- This change required us to modify the existing allocation of Non-Volatile memory due to the added data collected in the following ways:
 - The number of captured full waveform records remains at 7 (no change).
 - The number of summary data records has been reduced from 100 to 85 (a reduction of 15 summary records).
 - The number of Trend log samples has been reduced from 512 to 340 (a reduction of 172 samples).
 - There was no change to the Dynamic memory allocations 200, 200 and 3500 respectively.
4. **Ability to do a field gain calibration** of the TEALwatch© voltage using the User Scale Factors settings [and this will apply to current – when offered in the future]. This does not have any impact on the Factory gain and offset adjustments. It does allow a field service engineer or technician to get better than 1% accuracy if they desire by using an external meter and adjusting this value while monitoring the TEALwatch© voltage reading on the status page. The factory specification from TEAL is 1% accuracy.

5. **Optional Feature Activation Code** - Release 3.0 provides for the activation of email (and future current monitoring). The firmware can be updated on any TEALwatch© in the field, but email notification activation requires the activation code supplied by TEAL (which may or may not have an additional cost)



Power Monitor Advanced Features - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://67.155.213.220/cgi-bin/cgiAdvFeatures

Customize Links Free Hotmail Windows Media Windows Home Page TEAL Maintenance S... photo.com

Google Search PageRank ASC Check AutoLink

System Monitoring:

MAC Address: **00-0F-27-00-01-3B**

User Scale Factors:

Voltage A: B: C:

Email Notification: **Activated**

Activation Key:

Current Monitoring: **Activated**

Activation Key:

Update Power Monitor Firmware:

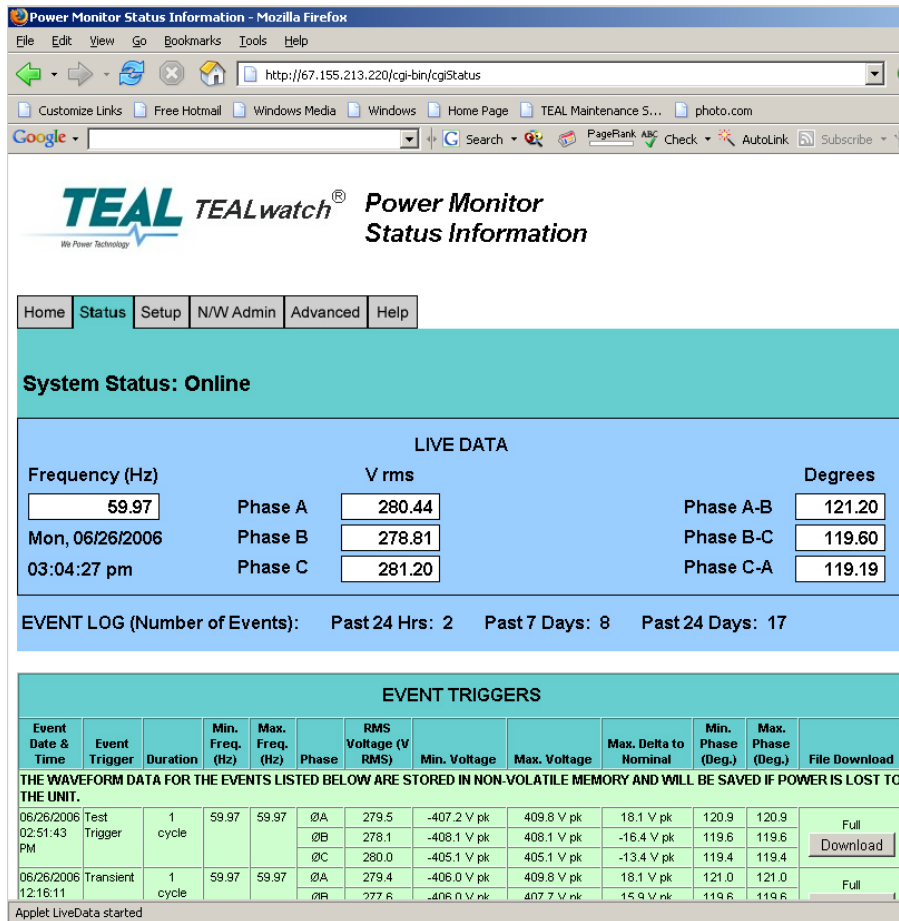
Current Version: **3.0.0 (BUILD 79)**

Firmware File:

Master Configuration File:

Done

- Newly Redesigned "Status" page** that displays live data at the top of the page in a more intuitive and logical layout.
 - This feature was redesigned to automatically turn ON and OFF the display of current data depending on if that feature is activated.



TEAL TEALwatch® Power Monitor Status Information

Home **Status** Setup N/W Admin Advanced Help

System Status: Online

LIVE DATA

Frequency (Hz)	V rms	Degrees
59.97	Phase A: 280.44	Phase A-B: 121.20
Mon, 06/26/2006	Phase B: 278.81	Phase B-C: 119.60
03:04:27 pm	Phase C: 281.20	Phase C-A: 119.19

EVENT LOG (Number of Events): Past 24 Hrs: 2 Past 7 Days: 8 Past 24 Days: 17

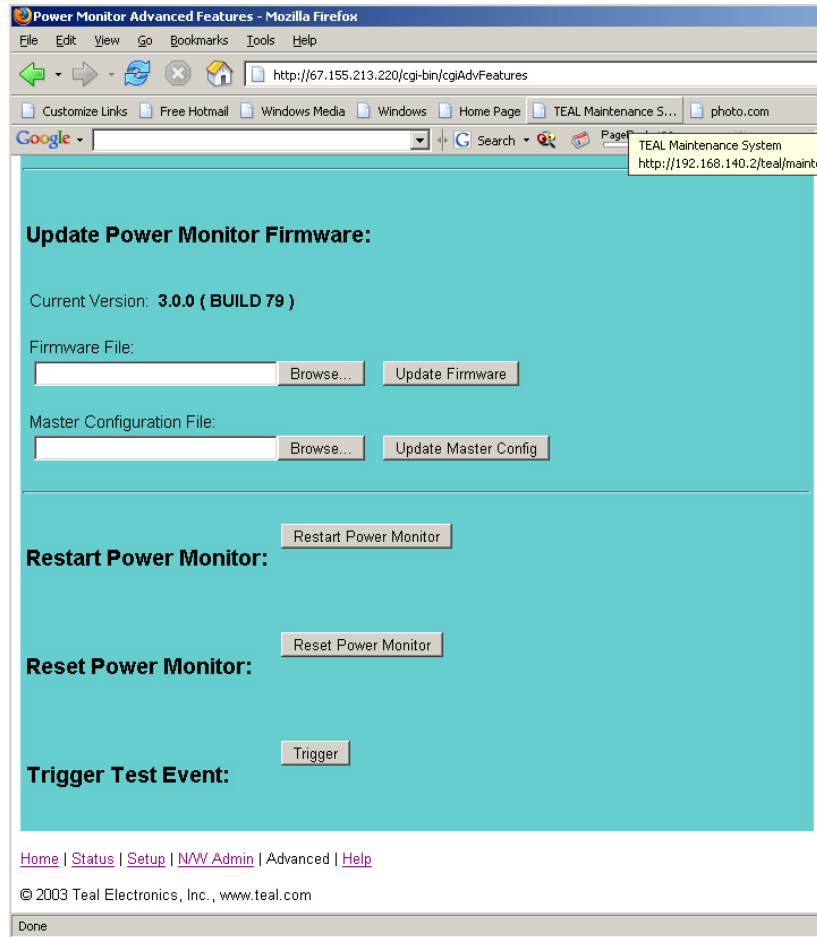
EVENT TRIGGERS

Event Date & Time	Event Trigger	Duration	Min. Freq. (Hz)	Max. Freq. (Hz)	Phase	RMS Voltage (V RMS)	Min. Voltage	Max. Voltage	Max. Delta to Nominal	Min. Phase (Deg.)	Max. Phase (Deg.)	File Download
THE WAVEFORM DATA FOR THE EVENTS LISTED BELOW ARE STORED IN NON-VOLATILE MEMORY AND WILL BE SAVED IF POWER IS LOST TO THE UNIT.												
06/26/2006 02:51:43 PM	Test Trigger	1 cycle	59.97	59.97	ØA	279.5	-407.2 V pk	409.8 V pk	18.1 V pk	120.9	120.9	Full Download
					ØB	278.1	-408.1 V pk	408.1 V pk	-16.4 V pk	119.6	119.6	Download
					ØC	280.0	-405.1 V pk	405.1 V pk	-13.4 V pk	119.4	119.4	
06/26/2006 12:16:11	Transient	1 cycle	59.97	59.97	ØA	279.4	-406.0 V pk	409.8 V pk	18.1 V pk	121.0	121.0	Full
					ØB	277.6	-406.0 V pk	407.7 V pk	15.9 V pk	119.6	119.6	

Applet LiveData started

- Real-time system clock display** added to "Status" page, previously shown in the "Home" page.

8. **A Manual Trigger Button** has been added to the “Advanced” page that allows the authenticated user to capture a waveform at anytime (compared to waiting for an event to be triggered by a waveform excursion). This could be very useful when trying to trouble shoot a PDU unit in the field or as a simple substitution for a meter or scope to verify mains voltages, etc.
- The Event type for this is called "Test Trigger", and it collects and provides data as if it were a "Transient" Event type.



9. **Partial Power Failure Recovery** – A feature addition that allows the TEALwatch© to automatically recover from a “partial” power down.
- The TEALwatch© gets its power from the same lines that it is monitoring (Phase C) and thus if voltage on phase C drops below -40% of the rated line voltage, the TEALwatch© needs to capture the "Power Loss" event and move that into Non-Volatile RAM. In certain instances the TEALwatch© may drop below 40% rated line voltage on Phase C, but not go all the way down for a long enough period to starve the TEALwatch© of actual power (there are capacitors that hold up the voltage to the TEALwatch© for a minimum of 100ms to allow the software the time needed to perform a clean sequence power-down). In this case the unit will not see a hardware reset and will remain active, but the data collection and monitoring aspects have gone "Off-Line". In Release 2.0 this required a Reset of the power monitor (either by pushing the button on the unit or by accessing the Reset option button on the still active "Advanced" page. The problem is that first you needed to know that you were now in this state and if you did and Reset the unit you would only retain full data for the last 7 Events. The new Release 3.0 adds a watchdog circuit (software-based) that will bring the unit back "On-Line" (monitoring for Events) from a partial power outage after it has deemed the system stable (typically 1 -2 minutes). In this condition the TEALwatch© will retain Events stored in both the NV and Dynamic memory.
10. **Restart Button** -On the "Advanced" page a new "Restart Button" has been added in the event the unit has gone "Off-Line" (suspended Event capturing capabilities), this button will restart the Event capturing without having to wait for the system to determine that it has become stable again.