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Commander Operations Manual
C10e-PoE/C10p-PoE

FCC Caution and Warnings

Caution:

Before attempting to connect or operate this product, please read the label on the top and bottom.

Note:

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC Caution:

To assure continued compliance of this product, do not modify any interface cables when connecting to computer or peripheral devices. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Warning:

To prevent fire or electric shock hazard, do not expose this device to rain or moisture. This apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus. The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of un-insulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons. The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance. This unit has power supplied to it whenever the power cord is inserted into the power source. The power cord is the main power disconnect for all units.

WARNING: To prevent fire or electric shock hazard, do not expose this appliance to rain or moisture. The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.

Before You Start: Limitations of Liability/ Disclaimer of Warranty/ Safety Instructions

Limitations of Liability:

This Commander Instruction and Operation manual is provided "as is" without warranty of any kind, either expressed or implied. This includes but is not limited to: implied warranties of merchantability, or fitness for any reason or purpose. This limitation also includes non-infringement of any third party's rights.

The reader acknowledges this publication could include technical inaccuracies or typographic errors. American Fibertek reserves the rights to add or make changes to the product represented in this manual and to add or change the information presented in this manual as required.

Disclaimer of Warranty:

In no event or under any condition will American Fibertek be liable to any party or persons except for replacement or repair of Commander under the terms and conditions of its stated warranty. American Fibertek will not be liable for the following conditions:

1. Any damages or losses including, without limitation, direct, indirect or otherwise, any consequential or exemplary damages that arise out of or related to the Commander.
2. Personal injury or any damage resulting from inappropriate use or negligent on the part of the user in proper operation as stated by American Fibertek.
3. Unauthorized disassembly, repair, or modification of the product by the user.
4. Any problem, inability to perform to stated specifications, inconvenience, loss or damage arising from the combination of Commander with third party devices, software, browsers or interfaces.
5. Any claim or action for damage that is brought about by an individual, or group of individuals, or organization, due to violations or privacy that result from information, including saved data that for any reason becomes public.
6. Any claim, problem or consequential inconvenience, loss or damage arising from improper detection of sensor or alarm functions.
7. Any claim resulting from the loss of data created or stored by Commander caused by the need to reboot due to improper operation.
8. Any claim resulting from inability to communicate with Commander due to changes made to third party browsers.

Safety Instructions:

1. Please read these instructions completely prior to operating Commander for the first time.
2. Keep these instructions in a place where they can be referred to as required.
3. Follow all warnings as indicated.
4. Follow all instructions as indicated.
5. Do not use Commander near water or areas of dampness.
6. Clean Commander only using a dry lint free cloth.
7. Do not block any of the ventilation openings.
8. Do not use next to high heat or cold sources that exceed the manufacturer's environmental ratings.
9. Do not misuse polarized or grounding type plugs.
10. Do not remove the grounding plug.
11. Protect the power cord from being step on or pinched.
12. Only plug the cord into a proper receptacle.
13. Only use accessories and attachments designed for Commander or approved by American Fibertek.
14. Operate, mount, and transport Commander only in horizontal position.
15. It is recommended that Commander be operated with power sources that include proper EMI, RFI or power surge protection, or if required the customer take proper steps to assure problems from these conditions will be minimized.

Trademarks and Registered Trademarks/ Warnings

Precautions:

1. Logs are held in Commander's volatile memory. Any loss of power will erase all log data.
2. As Commander is a computer device, it is strongly suggested that it be powered from devices which offer EMI and RFI protection and power back up,
3. Do not operate Commander beyond its specified temperature, humidity, or power source ratings. When installing Commander make certain that the following environmental conditions are maintained:

Temperature: (-40C to + 75C-Industrial Versions) (0C to +70C – Commercial Versions)
Humidity 0% to 95% non Condensing
Power: 100 to 240 VAC @ 50 to 60 Hz

4. Battery Back up:

The back up battery maintains the clock and programming features. The built in battery life is approximately 2 years and can vary due to operations under external environmental conditions.

5. Cooling Fan

Commander uses a cooling fan in order to protect itself against damage from high temperature conditions. The fan should be checked and clean periodically. Make certain the power is off to the unit when cleaning the fan and that the Event Log has been transferred out of Commander to prevent information loss.

6. To properly operate Commander, place it on a horizontally surface. When stacking units or rack mounting multiple units leave at least a space of 1RU (1 7/8 inches) between each unit.
7. Commander allows operators with Admin (Administrator) level permission to download its programming and upload programming in the event Commander programming is lost. It is recommended that after programming is complete, it be downloaded and kept in a safe place.
8. For proper viewing of Web screens monitor resolutions of 1024 X 768 are required.

Trademarks and Registered Trademarks:

Microsoft, Windows and Windows XP are registered trademarks of Microsoft Corporation in the United States and/or foreign countries Other names of corporations and products that are found in this operations manual may be trademarks or registered trademarks of their respective companies.

American Fibertek reserves the right to make changes to this manual and the Commander product it represents without prior notification to existing users. Those purchasing Commander are advised to check the American Fibertek web site and/or call American Fibertek to check on updates.

The distribution and copying of Commander firmware and related software; the disassembly of Commander and its related components for the propose of reverse engineering and exporting in violation of existing export laws is expressly prohibited.

Commander's USB connections will only interface with Commander Probes and cannot be used with any other equipment using USB connections. Plugging in a USB device that requires bus power can result in disabling or damaging of Commander and violating the warranty.

Logs are held in volatile memory. Any loss of power can result in a loss of all recorded data. To prevent this it is strongly suggested that Commander be operated with a back power supply. Commander also has several modes that allow operators to save complete logs and sort search results. Commander also provides an Event Log Email mode which will Email out complete logs on a regular basis.

For Commander C10p versions use only Small Format Pluggable fiber modules that are sold or recommended by the American Fibertek.

Table of Contents

Overview

Model Numbers

Commander C10 PoE series is available as two model numbers:

C10e-PoE: Is an all copper version and has (8) 10/100 Base T copper Ethernet ports and (2) 10/100/1000 Base T copper Ethernet ports

C10p-PoE: Has (8) 10/100 Base T copper Ethernet ports and (2) open slots for 1000 Base T ports that use industry standard Small Format Pluggable (SFP) adaptors.

Important Note: C10p versions require optional Small Format Pluggable (SFP) fiber adaptors into order to operate both 1000 Base T ports. Use only adaptors sold or recommended by American Fibertek. Use of any other SFP will violate the warranty.

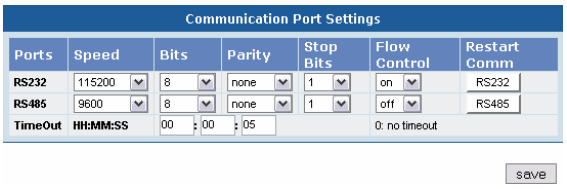
Operation

Commander is an IP Security Commander's Center designed for any application that requires network switching, network traffic monitoring and protecting system components from failure due to temperature, humidity or the loss of air flow.

Commander's unique design also provides interfaces for hard contacts and control of external auxiliary triggers. Commander Probes are intelligent. They contain a pre-assigned identification number and are pre-programmed to activate LED # 1 until reassigned by an operator. Once programmed for LED and operations, the programming is maintained within the probe and will not be lost if the probe is unplugged or transferred to another Commander.

Records of warning and alarm sensor events are recorded in logs. In addition Commander can be programmed to poll itself at regular intervals and record its results in a Poll log. Reviewing this log can help in tracking trends that, while not triggering warning or alarm events might lead to conditions that significantly affect the life span of mission critical component such as hard drives. In addition, warnings and alarms triggers as well as logs themselves can be programmed as emails for alerts and for maintaining logs at remote locations. Commander also provides two serial communication ports, one for RS 232 and one for RS 485. These ports can be used for data exchange between Commander and any data storage or data generating source.

Communication time outs and restarts are operated in the communication menu. The Time out settings defines the time duration that if no traffic is sensed, the port will be shut down. The port can only be accessed by one client at a time.



If the time is set to 0, no time out will occur and the potential remains for the port to be blocked from additional clients. Master and Security Admin security levels can set and save time out settings. All security levels with "Security View" access can manually restart communication ports by point and click on the selected port .

Commander conditions and operations can be viewed via an easy to operate User Interface. As Commander is its own server, no external client software is required. As interfacing to Commander doesn't require an Active X component, it can be viewed and operated with most common web browsers. The Status view screen displays a series of colors matching those on the front panel.

Commander PoE Front Panel

Power: There are two power indicators, one for power supply and one for power status.

The Power LED illuminates green when power is applied.

The Alarm LED is green for normal operation and will turn red for alarm conditions on any of the internal temperature monitors or power supply voltage monitors.

Solid Green = Normal Operation
Solid Red = Alarm Condition Present
Flashing Green= Unit booting up

Ports 1 through 8:
10/100baseTx Ethernet Ports:

Link – Off – No connection
Amber - 10 Mb/s
Green - 100 Mb/s

Act - Off – No data activity
Amber Flashing – Data activity

Port 9 & 10:
1000baseT Ethernet Ports:

Link – Off – No connection
Amber - 10 or 100 Mb/s
Green - 1000 Mb/s

Act - Off – No data activity
Amber Flashing – Data activity

Alarm In 1, 2: The default alarm condition is a closed contact. If the NC check box is active for an alarm input, then the alarm condition will be an open contact. Alarm contact LED's are per "current status".

Normal condition - Off
Alarm condition - Red

Auxiliary Out 1,2: Auxiliary contact LED's are per "current status".

Normal condition - LED is off
Relay Activated - LED will be red

PoE Status

Each port has an associated indicator for PoE status
PoE Off - Led is off
PoE On and Normal – Led is green
PoE Searching – Led is amber
PoE fault – Led is red

Data Ports A (RS232) & B (RS485) LEDs:
There is one Bicolor LED per port. (Port A = RS232, Port B = RS485). When the Tx of the port is active the LED will turn on Red for 0.25 seconds. When the Rx of the port is active the LED will turn on Green for 0.25 seconds.

Rx: = Data from TCP to Serial
Tx: = Data from Serial to TCP

Probe Status & Alarm LED's:
Commander operates by sensing the number and location of probes upon power up. Those ports with sensor probes connected will be indicated on the front panel. Commander has one direct USB port but can sense up to 4 probes using a USB hub. The Alarm Sensor will reflect the condition of any of the probes.

If Commander is powered on and a new probe is plugged in, Commander will sense the new probe and acknowledge its existence. Probes can be installed or removed without having to power down Commander. When installing or removing probes, perform a browser refresh.

Front panel Sensor Probe Status LED States:

No connection, probe is not present - LED is Off
Probe is connected and communicating - LED is Green

Upon connecting a probe for the first time the Probe Status LED will flash Green to Amber four times.

Front Panel Sensor Probe Alarm LED indications:

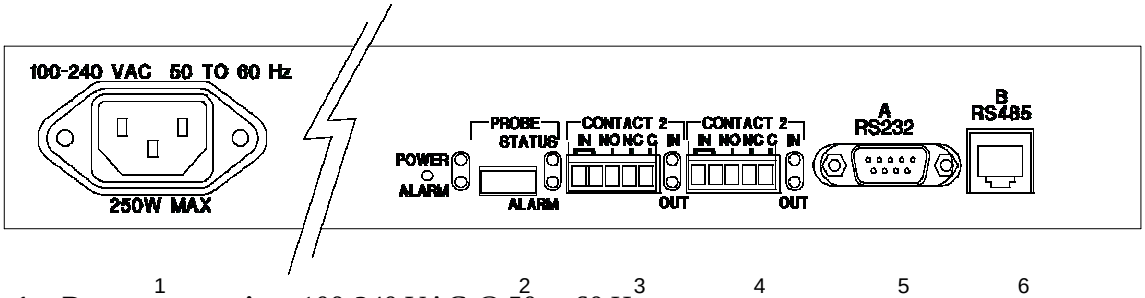
No connection, probe is not present - Off
Probe is connected, no alarm has occurred - Green
Probe is connected, warning state activated - Amber
Probe is connected, alarm state activated - Red

The Probe Alarm LED will indicate the active condition for the duration the alarm or warning. In the event multiple warning and/or alarm conditions are received by the same probe the LED will alternate between Orange and Red. At the time when the multiple warning and/or alarm conditions end, the LED will reflect the color of the warning or alarm mode, if any, that is still active.

Sensor Probe LED:
Front panel Sensor Probe Status LED indicates:
No connection - Off
Probe is connected and ready - Green
Probe is connected and communicating - Amber
Probe is connected but not communicating - Blinking Red
Upon connecting a probe for the first time the Probe LED will flash Green to Amber 4 times

If the probe is blinking continuously, it indicates that probe could have a problem.

Commander PoE Rear Panel



1. **Power connection:** 100-240 VAC @ 50 to 60 Hz.

2. **Alarm Inputs 1, 2:** A potential free contact closure can be used as an alarm input. These may be programmed as Normally Open or Normally Closed.

3. **Auxiliary Outputs 1, 2:** This port is triggered by the alarm inputs, sensor warning and alarms as programmed by the operator. Active durations are also programmable. In addition Auxiliaries can be manually turned on or off via the web browser interface.

4. **Sensor Probe Input:** Sensor probes connect directly to the USB ports using a mini to standard USB cable. Once connected Commander will automatically read the identification data from the probe and enter it in its data base. Commander can accept up to 4 sensor probes using a standard USB Hub. It is recommended the hub be self powered

   Each USB cable requires a Ferrite RFI reducer is required to meet FCC compliance standards.

5. **Serial Data Port A RS232:** A standard DB 9 connector is use for RS 232 bidirectional communication and can be use to read data from or transmit data to external devices such as access control panels and cash registers.

6. **Serial Data Port B RS485:** The RJ 11 connection is use for bidirectional RS485 communications and can be used to read data from or transmit data to external devices such as access control panels and cash registers and can be used to control devices such as PTZ domes

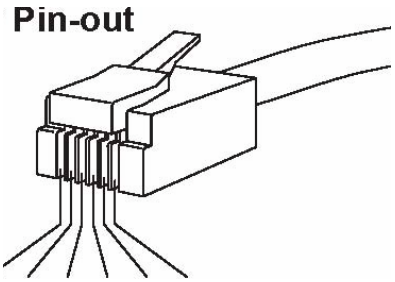
Notes on RS 232 and RS 485:

Both ports are compliant to RFC 2217. In order for a Windows program to recognize these ports, an RFC2217 compliant driver must be installed on the computer. A Hardware Serial Port shareware program is included on the CD supplied with the unit.

AFI Pilot software programs contain RS 232 and RS 485 port communications as standard features when a Commander is installed as a device.

Rear panel LEDs mirror the functions of front panel LEDs

RS485 Connector



1 - 6

1	Common
2	IN -
3	IN +
4	OUT +
5	OUT -
6	Common

The RS232 connections is a standard DB9 DTE configuration

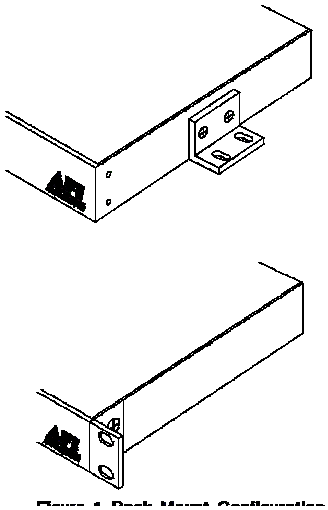
Installation

Mounting

To install the Commander it is first necessary to mount the rack flanges to the unit. Two mounting flanges are supplied with each Commander. For flush mounting, install the ears with the #10 flathead screws provided

There are two rack mounting options. A single Commander can be installed in a rack using the half rack mounting kit C10-HRM. Two Commanders may be rack mounted side by side with a C10-FRM kit.

For rack mounting the ears are installed on the sides of the unit with the surfaces that have oval holes flush with the front of the unit as in Figure 1. Mount the ears with the #10 flathead screws provided. To mount in the rack cabinet, use mounting screws that are appropriate for the rack cabinet being used.



Power Source

The internal power supply accepts universal line voltage. Any mains supply from (85 to 264 VAC), (47 to 63 Hz) may be used without modification or adjustment. A universal power connector is provided on the rear of the unit to facilitate connection to the power mains.

Power Connection

The unit is supplied (in the US and UK only) with a three conductor power cord. The “ground” conductor is directly connected to the chassis.

Probe Placement

Temperature and Humidity Reading: (P-TA and P-TAH)

Place the probe between 1-3 inches from the device so that heat will flow directly towards the sensor. Probes can be directly mounted to a chassis using double sided tape or Velcro.

For Airflow Reading:

Place the probe between 1-3 inches from the device so airflow will flow perpendicular to each sensor tip.

For Rack Mounting:

AFI provides an optional rack mount kit P-RM. Sensor probes plug directly into a goose head mount providing actual positioning. The P-RM mounts directly to most racks taking up a 1RU space.

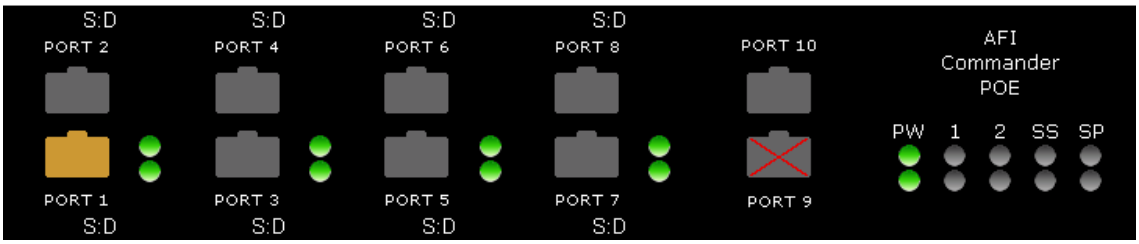
Connecting Environmental Sensing Probes:

Sensor probes are connected to Commander using a standard USB to mini USB cable. When using the R-RM the Commander probe is directly connected to the mount. The cable is connected to the rear of the mounting arm. In both cases the maximum distance is 25 feet or 7.6 meters.

In order to comply with FCC radiation requirements, the ferrite clamp provided with the USB cable must be positioned approximately 2 inches from the side connected directly to Commander.

Probes can be inserted and removed while Commander is powered on. If an email address has been programmed in the Global Settings an email alert will be sent.

Commander's status can be viewed via LED's located on Commander's front panel or via a Graphic User Interface provided as part of Commander's web services. As some operators may also want to view current Sensor probe status and not just exceptions, a Sensor Status mode is provided. Using this mode the front panel probe LED's will indicate status in the same method as the probe itself. Actual response will be dependent on your network speed.



Alarm Alerts: Watch Dog Timer Operation

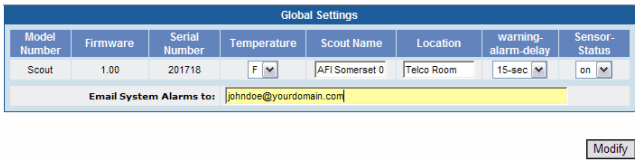
Watch Dog Timer:

Commander contains a watch dog timer that will monitor the internal system. In the event Commander cannot properly operate for more than two minutes, the system will wait until the condition no longer exists and reboot itself.

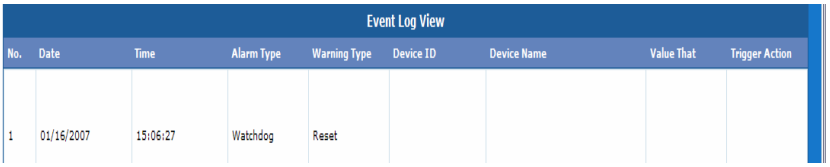
Once Commander reboots, all data will have been lost. Many reboot conditions occur due to poor main power supplies or fluctuations in main line voltage. As with any other computer device, AFI strongly recommends the use of back up power supply.

Watch Dog Timer Responses:
If the action is due to poor power or power fluctuations, the Port "B" LED will turn Red

An Email alert "Watch Dog" activated will sent to the address programmed in the Global Settings when power is returned to Commander. The time will indicate when power was returned.



The first entry in the event log will show as Watchdog with time and date when normal conditions were restored

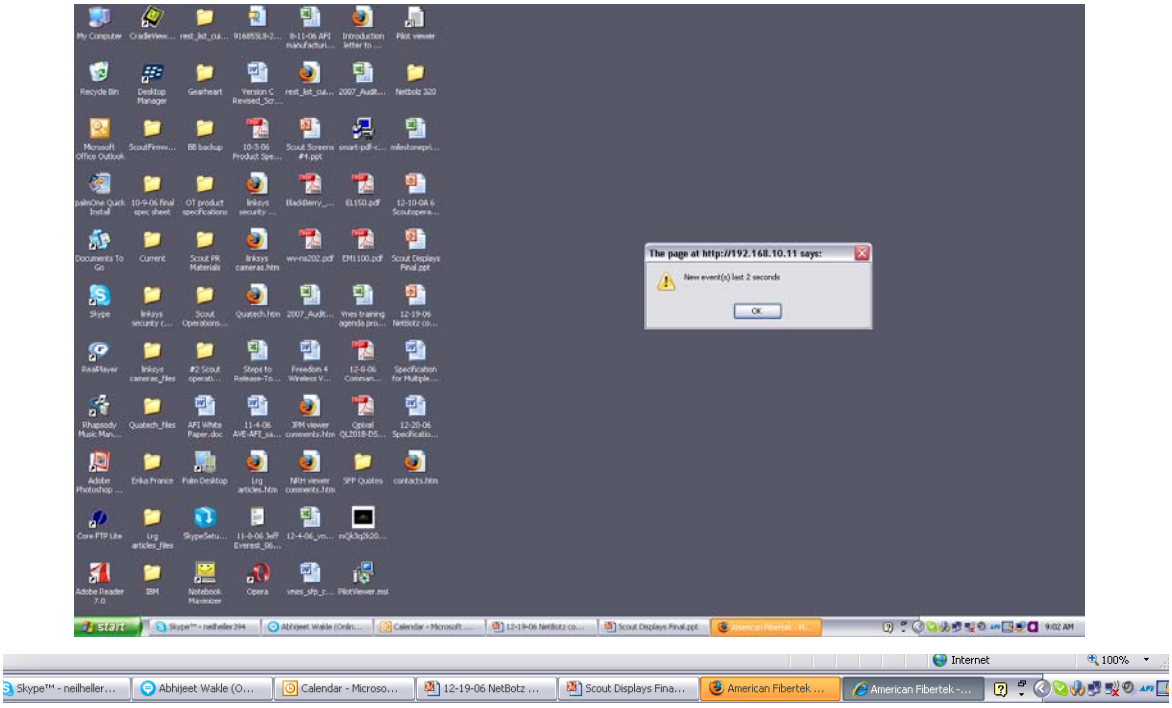


Web Browsers

Commander does not require an Active X component be loaded on the client computer. As such Commander is compatible with most web browsers. However, since programming within Web browsers is not under the control of American Fibertek, the company cannot be held responsible for the performance of Commander under any given browser.

In addition Graphic User Interface screens and their operation may change from browser to browser. Their appearance or specific operation may not match the appearance included in this operation manual.

Commander has been tested with several web browsers; however American Fibertek cannot account for or be held responsible for changes to web browsers that might affect Commander's operation. Internet Explorer and Firefox are the two primary browsers used in the development of Commander. In some cases even their performance will differ.



In Firefox operation when Commander's Web page is minimized, the toolbar will change color on an alert provided Firefox Version 2.0 is used as the browser. Explorer will not perform this function.

Warning: In order to view a color change to the tool bar (Firefox 2.0 only) and pop up, Commander must be minimized in the Status View condition, refresh mode and Event Warning enabled. If any of these conditions are not met, no warning will be possible.

LED	Probe ID	Probe Name	Temp	Airflow	Humidity
1	9010610	*	82F	0%	
2	9010611	SWITCH FAN	93F	89%	

Change to refresh every 2 5 10 20 30 60 seconds, or no refreshing. Enable event warning

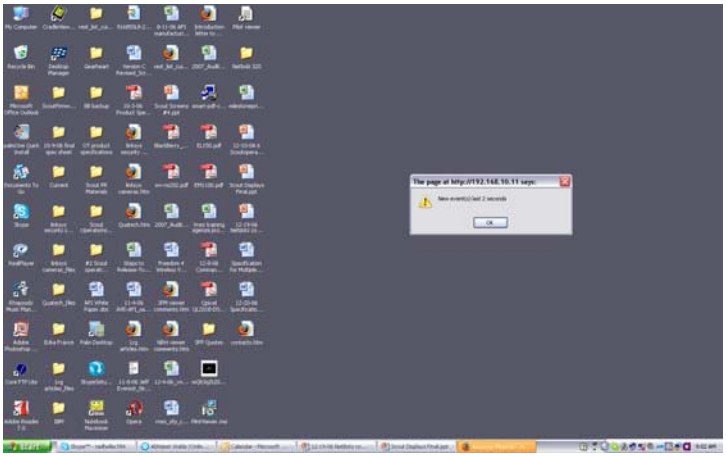
Screen Refresh and Event Warnings

Commander contains a built in web server. No additional software is required to monitor individual Commanders. There are two ways to monitor Commander activity.

Method one is to view a complete .html web page. This allows an operator with the appropriate permission levels to view different pages and set ups.

All statuses can be monitored by viewing Commander's "Status View" page. Up to 10 Clients can individually monitor an individual Commander. Clients can have an individual View and perform individual operations.

Method two allows the operator to minimize the html page. In this position Commander will be represented in the tool bar. When warnings or alarms are present the tool bar will turn orange if the browser is Firefox



Method two provides a pop up box which indicates an event has occurred and the number of events over a recent period. The operator can expand the screen to a full page to view the alarm in more specific details.

Warning and alert pop ups can be enabled or disabled from the Status View Screen.

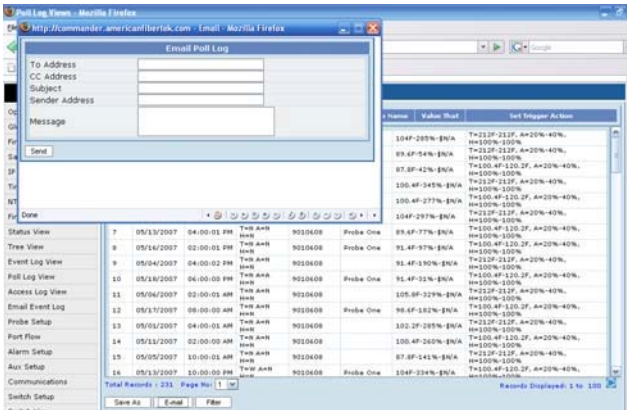
LED	Probe ID	Probe Name	Temp	Airflow	Humidity
1	9010610	*	82F	0%	
2	9010611	SWITCH FAN	93F	89%	

Change to refresh every 2 5 10 20 30 60 seconds, or no refreshing. Enable event warning

Warning: In order to view a color change to the tool bar (Firefox 3.x only) and pop up, the Commander browser window must be minimized in the Status View condition and must be in the refresh mode. If either of these conditions are not met, warning pop ups will not be possible

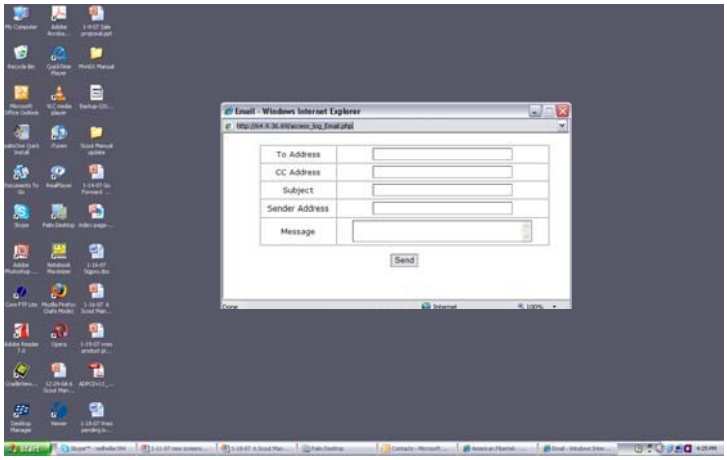
Event Pop Ups

Many of the functions in Commander operates by means of pop ups. Activating a function in Commander only requires a single mouse click. If more than one mouse click is used or additional browser functions are opened the potential exists for the pop ups not to appear the in screen foreground.



Under normal operations the pop up will appear in the screen foreground over the main view.

In all cases the pop up will appear in the tool bar.



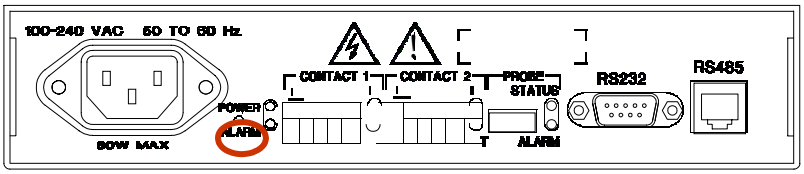
If this occurs click the tool bar to expose the pop up

Reset to Factory Defaults

If the Master Admin password is changed and lost for any reason, the only recovery method is to reset Commander back to its defaults. For this reason the following precautions should be taken:

1. Keep a record of all user names and passwords. IT and Security user names and passwords are maintained by and can be accessed by the Master Admin. However the Master Admin user and password is not.
2. Follow the procedures to download and save programmed settings. If a Commander reset is required all programming will be returned to its default settings. By saving programming a Master Admin can perform a Restore, returning Commander to its programmed functions.
3. Save all existing logs by performing either a Save As to a client computer or by emailing logs. Please note: once a unit is reset to defaults or powered down all log information is erased.

To Reset Commander: Locate the recessed button on the rear panel.
(As a precaution the procedure must be performed during power up)



Power on Commander and wait approximately one minute.

The Port A LED will change to Amber, meaning program is waiting for instruction

Press the reset button for 10 seconds, the Port B LED will turn amber.

Keep pressing the reset button for 2 full seconds longer.

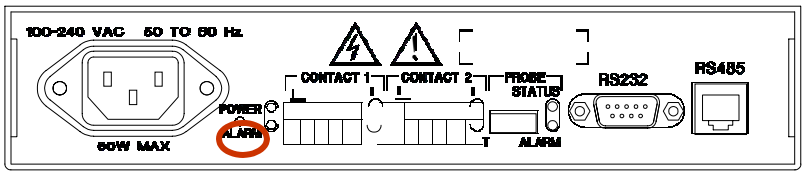
When both Port A and B turn off at the same time the system has reset to its defaults.

This procedure must be followed exactly. If the procedure is not followed as stated, the Port A LED will turn off after 10 seconds and will not allow any more attempts to reset. To override this condition Commander must be powered off and on.

Factory Default Settings:
Global Admin Login (Case Sensitive):
User: Admin
Password: Password
IP Address: 192.168.0.246 (Before firmware 20110504: 192.168.10.11)
Net Mask: 255.255.255.0
Gateway: 192.168.0.143 (Before firmware 20110504: 192.168.10.1)

Resetting Commander's using the RS 232 Port

In some cases it maybe necessary to reset Commander using the RS 232 Port in order to recover from incorrect IP settings.



To reset the RS232 Port:

Connect to the RS232 port with a Null Modem cable.
Set the computer's terminal program to 115200/8/N/1.
Push the reset button for 4 seconds.

The Port B Led will go Orange when the button is pressed and then Red after the 4 seconds.
The following login will appear:

> AFI Commander Linux
>
> Commander login: root
> Password: (not required)
> Enter the recovery user name

The unit will list the current system time and IP Address with a menu:
>
> Wed Nov 15 15:34:02 EST 2006
> 192.168.10.11 (192.168.0.246)
> >

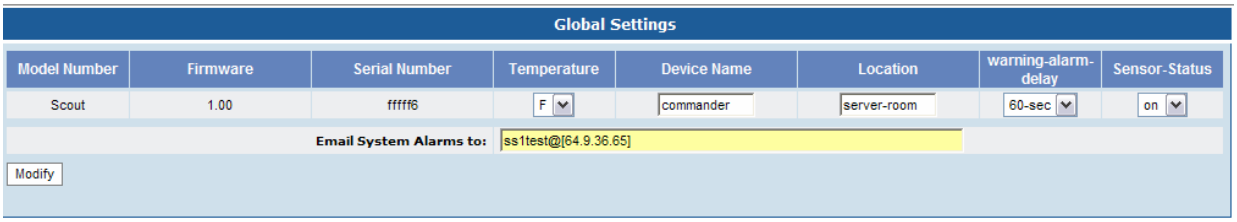
The settings are as follows:
>
0) Dump current setting
1) Disable Firewall, allow all IPs
2) Set IP to 192.168.10.11 (192.168.0.246)
9) Exit

Select:

Selecting 0 will dump the current status of the Commander device for advanced troubleshooting.
Selecting 1 will disable the firewall until it is set via the web interface.
Selecting 2 will set the IP Address back to the default settings without resetting any other parameters.
Selecting 9 will set the serial port settings back to default.

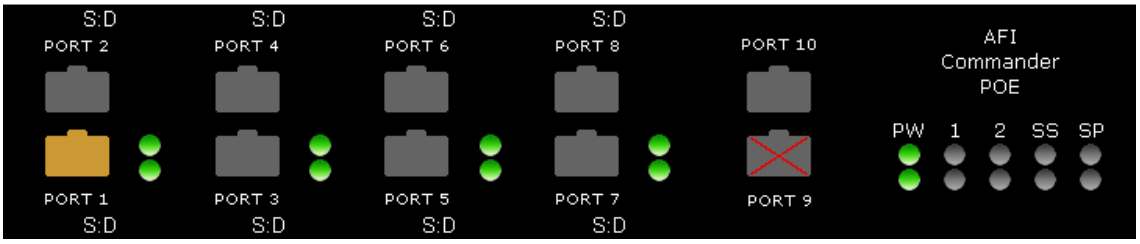
Recovering IP Address when DHCP Is Used

Commander has the ability to be programmed with a fixed IP address and operate in systems using DHCP. In the latter case Commander's IP address will change according to the IP address assigned to it by that system's DHCP server. In order to inform the operator of any such change in its IP address, Commander will send the new IP to the email address programmed in the Global Settings.
Please note: The programming of Global Settings is restricted to the Master Admin.



DHCP notification: Commander provides programmable email notification of any IP address changes. Also, ARP packet with IP and MAC address sent once every minute, may be detected by using standard freeware such as Wireshark or TCPDUMP. Both methods keep you up to date on Commanders using DHCP without the need to remove from system or complex external connections.

LED Startup Sequence



On power up, Commander will go through a boot process. The front panel LED's will display different colors and states as Commander goes through these steps. The following is the normal sequencing of these LED's after power is applied:

1) Power LED green: power is applied.

2) The Status LED will alternate between Amber and Green as several boot process occur and will remain Green when completed:

   Kernel is loaded and initialized
   Reading real-time clock time
   Initializing ramdisk and mounting flash file systems,
   Loading the CPU lm85 drivers, and MAC address,

3) Serial Port A

   Amber: Ready for reset to factor default.
   LED will remain on for 30 seconds to permit reset function.

4) Serial Port B

   Off normally. Amber if reset button pressed,
   If reset button is pressed longer than two seconds, both Serial Port A and Serial Port B LED's will turn off and the system will reset to factor default values.

5) The Status LED will alternate between Amber and Green as the boot process continues:

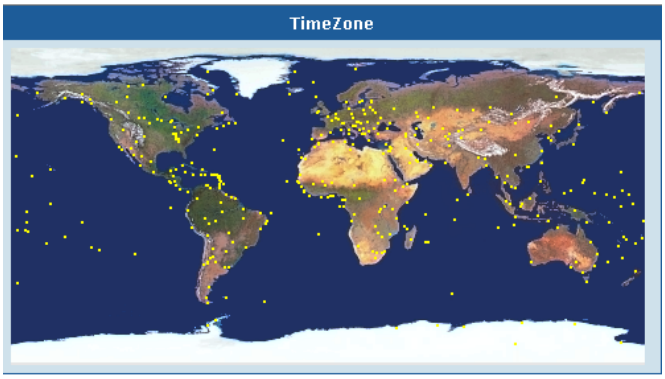
   Set up variables including untar web pages, zone files
   Setup IP network:

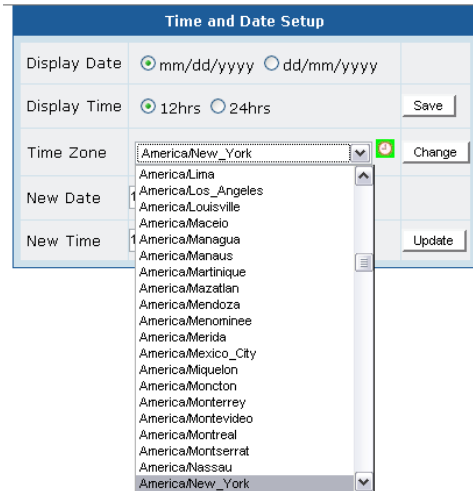
6) The Sensor Status LED will then indicate the final boot steps and will remain off when complete:

   Starting send mail, SSHD, and read probe data.
   Mounting NFS if applicable,
   Creating new database files and starting database server,
   Starting web, ftp, and SNMP servers,

UTC Time

Time zones, "UT" and "GMT" are indications of "Universal Time" and "Greenwich Mean Time" respectively and are both semantically identical to "+0000". As Commander can exist on a network anywhere in the world, it is important to know its time zone location. Please note that logged dates and times reflect the date and time at the actual location of the Commander and not at the viewing client.





Sending Email Notices and Files:

At various places in the Commander set up you will be able to input emails addresses for sending out warnings, alarms, log files, and notices of changes in IP addresses when DHCP is applied. The success in sending out emails is dependent upon your email server settings.

If an email is being sent from Commander to an address on the Internet, there are two important considerations. First your internal network must have a router or gateway to the internet. Second the SMTP server needs to allow the Commander to relay mail or rout the mail to a local user. The most reliable way is to set up an email account for the Commander.

It is suggested that during the installation of Commander you run a test of all required email addresses to determine if any problems exist. Ultimately, the solution to these problems will rely on the programming of your mail server.

Commander has been tested for sending emails to various internet email hosts, however these providers can change their set ups at any time leading to changes in performance. American Fibertek does not take responsibility for these changes.

System Access

System Access Levels

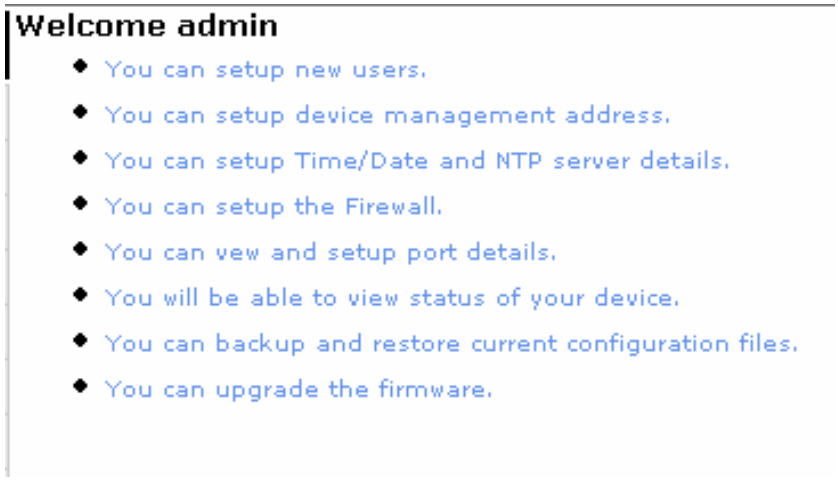
Commander has three main access levels and seven total login levels. The main access levels are Master Administrator, IT Administrator, and Security Administrator. The Master Admin can create user names and passwords for all levels. The IT Admin can create user names and passwords for all IT levels and the Security Admin can create user names and passwords for all Security levels.

In addition, menus that configure overall operation can only be accessed and set up by the Master Admin. The separation of IT and Security Administrators allows operations for each to be isolated from each other so that an IT administrator can make changes affecting network communications without changing or having access to functions affecting security operations and security directors can make changes to settings affecting security operations without affecting network communications and operations.

Additional user names and password assignments can be made by the IT Admin which will allow security users to view, but not change, IT settings. The Security Admin can likewise assign user names and passwords to IT personnel that will allow them to view, but not change, security settings.

Master Admin Menu

Commander has several modes for operation and set up. All of these can be found in the operating menu bar which appears on all screens. The menus available are defined by the access level assigned to an individual user. Operator Set Up is restricted to the assigned level access



Each sign in screen contains a “Welcome” message which details the permissions grated to that access level.

IT Access Levels

Login Mode IT Admin with Security View
Operator Setup
IP Ethernet Setup
Time/Date Setup
NTP Setup
Firewall Setup
Status View
Tree View
Event Log View
Poll Log View
Access Log View
Port Flow
POE • Control
• Advanced
Probe View
Alarm View
Aux View
Communications
Switch Setup
• Switch Flow
• MAC Filter
• Spanning Tree
• VLAN Setup
• Bandwidth
• QoS
• Port Monitoring
• Port Trunking
• Port Multicasting
Switch View

Login Mode IT Admin
Operator Setup
IP Ethernet Setup
Time/Date Setup
NTP Setup
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Login Mode IT View
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Event Log
Poll Log
Access Log
Switch Setup
• Switch Flow
• MAC Filter
• Spanning Tree
• VLAN Setup
• Bandwidth
• QoS
• Port Monitoring
• Port Trunking
Switch View

Security Access Levels

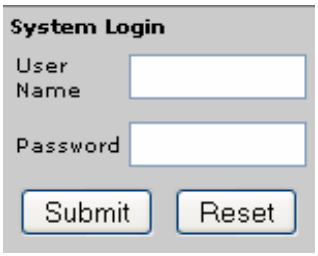
Login Mode Security Admin with IT View
Operator Setup
Ethernet View
Time Date View
NTP View
Firewall View
Status View
Tree View
Event Log View
Poll Log View
Access Log View
Email Event Log
Probe Setup
Port Flow
Alarm Setup
Aux Setup
Communications

Login Mode Security Admin
Operator Setup
Status View
Tree View
Event Log View
Poll Log View
Access Log View
Email Event Log
Probe Setup
Port Flow
Alarm Setup
Aux Setup
Communications

Login Mode Security View
Status View
Tree View
Event Log
Poll Log
Access Log

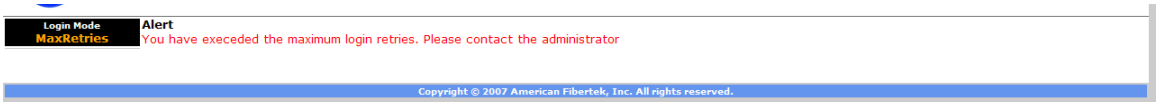
Logging In/ Logging Out

Using a web browser enter the Commander's IP address (default IP address in the case of first login) as the URL and the log in screen will appear. If the location has been previously titled, that name will appear. Entering the User Name and Password will define your access level to the Commander. After entering your user name and password, press Submit. If a mistake is made, press Reset and reenter the user name and password.

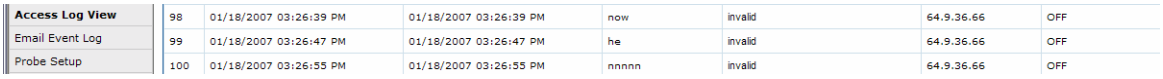


The Master Admin default username is "Admin". The Master Admin default password is "Password". The Master Admin password should be changed on first login.

Log In Exceeded:
Commander allows three attempts to enter the correct User Name and Password. If on the fourth attempt the correct name and password are not entered the user will be blocked. Retries can be attempted after a 5 minute time out period.



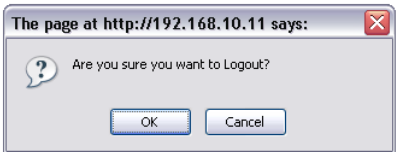
When the number of allowable retires is exceeded, the invalid log attempts will be recorded in the access log showing the date, time and IP address source



Logging Out:
The icon in the upper right hand corner of the screen is used to log out of Commander. Point and click on the icon to log off. The icon will appear in all operation and programming screens allowing the log out function at any time.

Auto Logging Out:
If no activity has occurred in twenty (20) minutes, Commander will automatically log out as a security precaution. To avoid this, after programming is complete, leave Commander operating in Status View mode with a programmed refresh rate.

As a result of pressing the Log Out icon a pop up will appear asking if you are sure. Press OK to log out. Press Cancel to return to the previous screen.



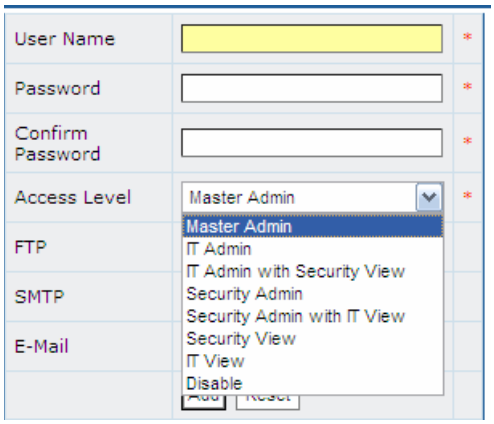
Programming

Operator Setup

When first accessing Commander by entering the correct IP Address, Commander will display opening screen for entering User Name and Password. This screen also display the general permissions for Master Users (Admin), Security Users and IT Users. Signing in as Master Admin will display the Master Admin Welcome screen outlining the general permission levels.

The Master Admin can assign operator user names and password for all security levels.

Access to operations is determined by the sign in security level. Only those levels available to the specific security level will appear in the mode select.



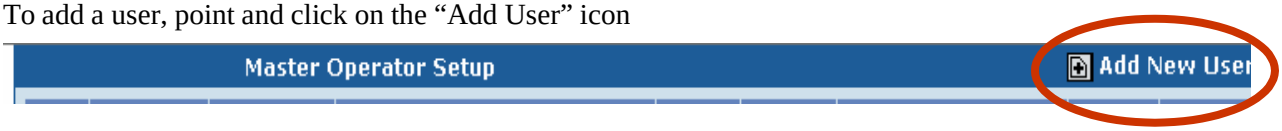
If a user name and password has previously been assigned a pop will indicate the "User already exists". Click OK and start the process over.

Adding an Operator

Commander allows each of the three Administrators, and seven total security levels. The main security levels are: Master, IT and Security to assign up to 10 User Names and Passwords for each category. Assignments can only be made at the authorized level and below. An IT Admin cannot make assignments in the Master and Security categories. A Master Admin can assign User and Passwords for any access level.

When entering the Operator Setup mode a complete list of all User Names and Passwords allowable at that level will be displayed.

To add a user, point and click on the "Add User" icon



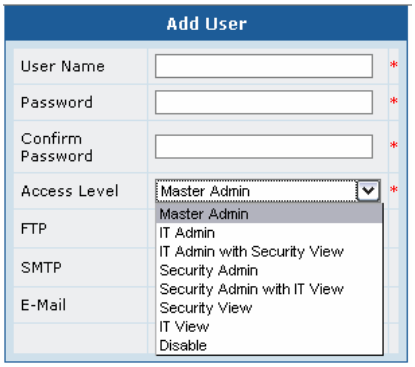
The add user screen will appear. Enter a User Name, Password, reconfirm the Password

User Name is limited to 10 Characters.

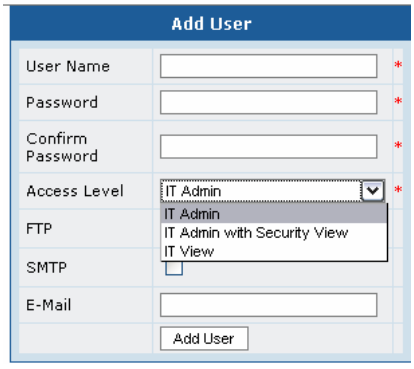
Password is limited to 8 Characters .

User and Password assignments will be determined by the Login User Name and Password.

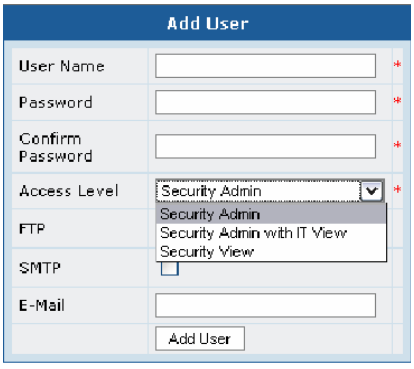
Master Admin



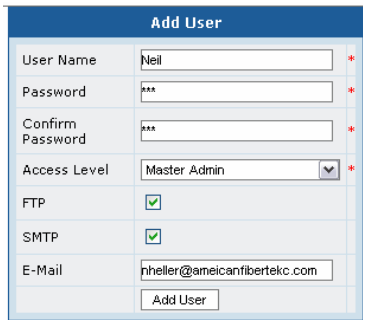
IT Admin

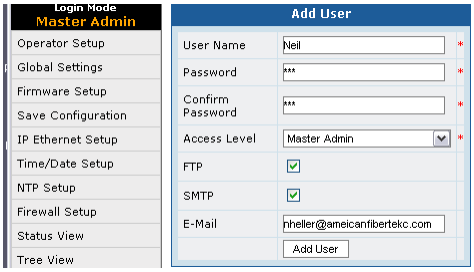


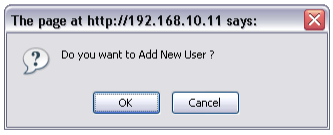
Security Admin



Next Check the FTP and/or SMTP providing that user permission to FTP and/or Email. Fill in the Email address. This will be the specific email address for that operator. All functions with email capacity will send their emails to that address. FTP user name and Password is the same as the user name and password.



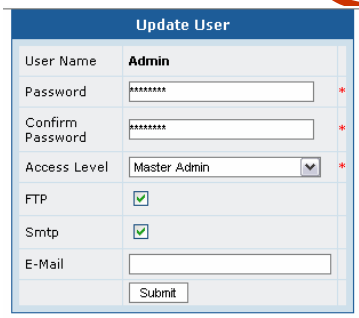




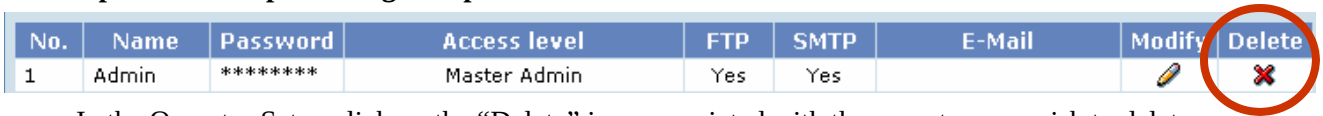
Click the Add User icon and a pop up box will appear asking to confirm your decision. Clicking OK will complete the process of adding the operator. Clicking Cancel will return to the previous screen

Operator Set Up-Modifying an Operator

Click on the Modify icon to display the "Update User" screen. Make any changes as required and click on the "Submit" button. If the modification is accepted, the screen will go to the operator set up.

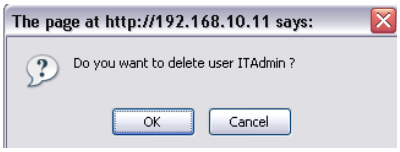


Operator Set Up-Deleting an Operator



In the Operator Setup click on the "Delete" icon associated with the operator you wish to delete.

A pop box will appear asking you to confirm your decision. Click OK to delete the operator. Click on the Cancel button to return to the previous screen.



Global Settings

Internal Values and Warnings

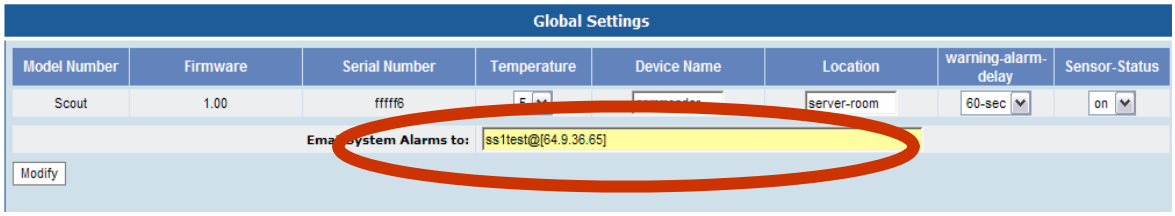
RunTime Days HH:MM	Main Supply 5V	I/O Supply 3.3V	CPU Core 1.3v	CPU I/O 2.5v	CPU Temp	Supply Temp	AirFlow Temp	FAN Status
6 days 19:03	4.78	3.27	1.3	2.52	126F	101F	91F	OFF

Commander monitors its own internal temperature and voltage values. Operating at too high or too low of these values can result in decreasing Commander's performance or turning Commander off. Extreme operating conditions could further result in damaging Commander.

The best precaution against environmental damage to Commander is to properly install and operate the unit. When mounted in a rack at least 1RU spacing should be provided on both Commander's top and bottom. Installations with unstable or questionable power sources should use back up generators. In all cases the use of filtered power supplies is strongly recommended.

Commander PoE contains two internal fans which are designed to activate at temperatures higher than those that can result in damage to Commander. The use of temperature controlled activation also contributes to extending fan life as it doesn't have to operator under proper temperature conditions.

When these warning levels are reached, Commander will issue email alerts to the address programmed in Global Settings.



Commander will trigger an internal alarm when any of the following conditions exist:

CPU I/O voltage is less than 2.25 volts or greater than 2.75 volts.
CPU core voltage is less than 1.17 volts or greater than 1.43 volts.
CPU voltage supply is less than 2.97 volts or greater than 3.63 volts.
Main Voltage Supply is less than 4.5 volts or greater than 5.5 volts.
Power Supply temperature (temp1) is less than -25C or greater than +59C.
Airflow temperature (temp2) is less than -27C or greater than +54C.
CPU temperature (temp3) is less than -16C or greater than +60C.

The internal fan will be turn on when any of the internal temperatures exceed preset limits:
temp1 > 55C or temp2 > 55C or temp3 > 65C

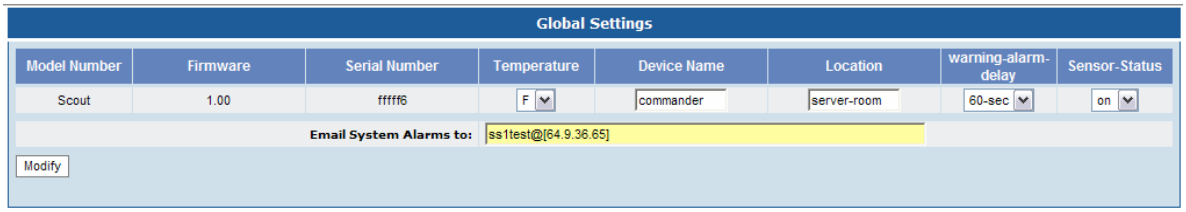
An internal alarm will be issued when any of the internal temperatures exceed preset limits:
temp1 > 60C or temp2 > 60C or temp3 > 70C

Name and Location
Fill in the name and location of your Commander. These names will appear in all logs, emails and records**.**

Global Settings: Temperature
Use the drop down menu to select Fahrenheit or Celsius temperature scale.

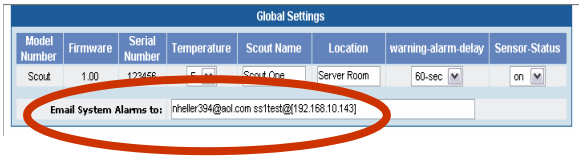
Warning-Alarm Delay
Commander probes sample environmental conditions once every 10 seconds and verify conditions after 3 samples or 30 seconds. This delay is programmable and determines the duration a condition must be valid prior to taking any action

Alarm Alerts: To sense an alarm or warning condition a probe is polled three times to avoid any potential for false alarms. As each poll is 10 seconds the total time to confirm if a condition is valid is 30 seconds. To further avoid false alarms the Master Admin can program a Warning-Alarm delay which will require the condition be valid for the total programmed time prior to taking any action.



Global Settings: Sensor Status
This setting is used to display sensor status when communication occurs between the sensors and Commander. It is a notification only and its operation will not affect warning or alarm reporting. Use the drop menu to select On or OFF.

Email Address
This email address will receive the following information:



1. IP address that occur when Commander is operated in the DHCP mode. When the client receives a notification IP Address has changed, this new IP Address must be entered in the client web browser.
2. When an existing Sensor has been unplugged or a new Sensor inserted when Commander is ON.
3. When Commander senses an internal voltage or temperature warning or alarm condition.

You can enter more than one Email address. Multiple email addresses are separated by a space.

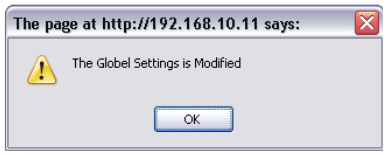
Modify

When the Global Settings changes are completed, click the Modify button. A pop up will appear asking you to confirm your choice.

OK will enter the settings. Cancel will return the screen to the previous mode.

Global Settings: Modify Complete

When Commander has completed the modification it will issue a Pop Up. Click OK to complete the process

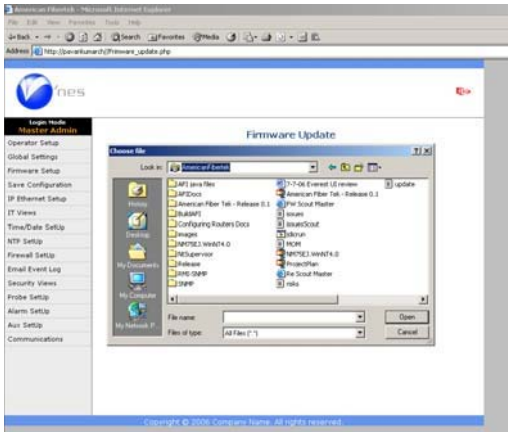


Firmware Upgrade

Master Admin Firmware Setup

Clicking on the Mode for Firmware Setup will display the Firmware Setup screen which allows new firmware to be loaded updating Commander. The screen will also show a history of the most recent updates

Firmware Update Browser Button

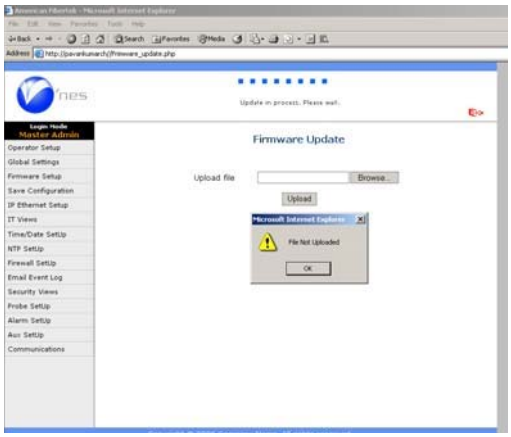


Clicking on the Browser button will open up the Browser located on the client computer. The file to be uploaded must be located on the client computer.

Select the file using the same methods as any Windows ™ program. The valid file will have a xxxx.tar.gz. Processing of the file is done by Commander.

After the file is selected press the Upload button to start the process.

Wrong File Section

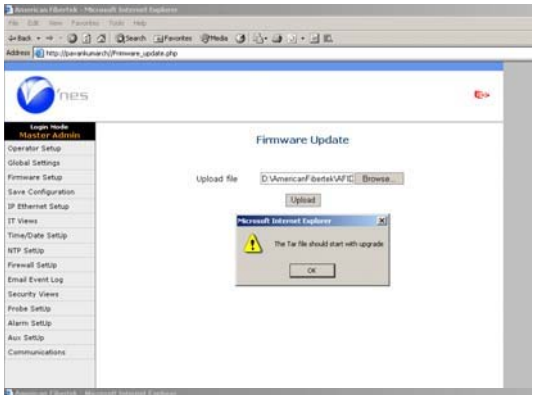


If the file selected is not a .tar file the upload process will not proceed and the following display will appear.

Major firmware updates require an ISO CD-ROM image be downloaded from our website www.amercianfibertek.com. A CD is burned from this image file and used to boot a laptop. The instructions on how to upgrade will be displayed on the laptop after it boots.

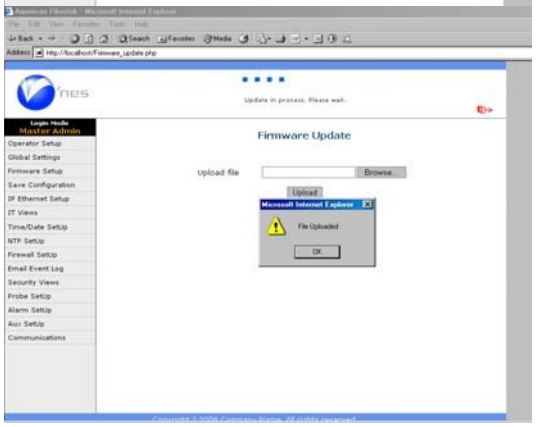
File Doesn't Match

If the upgrade file is not accepted, the following alert will appear. Clicking OK will return to the previous screen and allow the selection process to be repeated.



Completing the Upload Process

If the correct file is selected a time bar will appear at the upper end of the screen indicating the upload is in process.

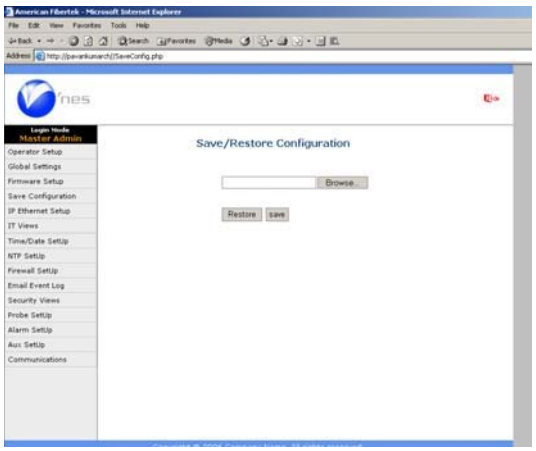


Successful completion of the Upload will be indicated by the following alert box.

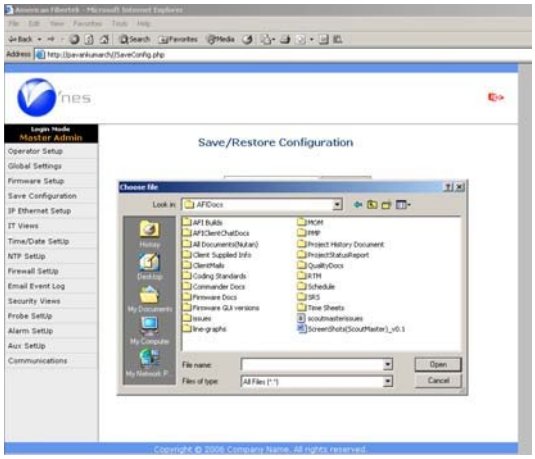
Master Admin Save Configuration

Clicking on the Save Configuration Mode button will display the Save/Restore Configuration screen. This function allows existing programming on Commander to be saved to a client computer.

Restore allows programming from a client to be restored to Commander.



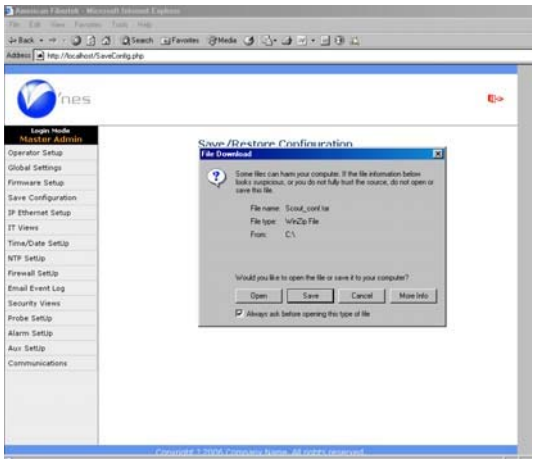
Save / Restore Configuration



Clicking the Save button will open up the Windows™ Save As screen on the client computer.

The operator only needs to select the destination folder

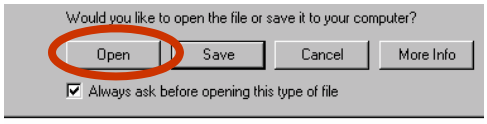
Save/Restore Feature: Save



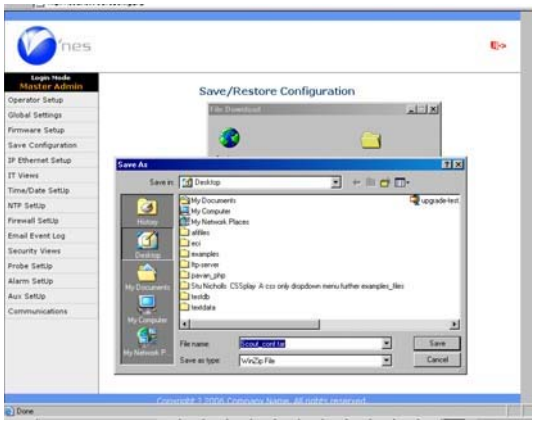
If the save button is selected the system will automatically create the file and downloaded to the previously selected destination folder.
The .tar extension will automatically be added after which the operator can elect to change the file name.
Caution only file names with .tar extensions can be uploaded.

Save/Restore Feature: Restore: Open File

The Restore process from the previous screen by selecting Open.



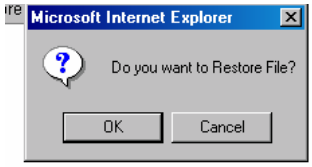
This will open up the Windows™ dialog box. Select the folder and file name to be restored.



The file will open with the particular file as indicated by its extension. Make certain if the file is a valid .tar file, the extension is changed prior to uploading

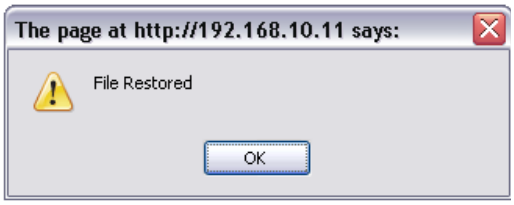
Save/Restore Feature: Restore: Confirmation

After selecting the file, the Restore button will appear along with an alert box. Responding Ok will active the Restore function and overwrite Commander's existing programming. Clicking Cancel, returns to the previous screen.



Save/Restore Feature: Restore:
File Restored

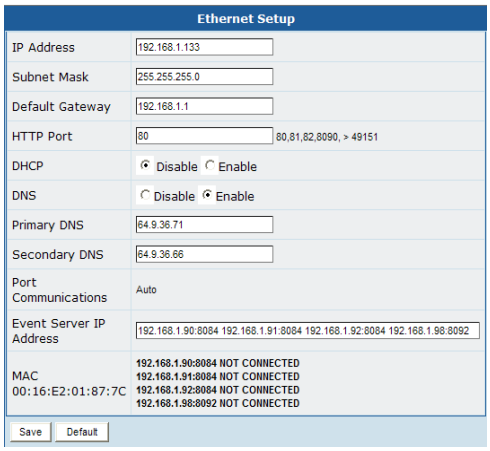
When the Restore function is completed the "File Restored" alert box will appear.



IP Settings

Default IP Settings

Commander's default settings are displayed to the right. DHCP is set to off in the default settings and the default HTTP port is 80.



IP Address: 192.168.10.11
Subnet mask: 255.25.255.0
Gateway: 192.168.1.1

HTTP Port

This is the port used to access these setup screens via a web browser. This setting is restricted to certain ports as displayed on screen

DHCP

When DHCP is enabled Commander will report any changes in its IP Address to the email address entered in the Global Settings. (Master Admin function)

DNS

A DNS resolver address is required for SMTP (email) to function. Select Enable and enter at least one DNS server address.

Port Communications

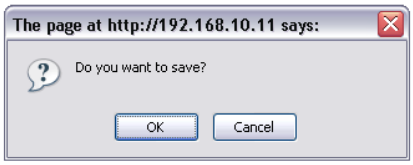
Port communications is controlled by the switch. See Switch Flow under Switch Setup.

Alert Console IP Address:Port

The Alert Console allows you to program an IP address and port to receive alerts responses to alarms and warnings. The receiving client computer must allow these alerts to be received. *Up to four addresses and ports may be entered separated by a space.*

Network Settings: Saving your settings

Clicking the Save button will result in a pop up asking you to confirm your settings. Click OK to confirm. Click Cancel to return to the previous screen. Remember to make a note of your new IP Address.

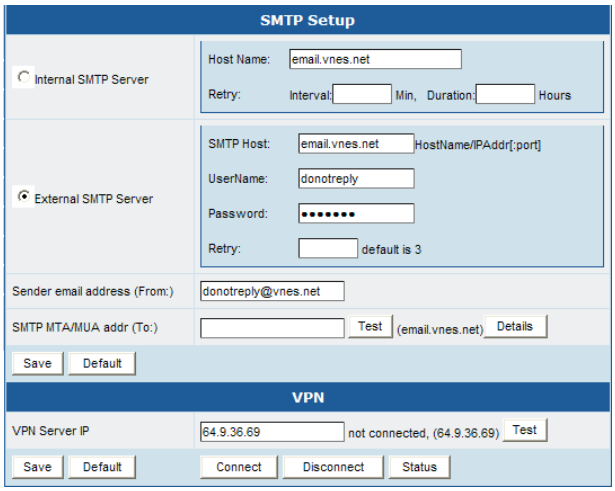


Network Settings: Settings Accepted

When Commander has successfully accepted your changes it will issue a pop up. Click OK to continue set up.

SMTP Settings

Simple Mail Transfer Protocol setup is required for emails to be sent from the Commander. There are two methods provided. An internal SMTP server may be used, or Commander can connect to a mail server using login account credentials.



Internal SMPT server will act on its own, connecting to other mail servers. However, other servers may not recognize Commander as a legitimate internet mail server and may refuse connection. External SMTP server will setup Commander to act as an email client. This will require an account on an existing mail server.

Internal SMPT Server

To use the internal mail server, select the “Internal” radio button. Enter the host name for the Commander to use to identify itself to other mails servers. The values for retry and Duration will set how many times and for how long Commander will try to send an email before stopping.

External SMPT Server

To use and external mail host, select the “External” radio button. Enter the URL or ip address of the mail server and optionally the port if not port 25. Some ISPs restrict access to port 25 in order to reduce spam. Many mail servers provide alternate ports on which to connect. This port would need to be supplied by your ISP or mail administrator.

Enter the username and password of the account for Commander to use to establish connection. The default retry is 3, you may enter another value her if necessary.

Email Test Feature

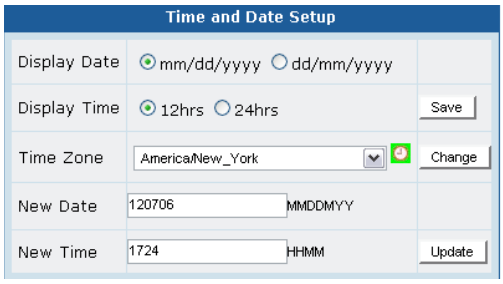
By entering the (To) and (From) addresses in the spaces provide, Commander can send a short test message using the email setup provided. After entering the information, press the Test button to send. After a few moments, the Details button may be used to display the SMTP messages in order to aid in troubleshooting email issues. Knowledge of SMTP transaction messages is helpful.

VPN

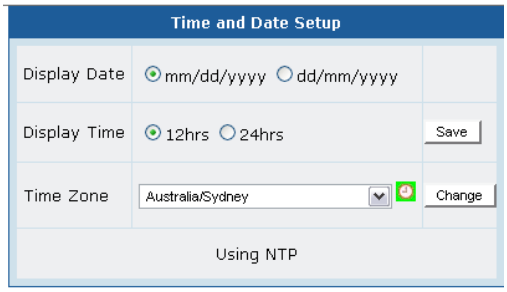
The VPN feature will connect to an AFI local device in order to aid in trouble shooting. This is rarely required.

Time & Date

The Time/Date function defines the formats for date and time, the time zone commander is functioning within, and the current data and time. Start by setting the Date and Time Display



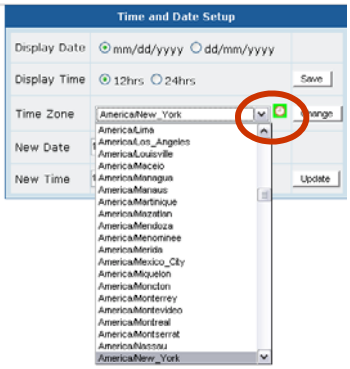
Time/Date Setup: NTP Active
Commander's time reference can be set by NTP (Network Time Protocol). If NTP is active the time date setup will have the appearance to the right. You will not be able to set a new time or date. The screen will indicate "Using NTP



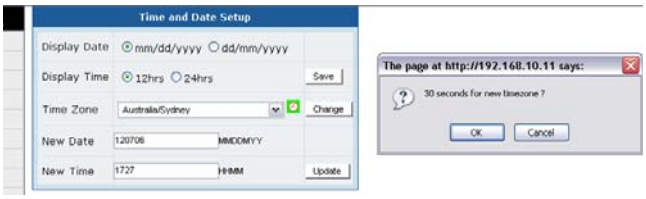
Time and Date Time Zone Function
Time/Date Setup: Selecting Time Zone

Select the time zone using the drop down menu.

Time/Date Setup: Time Zone Map Function
Click on the clock icon to display a world map. Each dot on the map represents a time zone. Moving your mouse over the dot will display the time zone's name
Click Change to select and accept the time zone

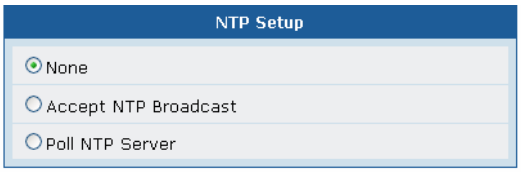


Time/Date Setup: New setting
Press up "Update" to accept the new time settings. A pop up will appear informing it will take 30 seconds to process the change. Click OK to accept. Cancel will return the screen to the previous setting.



NTP

Commander provides three different NTP settings;



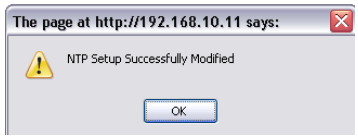
None: NTP is not active. Commander's internal real time clock is used as the reference. When using the internal clock as reference, please make certain the time is correct.

Accept NTP Broadcasts: Commander will accept NTP broadcasts. Use this setting if you are using a system clock.

Poll NTP Server: Commander will Poll a NTP Server at a specific IP address. This setting can be used to poll at external NTP source located on the Internet.

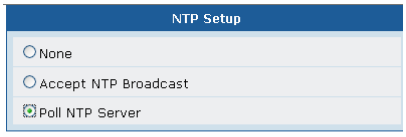
NTP Setup: Accept NTP Broadcast
If you want Commander to accept NTP Broadcasts, clock the button and Save. A pop up will ask you to confirm your selection. Click OK to accept and Cancel to return to the previous screen.

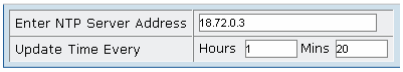
NTP Setup: NTP Broadcast Set Up Successful



If Commander accepts the update, it will issue a pop up. Click OK to return to the previous screen

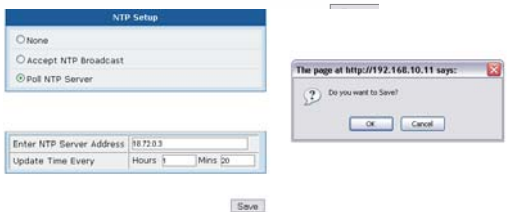
NTP Setup: Poll NTP Server
If you want Commander to Poll an NTP Server, begin by confirming the location and access to the server. Enter the NTP IP Server Address. Next program the duration you want Commander to poll the time server.



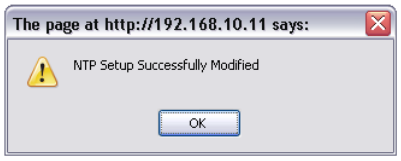


Finish by clicking "Save".

NTP Setup: Poll NTP Server Setting Saved
If you want Commander to Poll an NTP Server, begin by confirming the location and access to the server. Enter the NTP IP Server Address. Next program the duration you want Commander to Poll the server. Finish by clicking Save.



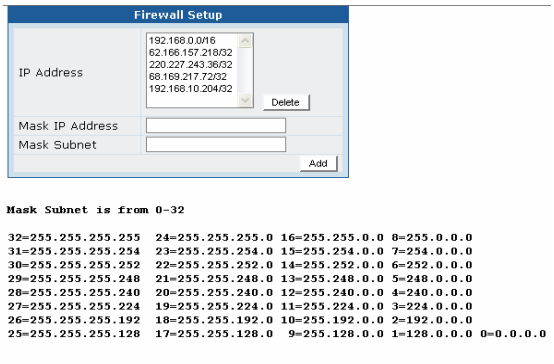
NTP Setup: Poll NTP Server Setting Saved
When Commander has accepted the changes it will issue a pop up. Click OK to accept.



Firewall

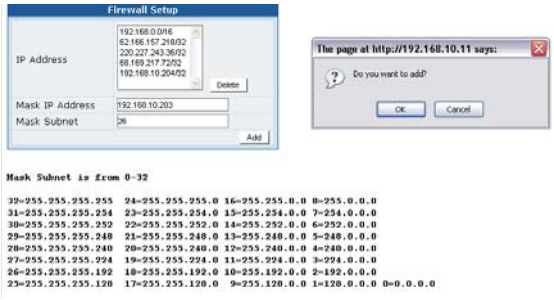
Firewall Setup: A-Opening Screen

Firewalls protect Commander from access from outside sources that could data access without authorization.



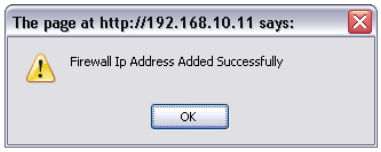
Firewall Setup: Adding an Address

To add an address, type the address in the "Mask IP Address" box. Mask subnet addresses are based on series of numbers 0-32 with 0 representing the full range. Type in the number that corresponds to your network.
Click "Add" a pop up box will appear asking you to confirm your settings. Click OK to accept or Cancel to return to the previous screen.



Firewall Setup: Adding an Address-Accepted

When Commander accepts your changes, it will issue a pop up. Click OK to accept.

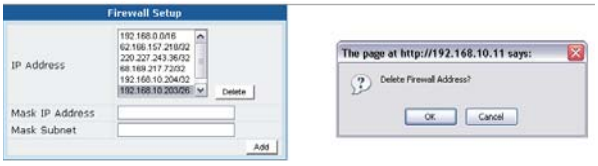


Firewall Setup: Adding an Address-Rejected

If you input an invalid address a pop will appear. Click OK to return to the previous screen.

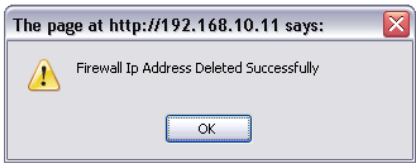
Firewall Setup: Deleting an Address

To delete an existing Firewall Address, select the address from address box. Clicking on the address will highlight it. Click the Delete button. A pop up will appear asking you to confirm your selection. Click OK to accept or Cancel to return to the previous screen.



Firewall Setup: Deleting an Address –Accepted

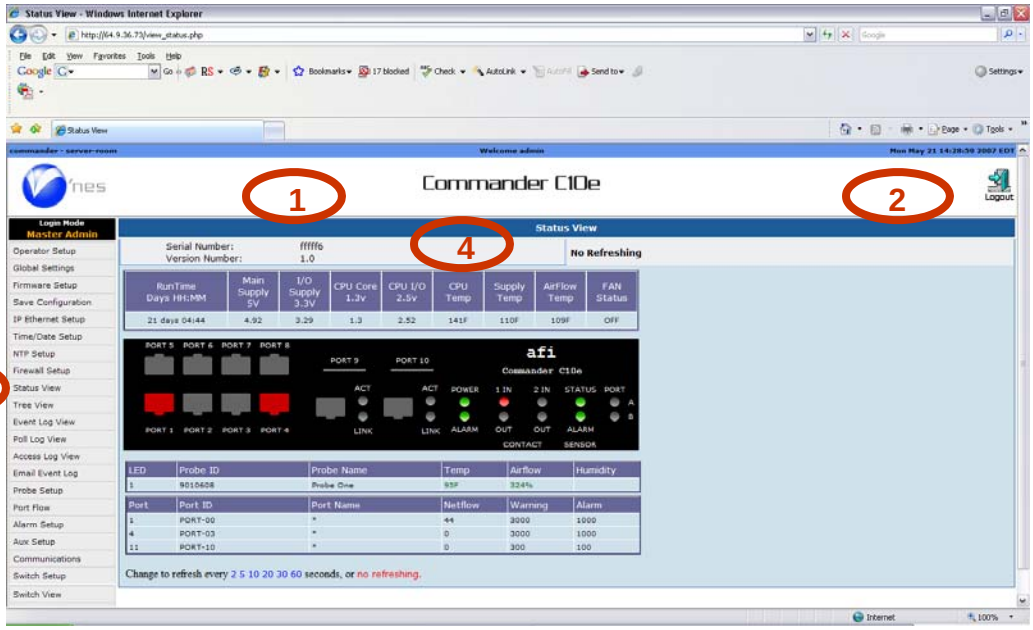
When Commander has accepted the delete, it will acknowledge by pop up box. Click OK to accept.



Status View

After logging in the screen will automatically go to the Status View. This view allows all users the ability to see both the Commander's internal and external status. A description of the information displayed is as follows:

2



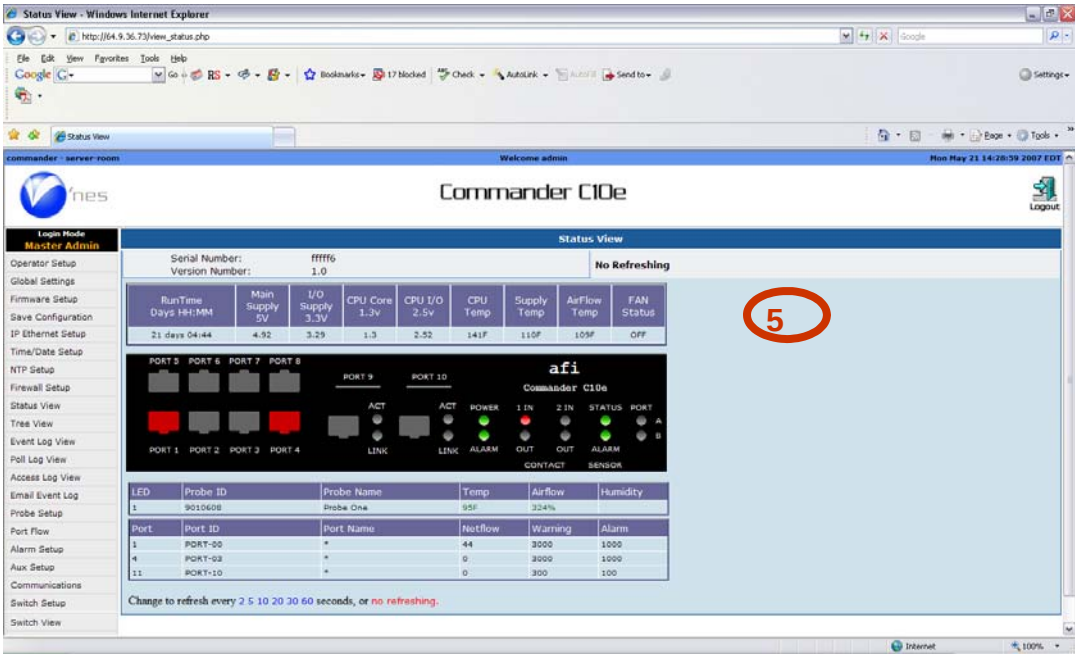
1. Header:

A. Access Level as defined by the operator user name and password.
B. Day, month, time, and year with reference time zone. In the header time is always displayed in 24 hour format regardless of the actual time display setting.
C. Product name and model number.
D. Device name and location as provided by the operator if previously programmed.

2. Log Out:
Clicking the Log Out icon will ask you to confirm your decision and log out. Logging out is required to properly record the log out time in the access log.

3. Operator Modes:
The modes that appear are determined by the User Name and Access Level provided at log in. The active mode will be highlighted

4. Serial number and Firmware version number.

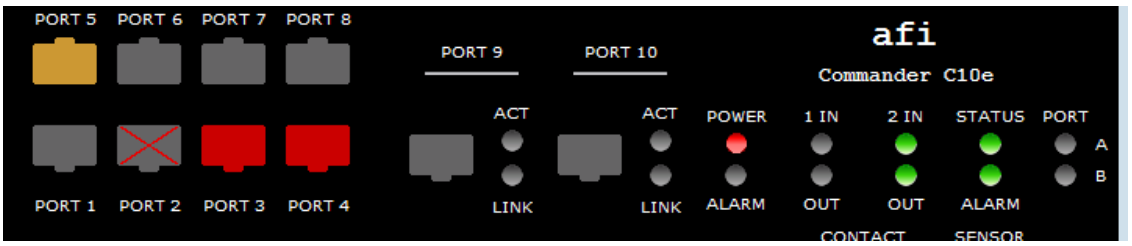


5. Internal Settings:

In addition to monitoring external conditions, Commander monitors itself by reporting internal voltage and temperature conditions. An internal fan will activate as determined by high temperature conditions avoiding continues operation and extending its usage life span

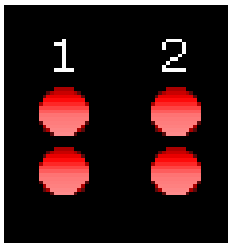
Internal Triggers:

Commander will trigger an internal alarm when any of the following conditions exist:
CPU I/O voltage is less than 2.25 volts or greater than 2.75 volts.
CPU core voltage is less than 1.17 volts or greater than 1.43 volts.
CPU voltage supply is less than 2.97 volts or greater than 3.63 volts.
Main Voltage Supply is less than 4.5 volts or greater than 5.5 volts.
Power Supply temperature (temp1) is less than -25C or greater than 59C. *(Temperatures greater than 59C will trigger the internal fan)*
Airflow temperature (temp2) is less than -27C or greater than +54C. *(Temperatures greater than 54C will trigger the internal fan)*
CPU temperature (temp30 is less than -16C or greater than +60C. *(Temperatures greater than 60C will trigger the internal fan)*

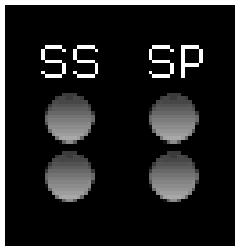


Port Status Color Code:
Green=Normal connection and data flow
Amber=Port is in warning state
Red=Port is in alarm state
Grey with red X =Port is disabled

Alarm LEDS: (Hard Contact Inputs)
Gray or no color for inactive stat
Red in active state (active duration is dependent upon auxiliary duration setting.)



Auxiliary LEDS:
Gray or no color for inactive state **Red** in active state (active duration is dependent upon auxiliary duration setting.



Status LED:
Gray no probe present
Green probe present/normal operation

Alarm LED:
Gray no probe present
Green probe present/normal operation
Amber = Warning
Red = Alarm

In cases when more than on sensor probe is connected using an external USB hub, the Status LED will flash in sequence representing the status of each of the probes (up to 4) that are connected.

Power/Alarm LEDs
Power: **Green** for normal conditions
Alarm: **Red** for any internal alarm condition

Communication Port LEDs
Port A (RS 232) **Green**: Tx is active, Red: Rx is Active
Port B (RS 485) **Green**: Tx is active, Red: Rx is Active

IP Address conflict notification

In the event the network has a duplicate IP address on the same LAN, Port A will flash amber as long as the condition exists. Commander will check this network condition each minute.

When the condition is no longer present the LED will return to the Off state. When multiple Scouts or Commanders are operating on the same network, all units will show this condition.

Probe Status

LED	Probe ID	Probe Name	Temp	Airflow	Humidity
1	9010608	*	95F	146%	

The Probe status view shows (moving from Left to Right)
LED = represents number assigned to that probe from 1 to 4. LED assignments can change due to operator programming.
Probe ID = is the permanent number assigned to a probe during manufacturing and cannot be changed.
Probe Name = the name assigned to the probe by the operator
Temp Airflow Humidity = display the current values and status. Warnings will be displayed in amber and alarms in red. Warning and alarm values are determined by user set up.

Port Status: PortFlow™

LED	Probe ID	Probe Name	Temp	Airflow	Humidity
1	9010604	deep	29C	26%	

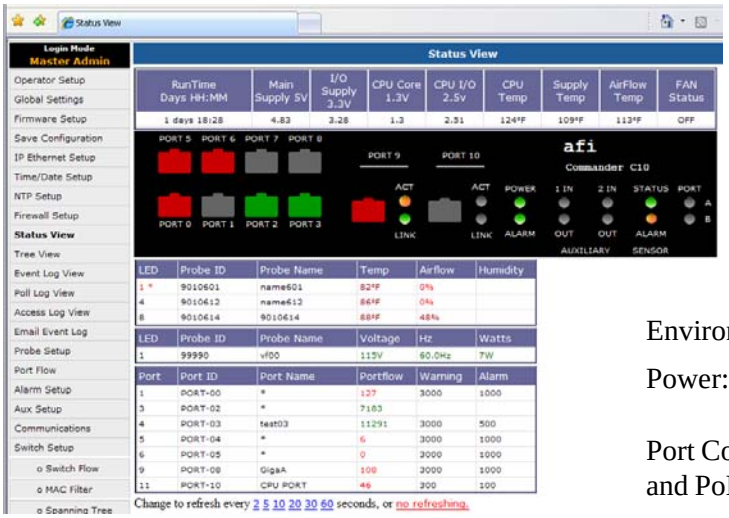
Port	Port ID	Port Name	Portflow	Warning	Alarm
1	PORT-00	*	0	3000	1000
4	PORT-03	test03	167	3000	500
8	PORT-07	*	0	3000	1000
9	PORT-08	GigaA	0	3000	1000
11	PORT-10	CPU PORT	0	300	100

This feature reports traffic at each port. Operators can set a traffic levels to meet quality and reproduction rates for video streams. Warning and alarms can be set to operator specified levels.
Port=1 to 11. Ports 1 to 10 represent each of the Ethernet ports. Port 11 monitors Commander's internal traffic and does not have warning or alarm settings.
Port ID= is the fix port identification assigned to each port.
Port Name: The name assigned to port by the operator during set up:
Port Flow: Display the value of the traffic as packet flow. Amber=Warning, Red =Alarm.

Port Numbers: Commander's port numbers are expressed two ways. The physical ports are identified as Ports 00 through 10. The logical numbering system is Ports 1-11. Logical Port 11 is Commander's internal CPU port. This port carries signals from the Ethernet switch to the internal processor. If communication is lost from this port, the switch will lose some functions that require the CPU, such as STP, RSTP and Multicasting. The CPU port is always connected to the same VLAN as logical Port 1.

Status View: Ports

The Status View is divided into 4 sections.



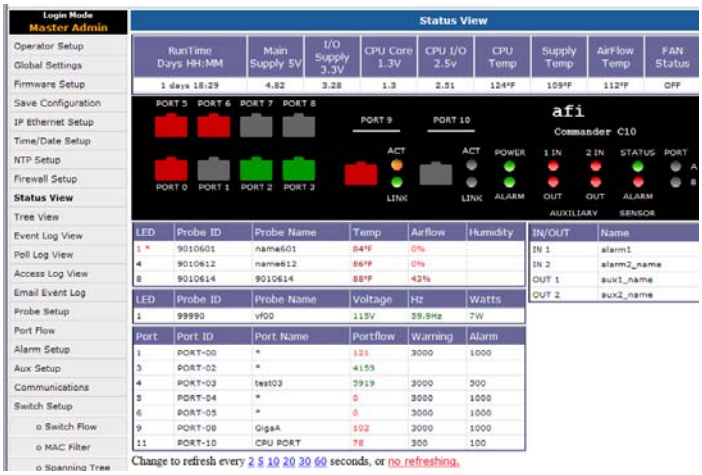
Internal Conditions

Environmental: Temperature/Airflow/Humidity

Power: Voltage/Frequency/Power

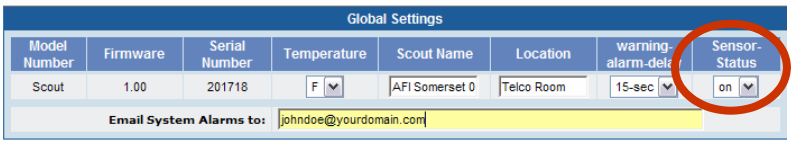
Port Conditions: PortFlow™ and PoE power level.

Status View: Alarms and Auxiliaries



When hard contract alarms or auxiliaries are active, they will be displayed in the Status View

Commander can monitor communications with its probes if the Sensor Status is set to on in the Global Settings. When set to on the LED will display a solid amber color during the communication process. Please note in the default setting all probes will only address LED # 1 until the programming has been changed. *Global settings are a Master Admin function only.*



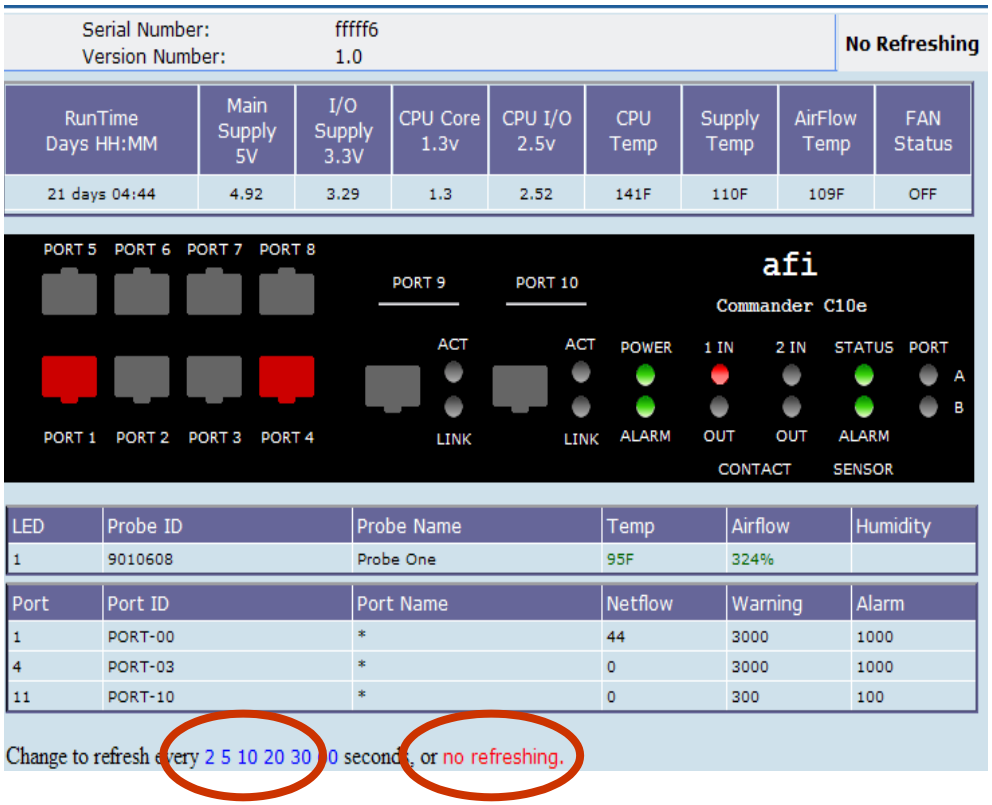
Refresh Rate
Commander's status is viewed over the network on a client computer. Changes can only be viewed when the client's web page is refreshed. This section allows the operator to select the refresh rate duration or no refresh at all. The Refresh status is reflected in the Status View's header.

Refresh Rate Enabled/Disabled
This selection enables or disables the client's status view refresh. Refresh must be enabled to avoid a 20 minute auto log and to see event warnings. If Commander is in the no refresh rate, the title will be red.

Event Warning Enabled/Disabled
This selection enables or disables the Event Warning feature. It must be enabled in order to pop ups when the Commander's Status View is minimized. It is only available in Refresh mode.

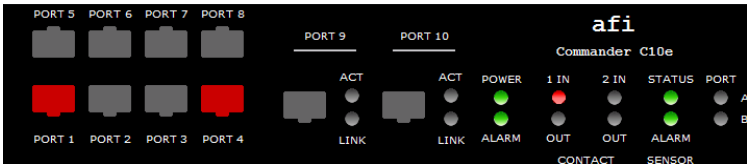
Refresh Rate/Event Warning Status Confirmation
This section will confirm the sections made for items 8,9 and 10. If this confirmation does not reflect the desired operation, please change these settings. If the Event warning is off, it will not appear in this area.

Commander must be in the refresh mode with events warning enabled in order to see pop ups and display tool bar warnings.



Front Panel Manual Auxiliary Operation

Commander's Auxiliary functions can be controlled from Status View by clicking on any of the auxiliary buttons.



When an auxiliary button is selected, a pop up will appear asking the operator to confirm the selection. If OK is selected the auxiliary will become active. If Cancel is selected Commander will return to the previous screen.

When OK is selected the auxiliary will become active and the auxiliary LED will change from grey to RED.

If the auxiliary LED is active, clicking on the auxiliary will cause a pop up to appear asking to confirm the decision. If OK is selected the auxiliary will change from On to Off. If Cancel is selected Commander will return to the previous screen.

Warning: Activating or De-activating the auxiliary function manually will stop the previously selected refresh rate and pop up and tool bar (Firefox only) warnings. The screen status will change to reflect this. When manually operating the auxiliary function, Refresh must be re-programmed.

Rules Governing Manual Auxiliary Operation:
(This function is restricted to Master Admin, IT Admin and Security Admin only)

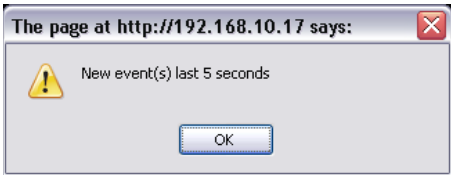
Sensor Operation:
When an auxiliary is activated by a sensor, the auxiliary can be manually turned off as described. However; if this action is taken when the sensor is still in the alarm or warning condition, it will continue to be logged as active. The "turn off" time of the auxiliary will be logged as the actual time when the environmental condition is no longer present and not when the operator terminated the auxiliary. As environmental conditions may last for long durations this features allows operations to turn off visual or auditable alerts which maybe annoying if left on for long period.

Hard Contact Alarm Operation: Manually terminating the auxiliary will also terminate the alarm duration. The time of the termination will be recorded in the Auxiliary log.

Activating an Auxiliary

Commander allows an operator to manually activate an auxiliary.
Move the mouse over an auxiliary in the off position. Left click will bring up an alert box asking to confirm your decision to active the auxiliary. OK will result in activation. Cancel will return the screen to the previous mode.
Once an auxiliary is active it can be de-activated.

Acknowledgement:
In order for acknowledgement to respond to an alarm, it must be programmed as part of the security set up.



AUX operation: If an AUX is active it will show as red. The user can extinguish the AUX by point and right click. A pop up box will appear "Turn Aux (number) off? Yes/No

Operation of Alarm Acknowledgements and the effect on Aux duration operations:

In the case of an sensor warning or alarm the following will occur:
The logical device name will turn Amber in the case of a warning
The logical device name will turn Red in the case of an alarm
This action will continue as long as the condition is valid

If an Auxiliary has been programmed to turn on for a pre-determined period of time, its logical name representation in the tree will become Red, indication it is active.

An operator with permission will have the ability to terminate the auxiliary output prior to its programmed time, by the action of moving the mouse over the individual Auxiliary LED and point and click.

A display block will appear with "Turn aux (number) off? **YES/NO.**

A **YES** will De-activate the Auxiliary and return that part of the screen to the tree display. A **NO** will return that part of the screen of the tree display.

If **YES** is selected the following actions will take place:

The auxiliary function will be de-activated and will not become activate again until the current alarm condition is ended and a new alarm input (programmed to correspond with that individual auxiliary) is received . The Red indication on that Auxiliary's logical name will be terminated and return to its normal non-color state.

Tree View

Tree View shows the status of sensors, alarm inputs and auxiliary outputs. These are referred to as “Logical Devices”.

Tree View Operations

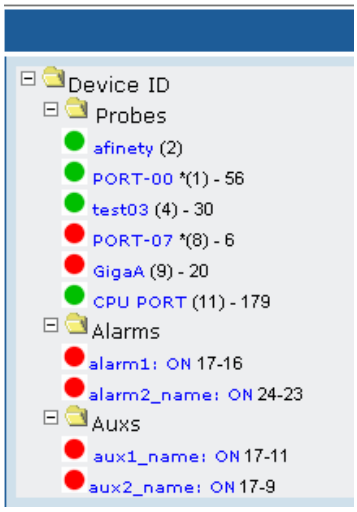
When first clicking on the Tree View, the Device ID will appear. In the Tree, Commander is referred to as the ‘Physical Device” while the connections to Commander are referred to as “Logical Devices”
If an operator has previously named Commander, that name will appear.

Expanding the Tree will show the show the three logical devices, Probes, Alarms and Aux (auxiliary)

Expanding each logical device will display its name, status as indicated by the color, assignment to an LED and the number of alarms or warnings that have occurred.

Views: Tree View- Logical Device Status

Sensor Probes: In the example to the right, the green circle to the left of probe test 03 indicates it is currently in the normal mode. The (4) indicates that probe is assigned to front panel LED number 4. (Although the LED may be assigned to 1 through 10, Commander only displays LED #1 in the front panel.) The number 30 indicates that a combination of 30 alarms and warnings has occurred.
When a name has previously been assigned to a logical device, the tree will show that name. When a name has not been assigned it will automatically be given the probe ID number.
Port Probes: Are displayed under Probes. The number in ( ) is the port number displayed after the Port Name. The number following this is the number of events that will appear in the log when active.



Aux (Auxiliary): The indicator to the left indicates the alarm status, Gray for OFF, and Red when in the active alarm mode. The alarm mode will be displayed for its programmed duration or until the operator terminates by using the front panel status. The operator may provide a name for each. OFF indicates the alarm is not currently active. The first number indicates the number of times an OFF to ON state transition has occurred while the second indicates the number of times an ON to OFF has occurred.

Logs

To display the history of a logical device, point and click on a device in the tree display. Its history will be displayed. Sensors will also display their programmed alarm and warning levels. Clicking on a logical device will collapse the tree. To view the tree or to select another logical device, repeat the previous process.

The + sign indicates when an event started and the – signs shows when it ended.

No.	StartDate	StartTime	ProbeID	Event Type
1	01/12/2006	01:26:11 PM	9010609	AirFlow Warning +
2	01/12/2006	01:24:01 PM	9010609	AirFlow Warning -

Log Database

Commander maintains a database of events. Poll and Event Logs can hold as many as 30,000 entries in the following maximum storage configurations:

Sensor Probes: 1,000 entries per sensor probe (4 probes = 4,000 entries)
Ethernet Ports: 1,000 entries per port (10 ports = 10,000 entries)
Alarms: 1,000 entries
Auxiliary: 1,000 entries

Event Log: 16,000
Poll Log: 14,000
Access: 1,000

Event Log

The Event Log Displays events in the form of Sensor Alarms, Warnings, hard contact alarms and auxiliary activity as programmed by the operator. The log displays the Date, Time, Type, Logical Device ID and Name, the trigger value that was assigned (in the case of sensors) and the action that caused the trigger to occur.
+ indicates time event started
- indicates time event ended

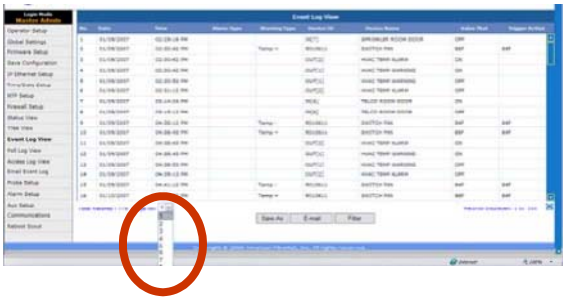
Poll Log

Poll log entries occur based on the operator programming. Only Sensors are polled. When the poll occurs the time, date Sensor ID, Name, and current temperature, airflow and humidity are recorded along with there operator programmed trigger values.

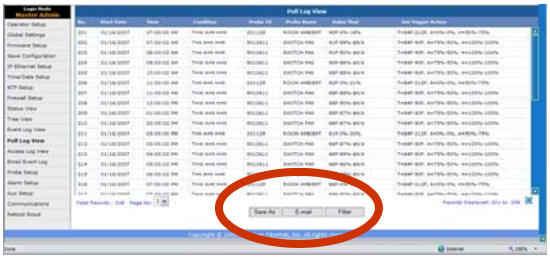
Access Log

Access log entries occur based upon users logging in and out of the Commander web browser. In order to properly register the time an operator has logged off in the Access Log, the operator must log out and not end the browser session. Failure to log out first will cause an error in the Access Log mode which can interfere with data filter functions.

For Event, Poll and Access Views:
Use the drop down menu to select an individual page



For Event, Poll and Access Views:
You can view up to 100 entries at a time by using the increase or decrease arrows



Event & Polling Logs

The Event log will display the time the Auxiliary was activated and the time the Auxiliary was de-activated which will be the time the operator selected this function.

With regard to Sensor Alarm functions: *(applies only to sensor events)*
The termination of the Auxiliary function will not affect the Alarm duration of a sensor event
The alarm will remain active for the duration of that the alarm condition.
The alarm logical name in the tree will remain Red as along as the Alarm condition is valid.

The Event Log will show the time the Alarm condition started and the time the time the Alarm condition ended.

It will NOT correspond to any user action taken with regard to de-activating the auxiliary function.

With regard to Warning Functions: *(applies only to sensor events)*
The termination of the Auxiliary function will not affect the Warning duration.
The Warning will remain activate for the duration of that Warning condition. The Warning logical name in the tree will remain Yellow as along as the Warning condition is valid. The Event Log will show the time the Warning condition started and the time the time the Warning condition ended.

It will NOT correspond to any user action taken with regard to de-activating the auxiliary function. **In the case of a Hard Contact Alarm:**

The logical device name will turn Red in the case of an alarm.
This action will continue as long as the condition is valid

As the programmed Alarm action may be a short duration pulse, the duration of the alarm action will be determined by the duration of the programmed auxiliary.

If the operator has not programmed an auxiliary duration, the logical device name will flash red once. The operation manual will caution the operator that an auxiliary duration should be programmed for this function.

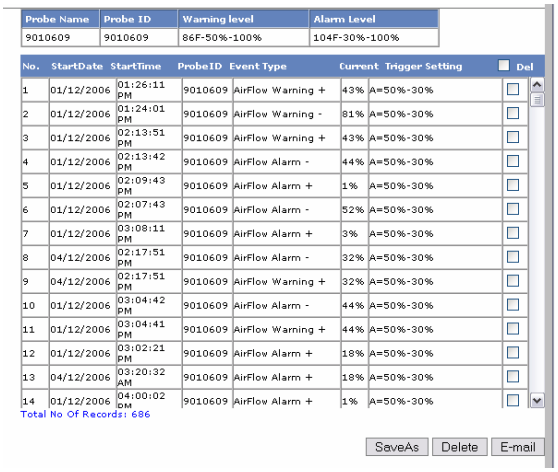
If an Auxiliary associated with the hard contact alarm has been programmed to turn on for a pre-determined period of time, its logical name representation in the tree will become Red (indicating it is active).

Both the alarm input and associated auxiliary logical device names will be **Red**, indicating they are activate.

An operator with permission will have the ability to terminate the auxiliary output prior to its programmed time, by the action of moving the mouse over the individual Auxiliary and point and right click. When the point and click action occurs the following will take place. Both the Alarm and Auxiliary logical device names will change from Red to no color indicating they are no longer active The Event log will reflect the point and click as the termination time for both the Alarm and Auxiliary action.

Deleting Event and Poll Logs

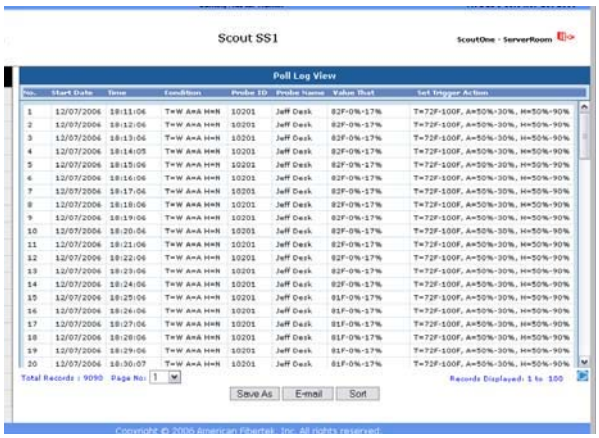
Tree View provides three operations. They are:
Save as: This will save the complete log.
Email: This will email the complete log.
Delete: This will delete any individual entry or the complete log.



When the number of entries exceeds the screen view use the slider to view additional entries.

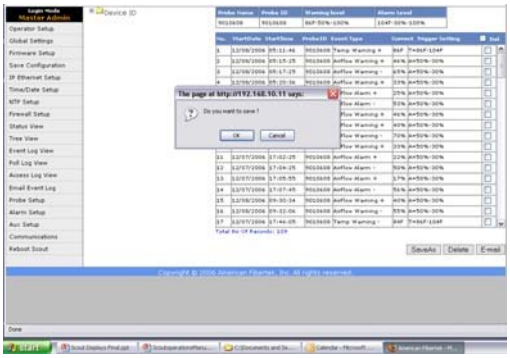
Event and Polling Logs View

The Event, Poll and Access Logs use two different methods for viewing all entries when they exceed a single page. The total number of records is displayed at the bottom of the item number column. The total number of records displayed is shown under the values column.

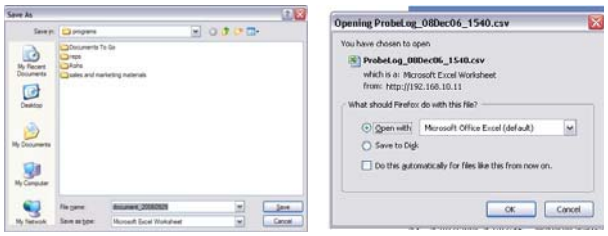


Saving Event and Polling Logs

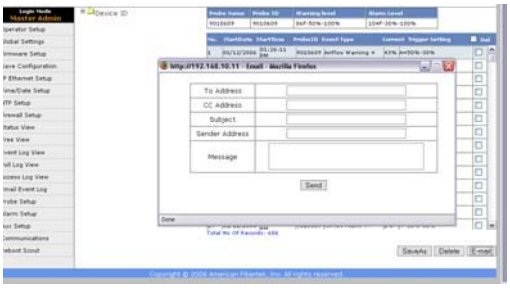
Clicking on the “Save As” button will open up a pop up asking to confirm your choice. Click OK to save or Cancel which will return the screen to the previous function.



Requesting a Save As function will result either a request to save or open file depending on the type of browser used.



Clicking the Email button will open up the Email address box. Fill in a primary email address and if required a CC or secondary address. Indicate the subject, the sender address (your email address). A custom message can also be included.



Press the Send button to email the Log

For a successful email delivery, DNS, gateway and email server setting are crucial. Commander can deliver email over Intranet or Internet connections, to any reachable SMTP server. However some SMTP servers may reject the email. It is the responsibility of the operator to make certain Commander emails are not rejected by the SMTP server.

Email and Save As File Format

When saved the format will display the log it was created from, the date and time. The last four digital represent the time expressed in military time. In the example below the Access Log was saved at 15:15 or 3:15 PM.

AccessLog_28Nov06_1515.csv
EventLog_28Nov06_1426.csv
PollLog_28Nov06_1701.csv

Commander provides individual email messages for all warning, alarm and log transmission functions. Emails are sent according to user based programming for times, alarms and warning settings.

Environmental Sensor Emails

Sat, 2 Jun 2007 00:26:20 -0400
commander commander-server-room
ProbeID=9010608
ProbeName=Probe One
Temp Warning -
Temp Current=100F, Warning=100F, Alarm=120F
AirFlow Current=180%, Warning=20%, Alarm=40%
Humidity Current=$N/A, Warning=100%, Alarm=100%

Ethernet Port Emails

Tue, 5 Jun 2007 10:04:30 -0400 commander Jeff-Jeff-desk Network=PORT-00
PortName= PortFlow Warning –
PortFlow Current=6808, Warning=3000, Alarm=1000

Port Connect Emails

Mon, 4 Jun 2007 14:20:51 -0400 commander Jeff
PORT-05 Connected

Port Disconnect Emails

Mon, 4 Jun 2007 12:45:01 -0400 commander Jeff
PORT-05 Disconnected

Port Disconnect Emails

Mon, 4 Jun 2007 12:45:01 -0400 commander Jeff
PORT-05 Disconnected

Alarm De-activation Email

Tue, 5 Jun 2007 12:26:21 -0400 commander Jeff 192.168.0.247
alarm2_name IN[2]ON->OFF.
alarm1 IN[1]ON->OFF.

Auxiliary Activation Emails

Tue, 5 Jun 2007 12:26:27 -0400 commander Jeff 192.168.0.247
aux2_name OUT[2]OFF->ON.
aux1_name OUT[1]OFF->ON.

Internal Status Emails

temp1=<1.00 -1.00 42.50> Current=42.500000 Threshold=>40.000000 Alarm temp3=<1.00 -1.00 -127.50> Current=-127.500000 Threshold=<-16.000000 Alarm
# in0: CPU I/O voltage (not scaled)
# in1: CPU core voltage (not scaled)
# in2: 3.3V nominal (not scaled) # in3: 5.0V nominal (scaled)
# temp1: power supply temperature # temp2: airflow temperature
# temp3: CPU temperature
# fan: side fan

Notification of Log Transmission

ss1_event_log_commander.csv, ss1_poll_log_commander.csv, ss1_access_log_commander.csv

Log files from IP:192.168.10.11

EventLog Fri Jun 1 13:00:36 EDT 2007 device_name=commander

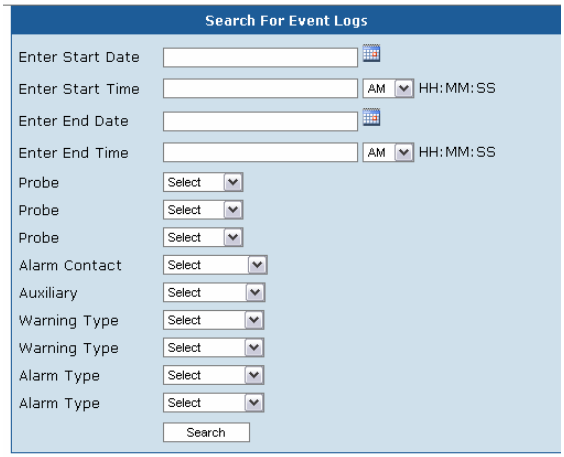
Log Filter Functions: How it Works. Time and Date

The Event, Poll and Access logs have filter functions which allows an operator to search for results based on specific conditions. To enter the Filter mode, point and click on the Sort

Log Filtering

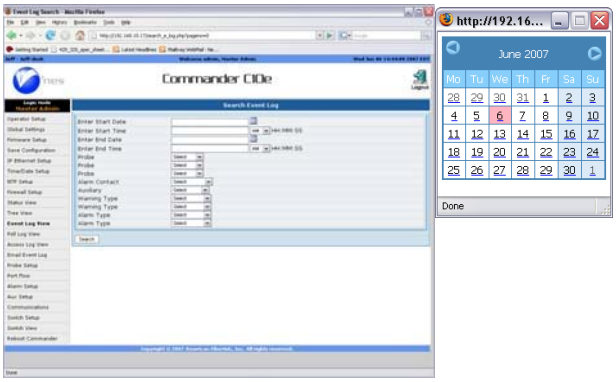
The sort function is divided into Four Major areas. They are:

1. Start Time and Date/End Time and Date
2. Probe
3. Contact
4. Auxiliary



Port Filter functions are found under probes

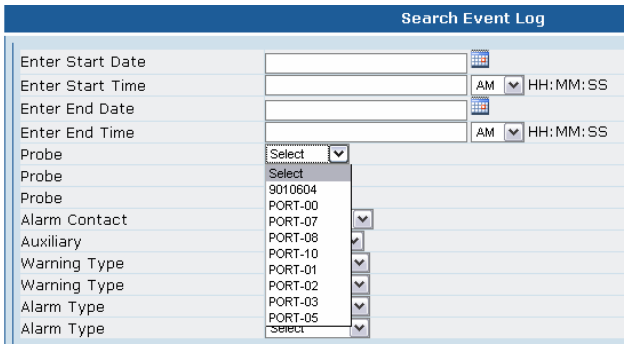
Time and Date:
Click the Calendar next to the start date and select the starting date from the calendar. Enter the time and repeat the process for the End Time and Date. The time is entered as Hours: Minutes: Seconds. For time settings use the drop down menu to select AM or PM



If an incorrect date is selected a Pop Up will appear. Click "OK" to return to the previous screen. Re-enter the correct date.

Selecting Probes and Ports
Commanders Filter function allows the operator to select up to three probes by point and click to activate a drop down menu. The probes are displayed with their name, or if not named as their probe ID.

If more than one probe is select the sort function will OR the probes providing results for each of the selected probes. Click to make a selection.



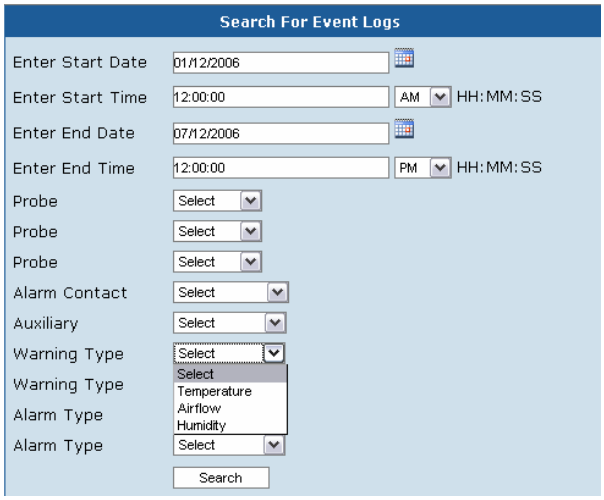
Selecting Warning and Alarm Types

Commander offers a choice of two different Warning and Alarm types. Each provides a drop down menu for selecting Temperature, Airflow or Humidity.

If more than one Warning or Alarm Type is selected, the Filter function will "or" the selections.

The conditions will define the probe. If two probes are selected along with Temperature Warning, Airflow Warning, Humidity Alarm and Temperature Alarm, the Filter will show results if anyone of the selected conditions is true for anyone of the selected probes.

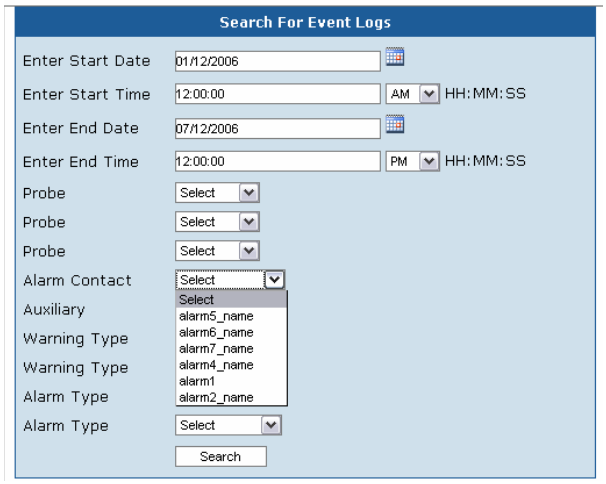
Click to make a selection



Selecting Alarm Contacts

Commander provides searching for one external alarm contact. Click the drop down menu to display the alarms, which are shown with there assigned names or default name is none has been assigned. Click to select the alarm contact.

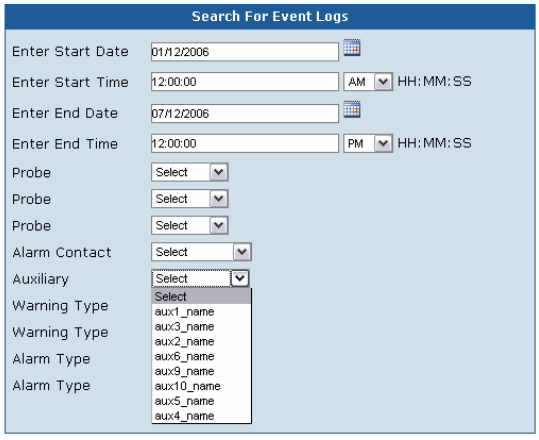
The selected search result will AND the Alarm Contact with the probes you have previously defined. A positive search result requires that BOTH the defined or conditions for the probes AND the defined alarm contact must be true.



Selecting Auxiliary Outputs

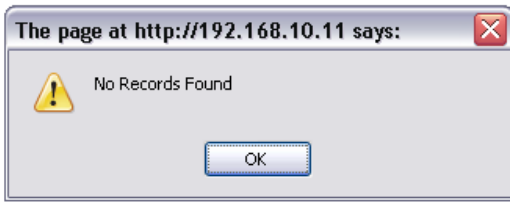
Commander provides selecting one auxiliary output. Click the drop down menu to display the auxiliary, which are shown with there assigned names or default name if none has been assigned. Click to select the alarm auxiliary output.

The selected search result will PLUS the Auxiliary Output with the probes you have previously defined. A positive search result requires that BOTH the defined or conditions for the probes PLUS the defined auxiliary output must be true.



No Search Results

If the search yields no results and "No Records Found" pop will appear. Click OK to return to the previous screen and recheck the data you entered.



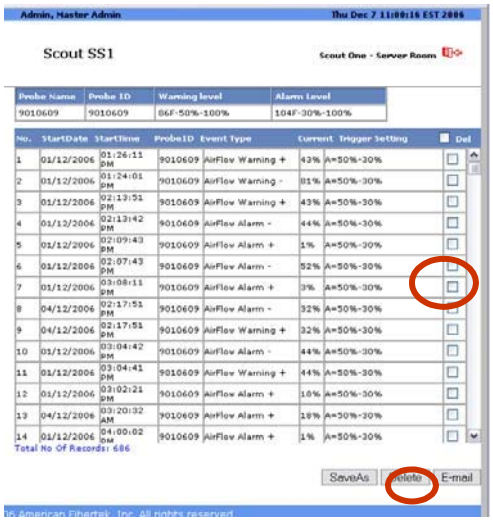
Closing Filter: Close sorts by activating any other function.

Important: Filter results will not be saved unless a "Save As" or "Email" action has taken place. Exiting to another function or starting another sort will automatically delete the sort results.

Deleting Logs

The ability to delete whole logs or any individual item within a log is only be available if the operator is signed in as the **Master Admin.** The process will not be available at any other operator level except Master Admin. The delete function can only be performed in a tree view and will apply to any tree view. This delete function is not to be confused with the action that takes place when an operator other than the master admin has performed a sort and search function. The Master Admin can apply the Delete procedure to the search results log.

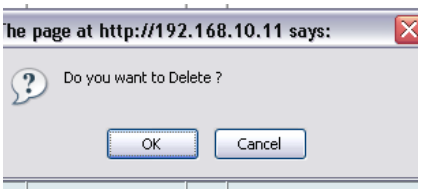
The "Delete" button will NOT appear in the tree view screen if the operator has NOT signed in as the Master Admin.



To delete the complete log select the top delete check box. All items in the log will be highlighted.
Next click the delete button.

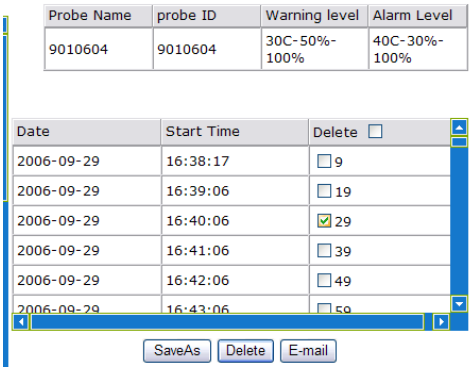
To delete and individual item, select that item's check box. Next click the delete button. Repeat this action selecting all individual items to be deleted prior to pressing the Delete button.

Confirming Delete:
After all individual log items have been selected press the Delete button. An alert box will appear. Selecting OK will permanently delete the selected items.
Selecting OK will permanently delete the selected items.
Selecting Cancel will cancel the action and return to the previous screen. The select items will still remain as selected.



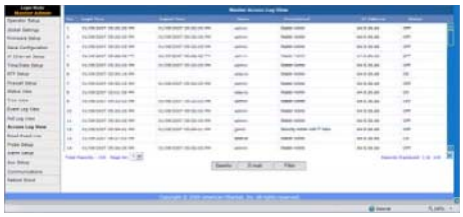
De-Selecting an Item To be Deleted

To deselect an individual log entry, the entry must first have to have been selected and highlighted. Move the curser over the check box and left click. The highlight will return to a normal state.



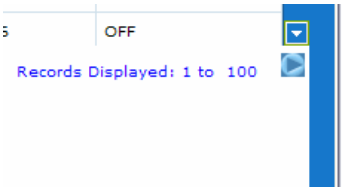
Access Log

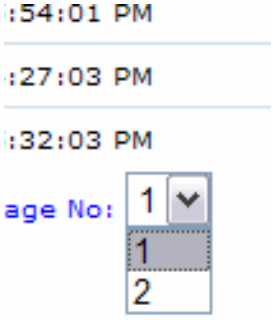
Note: Access Log is only accessible to Master Admin and IT Admin users.



The access log displays the date/time, the name and access level of the person that signed on in addition to the Client IP address. The log also indicates if that person is current sign on or off.

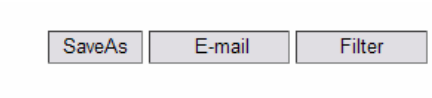
If the number of entries exceeds a single screen view, you either use the drop down box to move from page to page or the record advance arrows which will move the 100 records at a time.





Filtering Operations

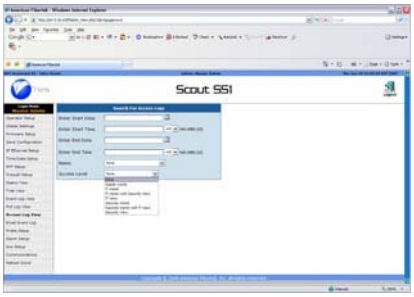
Filtering allows the Master Admin to search for a specific operator's activity during time period from a specific date and time to a specific date and time.



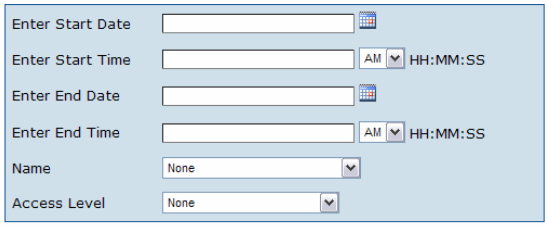
The following function is only available to Master Admin Level operators

Selecting Operator Name
Select the operator name by using the drop down menu.

Selecting Access Level
Select the Access Level by using the drop down menu.



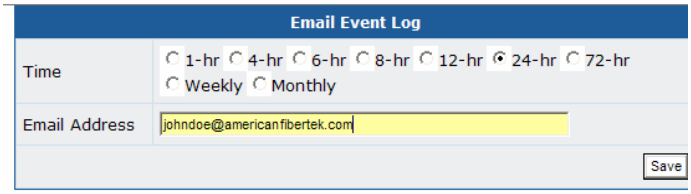
If only a **Start Date** is provided: The search will display all results from that Start Date ending with the last record. If only an **End Date** is provided: The search will display all results ending with End Date.



If both a **Start Date** and **End Date** are selected: The results will display all records between those dates.
If only a **Start Time** is provided: The search will display all results from that **Start Time** ending with last record.
If only an **End Time** if provided: The search will display all results from that **End Time** ending with the last record.
If Both a **Start Time** and **End Time** is provided: the search will display all results between those two times ending with last record.
If a **Start Time, Start Date and End Time, End Date** are provided: The results will display all activity between those times and dates ending with the last record.

Operator Name and Access Level work as an **OR** function and will display all records with results of the selected operator's name OR the selected Access Level.
To select an **individual user,** just select the name and "None" as the access level.
To select all records of an **individual Access Level**, just select the Access Level and "None" as the name.

Email Event Log



Email Log: Method of Operation

Everyday is keyed off a 24 hour clock starting at midnight. Logs are sent on the hour depending on the duration programmed by the operator

1-hr: 00:00, 01:00, 02:00, 03:00 ..... 23:00
4-hr: 00:00, 04:00, 08:00, 12:00, 16:00, 20:00
6-hr: 00:00, 06:00, 12:00, 18:00
8-hr: 00:00, 08:00, 16:00
12-hr: 00:00, 12:00 24-hr: 00:00

Every month is keyed off a 24 hour clock starting at midnight on the first day of the month. If the program is set on the 2nd day of the month, the first log will be transmitted on the 3rd day of the month and continue every 72 hours

72-hr: 1st 00:00, 3rd, 00:00 6th 00:00, 9th 00:00, ... 30th 00:00

Weekly is keyed off a 24 hour clock starting at midnight Sunday. The Log is emailed every Sunday at that time.

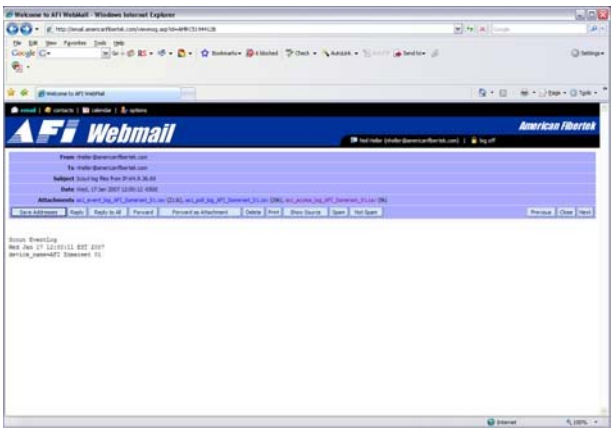
Sunday 00:00

Monthly is triggered off a 24 hour clock starting at midnight on the first day of the month. The log is emailed at midnight on the first day of the month.

1st of the month 00:00

Logs are emailed out in complete form containing all entries up to the time the email occurred.

Emailing logs is one of the best protections against data loss



Probe Setup: P-TA/ P-TAH

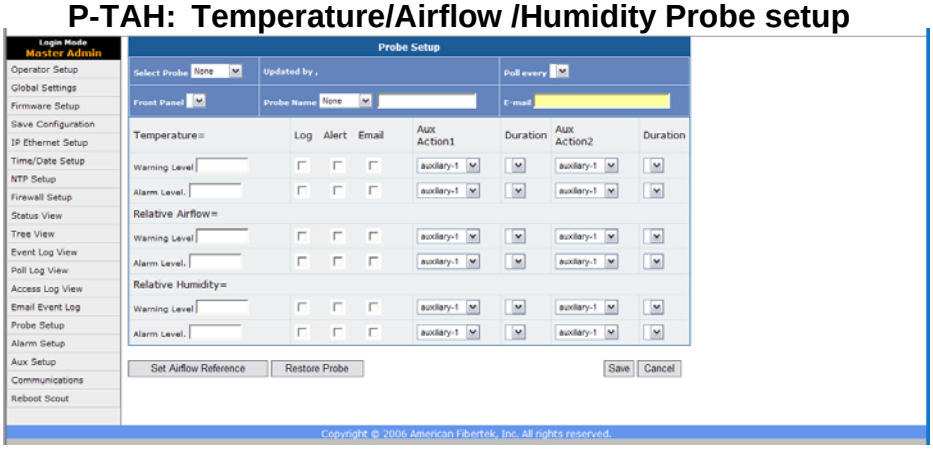
P-TA and P-TAH are intelligent probes. The parameters applied to a probe via operator programming will remain even if the probe is unplugged. If connected to another input (in cases where a USB hub is used) on the same Commander or another input on a different Commander, upon power up the probe's programming will automatically be read from Commander.

Commander will automatically sense which type of probe is connected. If a P-TA probe is connected Commander will not display any programming for Humidity functions.

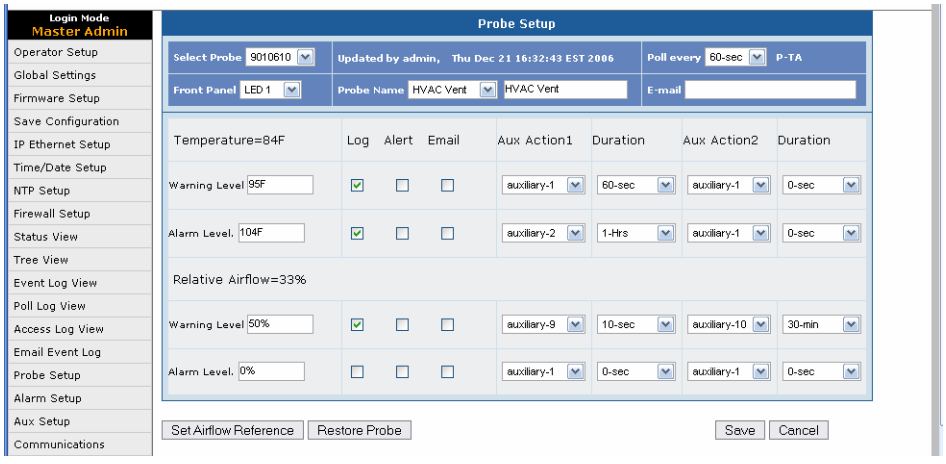
Commander can use either of two different types of probes. P-TA is used for sensing Temperature and Airflow, P-TAH is used for sensing Temperature, Airflow and Humidity. Both are intelligent and provide communication on their status with Commander.

Note: If you physically add or remove a probe while in the probe set up mode you must perform a browser refresh to apply the change.

P-TAH: Temperature/Airflow /Humidity Probe setup



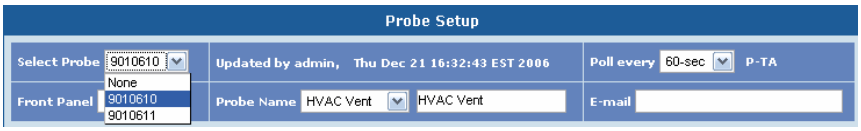
P-TA: Temperature/Airflow Probe setup



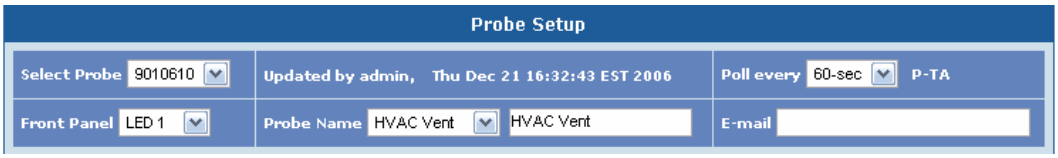
When a Temperature/Airflow only probe is selected Humidity setups will not appear. The probe type is automatically read from the probe. When the probe is selected, its type, either P-TA, P-TAH or P-VFP will automatically appear.

Probe Set up-Header

Selected Probe: This is fixed and automatically downloaded from the probe when it is connected to Commander. A drop down box will list all the connected probes. The operator can select the probe to set up from the drop down listing.



Updated by indicates who and when the last update to the probe was performed



Polling every: The drop down box indicates if this probe will be included in the Polling Log and allows the operator to assign the duration between polling events. The drop down menu provides selections from a poll once every minute to once every 24 hours.

Front Panel: This drop down menu lists LEDs. The operator can assign the probe to a specific front panel LED. Only LED #1 is displayed on the Commander front panel.

Probe Name: This is the space used by the operator to assign a name to the sensor. Once assigned, the name will be included in the Name drop down menu. The probe name is held directly by the probe and will be maintained even if the probe is disconnected from Commander. The probe name is limited to 16 characters.

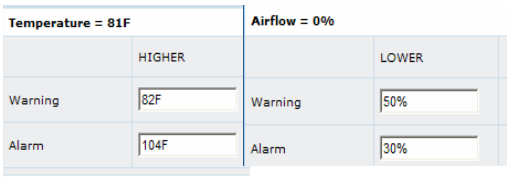
E-mail: Warnings and alarms from an individual sensor can be assigned to a specific email address. This enables different sensors to be directed to different personal in the event different responses are required. More than one Email address can be entered. Make certain email addresses are separated by a space.

Temperature Probe Alarm/ Warning Level

Setup for Temperature Airflow and Humidity

Caution: Prior to setting any sensor levels it is important that sensors be placed in fixed operating physical positions. Changing the physical position of a sensor may require resetting the setup values.

Commander provides individual warning and alarm levels for each sensor. Each of the three sensors (temperature, airflow and humidity can be custom programmed to meet any environmental condition. The following setups apply to Temperature, Airflow and Humidity. Current probe conditions are shown below the status screen.



Temperature: This indicates the current temperature. If you consider this value to be normal it should be used as the reference for setting alarm and warning levels Commander references all temperature reading in Celsius. If Fahrenheit was selected in Global Settings, Commander will perform automatic conversion. As Fahrenheit values do not directly match Celsius, differences can occur. Attempting to enter 85 F can result in displaying 84F.

Warning Level: Enter the value in degrees that will trigger a warning alert. Make certain to set the temperature value to match the Global Temperature setting of either C or F.

Log: Check this box if you want the warning to be recorded in the Event Log

Alert: Check this box if you want to send the alert to the IP address that was programmed as the Alert IP Console (this is an IT Administrator Setup Page 69)

Email: Checking this box will send an Email to the addressed entered in the header.

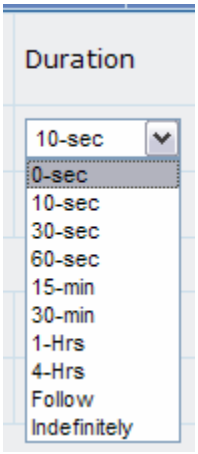
Aux Action 1: Select an auxiliary output from the drop down box listing auxiliary outputs 1or 2. This will assign the warning alert to that auxiliary output.

Duration: This defines the duration of time the auxiliary will be active as a result of the warning trigger. The choices range from 0 sec (no output) to Indefinitely. If the auxiliary output is set to a fixed duration of time and the condition continues longer than that duration, the warning will still remain active and its actual end time will be recorded in the event log.

Sensor Probe Setup: Programming the Auxiliary Duration Setting

The Auxiliary Duration settings will only appear once a probe has been selected.

The Duration provides a setting ranging from 0 Sec- Indefinitely



0 Sec = no auxiliary response occurs.

10 Seconds to 4 Hours = Auxiliary will remain active for the programmed duration.

Follow = the auxiliary duration will follow the same duration of the active warning or alarm. The auxiliary start point will be 30 Seconds after the start of the event and end 30 seconds after the event has ended.

Indefinitely = the Auxiliary will remain active until the operator extinguishes it via the Status View mode.

Duration Theory of Operation:
Programming the auxiliary duration acts independent of entries made to the Event Log. Regardless of programmed auxiliary the event log will record the actual start time and actual end time of the event.

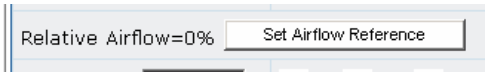
An operator can terminate any auxiliary output but clicking on the active auxiliary in the Status View mode. Regardless of manually terminating an auxiliary event the event log will record the actual start time and actual end time of the event.

Aux Action 2: See Aux Action 1

Duration: See Duration 1

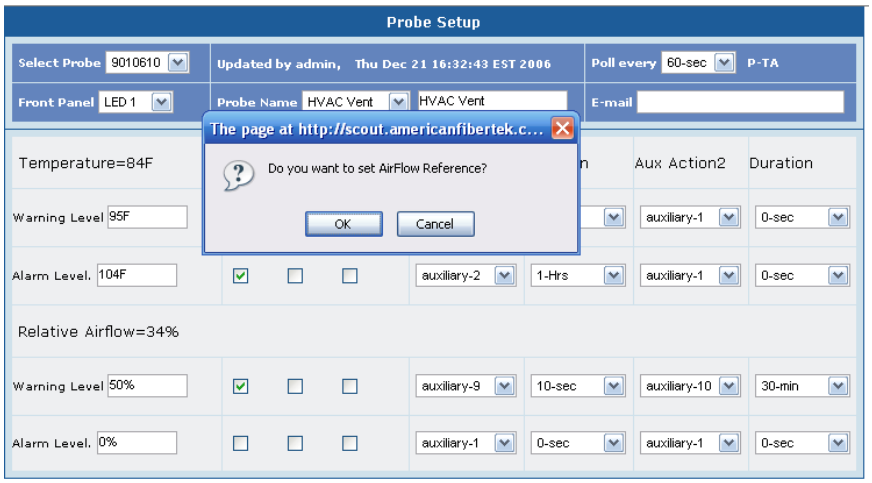
Alarm Level: Log, Alert, Email, Aux Action 1, Duration, Aux Action 2, and Duration all operate in the same manner as **Warning**.

Setting Airflow Reference

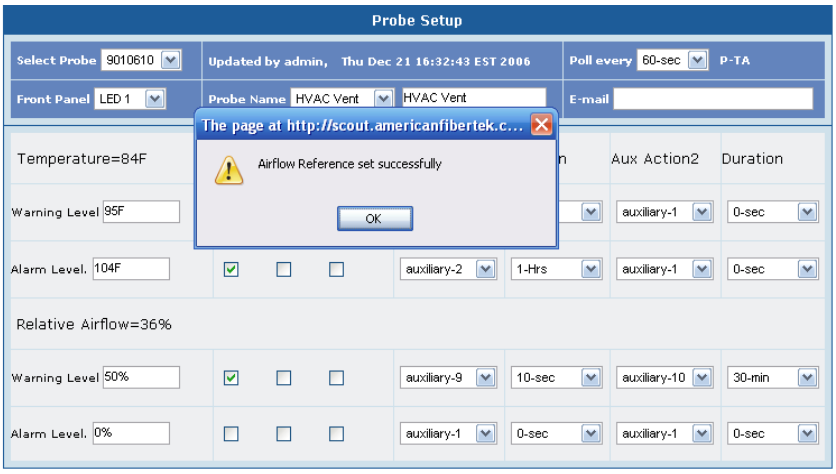


Setting the Airflow Reference: The primary function of airflow measurement is to determine if the fan is operational. The setting is relative and large changes in temperature could result in changes to airflow. To reduce the potential for false triggers the following settings are suggested: Reference=100%, Warning = 50%, Alarm = 25%.

Unlike the current values that are applied to Humidity and Temperature, the Airflow setting is a relative value. After the sensor is installed in a fixed position, click the "Set Airflow Reference" button to set the air flow reference level.
The current airflow value will be recorded as Relative Airflow = 100%.



After the value is registered, an alert box will appear asking to confirm the setting. Click OK to accept the value. Click Cancel to Cancel the value and return to the previous screen allowing another attempt to set the airflow value. Clicking OK will display the following screen



Click OK to register the value. Enter the Warning and Alarm levels. The remaining portions of the Airflow set using the same methods as Temperature and Humidity

Humidity
The probe's internal humidity sensor reports values of relative humidity from 0 to 100%. The reported value is displayed on the Probe setup screen. Warning and alarm settings are the same as for temperature.

Save/ Verifications of Settings/ Probe Restore

Probe Set Up: Save
To save the set up click the save button and the following screen will appear. Click OK to save settings.

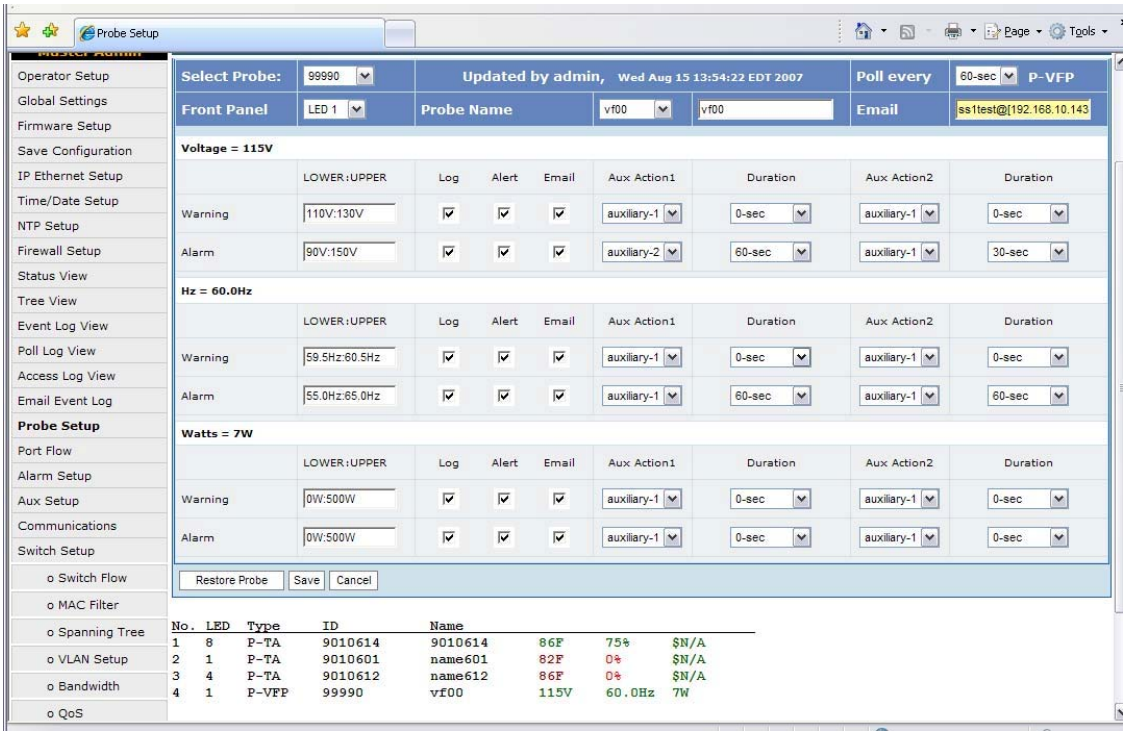
Verification of settings:
Follow the steps in the Verification Box after clicking OK, wait 30 seconds and click your web browser refresh button

Probe Restore
This setting restores probes to their default settings. Clicking on Restore Probe will display an alert box asking the operator to confirm. Click OK to restore the probe to defaults. Click Cancel to return to the previous screen

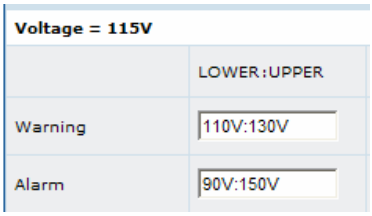
Probe Restore Verification:
Once the probe has reported to Commander that its settings have returned to default, it will issue an alert "Probe set to Default Successful" message box.

Probe Setup P-VFP

The power probe (model P-VFP) measures: Voltage, Frequency and Power.



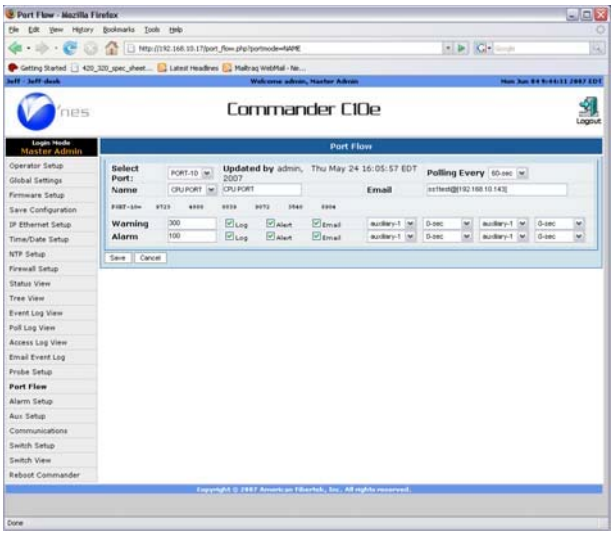
Setting Warning and Alarm Levels:
Levels within the Lower and Upper range are normal. Levels outside this range will result in an alarm as programmed by the operator.



Default Settings:
Default settings are set at the factory and may have to be changed depending on the equipment operation and location.

Settings for Log, Alert, Email, Aux Action and Durations are the same as for the P-TA and P-TAH probes.

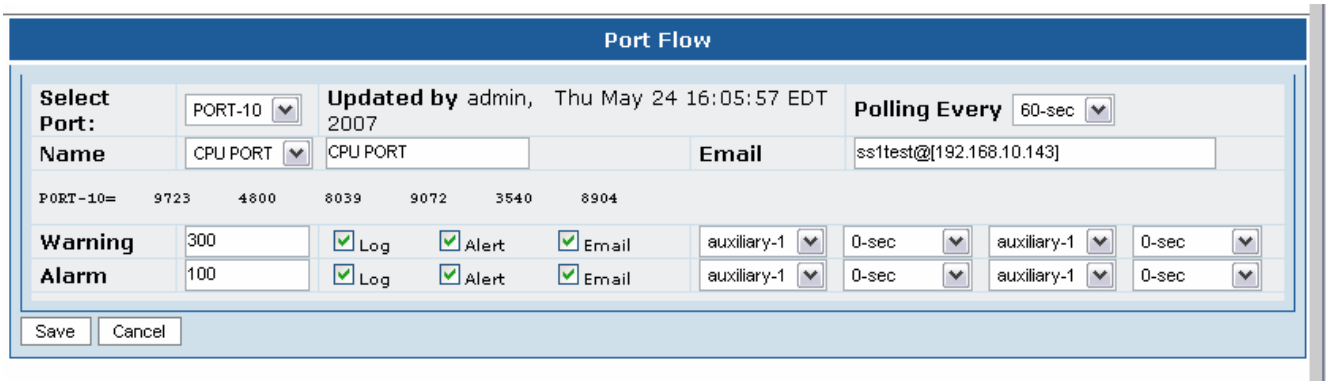
PortFlow™



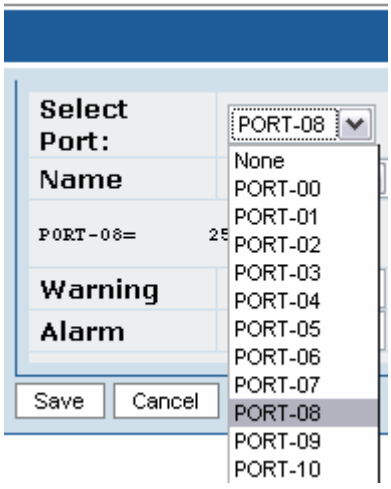
PortFlow™ is a unique feature that allows an operator to determine signal quality at an individual port and set warning, alarm levels and port polling to in order assure data streams and signal quality are maintained.

PortFlow is extremely important for monitoring video signals whose signal quality and reproduction rates must be constantly monitored and maintained to order to achieve satisfactory results.

Setting up PortFlow™



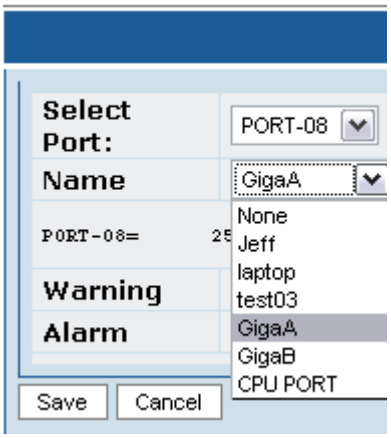
Selecting the Port: By Electrical Port Number
Use the drop down menu to select the Port to program. The ports are labeled with their electrical names as Port 00 to Port 09 representing front panel ports 1 to 10. Port 00= Port 1 and Port 09 = Port 10.



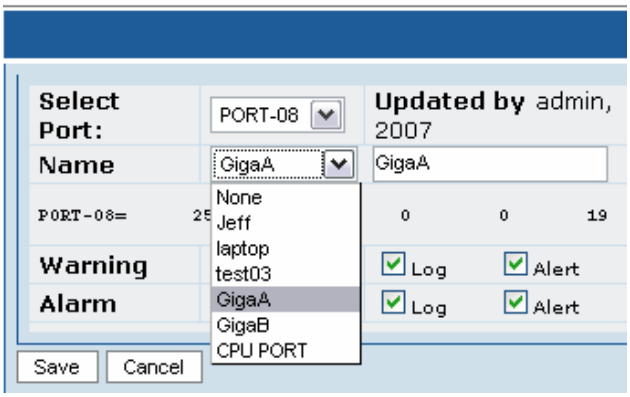
Port 10 in this drop down menu is used to select Commander's internal port which monitors traffic flow between the Ethernet ports and Commander's internal processor.

PortFlow™: Setup: Selecting the Port to Program

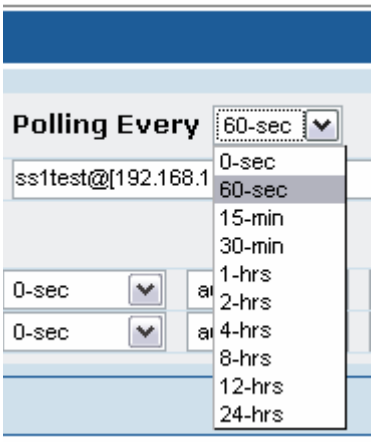
Selecting the Port by Name:
If the port has been previous name it can be selected by the name drop down box.



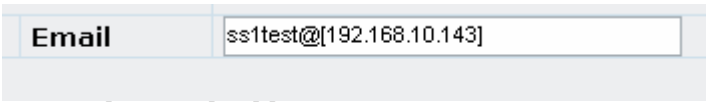
To Name a Port or Change a Port Name:
Fill in a name to right hand side of the drop down box. Once the save function has been perform that name will appear in all logs and set up operations



Polling Setting:
The polling setting will determine how often the selected Port is polled. The reading taken at the time of the poll will be entered in the Poll Log. 0-Sec equals no polling action.



PortFlow™: Setup: Warning and Alarm



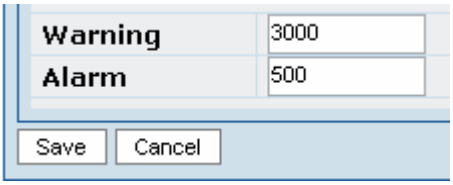
Setting the Email Address

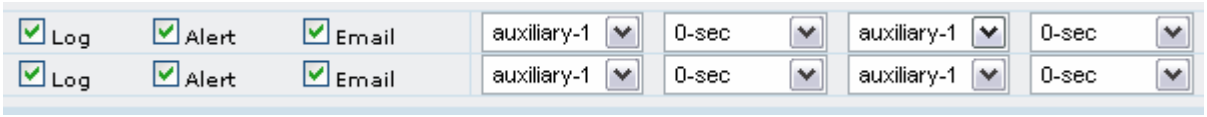
Input Email addresses that you want to receive warning and alert messages. You can enter as many email addresses as you want. Please make certain to separate each address with a space.

Entering Port Warning and Alarm Levels

This process starts by knowing what values to input. Commander reads and displays six previous port traffic readings each with 10 second duration. In total the previous 1 minute of activity is displayed. This values are used to help determine the values you want to program for warnings and alarms. Data values will tend to change dramatically, however once a video signal quality level and reproduction rate is determine, those values should remain constant. When video is present as the input to a port the six values should be averaged to determine your settings.

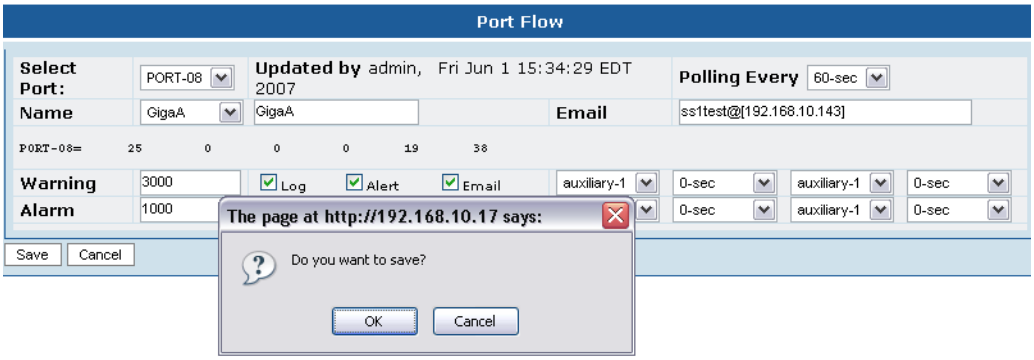
Input the alarm and warning values.



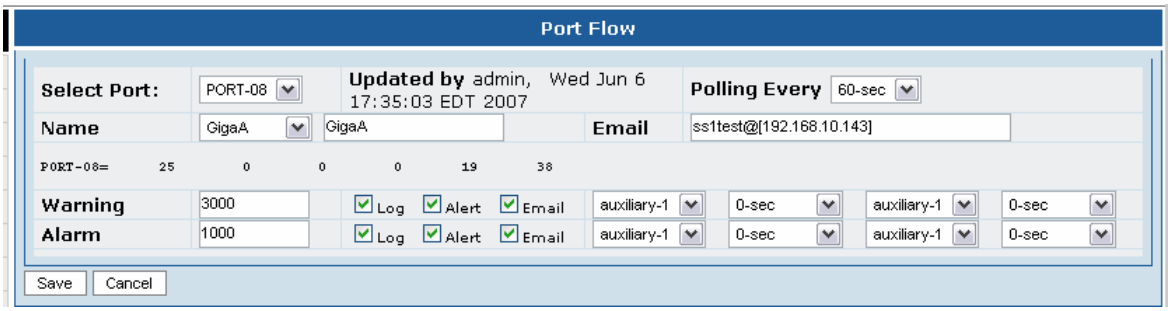


Settings for Log/Alert/Email and Auxiliary activation and durations are programmed in the same manner as Sensor probes, alarms and auxiliary.

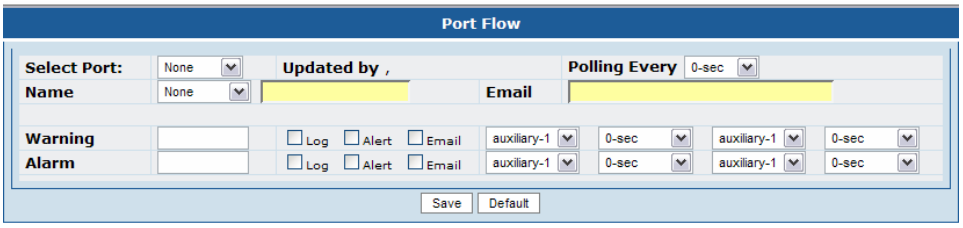
PortFlow™: Setup: Saving and Confirming your settings



Saving your settings:
When Port Set up is complete, point and click on the Save button. A pop up will ask you to confirm your action. Click OK to complete

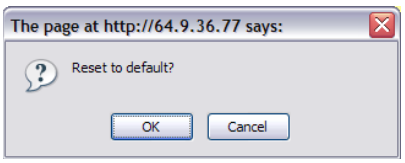


Set up Confirmed:
When the Set up is successfully completed the screen will indicate who performed the update by security level and the date and time.



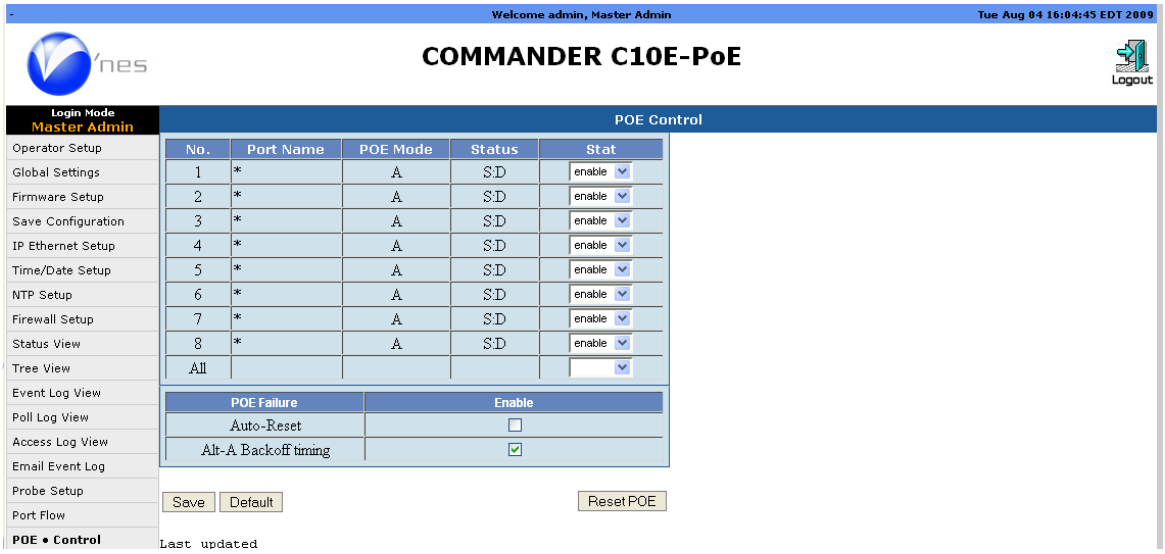
Setting Default: Click the Default button

A pop up will ask you to confirm your decision. Click to OK. Commander will start a new count.



PoE Power over Ethernet - Control

Commander PoE switches can provide standard IEE803.3AF power to all eight 10/100 ports simultaneously. In addition, “Hi Power”, up to 25 Watts at the load can be provided. PoE is enabled by selecting the PoE Control menu.



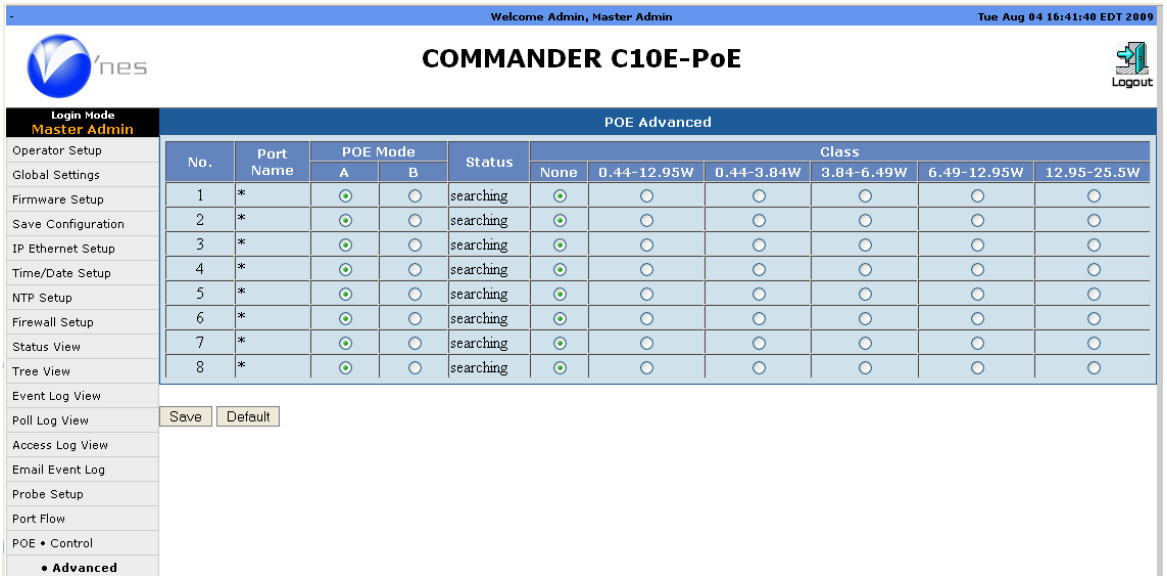
The display shows the port number and name. The PoE mode indicates which pairs of the Ethernet cable are used for power. The status indicates if the port is searching (S) for a powered device or is disabled (D) or normal (N). Each port may be individually enabled to allow PoE power to be provided. Use the “Stat” drop down box to select enabled or disabled as required.

The Auto Reset may be enabled to have the PoE controllers automatically cycle power to a port under fault until a proper power configuration is determined. The Alt A back off timing set the B pair to power first and if a powered device is not found, the A pair is tried.

After making changes, select Save to make your settings permanent.

PoE Power over Ethernet - Advanced

Select the Advanced menu to setup detailed control functions of PoE.



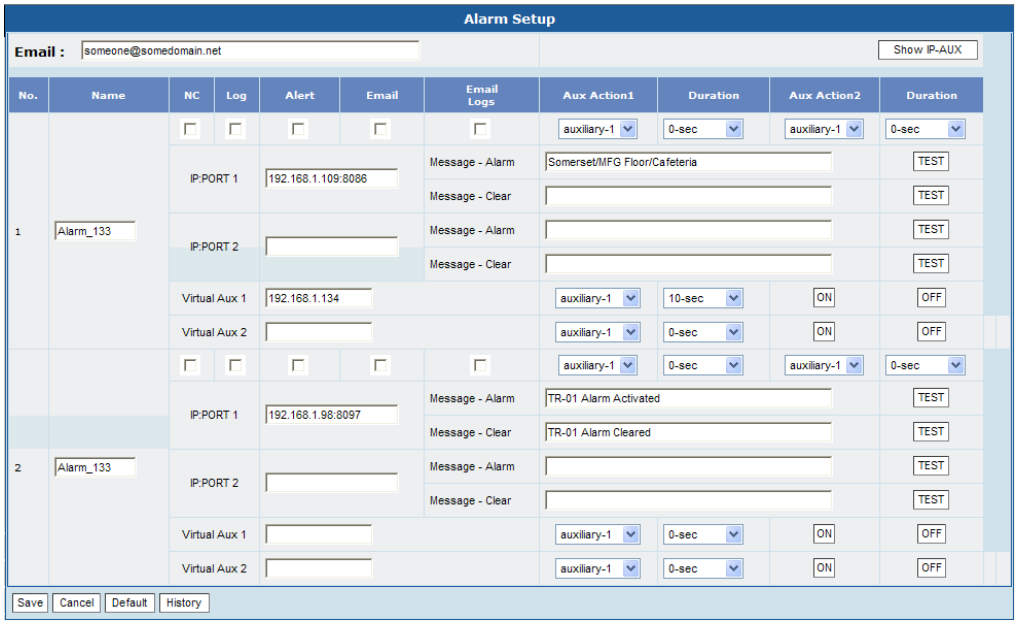
The port number and name are displayed for each port. The PoE Mode allows pairs A or B to be selected for PoE power. The status indicates if the port is searching for a powered device or is disabled or in normal operation.

The PoE Class radio buttons allow a specific power range to be forced into effect. If the powered device tries to negotiate power outside of this range, the PoE port will go into protective fault mode. Select none to allow the powered device to auto select the power range.

After making changes, select Save to make your settings permanent.

Alarm Setup

This screen allows for hard contact Alarm inputs to be named and to set responses and durations.



Email Address
This will be the destination email address for all email messages regarding Alarm inputs 1 or 2.

Name
This Name will appear in all logs and emails regarding the Alarm inputs 1 or 2.

NC:
The default condition is set for Normally Open (NO). A closed Alarm contact input will trigger Alarms. Check this box to change to a Normally Closed condition.

Log:
Click the Log check box to have the Alarms recorded in the Event Log.

Alert Select
Click the Alert check box to have an XML message send to an Event server. The destination address and port number are determined by the Master Admin in IP Setup.

Email Select
Click this box to send an email when an Alarm occurs to the address programmed at the top of the page.

Email Event Log Select
When this box is checked the entire Event Log will be sent to the Address provided in the Email Event Log screen. Caution: Due to the size of the log, this can up to 1 minute to send. During this period new events will not be recorded in the log until the transfer is complete. In situations where hardware contact alarms occur frequently checking this box must be done with caution.

Auxiliary Assignment and Duration

For each alarm input, the operator can assign two auxiliary outputs and corresponding durations. In the case where one contact output has been assigned to two different alarm inputs and the auxiliary output will respond to the first alarm occurrence.

When that duration has ended, if the second alarm input is active, the auxiliary output will continue to be active. **Unlike the auxiliary duration response for sensor warnings and alarms whose duration can differ from the sensor warning and alarm duration, setting the Alarm duration will determine the duration of the actual alarm.**

The duration selections range from 0 to 4 hours, follow and indefinitely. If duration of 0 is selected, the alarm event will be recorded in the log, but no auxiliary output will be present. If a timed duration is selected, the alarm condition and auxiliary output will remain active for that selected period. If "Follow" is selected, the auxiliary output will remain active for the as long as the alarm is active. If "Indefinite" is selected, the Aux will need to be manually reset through software or the Status View screen control.

Manually terminating the auxiliary duration for a hard contact alarm event will also terminate the alarm. The Event Log will record the alarm start time and the time the event was terminated by either the programmed auxiliary duration or manually.

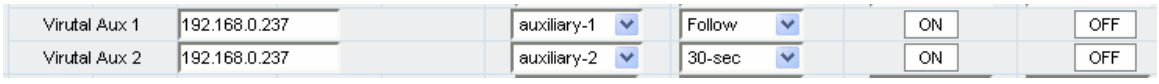
IP:PORT:

IP:PORT 1 and 2 will send a TCP text message to an IP Address and TCP port number as entered. IP Address and Port number are separated by a colon. The text message is user configurable in the message text boxes provided. A TCP message may be programmed separately for when an alarm condition occurs and for when it is cleared.

When an Alarm occurs (or is cleared) a TCP session is opened, the messages are sent and automatically ended with a <CR> and <LF>. The session is then closed. Messages can be sent by pressing the test button to confirm operation.

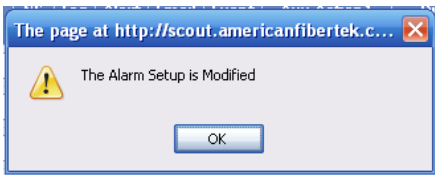
Virtual Aux Setup

Commander alarm inputs may be tunneled to other Commander, Scout or Net I/O devices on the network. The IP Address of the corresponding unit is entered in the text box. Up to two virtual Aux connections may be entered for each Alarm. Aux selection and time durations may be programmed similarly to local Aux contacts as described above. An ON and OFF button is provided to confirm operation.



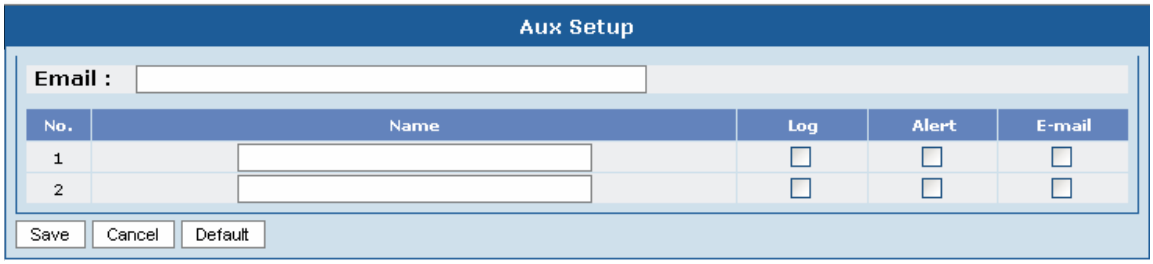
Alarm Set Up Save

After all the settings have been completed click the Save button and a dialog box will appear asking the operator to confirm the Save action. Click OK to confirm the Save. Click Cancel to cancel the action and return to the previous screen.



Auxiliary Set Up

This set up defines the action to be taken for each of the 2 auxiliary outputs when they are triggered per the previous alarm or sensor set ups.



Email Address

Enter an email address where an email alert will be sent. More than one email address can be entered. Make sure email addresses are separated by a space

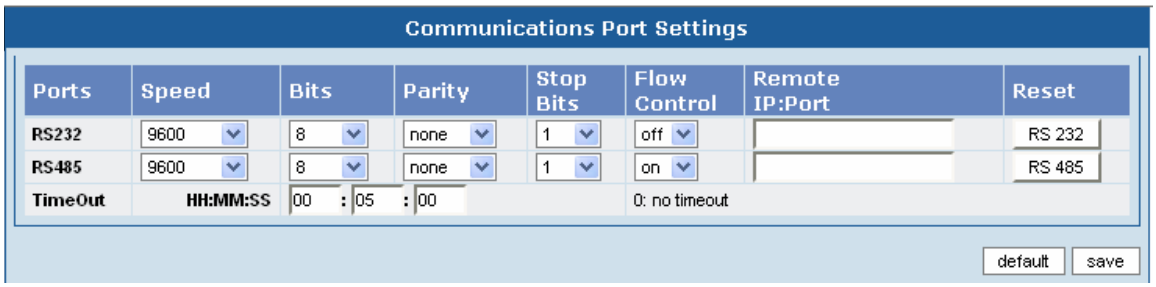
Auxiliary Name
Enter a name for the auxiliary output. This is the name that will appear in the tree view and logs. Names can be up to 40 characters.

Auxiliary Action
Select Log, Alert and Email by clicking at the corresponding check box.

Log: will enter the on and off auxiliary date and time in the log.
Alert: will send an alert to the location programmed by the Master Admin.

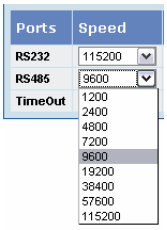
Email: will send an email alert to the address entered above.

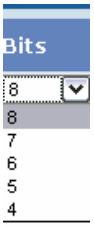
Communications Ports



Commander provides two communication ports, one RS 232 and one RS 485. These can be operated as edge communication ports. The driver conforms to RFC2217 and can be operated by any communication program that is RFC 2217 complaint. AFI Pilot Software contains drivers for these ports and will automatically recognize them. RS communication ports can be used for data bi-directional communications for devices such as ATMS, PTZ and Cash Registers. Only one client can be connected to the data port at one time.

For each of the ports use the drop down menus to set the Port: Speed, Bits, Parity, Stop Bits and Flow control. Each of these can be set individually for the RS 232 and RS 485 ports.





Remote IP:Port

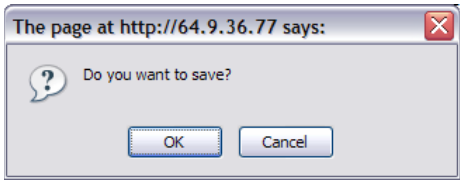
The RS ports may communicate to other AFI serial ports on Commander, Scout or Net I/O. Use the Remote IP:Port text box to enter the IP Address and Port number, separated by a colon, of the remote port for communications. This allows RS ports to be "tunneled" across the network as if the were hard wired. RS232 to RS485 conversion is possible by tunneling between different ports. Baud rate conversion is also possible.

IP Ports for Commander (and Scout) are fixed at:
RS232 – Port 8081
RS485 – Port 8082

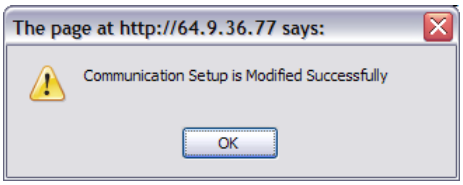
TimeOut defines the duration the port can have without sensing traffic prior to shutting down. As ports can only be accessed by one client, if a port is not being used but still open it would block others from accessing that port. The duration can be programmed in hours: minutes: seconds.
If all three are set to zero, no time out will occur and the port will remain open. After the programming is complete, point and click on "Save".

Confirm Setting changes

Click Ok and a confirmation pop up box will appear.



Click Ok and a confirmation that your settings have been saved will appear.



Reset Communications

In the event port communication is disrupted in any manner, the operator can restart communications by pressing the **Reset** button (RS 232 or RS 485)

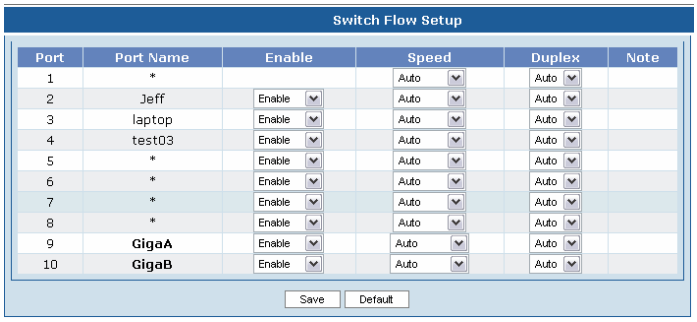
Switch Setup
Switch Flow

Switch setup are restricted to Master Admin, IT Admin and IT Admin with Security View authorization settings. Further, Switch Setups can only be view by Master and IT authorization levels.

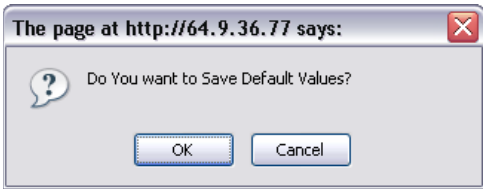
Security levels cannot setup or access Switch Setups

Warning: The following section contains network switch setups. Improper set up can degrade and/or significantly degrade switch performance. Please proceed only if you have knowledge in this area.

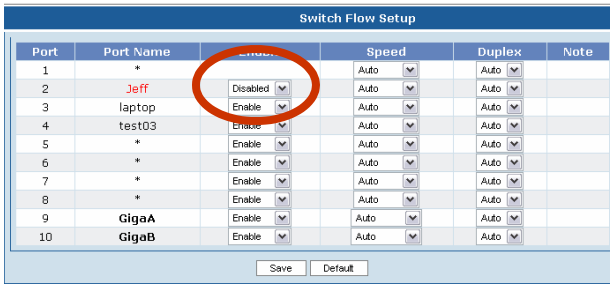
Return to Default
Each Switch mode set up screen as a return to default setting which will return that individual mode to it programmed default setting without affecting other settings



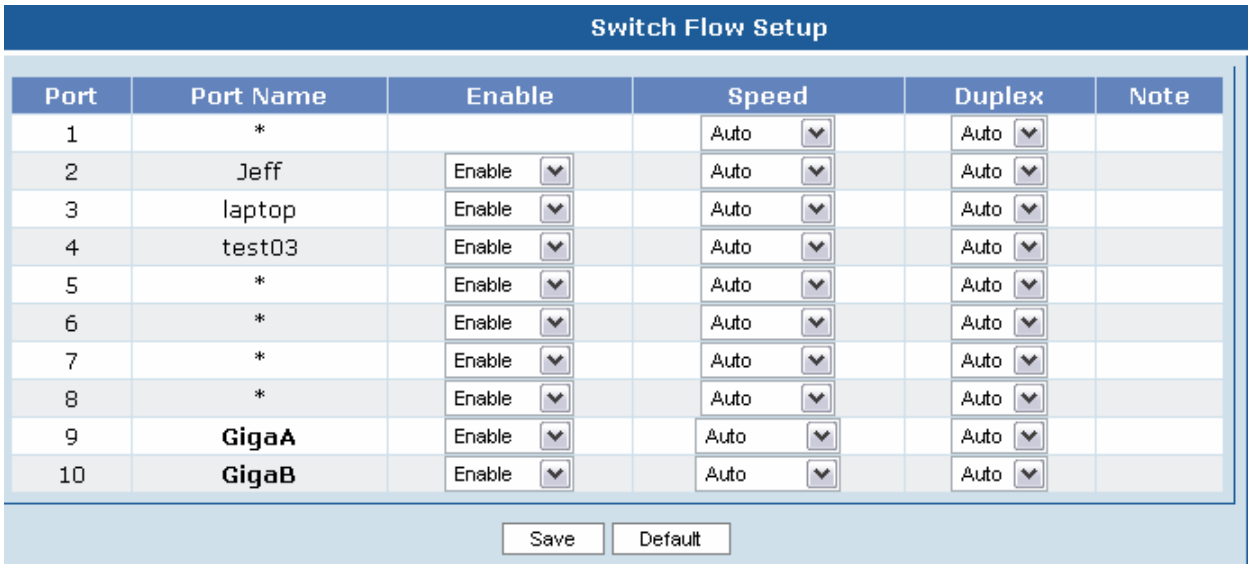
When Default is selected a pop up will appear asking you to confirm your decision. Selecting OK will return the screen to its default setting.



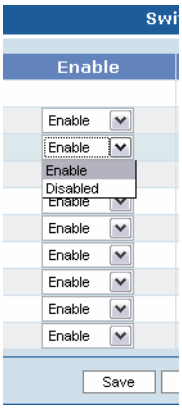
Disabled Port:
When a port is disabled its name will appear in RED. You will still be allowed to program most functions. When the port is made active the programming will be applied

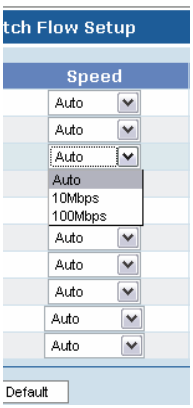


Switch Flow Default Settings:
The screen reflects the port number and name assigned,



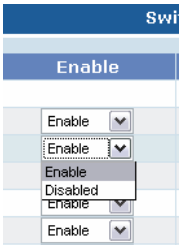
Use the drop down boxes to Enable or Disable the port, set speed and duplex.

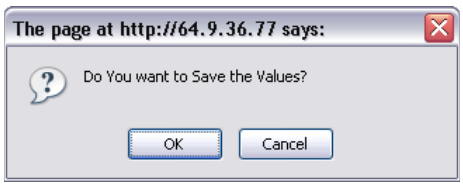




Switch Flow: Disabling a Port

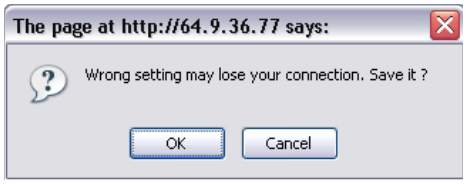
Disabling a Port:
Using the drop down, select “Disable” for an individual port and click on Save.



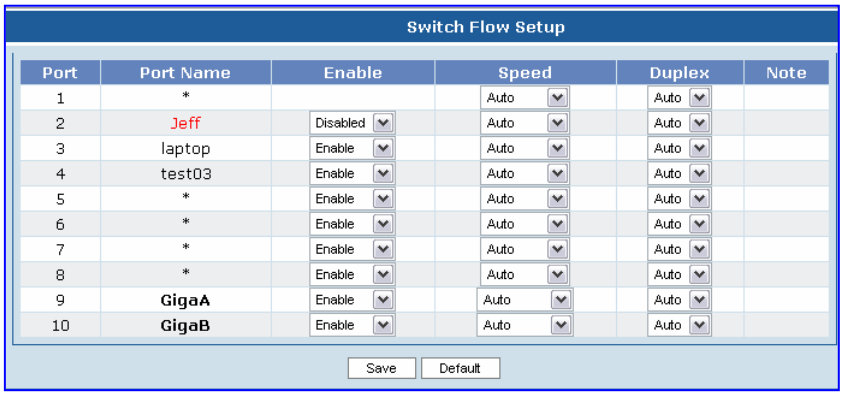


A pop up will appear asking you to confirm your choice.

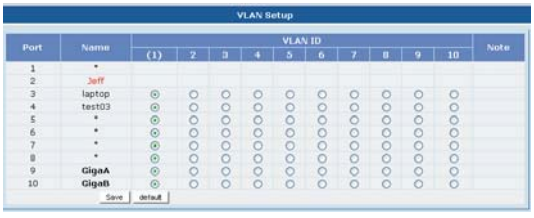
Selecting OK will bring up another pop up warning you that changes may result in you losing your network connection.



Once a port is disabled its name convention will appear as RED and the port will disabled.

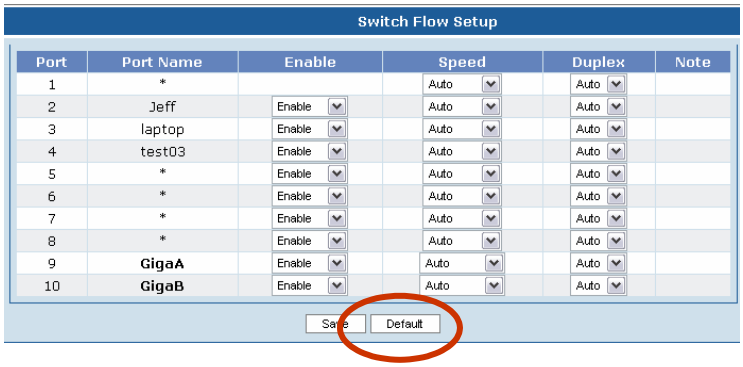


Once the port is disabled, it can not be accessed and will not appear in certain set up modes.



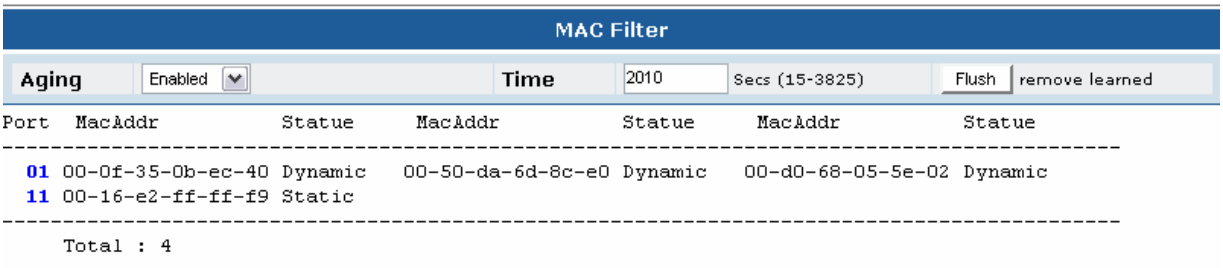
Mac Filtering Settings

Returning to Default: If mistakes are made during programming or there is need to return to default, press the Default button.



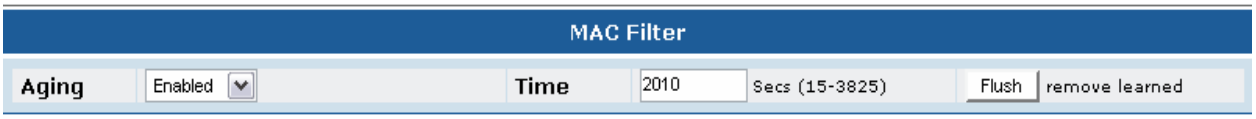
MAC Filter:

MAC Filter displays the MAC addresses available at each of the ports. The total devices connected to that port will be displayed along with their status as either Dynamic or Static. The MAC addresses of devices connected to a port will be shown in the list. The total number of devices connected to Commander is indicated by the Total Number



MAC Aging:

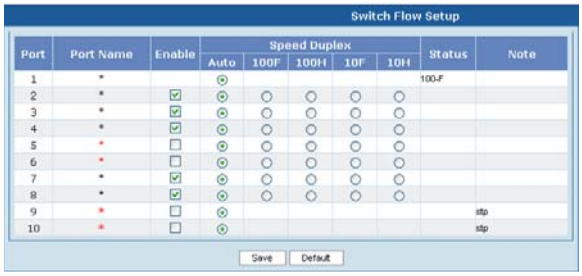
Enable or disable Aging using the drop down menu. Set the duration in seconds from 15 – 3825 seconds. Flushing relearns the devices connected to each port.



Spanning Tree Protocol

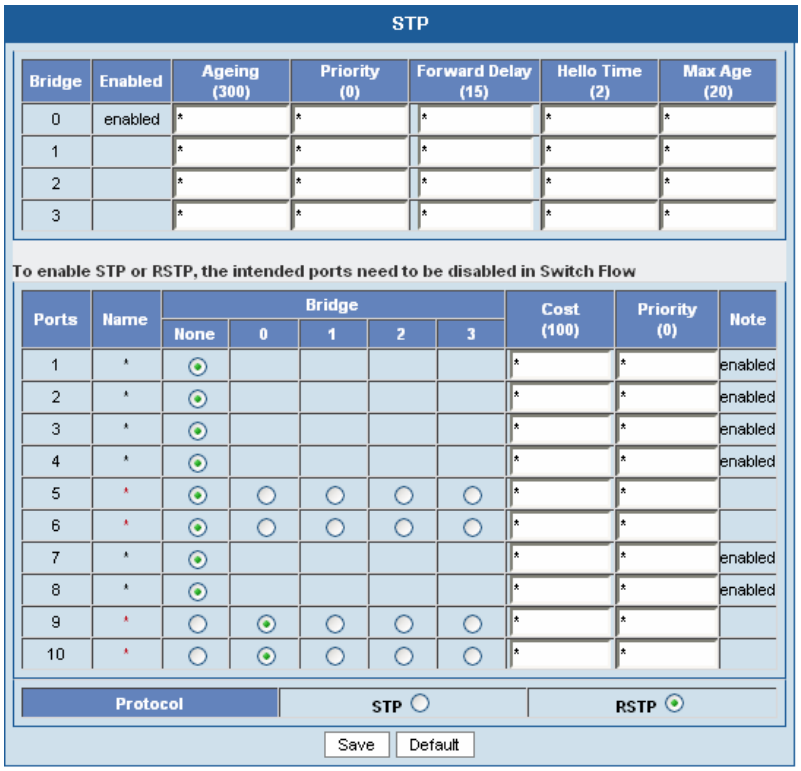
STP / RSTP Setup

In order to use STP or RSTP, the ports assigned for this purpose must be disabled in Switch Flow. These disabled ports will then be available in STP setup. Disabled port names will appear in Red.

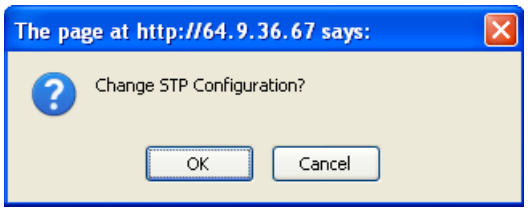


Both STP and RSTP use the same parameter settings. In almost all cases, the defaults settings should be used.

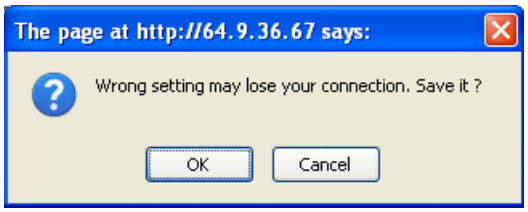
Up to four Spanning Tree bridges may be maintained by Commander. Disabled ports are assigned to any one of the listed bridge numbers using the radio buttons provided.



Text entry boxes are provided in order for the STP parameters to be set to values other than the default. After changes are made, click the Save button. A dialog box will appear asking to “Change STP Configuration”. Click OK to continue. Another warning will then appear. Click OK to save.



Another warning dialog box will then appear. It is possible to apply settings that will make the Commander host CPU unreachable. Check your settings carefully before attempting to save the settings. Click OK to save.



STP / RSTP Parameters

Aging

The aging time is the number of seconds a MAC address will be kept in the forwarding database after having received a packet from this MAC address. The entries in the forwarding database are periodically timed out to ensure they won't stay around forever. Normally there should be no need to modify this parameter, but it can be changed with (time is in seconds).

Priority

Each bridge has a relative priority and cost. Each interface is associated with a port (number) in the STP. Each has a priority and a cost that is used to decide which is the shortest path to forward a packet. The lowest cost path is always used unless the other path is down.

If you have multiple bridges and interfaces then you may need to adjust the priorities to achieve optimum performance

Forwarding delay

Forwarding delay time is the time spent in each of the Listening and Learning states before the Forwarding state is entered. This delay is so that when a new bridge comes onto a busy network it looks at some traffic before participating.

Hello time

Periodically, a hello packet is sent out by the Root Bridge and the Designated Bridges.

Hello packets are used to communicate information about the topology throughout the entire Bridged Local Area Network.

Max age

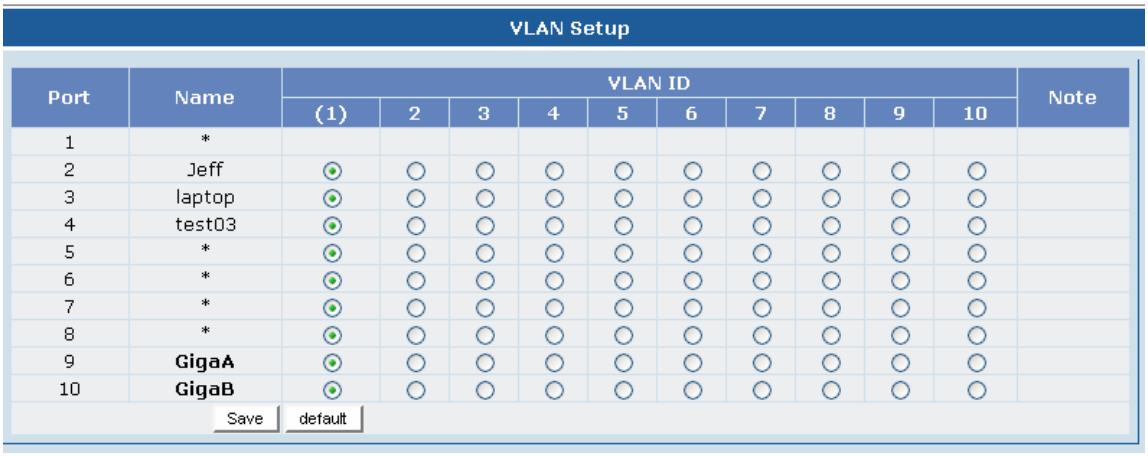
If another bridge in the spanning tree does not send out a hello packet for a long period of time, it is assumed to be dead.

Path priority and cost

Each interface in a bridge could have a different speed and this value is used when deciding which link to use. Faster interfaces should have lower costs.

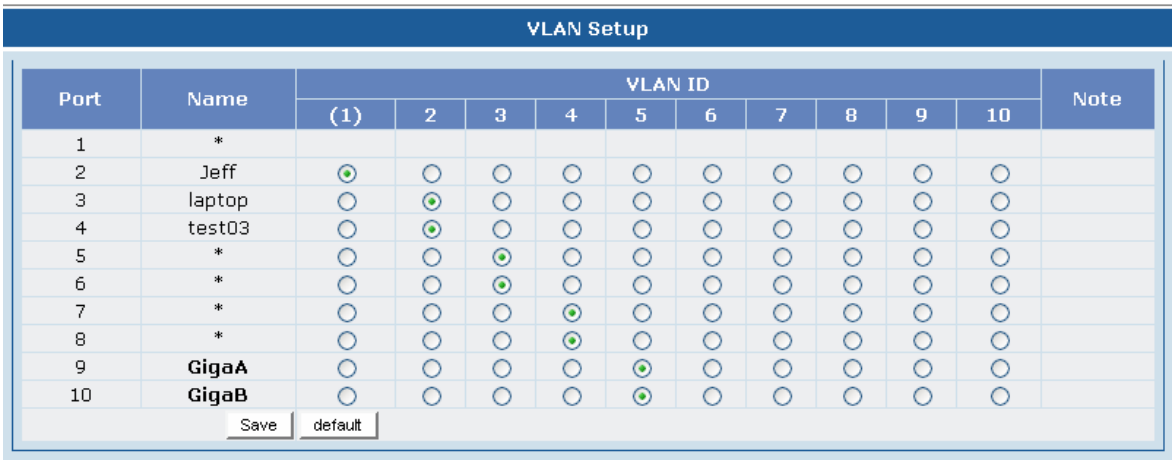
VLAN Set Up

Commander's internal CPU is always on VLAN1. Port 01 is always active to insure a proper connection can be made to Commander in the default state.

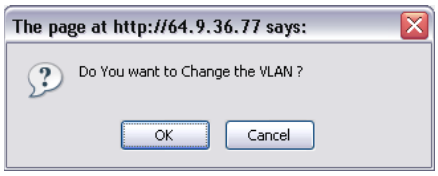


To Create a VLAN:

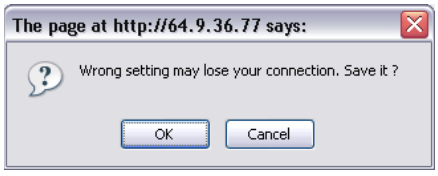
Select the ports to assign to a VLAN. A port may be a member of only one VLAN. 10 VLAN IDs are available.



Saving a VLAN will result in causing a dialog box to appear asking you to confirm your decision.

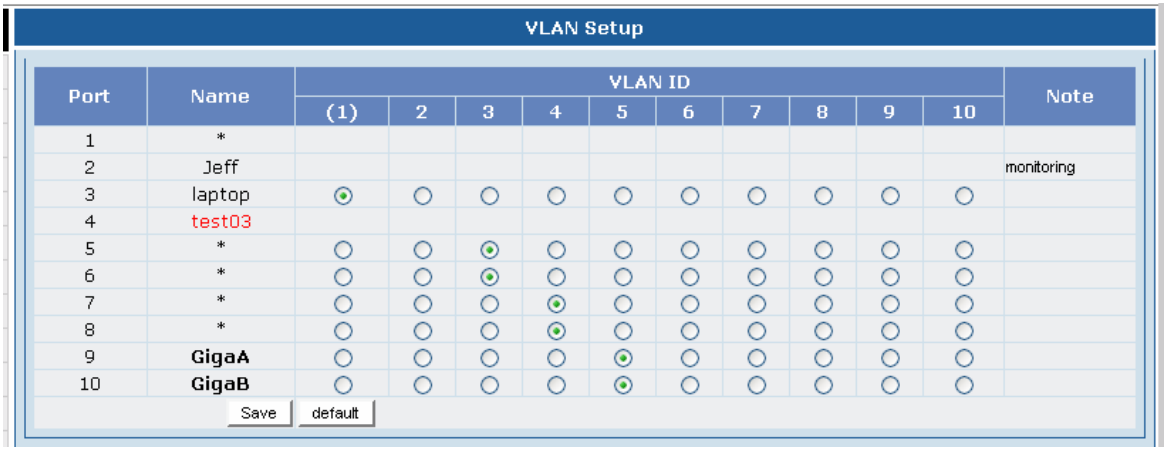


Confirming your choice will remind you that you could lose your connection.

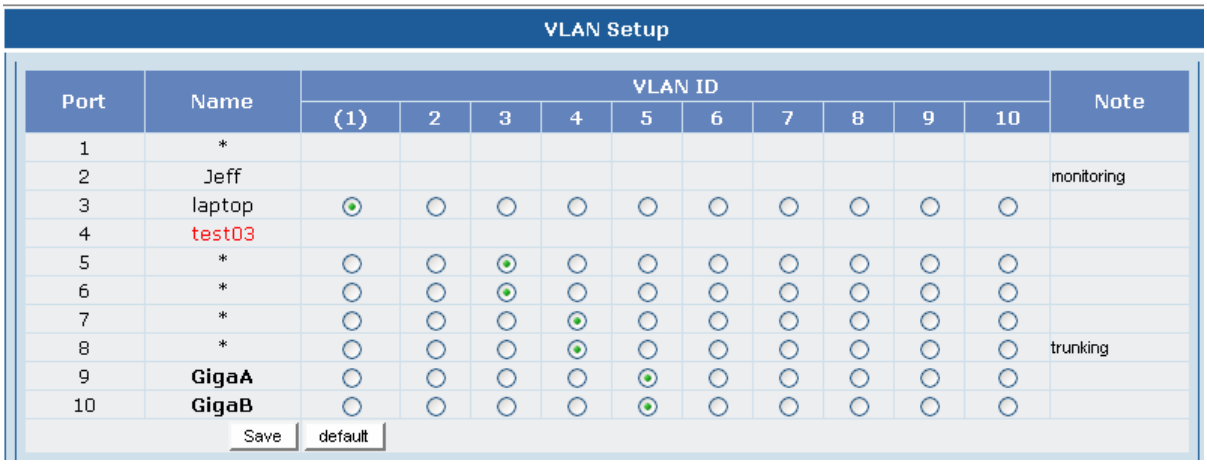


VLAN Settings: Disabling Ports

Disabled Ports:
If a port has been disabled in the Switch Flow it will appear in RED. If a port has been selected for monitoring the port is also removed from further programming. The word “monitoring” will appear in the notes box. In both cases the port will removed from further programming and no set up screen will appear for that individual port(s).



If a port is in the **Trunking Mode:**
The word “Trunking will appear in the notes box



Default:
At any point in the programming point and click on Default will return the settings to their default position

Bandwidth Management

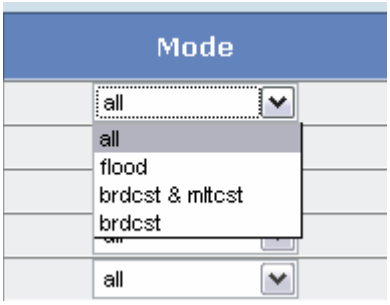
Bandwidth Management Default Setting
In the default setting, modes are set to “all” with no bandwidth limitations

Bandwidth Management

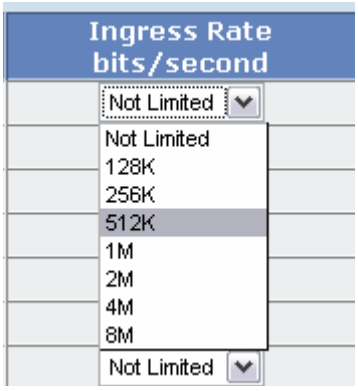
Port	Name	Mode	Ingress Rate bits/second	Egress Rate bits/second	Note
1	*	all	Not Limited	Not Limited	
2	Jeff	all	Not Limited	Not Limited	
3	laptop	all	Not Limited	Not Limited	
4	test03	all	Not Limited	Not Limited	
5	*	all	Not Limited	Not Limited	
6	*	all	Not Limited	Not Limited	
7	*	all	Not Limited	Not Limited	
8	*	all	Not Limited	Not Limited	
9	**GigaA**	all	Not Limited	Not Limited	
10	**GigaB**	all	Not Limited	Not Limited	

Save Default

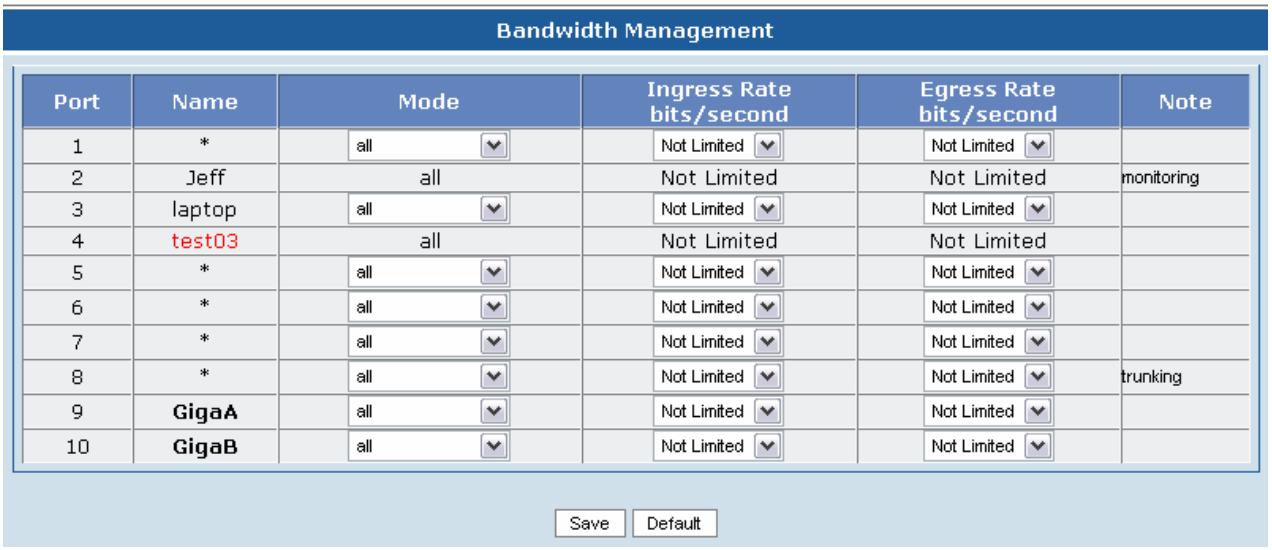
Mode
Use the drop down box to select the type of mode the bandwidth setting will apply to. The choices are Flood, Broadcast and Multicast or Broadcast



For the Ingress Mode:
Select the bandwidth limitation rate from “Not Limited” to 8 Mb/s.



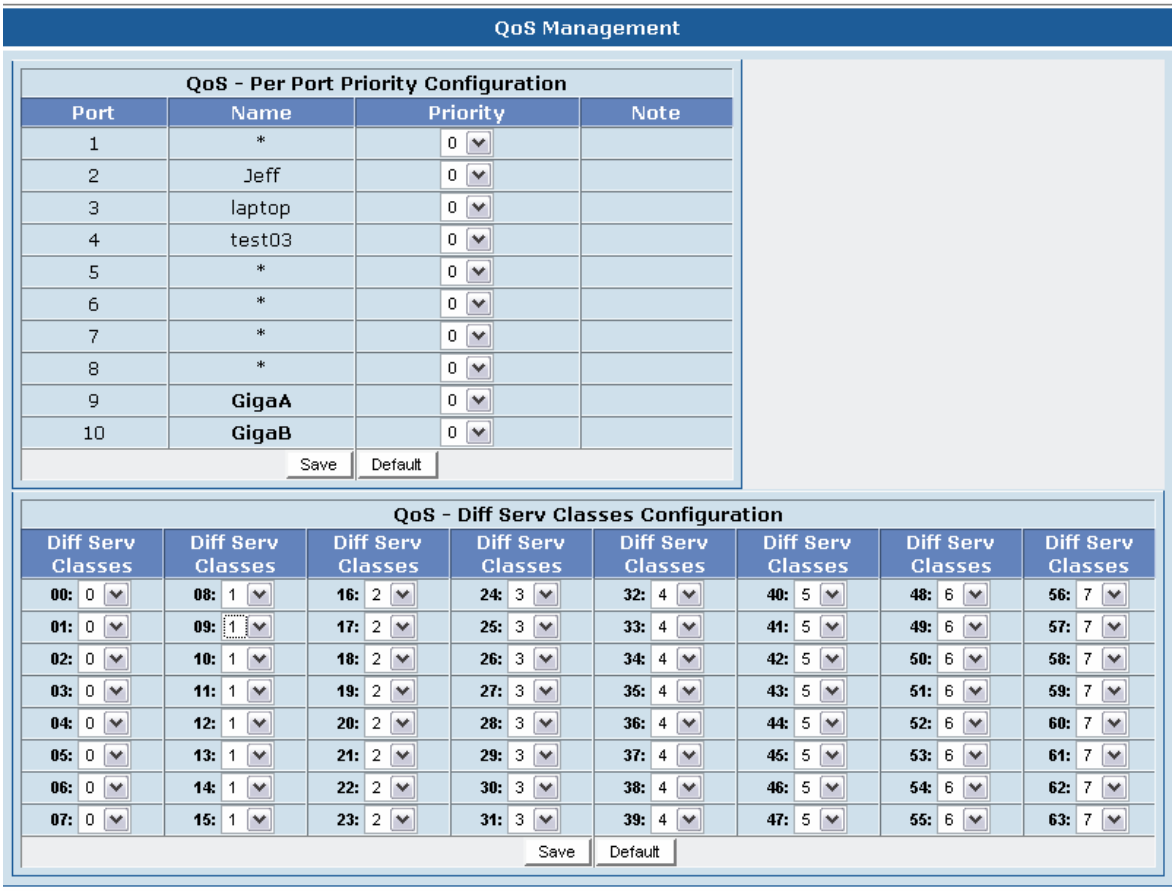
None Accessible Ports:
If a port has been assigned as monitoring or has been disabled it will not be able to be programmed for bandwidth limitations. Disabled ports will be displayed in RED. Ports assigned to monitoring will be indicated in the Notes section. Ports assigned to Trunking will be indicated in the notes section but can be programmed for bandwidth limitations



Default:
At any point in the programming point and click on Default will return the settings to their default settings.

QoS

QoS has two different settings. Priority configuration is used to set port priority and Diff Serv is used assign transmit values. The default is set according to 802.1q IEEE standards.

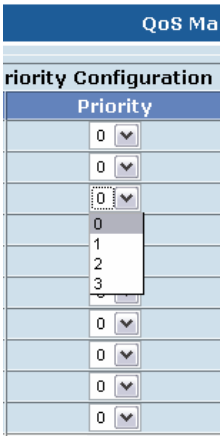


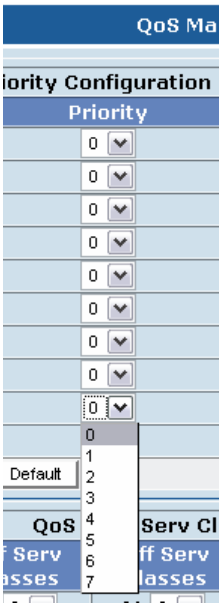
Default:
At any point in the programming point and click on Default will return the settings to their default settings.

QoS Priority Settings

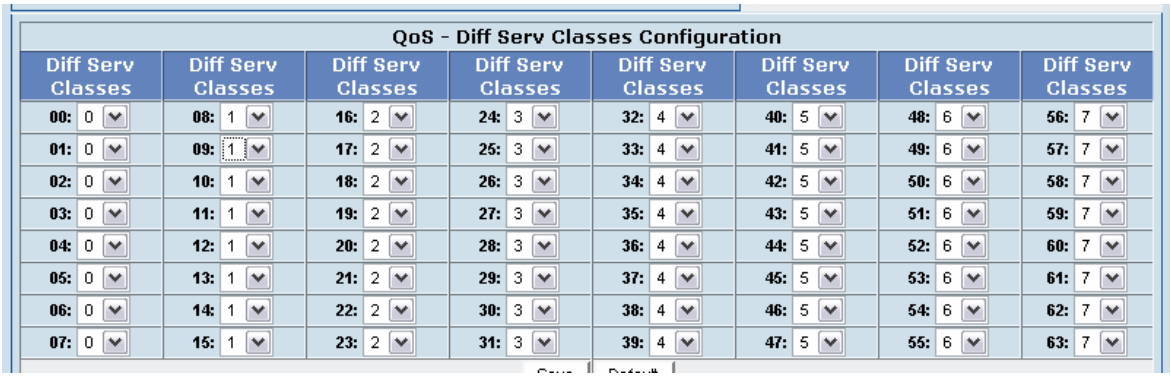
Port Priority:

To change port priority, use the drop down box. 10/100 base ports have 4 priority settings and Gig A and B, 1000 base T ports have 8 priority settings. Lower values have a higher priority in the queue.



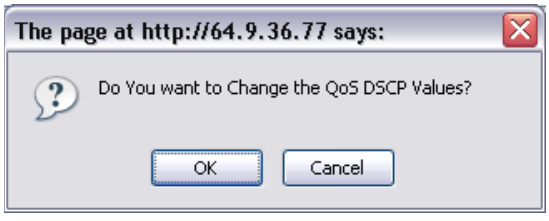


QoS Diff Serv Settings



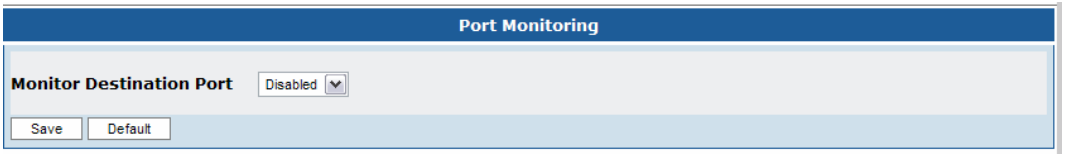
Diff Serv Classes are shown in their 8 class settings by column. Use the drop down menu to change any of the settings.

Clicking Save will result in a pop up box appearing asking you to confirm your decision

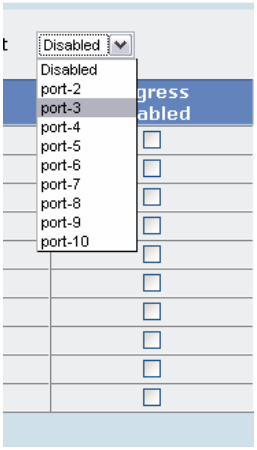


Port Monitoring

This program allows you to select a port for monitoring Ingress and Egress activity. **Once a port is selected it is removed from the system and no programming activity is allowed**

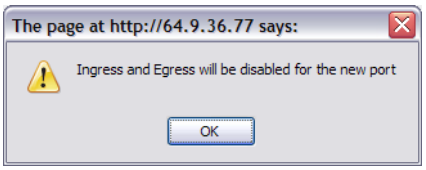


Selecting a Port:
Use the drop down box to select a port:



Important note: Once a port is selected for monitoring it cannot be selected for Ingress and Egress port and will NO LONGER be available for any other switch program function.

After you select a port for monitoring it is suggested that you recheck other switch program screens as ports removed for monitoring will be indicated.

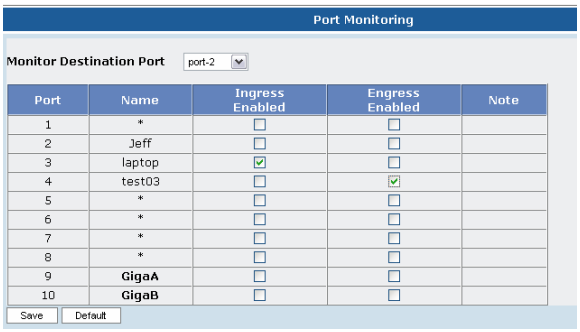


Selecting Ingress and Egress Ports

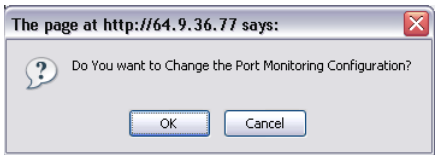
Selecting Ingress and Egress Ports

After the Monitoring port is programmed, select the Ingress and Egress ports to monitor.

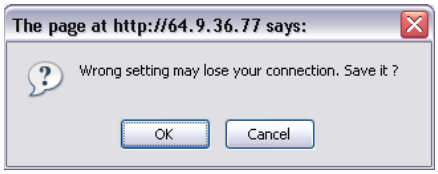
Important Note: Ingress and Egress ports cannot be the same as the selected monitor port. If this condition occurs a warning will be issued.



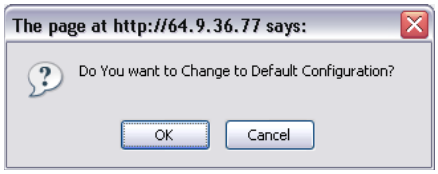
Clicking on Save will issue a pop up asking you to confirm your selection.



Selecting OK will issue a pop up warning that the action might result in a disconnect. Press OK to effect the change.

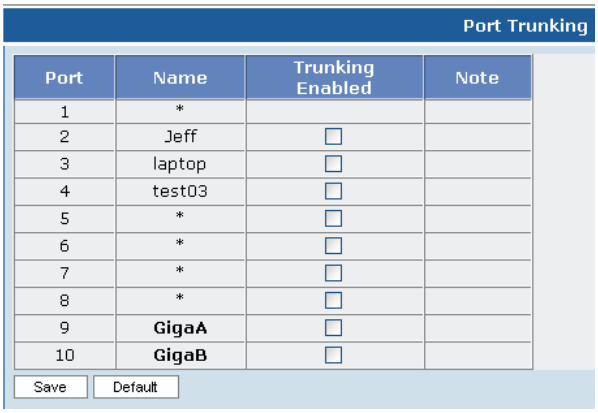


Selecting Default will allow you to return Port Monitoring to its default settings.

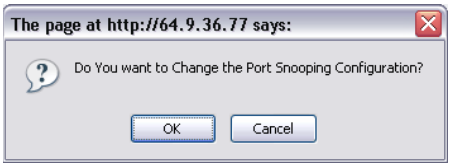


Port Trunking

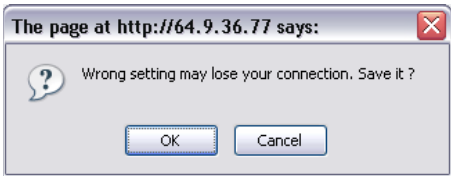
Port Trunking Default Screen
Check a port to enable Port Trunking. To disable an active port, click on the checked box.



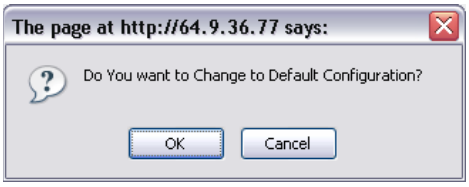
Clicking on Save will issue a pop up asking you to confirm your selection



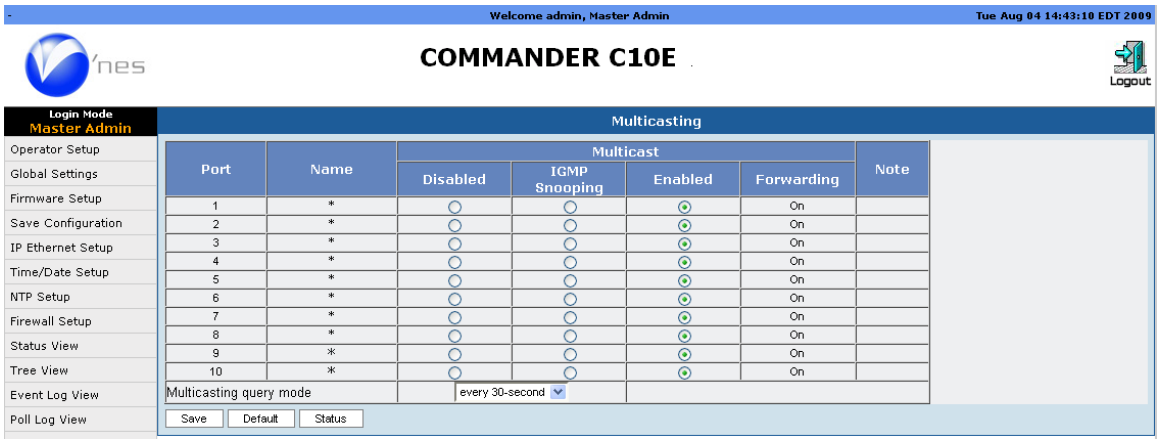
Selecting OK will issue a pop up warning that the action might result in a disconnect. Press OK to effect the change



Selecting Default will allow you to return Port Monitoring to its default settings



Port Multicasting

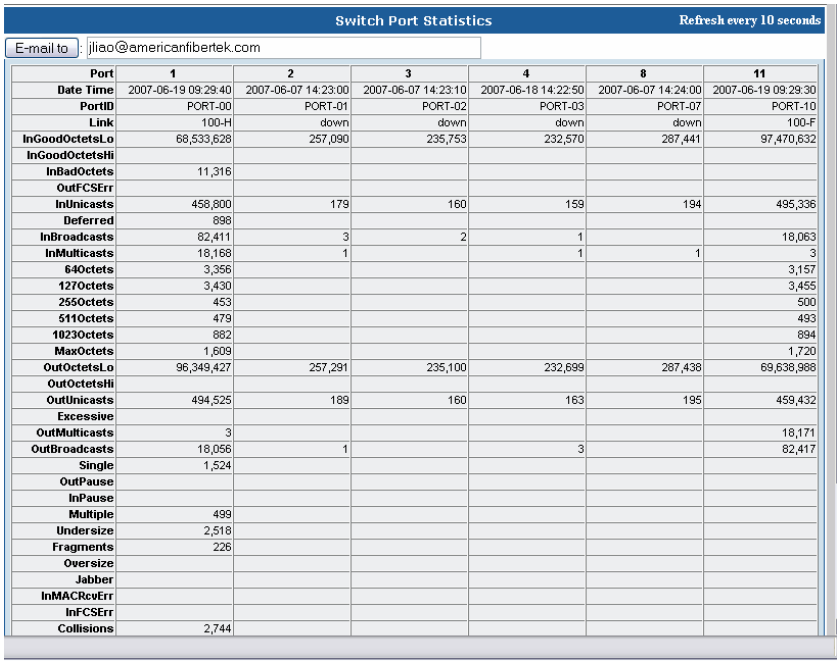


Commander Ethernet ports may be set for multicasting on a port by port basis. Individual ports may be set to IGMP Snooping, Disabled or Enabled. Commander will query via IGMP Snooping to keep multicasts alive. The Snooping query time may be set between 30 seconds and 10 minutes.

Selecting the Disabled radio button will turn multicasting for the selected port off. Selecting the IGMP Snooping radio button will allow dynamic updates to the multicast groups. Selecting Enabled will forward all ingress multicast packets to the selected port.

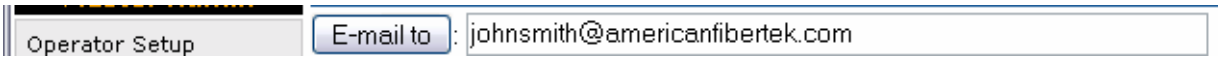
Switch View (Statistics)

Switch Statistics:
This screen provides a view of all the activities for all active ports, including Port 11 which monitors Commander's internal communications between ports and processor. The screen is refreshed very 10 seconds. Each port has a time stamp indicating the time of the last update for that port.
This screen also provides the ability to email Port Statistics as a report by entering an email address and pressing Email.

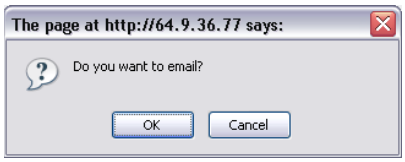


Port	1	2	3	4	8	11
Date Time	2007-06-19 09:29:40	2007-06-07 14:23:00	2007-06-07 14:23:10	2007-06-18 14:22:50	2007-06-07 14:24:00	2007-06-19 09:29:30
PortID	PORT-00	PORT-01	PORT-02	PORT-03	PORT-07	PORT-10
Link	100-H	down	down	down	down	100-F
InGoodOctetsLo	68,533,628	257,090	235,753	232,570	287,441	97,470,632
InGoodOctetsHi						
InBadOctets	11,316					
OutFCSErr						
InUnicasts	458,800	179	160	159	194	495,336
Deferred	898					
InBroadcasts	82,411	3	2	1		18,063
InMulticasts	18,168	1		1	1	3
64Octets	3,356					3,157
127Octets	3,430					3,455
255Octets	453					500
511Octets	479					493
1023Octets	882					894
MaxOctets	1,609					1,720
OutOctetsLo	96,349,427	257,291	235,100	232,699	287,438	69,638,988
OutOctetsHi						
OutUnicasts	494,525	189	160	163	195	459,432
Excessive						
OutMulticasts	3					18,171
OutBroadcasts	18,056	1		3		82,417
Single	1,524					
OutPause						
InPause						
Multiple	499					
Undersize	2,518					
Fragments	226					
Oversize						
Jabber						
InMACRcvErr						
InFCSErr						
Collisions	2,744					

To Email Port Statistics, Input a valid email address



Click the Email button. A pop up confirmation will appear. Click OK and the email is sent. You can enter as many emails as you want. Make certain to separate each email by a space.

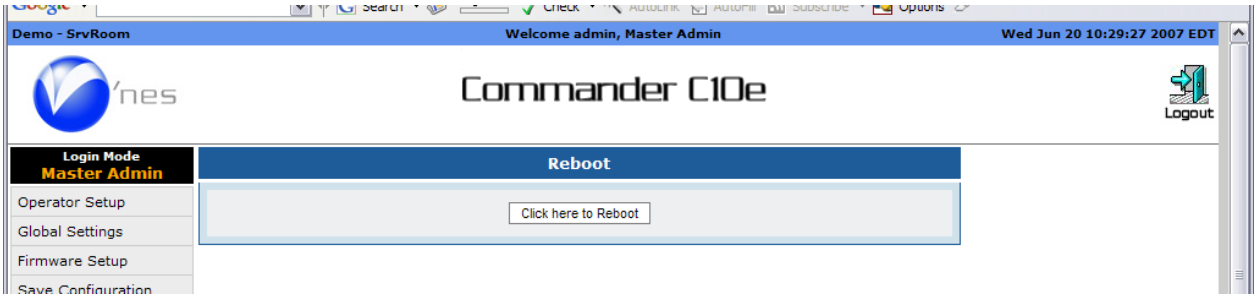


Reboot

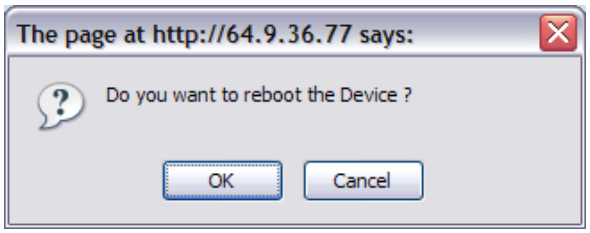
Reboot Selection: It the event that Commander should stop operating or a new firmware update applied, it can be remotely rebooted.

If a reboot become necessary, click on the "Reboot" button in the mode selection area.

Warning: Rebooting will cause all event data to be lost. Make certain you back up your data on a regular basis.



After requesting a reboot a pop up will appear asking you to confirm your decision.



Notes on Reboot:
Under certain conditions you may not be able to reboot using the client and a hard reset maybe come necessary.

Only the Master Admin has access to this reboot function.

***Warning**: Reboot will result in a loss of all data. Make certain that you back up your data on a regular basis using the Save As function and or Email. Rebooting will not affect your programming and after reboot Commander will return to its previously programmed operation.*

Q & A

Commander is designed for trouble free and reliable operation. However if problems do develop please refer to this operations manual. If solutions are not provided using this method contact American Fibertek for assistance.

Important Note: Commander maintains its memory by battery back up. However data files are not backed up. It is important that on regular bases you protect your data by either performing a Save As or Email Log function. Commander provides an auto Email Log function that will automatically email out Event and Poll Logs. It is strongly suggested you use one of these methods to protect your data. Any power down operation or firmware upgrade will erase your data.

Problem: Entering the correct default IP address 192.168.10.11 will not allow me to connect to Commander.

Solution: Make certain your client is set to the proper network settings. Subnet setting, and gateway must match those of Commander.

Problem: I can connect to Commander, but will not accept either my user name or passwords.

Solution: Issuing user names and passwords are the responsibility of Admin (Administrators). Check with either your Security or IT or Master Admin. If for any reasons user or passwords are corrupted and total reset is required, remember to save your settings and database for later restore after setup is complete.

Problem: My Commander is powered up, but nothing else seems to work.

Solution: Start by powering down Commander and setting power again. As power is returned, check the LED Operation during Boot Up. If this is operating normally, check your communications to Commander.
If after boot up all the sensor probes are blinking Red, it indicates a potential operating system (OS) problem. If you are a Master Administrator please refer to the sections in the manual to perform a hard reset. If this doesn't work, please contact American Fibertek.

Problem: I cannot get any information from one of my probes:

Solution: Look at all of your probes, if the probe experiencing problems is blinking red, that probe maybe be defective. Unplug the probe and re-insert it. If the problem continues, try to power down Commander and re-apply power. If the problem continues try plugging the probe in another input working port. If the problem continues, the probe may need replacement.

Problem: I am signed in as Security with IT View, but cannot see any switch related set ups.

Solution: Due to the nature of network switch related set ups, these views are restricted only to Master Admin, IT Admin and IT Admin View. If you feel your need to have access to these views please contact your Master or IT Admin.

Problem: I was receiving email alerts from Commander and they suddenly stopped:

Solution: If you are receiving email alerts using an internal network, check with your IT administrator to see if there were any network or firewall changes that could have affected your Commander settings. If changes were made to internal firewalls, speak with your IT Administrator to provide Commander with permission
If you are using an Internet Service Provider (ISP) to receive alerts, check with them to see if any changes to their system may prevent you from receiving Commander.

Problem: I am connecting to Commander over an ISP and all of a sudden I cannot connect.

Solution: ISP connections using cable modems or DSL randomly change IP addresses. If you are using Commander over this type of network, you must set it for DHCP (Dynamic Host Communication Protocol). As long as power is applied to your router (cable or DSL modem) and your Commander, there should be no problem communicating. However, if power is lost, and the address issued by your service has changed, this will result in Commander changing its IP address.
Commander is designed to inform you of these changes by issuing an email alert with the new IP address. This is done by providing and email address in the Global Settings. Check your email for the new IP address.

Problem: When I have the Commander web page minimized, I do not see a tool bar color change when an alarm occurs.
Solution: A color change in the only operates when using Firefox. Internet Explorer will not change the color of the tool bar.

Default Settings

Commander is programmed with several default settings. The default settings are designed to help you limit your programming to only functions and features that are specific to your operation. Please note, Commander cannot be operated with only its default settings in place. Commander is designed to operate in the specific environment that you assign.

It is strongly suggested that once you have completed your programming, you save you configuration. If programming is lost for any reason you can easily restore it. Commander is designed to maintain its programming memory in the event power is lost.

Start Up:

Upon entering the user name and password Commander will default to the Status View screen. The program modes displayed on the viewer screen left side will be determined by the security level assigned to the user name.

The default password for the default user names: Admin, ITAdmin, and SecAdmin, is "Password". User names and passwords are case sensitive. A user name is limited to 10 characters. The password is limited to 8 characters. Below is a summary of default parameters.

Temperature: F
Warning alarm delay: 4 hours
Sensor status: Off

Network Settings:

IP Address: 192.168.0.246 (Before firmware 20110504: 192.168.10.11)
Network Mask: 255.255.255.0
Gateway: 192.168.0.143 (Before firmware 20110504: 192.168.10.1)

DHCP Disable
DNS Disable

Port Communications:
Auto

Probe Names:

If a probe has not been provided a name, it will not appear in any viewing functions.

The system will only display the number of probes that are actually connected to Commander.

If a probe is not connected to Commander it will not be displayed in the tree or show up in any programming function. When a probe is connected to Commander the probe ID number will automatically be registered. The probe ID will serve as the probe name until a new name is provided by the operator. Probe names are stored in the Probe, limiting their names to 16 characters.

Alarm Names:

The default alarm name shall be labeled as alarm(#)-name. The alarm number sequence reflects the order of the alarms as they are physically positioned on Commander's rear panel. Both alarms appear in the Tree View.

Auxiliary Names:

The default auxiliary name shall be labeled as the aux(#)_name. The auxiliary number sequence reflects the physical order of the auxiliary outputs as positioned on Commander's rear panel. Both auxiliary names will appear in the Tree View.

Sensor Warning and Alarm Settings When Probes Not Present:

If a probe is not connected to a port it will not be displayed in any programming mode or Tree View as a logical device.

Sensor Warning and Alarm Values When Probes Are Present:

For default, no values can be applied to a sensor. The probe ID will appear in the space provided for the probe ID and for the probe name.

Sensor Warning and Alarm Values in Views:

Prior to the operator programming a trigger value, no value will appear "Value That" or in "Trigger Action". The system will not take any reading other than that of the "Current Reading".

Log View: The default for an alarm contact not contented will be "off" and will show as name only.

Port View: The defaults are as follows:

Ports 1-8 are labeled as Port -00 to Port 07
Gig E ports are labeled as: Giga A and Giga B
CPU port representing internal communications is labeled as CPU Port

Search function for all logs:

Date will be	Blank
Time	Blank
Probe	Select
Alarm contact	Select
Auxiliary	Select
Warning Type	Select
Alarm Type	Select

NOTE: Do not use spaces when setting up probe, auxiliary, or alarm field names.

Time and Date Setup:

Date Format	mm/dd/yy
Enter date	(date will match date format)
Time zone	US Eastern
Time format	12 hours
Enter time	12:01:00AM

NTP Setup:

Reference	none
NTP Server Address	blank

Update:

Hours 0
Minutes 0

Firewall Setup:

All settings will be blank

Email Event Log:

Time	1 hour
Email address	blank
Add email address	blank

Probe Set Up:

Select probe:	None
User name	Blank
Time Stamp	Blank
Every	0 Sec
Probe Type	Automatic Selected
Front Panel	Equal to the position for the probe, probe 1 = LED 1, for None probe selection LED =blank
Probe Name	Probe ID, for none=blank
Email	Blank
Warning and alarm levels	Blank
Log, Alert, Email	Blank
Aux Action 1	Auxiliary 1
Duration	0 Sec
Aux Action 2	Auxiliary 1
Duration	0 Sec

Alarm Set Up:

Email	Blank
Alarm name	Blank
NC	Off
Log	Off
Alert	Off
Email	Off
Email Event log	Off
Aux Action 1	Auxiliary 1
Duration	0 Sec
Aux Action 2	Auxiliary 1
Duration	0 Sec

Auxiliary Setup:

Email Address	Blank
Name	Blank
Log	Off
Alert	Off
Email	Off

RS 232 and RS 485 Communication:

Speed:	115200
Bits	8
Parity	None
Stop bits	1
Flow	On

Master Admin Operator Set Up:

User Name	Admin
Password	Password

IT Admin Operator Set Up:

User name	ITAdmin
Password	Password

Security Admin Operator Set Up:

User name	SecAdmin
Password	Password

Email Messages

Commander Email Messages:
Commander provides several Email alerts which can be programmed by operators at various levels to send to Email accounts. The following is a listing of email messages:

Hard Contact Alarm in
Mon, 18 Sep 2006 21:30:23 +0700 Commander-3 alarm3_name IN[3]OFF->ON.
(Date) (Time) (UTC offset) (Name) (Probe Name) (Status Change)

Auxiliary Status
Mon, 18 Sep 2006 10:35:12 -0400 Commander 192.168.10.11 aux2_name OUT[2]ON->OFF.
(Date) (Time) (UTC offset) (name) (aux name) (Status Change)

Probe Status-Notification
Mon, 18 Sep 2006 10:35:42 -0400 Commander 192.168.10.11 Probe ID 9010611
(Date) (Time) (Device name) (Probe ID)

Airflow Warning - notification # usb[5], led=2
(Condition) (-=transition from condition to normal) (usb port) (Assigned LED)
(+=transition from normal to condition)

Email Alerts
Dec 2006 16:51:07 -0500
Commander-Commander One-ServerRoom
ProbeID=9010608
ProbeName=9010608
Temp Warning –
Temp Current=84F, Warning=86F, Alarm=104F
AirFlow Current=46%, Warning=50%, Alarm=30% Humidity Current=$N/A, Warning=100%, Alarm=100%

Internal Alarm Posting

Mon, 18 Sep 2006 10:19:01 -0400 192.168.10.11
(date) (time) (UTC offset (location)
temp3=<1.00 -1.00 52.75> Current=52.750000 Threshold=>52.400000 Alarm
(Internal Name) (actual value) (current value) (Alarm value)

Email Messages/ File Formats

Mon, 18 Sep 2006 10:19:01 -0400 Rack Closet
(date) (time) (UTC offset (device name)

temp3= <1.00 -1.00 52.75> Current=52.750000 Threshold=>52.400000 Alarm
(Internal Name) (actual value) (current value) (Alarm value)

Email of ip settings

Fri Nov 10 14:02:15 EST 2006
Model : Jeff\\\\\\\\\'s
Location: Jeff-desk
Serial #: 123456

IPADDR=192.168.10.14

NETMASK=255.255.255.0
NETWORK=192.168.10.0
BROADCAST=192.168.10.255
GATEWAY=192.168.10.126
DOMAIN='americanfibertek.local'
DNS=192.168.10.126,192.168.10.122
DHCPSID=192.168.10.122
DHCPGIADDR=0.0.0.0
DHCPSIADDR=0.0.0.0
DHCPCHADDR=00:16:E2:FF:FF:F7
DHCPSHADDR=00:0C:41:F0:CC:FF
DHCPSNAME=''
LEASETIME=259200
RENEWALTIME=129600
REBINDTIME=226800

DHCP: New Address Email

Commander can be operated in DHCP applications that require dynamic IP addressing. This includes Commander connected to the Internet via a cable modem or DSL which require client access via these services. For these applications, Commander provides a method to inform operators of new IP address using programming contained in its Global Settings. When the DHCP assigns a new IP address, Commander will send out a notification similar to the example to the left to the programmed IP Address. Global Settings can only be programmed by the Master Admin.

Log File Formats

Commander has many programming features that allow for sending alerts via FTP or Email and saving files.

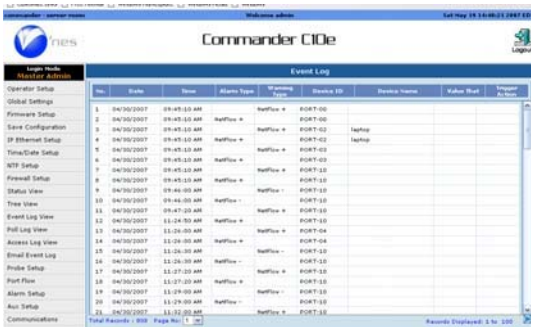
For automatic save, ftp server, and email log:
ss1_access_log_Commander_One.csv
ss1_event_log_Commander_One.csv
ss1_poll_log_Commander_One.csv

Note: *Commander One* is the device name.

For manual save from within the web browser interface:
AccessLog_28Nov06_1515.csv
EventLog_28Nov06_1426.csv
PollLog_28Nov06_1701.csv

Note: last 4 digits are hour and minute.

Event & Polling Log Capacity

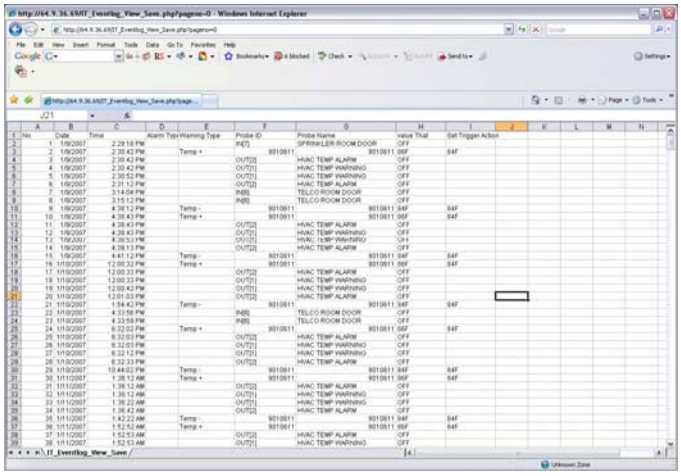


Events are defined as warnings, alarm occurrences, hard contact alarms, and/or auxiliary triggers. Poll logs are programmed actions that occur based on an operator including a logical device (sensor, etc) in a poll and assigning a polling duration. The total capacity of all logs is 20,000 events.

Sensor, Alarm, and Auxiliary Events each have a log capacity of 2,000 entries and will operate on the basis of First In, First Out. This is to prevent an overactive alarm or warning condition from flooding the log database.

Email Messages/ File Formats Inserting/Removing Probes

Commander probes can be inserted or removed while power is on to the main unit. When either occurs an email alert will be sent to the email address programmed into the Global Settings. The email will have the same from address as the receiver. The subject will indicate from where the log was sent.



All logs are sent in .CSV format and will often be opened in MS Excel™.

Files can be directly integrated with most computer database and word processing programs.

Warranty and Contact Information

American Fibertek provides several methods to help you with any technical problems. Our web site: www.americanfibertek.com provides help desk service. You can also call American Fibertek toll free 877-234-7200.

Warranty

American Fibertek, Inc warrants that at the time of delivery the products delivered will be free of defects in materials and workmanship for a period of 5 years. Defective products will be repaired or replaced at the exclusive option of American Fibertek. A Return Material Authorization (RMA) number is required to send the products back in case of return. All returns must be shipped prepaid. This warranty is void if the products have been tampered with. This warranty shall be construed in accordance with New Jersey law and the courts of New Jersey shall have exclusive jurisdiction over this contract. EXCEPT FOR THE FOREGOING WARRANTY, THERE IS NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE, EXPRESSED OR IMPLIED, WHICH EXTENDS BEYOND THE WARRANTY SET FORTH IN THIS AGREEMENT. In any event, American Fibertek will not be responsible or liable for contingent, consequential, or incidental damages. No agreement or understanding expressed or implied, except as set forth in this warranty, will be binding upon American Fibertek unless in writing, signed by a duly authorized officer of American Fibertek.

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