



# DMG 1200 Digital Media Gateway

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## User Manual



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## About Sencore

Sencore is an engineering leader in the development of high-quality signal transmission solutions for the broadcast, cable, satellite, IPTV, telecommunications, and professional audio/video markets. The company's world-class portfolio includes video delivery products, system monitoring and analysis solutions, and test and measurement equipment, all designed to support system interoperability and backed by best-in-class customer support. Sencore meets the rapidly changing needs of modern media by ensuring the efficient delivery of high-quality video from the source to the home. For more information, visit [www.sencore.com](http://www.sencore.com).

## Revision History

Date	Version	Description	Author
04/03/2013	1.0	2.2.0 Release	NDM
11/11/2013	1.1	2.3.0 Release	NDM
08/15/2014	1.2	2.4.0 Release	NDM

## Safety Instructions

- Read these instructions
- Keep these instructions
- Heed all warnings
- Follow all instructions
- Do not use this apparatus near water
- Clean only with dry cloth
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat
- Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- Only use attachments/accessories specified by the manufacturer.
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- Do not expose this apparatus to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the apparatus.
- To completely disconnect this apparatus from the AC Mains, disconnect the power supply cord plug from the AC receptacle.
- The mains plug of the power supply cord shall remain readily operable.
- **Damage Requiring Service:** Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
  - When the power-supply cord or plug is damaged.
  - If liquid has been spilled, or objects have fallen into the product.
  - If the product has been exposed to rain or water.
  - If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of the controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
  - If the product has been dropped or damaged in any way.
  - The product exhibits a distinct change in performance.
- **Replacement Parts:** When replacement parts are required, be sure the service technician uses replacement parts specified by Sencore, or parts having the same operating characteristics as the original parts. Unauthorized part substitutions made may result in fire, electric shock or other hazards.

## SAFETY PRECAUTIONS

**There is always a danger present when using electronic equipment.**

*Unexpected high voltages can be present at unusual locations in defective equipment and signal distribution systems. Become familiar with the equipment that you are working with and observe the following safety precautions.*

- Every precaution has been taken in the design of your Digital Media Gateway to insure that it is as safe as possible. However, safe operation depends on you the operator.
- Always be sure your equipment is in good working order. Ensure that all points of connection are secure to the chassis, and that protective covers are in place and secured with fasteners.
- Never work alone when working in hazardous conditions. Always have another person close by in case of an accident.
- Always refer to the manual for safe operation. If you have a question about the application or operation call Sencore for assistance.
- **WARNING** – To reduce the risk of fire or electrical shock never allow your equipment to be exposed to water, rain or high moisture environments. If exposed to a liquid, remove power safely (at the breaker) and send your equipment to be serviced by a qualified technician.
- To reduce the risk of shock the DMG 1200 must be connected to a mains socket outlet with a protective earthing connection.
- For the DMG 1200 the mains plug is the main disconnect and should remain readily accessible and operable at all times.
- The DMG 1200 is equipped with an internal system battery. The DMG must be sent to Sencore's service department for replacement.  
**CAUTION** – Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type.
- When installing the DMG 1200 utilizing the DC power supply, the power supply **MUST** be used in conjunction with an over-current protective device rated at 250V, 15A, type: Slow-blo, as part of battery-supply circuit.

## FCC Class A Information

The DMG 1200 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 instructions, 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 or her own expense.

Shielded cables must be used with this unit to ensure compliance with the Class A FCC limits.

** Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.**

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## Introduction

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The DMG 1200 is a Digital Media Gateway used as a digital turnaround product capable of converting up to 32 transport streams from ASI to IP, IP to ASI, or any combination in between. The DMG 1200 comes standard with IP and ASI I/O to offer flexibility for future changes in network architecture or sourcing content from two different interfaces.

This manual describes how to install, configure, and operate the DMG 1200 Digital Media Gateway. It is written for professional operators of video distribution systems and assumes a prerequisite level of technical knowledge.

The DMG 1200 is controllable through the web interface or SNMP to perform tasks such as setup, monitoring, and troubleshooting. The front panel provides simple status and IP information for accessing the unit.

Supported WEB interface browsers include:

- Internet Explorer 7 & above
- Mozilla Firefox 3.5 & above
- Chrome

## **Abbreviations**

ASI	–	Asynchronous Serial Interface
BNC	–	Bayonet Neil-Concelman Connector
BPS	–	Bits per second
DHCP	–	Dynamic Host Configuration Protocol
DVB	–	Digital Video Broadcasting
FCC	–	Federal Communications Commission
I/O	–	Input/Output
IP	–	Internet Protocol
kbps	–	1,000 bits per second
LED	–	Light Emitting Diode
MAC	–	Media Access Control
Mbps	–	1,000,000 bits per second
MPEG	–	Refers to standards developed by the ISO/IEC JTC1/SC29
NTP	–	Network Time Protocol
RU	–	Rack Unit
SNMP	–	Simple Network Management Protocol
TS	–	Transport Stream

# Hardware Layout

The DMG 1200 platform is designed to offer operators reliability and flexibility. The unit consists of a chassis in which up to two platforms can be installed. To cater to specific system requirements, the chassis can be configured to host optional modules best suited for a given scenario.

## DMG 1200 Chassis

The Sencore DMG 1200 platform can be delivered in various combinations. The basic single DMG platform includes redundant power supplies, Ethernet control port, 2 MPEG/IP I/O NICs, and 4 bi-directional ASI ports. The chassis shown in Figure 1 is a basic single DMG platform.



**Figure 1: Single DMG platform**

A single DMG platform has 3 options for adding additional ASI input/outputs:

1. Additional 4 ASI Inputs
2. Additional 4 ASI Outputs
3. Additional 4 ASI Inputs and 4 ASI Outputs

The chassis shown in Figure 2 is a single DMG platform with (4) additional ASI outputs.

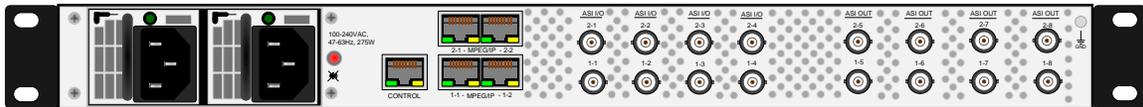


**Figure 2: Single DMG platform with ASI output option**

A dual DMG platform has 2 options for adding additional ASI inputs/outputs:

1. Additional 4 ASI inputs (for one or both platforms)
2. Additional 4 ASI outputs (for one or both platforms)

The chassis shown in Figure 3 has dual platforms with (8) additional ASI outputs. Platform 1 is on the bottom and Platform 2 is on top. Each platform is independent from one another for stream routing.



**Figure 3: Dual DMG platform with ASI output option**

## Control Ethernet Connection

A standard RJ-45 connector provides connection to the SNMP and web interface of the DMG 1200. The connection is a 10/100 BaseT connection. A user can view the IP address of the unit from the front panel or once known can access the web interface through any supported web browser by typing the IP address of the unit. The control port is capable of both DHCP and static IP addressing. By default the IP address of the DMG 1200 is dynamically set to DHCP.

# Installation

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## General Considerations

This chapter describes the installation procedure for the unit.

### Rack size

The chassis is designed to be installed in a standard 19-inch rack. The DMG 1200 occupies 1RU of rack space. All of the cable connections are located on the rear of the unit.

### Ventilation

The DMG 1200 is cooled via forced induction through the front of the unit and exhausted through the vents in the rear. The DMG 1200 is equipped with temperature sensors to ensure operating temperature is maintained.

### Power Connection

Using the proper power connections is vital to the safe operation of the DMG 1200. Only use the supplied power cables or one with equal specifications. The DMG 1200 can be ordered with AC or DC Power supplies.

#### AC Power Connection

The DMG 1200 is capable of either operating on 120/240V 50/60Hz systems. The power supply will automatically detect the system it is connected to. To hook up the power use the following steps:

1. Locate the AC power cord that was included with the DMG 1200.
2. Plug the female end of the power cord (end with no prongs) into the back of the unit.
3. Locate a protected outlet (usually inside of the rack) to plug the male end of the power cable into.

#### DC Power Connection

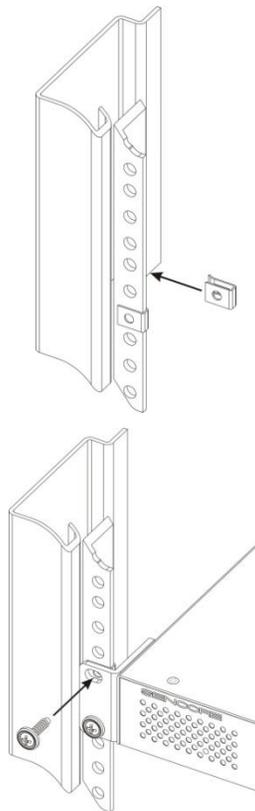
Using the proper connections is vital to the safe operation of the DMG 1200. The DMG 1200 is intended for use in 40-70 VDC systems. The power supply will automatically detect the system it is connected to. **When installing the DMG 1200, the power supply MUST be used in conjunction with an over-current protective device rated at 250V, 15A, type: Slow-blo, as part of battery-supply circuit.** Failure to include an over-current protective device could cause damage to the DMG 1200, personnel, or property.

## Rack Installation

To install the DMG 1200 into a rack use the following steps:

1. Determine the desired position in the rack for the DMG making sure that the air intake on the front of the unit and the exhausts on the rear of the unit will not be obstructed.
2. Insert the rack mount clips into place over the mounting holes in the rack.
3. Slide the DMG into position in the rack.
4. Secure the DMG to the rack by installing the four screws through the front mounting holes and tightening.

**WARNING** To prevent injury, the apparatus must be securely attached to the floor/wall in accordance with the installation instructions.



**Figure 4: Rack mounting**

# Controlling the DMG 1200 Using the Web GUI

From the web browser that is connected to the same network as the DMG 1200, type the IP address of the unit to access the web interface. By default the IP address of the unit is set to DHCP and can be found on the front panel. The DMG 1200 is also capable of static addressing and accessing via host name.

Upon correctly connecting to the unit, a dialog box similar to Figure 5 should appear asking the user to login. By default the password is left blank. Once logged on, the password can be set in the Admin tab.

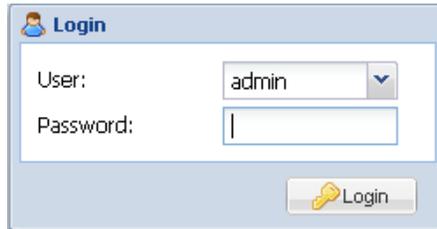


Figure 5: Login screen

A page will load similar in appearance to Figure 6 once a user is successfully logged on. Depending on the options of modules/features installed, small variations might be seen.

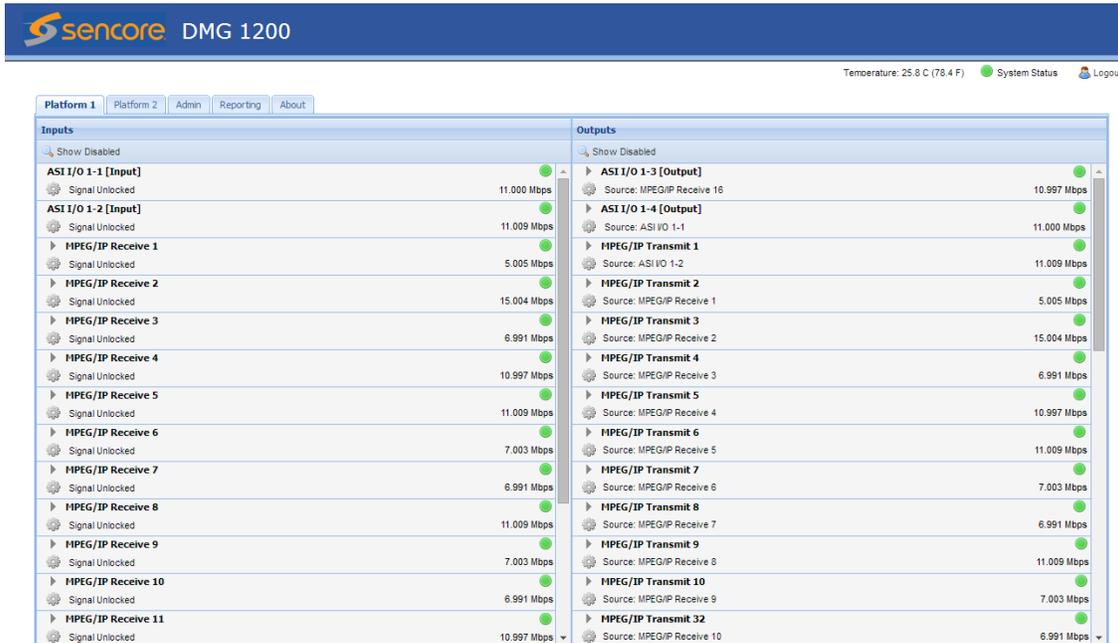


Figure 6: Platform 2 Home screen

The main screen for each platform is displayed in a left-to-right fashion. This means the inputs are shown on the left and outputs are shown on the right. The user is capable of configuring all transport stream routing from this page by clicking on the cog  which represents a settings configuration.

## Input Settings

All inputs for the platform are shown on the left column of the home screen. The inputs are a collection of ASI and IP both supplied in the standard configuration. All ports can be enabled or disabled by configuring the settings for each port. If the port is disabled, it will be hidden when the **“Hide/Show Disabled”** button is clicked.

Clicking on the triangle by each IP port allows the advanced details to be shown for the port. All of the advanced settings are shown for the IP port in Figure 7. If changes are needed, click on the cog to receive the settings dialog box as shown in Figure 8.

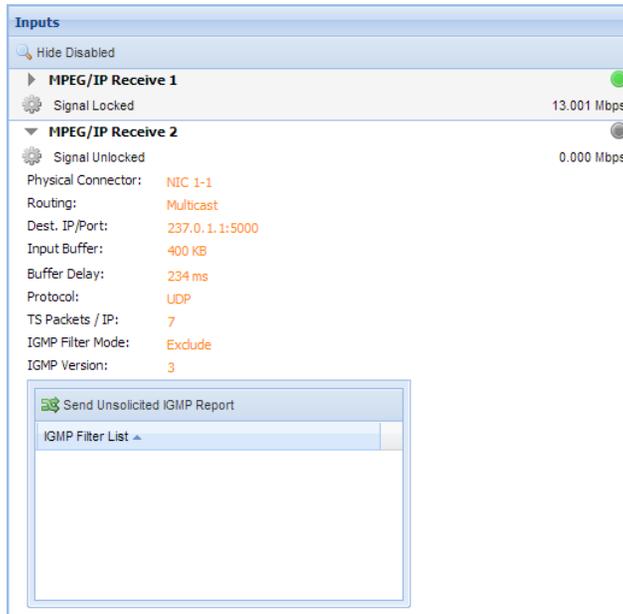


Figure 7: Available inputs

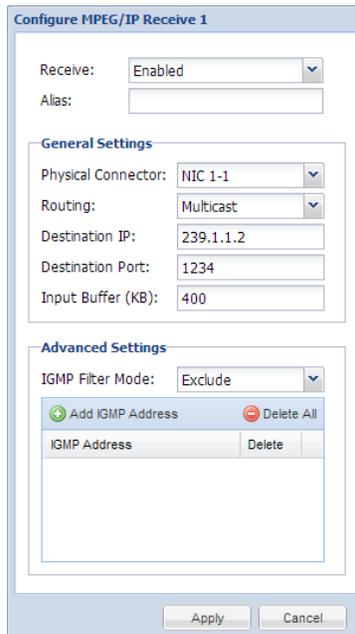


Figure 8: IP configuration

Each input port allows the user to set a local alias for the specific port. This is a friendly name that can be used to name the input for easy reference in the future.

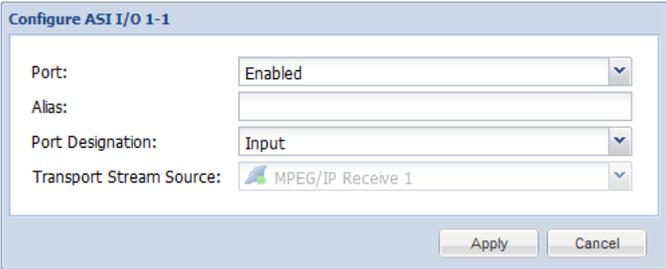
The general IP settings section allows a user to enter the unicast/multicast address along with destination port.

The input buffer size is settable at a range from 1 to 4,000 KB. With a larger buffer size, more latency will be created on the input. The tradeoff with a larger buffer is possible prevention of IP jitter and dropped packets.

The advanced settings allow source specific multicasting using IGMP v3 joins. The filter can be set to exclude or include. IGMP addresses can be added and removed by clicking the appropriate heading in the table. There can be up to 64 addresses entered with the highest address taking priority over the addresses below it.

If the port is enabled and no sync is detected, an error will be indicated by a red light. Errors can be user enabled/disabled if desired. Please see Reporting section for error details.

Figure 9 presents the ASI settings dialog for the ASI bidirectional ports. The port can be enabled or disabled from being shown in the active list. Each ASI port allows the user to set a local alias. This is a friendly name that can be used to identify the input for easy reference in the future.



The screenshot shows a dialog box titled "Configure ASI I/O 1-1". It contains four configuration fields, each with a label and a dropdown menu:

- Port:** The dropdown menu is set to "Enabled".
- Alias:** The text input field is empty.
- Port Designation:** The dropdown menu is set to "Input".
- Transport Stream Source:** The dropdown menu is set to "MPEG/IP Receive 1".

At the bottom right of the dialog, there are two buttons: "Apply" and "Cancel".

**Figure 9: ASI input configuration**

The port can be designated as an input or output. By default, ASI I/O 1 and 2 are set as an input and I/O 3 and 4 are set as outputs. The transport stream source is only used when designated as an output.

## Output Settings

This section focuses around the IP and ASI settings found on the right column of the individual platform home screen.

All DMG 1200 platforms will have the ability to output ASI and/or IP. Thirty-two IP streams will be available along with ASI ports (not assigned as inputs).

Output Name	Source	Bitrate
ASI I/O 1-3 [Output]	MPEG/IP Receive 16	10.997 Mbps
ASI I/O 1-4 [Output]	ASI I/O 1-1	11.000 Mbps
MPEG/IP Transmit 1	ASI I/O 1-2	11.009 Mbps
MPEG/IP Transmit 2	MPEG/IP Receive 1	5.005 Mbps
MPEG/IP Transmit 3	MPEG/IP Receive 2	15.004 Mbps
MPEG/IP Transmit 4	MPEG/IP Receive 3	6.991 Mbps
MPEG/IP Transmit 5	MPEG/IP Receive 4	10.997 Mbps
MPEG/IP Transmit 6	MPEG/IP Receive 5	11.009 Mbps
MPEG/IP Transmit 7	MPEG/IP Receive 6	7.003 Mbps
MPEG/IP Transmit 8	MPEG/IP Receive 7	6.991 Mbps
MPEG/IP Transmit 9	MPEG/IP Receive 8	11.009 Mbps
MPEG/IP Transmit 10	MPEG/IP Receive 9	7.003 Mbps
MPEG/IP Transmit 32	MPEG/IP Receive 10	6.991 Mbps

Figure 10: Outputs

Each port can be configured by clicking on the cog associated with the connection.

**Configure ASI I/O 1-3**

Port: Enabled

Alias:

Port Designation: Output

Transport Stream Source: MPEG/IP Receive 16

Apply Cancel

Figure 11: Configure ASI output

The ASI output configuration is similar to the ASI input if the connector is bidirectional. The ASI output can be enabled/disabled to allow configuration changes without transmitting. The unit alias is a friendly name that can be used to identify the output for easy reference. When designated as an output, the transport stream source is available to be selected to assign the appropriate output.

The IP transmit configuration is shown in Figure 12. The IP output can be enabled/disabled to allow configuration changes without transmitting. The unit alias is a friendly name that can be used to identify the input for easy reference.

Configure MPEG/IP Transmit 1

Transmit: Enabled

Alias:

**General Settings**

Transport Stream Source: Transcoder 1

Physical Connector: NIC 1-1

Destination IP: 239.192.24.110

Destination Port: 5000

**Advanced Settings**

Source Port: 3020

TS Packets Per IP Packet: 7

Apply Cancel

**Figure 12: IP Output settings**

The transport stream source is available to be selected and assigned to the appropriate output.

Two physical IP NICs are available for transmitting on the rear of each platform. The physical connection is selectable. NIC 1 is located on the left and NIC 2 is located on the right when looking at the platform from the rear. The destination IP address and port are settable below the physical connector.

The Advanced Settings give the ability to set the source port and number of transport stream packets per IP packet.

## Admin Tab

The Admin tab (Figure 13) allows system specific settings to be set or modified.

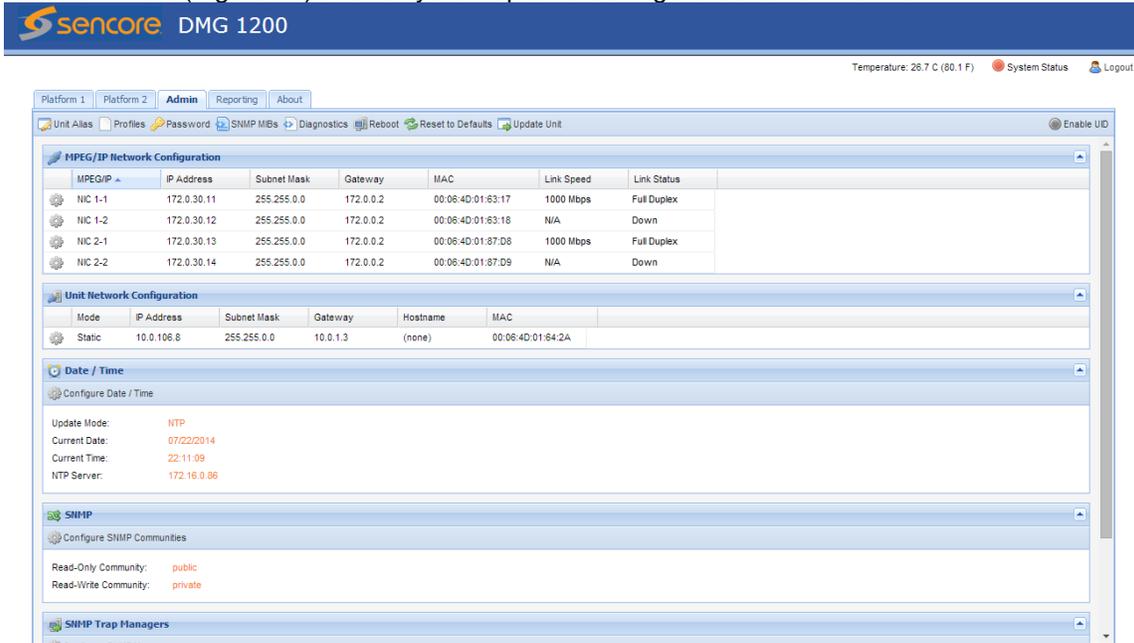


Figure 13: Admin tab

Located directly under the Admin Control Panel are the options for changing Unit Alias, saving Profiles, changing the web GUI Password, downloading the SNMP MIBs, saving Diagnostic file, Rebooting system, Resetting to Factory Defaults, and unit Software Updating.

## Unit Alias

Located in the top left corner of the Admin tab is the unit alias. This allows for unique identification of each unit for easy reference.

To change the alias, click on the pencil and paper and a dialog box will appear.

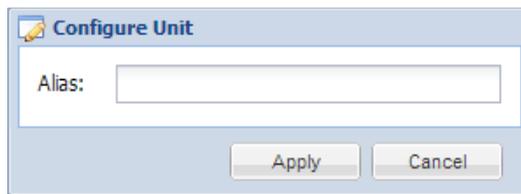
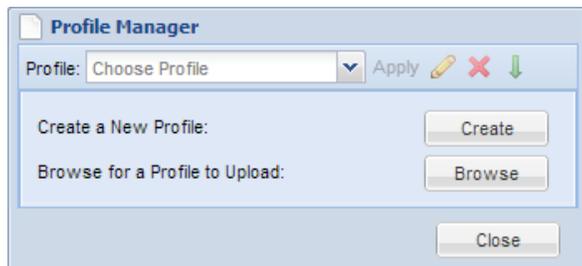


Figure 14: Changing unit alias

## User Profiles

The “Profiles” button opens a dialog box as shown in Figure 15. The user can create a new profile based on the configuration of the complete system. The profile can be saved locally and downloaded to a remote location for backup. The profile can also be uploaded and restored for systems that have the same identical configuration.



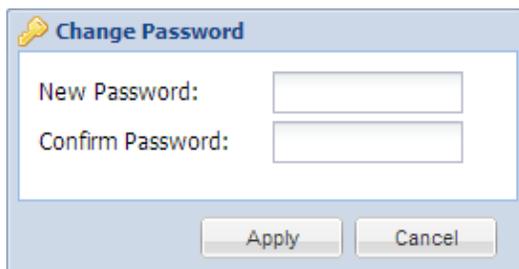
**Figure 15: Profile Manager**

*Note: The configuration of the unit must be the same from system to system to allow the profile to be applied. This includes unit licensing. If a profile is uploaded onto a different channel platform, the profile will not load.*

## Setting Login Password

Clicking on the “Change Password” button located at the top of the Admin Tab a dialog box will appear as shown in Figure 16.

The user will need to type the new password and confirm the password to change it from the previous password.



**Figure 16: Setting password**

## Downloading SNMP MIBs

Clicking on the “Download SNMP MIBs” button located at the top of the Admin Tab will open a dialog box as shown in Figure 17.

A new window will appear with the ability to download each MIB.

Index of /mibs/

Name	Last Modified	Size	Type
Parent Directory/		-	Directory
<a href="#">INET-ADDRESS-MIB.MIB</a>	2014-Jun-03 17:20:15	16.3K	application/octet-stream
<a href="#">SENCORE-CSP-MIB.MIB</a>	2014-Jun-03 17:20:15	50.3K	application/octet-stream
<a href="#">SENCORE-DMG1200-MIB.mib</a>	2014-Jun-03 17:20:15	33.4K	application/octet-stream
<a href="#">SENCORE-GLOBAL-REG.MIB</a>	2014-Jun-03 17:20:15	2.3K	application/octet-stream
<a href="#">SNMP-COMMUNITY-MIB.MIB</a>	2014-Jun-03 17:20:15	15.1K	application/octet-stream
<a href="#">SNMP-FRAMEWORK-MIB.MIB</a>	2014-Jun-03 17:20:15	21.8K	application/octet-stream
<a href="#">SNMP-MPD-MIB.MIB</a>	2014-Jun-03 17:20:15	5.3K	application/octet-stream
<a href="#">SNMP-TARGET-MIB.MIB</a>	2014-Jun-03 17:20:15	22.2K	application/octet-stream
<a href="#">SNMP-USER-BASED-SM-MIB.MIB</a>	2014-Jun-03 17:20:15	38.2K	application/octet-stream
<a href="#">SNMP-VIEW-BASED-ACM-MIB.MIB</a>	2014-Jun-03 17:20:15	33.3K	application/octet-stream
<a href="#">SNMPv2-MIB.MIB</a>	2014-Jun-03 17:20:15	28.6K	application/octet-stream
<a href="#">SNMPv2-SMI.MIB</a>	2014-Jun-03 17:20:15	8.7K	application/octet-stream
<a href="#">SNMPv2-TC.MIB</a>	2014-Jun-03 17:20:15	37.1K	application/octet-stream

To Download: Right-Click, Save Link As or Save Target As

Figure 17: MIBs

## Diagnostics

The “Diagnostics” button will generate a text file for troubleshooting by Sencore support. This file includes the configuration of the system and the log history of the DMG 1200 to provide a complete understanding of the system. The file will be saved to the computer logged into the DMG 1200.

## Reboot

The “Reboot” button will force the complete DMG 1200 system to restart. The user will be prompted before the restart occurs.

## Reset to Defaults

The “Reset to Defaults” button clears all configurations from the DMG 1200 and restores them to factory defaults. When this function is performed it will restore all settings and clear the event log.

## Unit Software Updating

To update the unit’s software click on the “Update Unit” button located at the top of the Admin tab. This will open a dialog box as shown in Figure 18.

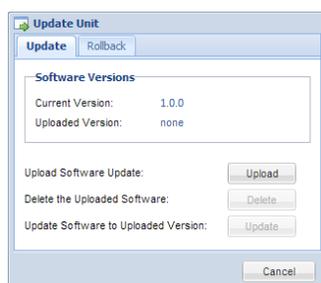
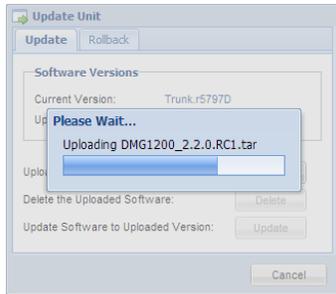


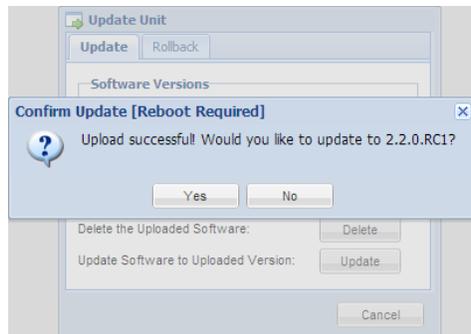
Figure 18: Updating software

The first step is to select the file to update by clicking on the *Upload* button and browsing to the location of the file. Locate the file and click open, the file will automatically upload (Figure 19). Once upload is complete a dialog box will confirm successful upload or indicate an error while verifying the file’s contents.

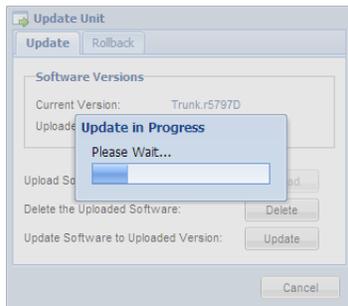


**Figure 19: Uploading file**

Once uploaded successfully, the uploaded version will appear on the Update Unit dialog screen. To complete the update click on the update button and the unit will commence with the update process indicating when update is complete.

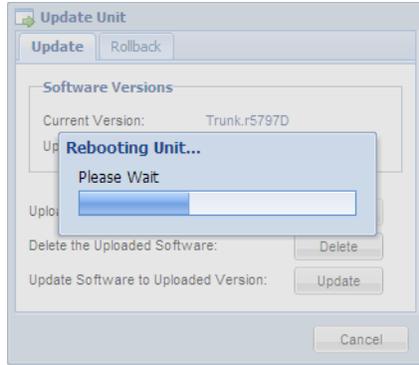


**Figure 20: Upload successful and start update**



**Figure 21: Updating unit**

Once update is complete the system will be restarted. The user will be prompted to log back into the web interface once the unit is updated and operational.

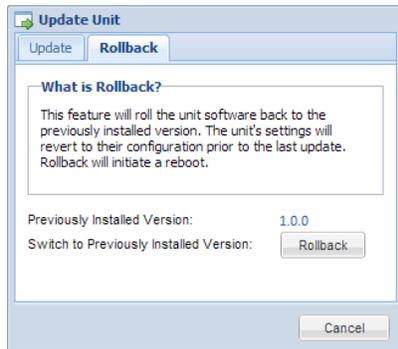


**Figure 22: Unit restarting**

## Unit Software Rollback

The DMG 1200 offers the ability to roll back to the previous version of software that was installed on the unit. The roll back feature will restore the unit back to the previous state before the latest update was performed.

The rollback option is located in the “Update Unit” dialog box under the Rollback Tab as shown in Figure 23.



**Figure 23: Software rollback**

## Network Configuration

In the middle of the Admin Tab, the IP address configuration for the physical ports is shown. The Unit Network Configuration shows the management port’s IP settings. The current status is shown, but can be modified by clicking on the cog located on the left of the status.

MPEG/IP Network Configuration							
MPEG/IP	IP Address	Subnet Mask	Gateway	MAC	Link Speed	Link Status	
NIC 1-1	172.0.30.11	255.255.0.0	172.0.0.2	00:06:4D:01:63:17	1000 Mbps	Full Duplex	
NIC 1-2	172.0.30.12	255.255.0.0	172.0.0.2	00:06:4D:01:63:18	N/A	Down	
NIC 2-1	172.0.30.13	255.255.0.0	172.0.0.2	00:06:4D:01:67:D8	1000 Mbps	Full Duplex	
NIC 2-2	172.0.30.14	255.255.0.0	172.0.0.2	00:06:4D:01:67:D9	N/A	Down	

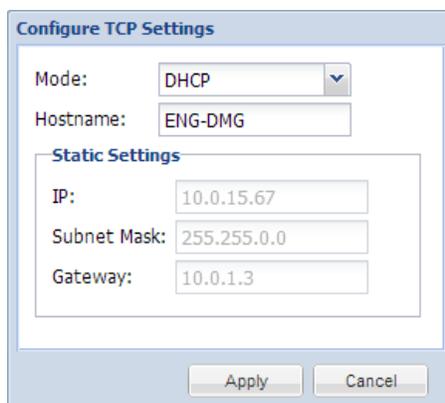
  

Unit Network Configuration						
Mode	IP Address	Subnet Mask	Gateway	Hostname	MAC	
Static	10.0.106.8	255.255.0.0	10.0.1.3	(none)	00:06:4D:01:64:2A	

**Figure 24: Network configuration**

When clicking on the configure cog a dialog box to change IP settings similar to Figure 25 will be presented. For the MPEG over IP configuration, only IP, Subnet, and Gateway are allowed to be set. The management port supports DHCP or Static IP addressing.

If set to DHCP, the user can enter a hostname to easily access the box by the name rather than the IP address given by DHCP. When the mode is set to static, the user has to set the IP, Subnet, and Gateway Addresses.



The dialog box is titled "Configure TCP Settings". It contains the following fields:

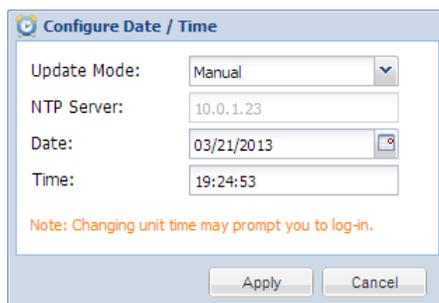
- Mode: DHCP (dropdown menu)
- Hostname: ENG-DMG (text input)
- Static Settings section:
  - IP: 10.0.15.67 (text input)
  - Subnet Mask: 255.255.0.0 (text input)
  - Gateway: 10.0.1.3 (text input)

Buttons: Apply, Cancel

**Figure 25: IP settings**

## Date/Time

The user has the ability to set the local time for the DMG 1200 Digital Media Gateway. The time can be configured using an NTP server by entering the address to synchronize the time and date or it can be entered manually as shown in Figure 26.



The dialog box is titled "Configure Date / Time". It contains the following fields:

- Update Mode: Manual (dropdown menu)
- NTP Server: 10.0.1.23 (text input)
- Date: 03/21/2013 (calendar icon)
- Time: 19:24:53 (text input)

Note: Changing unit time may prompt you to log-in.

Buttons: Apply, Cancel

**Figure 26: Date/Time configuration**

## SNMP Communities

The communities for the SNMP management can be changed from the default of "public" for Read-Only Communities and "private" for Read-Write Communities.



The dialog box is titled "SNMP Community Strings". It contains the following fields:

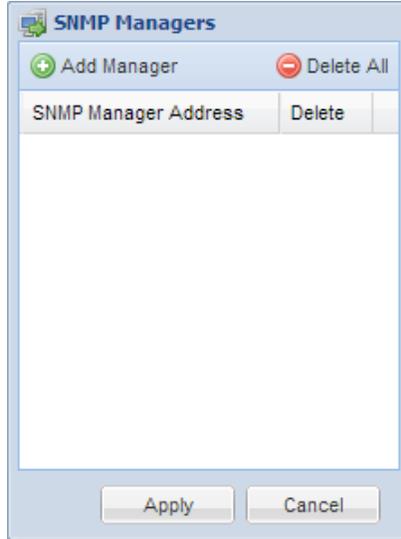
- Read-Only Community: public (text input)
- Read-Write Community: private (text input)

Buttons: Apply, Cancel

**Figure 27: SNMP communities**

## SNMP Trap Managers

The managers for the SNMP management can be entered or removed by clicking on "Configure SNMP Managers"

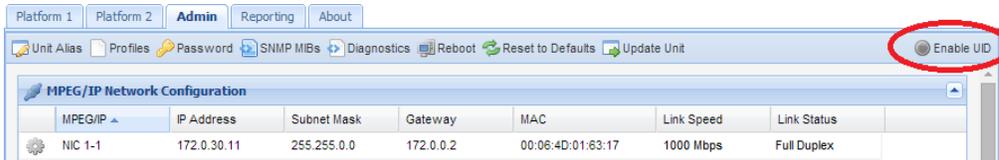


**Figure 28: SNMP managers**

## Unit Identifier

Each chassis comes with the ability to be easily identified with a blinking blue indicator when enabled. This blue blinking light is visible in both the front and back of the chassis.

To enable the UID in the web interface, it is located on the top right side of the Admin tab as shown in Figure 29.



**Figure 29: Unit Identifier**

The UID can be turned on/off from the front panel (Figure 30) by using the following sequence:

- UP Arrow
- RIGHT Arrow
- DOWN Arrow
- LEFT Arrow
- UP Arrow



**Figure 30: Front panel buttons**

## Reporting Tab

The reporting tab contains the status and alarm indications for the DMG 1200 Digital Media Gateway. The alarms, logs, and alarm configuration are separated by individual menus and configurable to the exact scenario a user desires to monitor.

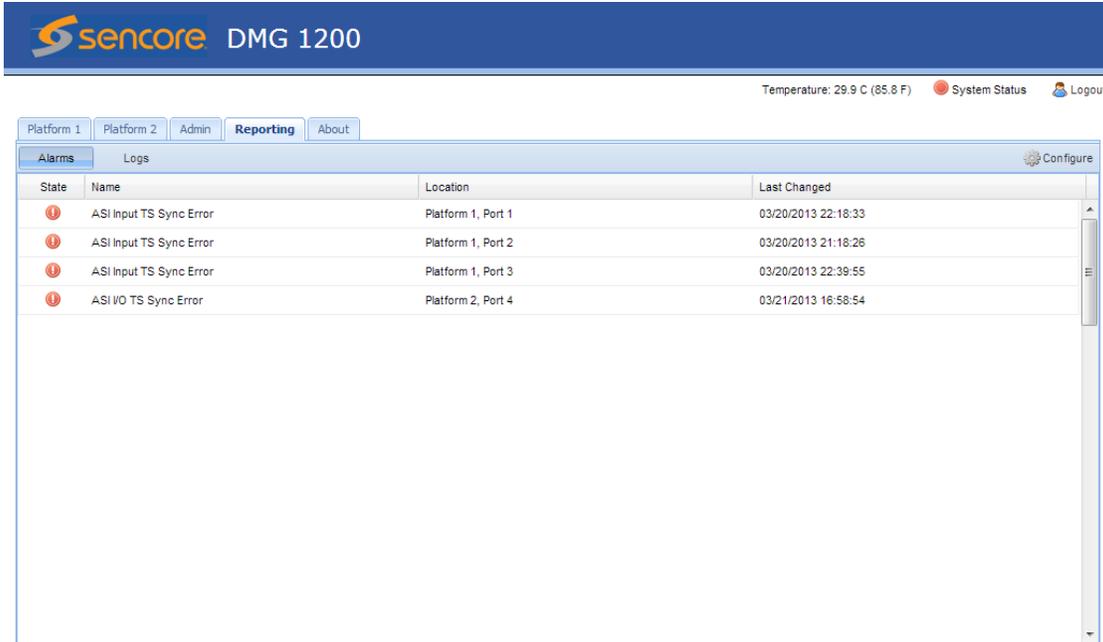


Figure 31: Reporting tab

## Alarms

The Alarms tab is the first screen shown under the reporting tab. The “**Configure**” button opens a configuration screen as shown in Figure 32. All of the alarms in the unit are capable of being enabled or disabled from being generated. Each condition can be configured as an error or information situation under log severity.

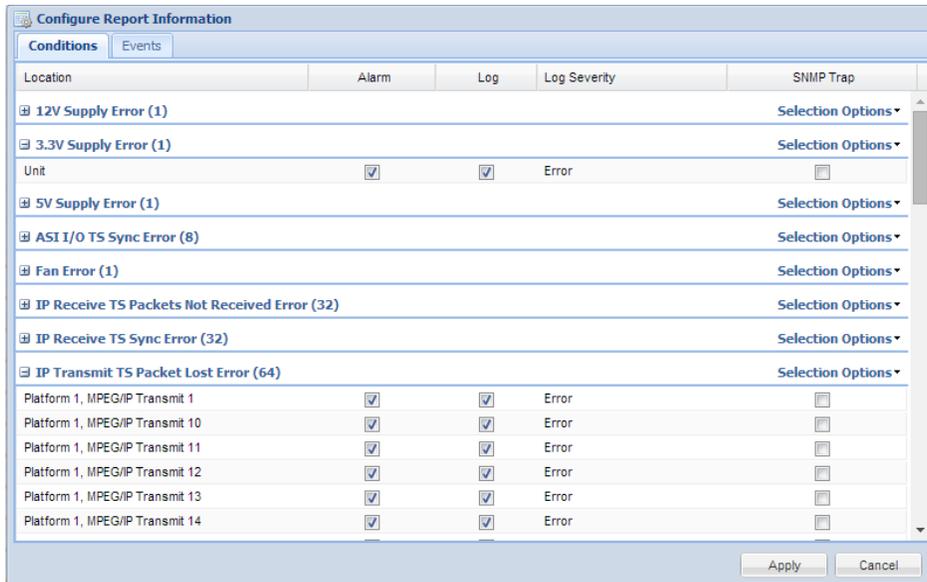


Figure 32: Alarm configuration

Category	Name	Description of Error
System	12V Supply Error	Unable to detect 12V from power supply
System	3.3V Supply Error	Unable to detect 3.3V from power supply
System	5V Supply Error	Unable to detect 5V from power supply
Platform	ASI I/O TS Sync Error	No ASI sync with the transport stream on the ASI I/O card
Platform	ASI Input TS Sync Error	No ASI sync with the transport stream on the ASI input card
Platform	ASI Output TS Sync Error	No ASI sync with the transport stream on the ASI output card
System	Fan Error	A fan failure has been detected
Platform	IP Receive TS Packets Not Received Error	Indicates MPEG/IP data interface is not receiving any TS Packets
Platform	IP Receive TS Sync Error	Indicates the MPEG/IP data interface has an error with synchronization
Platform	IP Transmit TS Packet Lost Error	The MPEG/IP data interface has lost a packet
Platform	IP Transmit TS Sync Error	The MPEG/IP data interface has lost TS synchronization
System	Power Supply Error	An error with one of the power supplies
System	Temperature Error	Internal temperature is outside the range of 0 to 45 Celsius

**Figure 33: Alarm descriptions**

## Logs & Events

The logs can be viewed under the reporting tab by clicking the “Logs” button at the top of the Report Control Panel (see Figure 34). Each error/event can be enabled or disabled to be logged for reference. On the left side of the logs screen the download button is capable of saving the log files for troubleshooting purposes.

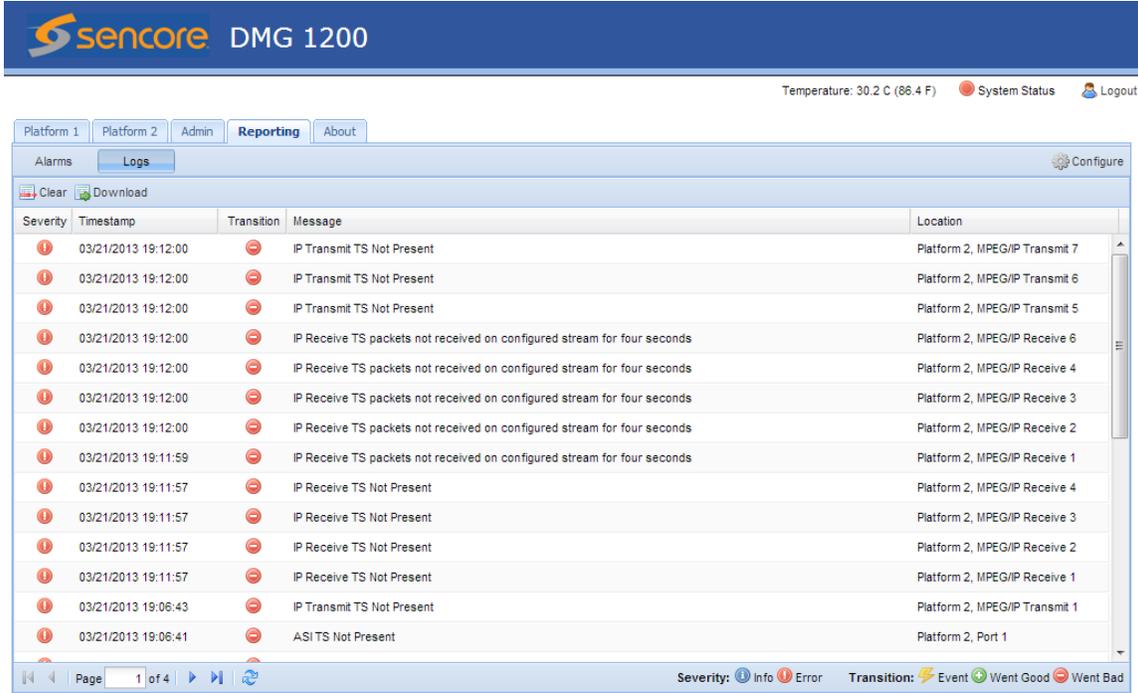


Figure 34: Logs view

All events can be enabled/disabled as shown in Figure 35 by clicking on the “Configure” button.

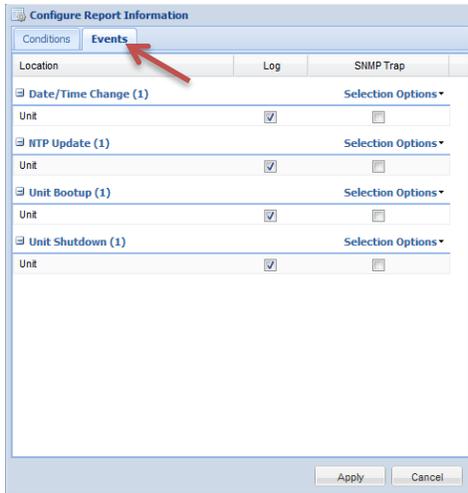


Figure 35: Configure events

Category	Name	Description of Event
Date/Time Change	The unit's date/time has been changed	Date/Time Change
NTP Update	The unit's date/time was updated by the NTP server	NTP Update

Unit Bootup	The unit has been loaded	Unit Bootup
Unit Shutdown	The unit was shutdown	Unit Shutdown

**Figure 36: Event descriptions**

## SNMP Trap Configurations

The SNMP trap configurations can be edited under the reporting tab by clicking the “**Configure**” cog at the top-right of the report control panel. All conditions can be enabled/disabled from sending SNMP Traps.

The SNMP trap manager IP addresses can be added under the admin tab.

## About Tab

The About page provides the software and hardware details and versions for the equipment found within the DMG 1200. This information will be asked when talking to technical support. The contact information is also provided for reaching Sencore.

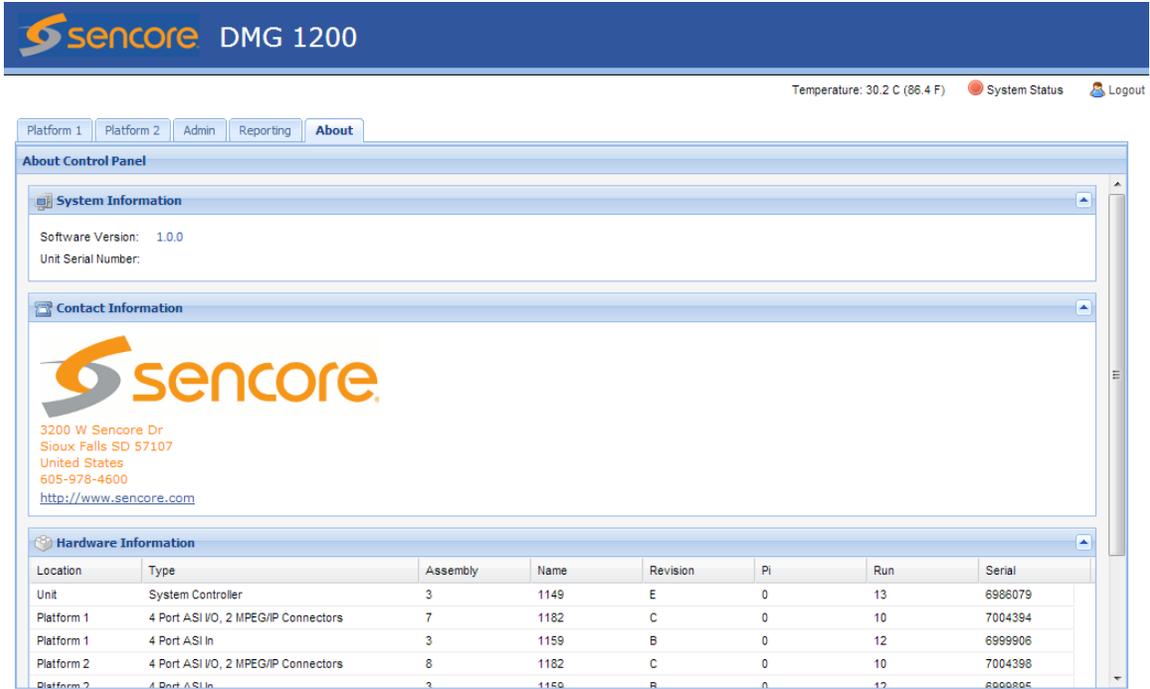


Figure 37: About Tab

## System Recovery

The DMG 1200 system has the ability to recover from complete image corruption. The system recovery allows a user to start the platform into a prompt where a software update will allow the system to be installed in the event all other images will not work.

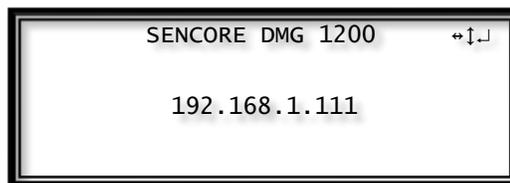
To use the system recovery, hold two buttons (any 2 buttons) when power is applied to the unit for at least 20 seconds.

The unit will boot into recovery mode. The user can press the “Enter” button on the front panel to configure the IP address if necessary. A web browser can then be used to connect to the system and apply an update to the unit.

## Using the Front Panel on the DMG 1200

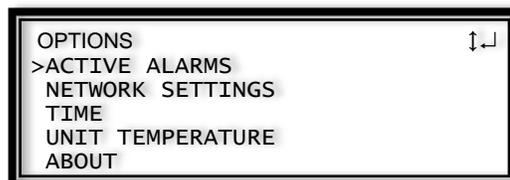
This section of the user manual overviews the menus and operation of the DMG 1200 front panel control. All functionality of the front panel is also accessible through the Web User Interface.

Once the DMG 1200 is finished loading a screen similar to the one on the right will appear.



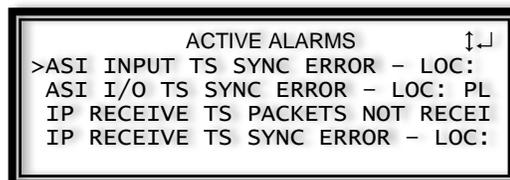
## FP Options and Settings

The OPTIONS settings allow the viewing of active errors, the configuring/viewing of network settings and system time. The ABOUT section provides software versioning and serial numbers.



## Active Alarms

All active alarms are shown with the ability to scroll right using the arrow key to view the entire error detail.



## Network Settings

The unit network menu provides status for current IP address. This includes the IP Address, Subnet Mask, Gateway, DHCP Mode, Hostname, and MAC Address.

```

UNIT NETWORK STATUS      ↕↵
>IP ADDRESS: 10.0.15.6
SUBNET MASK: 255.255.0.0
GATEWAY: 10.0.1.3
DHCP MODE: ENABLED
HOSTNAME: DMG1

```

Press “Enter” to get to the NETWORK CONFIGURATION menu. From here, you can set the Hostname and DHCP Mode. If DHCP is enabled, the current IP address is shown. If DHCP is disabled, press “Enter” while the cursor is on IP Address, Subnet Mask, or Gateway to manually change the IP Address, Subnet Mask, and Gateway.

```

NETWORK CONFIGURATION   ↕↵
>HOSTNAME: DMG1_ _ _ _ _
DHCP MODE: DISABLED
IP ADDRESS: 10.0.15.6
SUBNET MASK: 255.255.0.0
GATEWAY: 10.0.1.3

```

The hostname allows a user to remotely connect to the DMG 1200 with a Web Browser by simply typing the hostname and not the IP address into the web browser. This is helpful when used on DHCP networks. To edit the hostname press the “Enter” button while cursor is on “Hostname” in the UNIT NETWORK STATUS and “Enter” again on Hostname in the NETWORK CONFIGURATION menu.

## Unit Time

The time and date for the unit can be set manually or synchronized with an NTP server. The date and time are used for storing the correct time for alarms and logs for accurate representation of when the occurrence took place.

```

TIME                      ↕↵
>TIME: 2013/2/24 03:27:48
SOURCE: NTP SERVER
ADDRESS: 10.0.1.23

```

```

TIME                      ↕↵
TIME: 2013/2/24 03:27:48
SOURCE: MANUAL
>SET DATE: 2010/8/12
SET TIME: 03:27:48

```

## FP About

The about screen provides information for software and hardware installed in the DMG 1200. This information will be asked when talking to technical support.

```

ABOUT                               ↵
>IMAGES                               ↵
  HARDWARE
  SERIAL: 1234567
    
```

## About Software

Press "Enter" while the cursor is on IMAGES to view the software version currently installed on the unit.

```

                                SOFTWARE VERSIONS  ↵
PRODUCT: DMG 1200
VERSION: 1.0.0
    
```

## About Hardware

Press "Enter" while the cursor is on a specific piece of hardware to get more detail about that piece of hardware. It will provide information such as serial, run, revision, assembly, and PI numbers. It will also supply the location of the hardware in the unit, as well as a name for that piece of hardware.

```

                                HARDWARE SELECT     ↵
>BOARD 1149
  BOARD 1182
  BAORD 1159
    
```

## Appendix



### Specifications

<b>DMG 1200 Base Unit Includes:</b>	Display, keypad, embedded controller, Chassis/case, Power Supply/line cord
System –	
Display Type:	LCD
Display Configuration:	240 pixels by 64 pixels
Keypad:	Snap-dome Membrane
Configurations Allowed:	Single Platform Dual Platform
Remote Operation/Update Interface –	
Type:	Ethernet, 10/100
Rear panel indicators:	Link (Green LED), Activity (Amber LED)
Connector:	RJ45
Front Panel Indicators –	
UID LED:	Blue indicates the Unit Identifier is turned on
Error LED:	Red indicates error is occurring OFF indicates no errors detected
Monitor and Control Interfaces –	
Web server GUI	HTTP via web browser for Control & Monitoring
Front Panel	Yes IP Configuration & Monitoring
SNMP	Yes Control & Monitoring
AC Power –	
Operating Voltage:	95-135 VAC or 180-265 VAC
Current Draw/Power:	275 Watts
Frequency:	47-63Hz
Line Cord:	Detachable, 3-prong
Redundancy:	Dual Hot Swappable, Load Sharing
DC Power –	
Operating Voltage:	-40VDC to -70VDC
Max Current Draw/Power:	10A / 250W
Redundancy:	Dual Hot Swappable, Load Sharing
General –	
RoHS Compliant:	Yes
Operating Temperature:	0 to 45 degrees C
Operating Humidity:	<95% Non-Condensing
Cooling:	Forced air, front intake, rear exhaust
Temperature monitor:	Fan failure, internal temperature sensor
Size:	Height = 1RU (13/4”), Width = 19”, Depth = 19” 19 in. rack mountable, removable ears Rack clips and screws included
Weight:	~9.5 lbs. (base unit) ~12.0 lbs. (Fully Loaded)
Pollution Degree:	2
Installation Category:	II
Grounding Post:	On chassis

Specifications are subject to change without notice.

## DMG 1200 Digital Media Gateway

### General –

RoHS Compliant: Yes

### ASI Serial TS (Per Platform) –

Connector: (4) BNC, female  
 Direction: Software configurable as input or output by port  
 Impedance: 75 ohms  
 Standard: ETSI EN 50083-9 DVB ASI  
 Data Bit Rate: 270 Mbps  
 Packet Size: 188 or 204 byte support  
 Transmission Mode: Burst and packet mode support  
 Min TS Rate Supported: 0.5 Mbps  
 Max TS Rate Supported: 213 Mbps

### IP TS Input/Output (Per Platform) –

Connector: (2) – 10/100/1000 Auto-negotiating Base-T RJ-45 Ethernet Port  
 Bitrate Range: 0.5 – 640 Mbps (total I/O)

### Receive –

Input format: UDP, RTP, and RTP with extension headers  
 Multicast and/or Unicast  
 CBR  
 Receiver Capability: 16 simultaneous MPEG over IP transport streams  
 Buffer Size: 1 – 4,000 KB, user settable  
 Packets/IP Frame: 1-7 MPEG Packets/IP Frame  
 IGMP Compatibility: Version 1, 2, and 3

### Transmit –

Output Format: UDP  
 Packets/IP Frame: 1-7 MPEG Packets/IP Frame  
 Number of Outputs: 32 simultaneous Multicast and/or Unicast  
 IGMP Compatibility: Version 1, 2, and 3  
 Min TS Rate Supported: 0.5 Mbps  
 Max TS Rate Supported: 213 Mbps



Specifications are subject to change without notice.

## Open Source Software

### The DMG 1200 includes:

Package	Version	License	Copyright
AT32 UC3B Software Framework	1.4.0	BSD	2008, Atmel Corporation
BaseX4JIT	4.0	GPL Version 3, 29 June 2007	2007-2009, Active Group, Inc.
BusyBox	1.20.1	GPL Version 2, June 1991	Erik Andersen, et. al.
cgicc	3.2.9	LGPL Version 29, June 2007	Stephen F. Booth
dfu-programmer	0.5.2	GPL Version 2, June 1991	Weston Schmidt
Dropbear	2012.55	MIT-like	2002-2008 Matt Johnston, et. al. (see license)
e2fsprogs	1.41.9	GPL Version 2, June 1991	Theodore Ts'o
ethtool	2.6.34	GPL Version 2, June 1991	David Miller, et. al.
FamFamFam Silk Icons	013	Creative Commons Attribution 2.5	Mark James
FastDB	3.71	MIT-like	Konstantin Knizhnik
FCGI	2.4.6	FastCGI	Open Market, Inc
Iproute2	3.4.0	GPL Version 2, June 1991	Stephen Hemminger, Alexey Kuznetsov
Libusb	0.1.12	LGPL Version 2.1, February 1999	Johannes Erdfelt, Thomas Sailer, Brad Hards
Lighttpd	1.4.23	BSD	2004, Jan Kneschke
Linux	2.6.30	GPL Version 2, June 1991	Linus Torvalds, et. al.
Log4cpp	1.0	LGPL Version 2.1 February 1999	Bastiaan Bakker
Monit	5.1.1	GPL Version 3, 29 June 2007	2010 Tildeslash Ltd.
Net-SNMP	5.7.1	BSD	1989, 1991, 1992 by Carnegie Mellon University, et. al. (see license)
NTP	4.2.4p7	NTP License	1992-2009 David L. Mills
OpenSSL	1.0.1c	BSD-Like	1998-2008 The OpenSSL Project, 1995-1998 Erik Young
OProfile	0.9.7	GPL Version 2, June 1991	John Levon, Philippe Elie, et. al
PCRE	8.00	BSD	1997-2009 University of Cambridge, 2007-2008, Google Inc.
POPT	1.14	MIT	1998 Red Hat Software
qDecoder	12.0.2	BSD	2000-2012 Seungyoung Kim
Socket-CAN	1171	BSD-like, GPL Version 2, June 1991	2002-2007 Volkswagen Group Electronic Research, et. al.
Spawn-FCGI	1.6.3	BSD	Jan Kneschke, Stefan Bahler
TCLAP	1.2.0	MIT	2003 Michael E. Smoot
U-Boot	2009.11.1	GPL Version 2, June 1991	Wolfgang Denk, et. al.
USB-Utills	0.86	GPL Version 2, June 1991	Thomas Sailer, Johannes Erdfelt, David Brownell, Aurelien Jarno
Zlib	1.2.7	zlib/libpng License	1995-2005 Jean-loup Gailly and Mark Adler

## **Warranty**

### **Sencore One-Year Warranty**

Sencore warrants this instrument against defects from any cause, except acts of God and abusive use, for a period of 1 (one) year from date of purchase. During this warranty period, Sencore will correct any covered defects without charge for parts, labor, or recalibration.

## **Support and Contact Information**

### **Returning Products for Service or Calibration**

The DMG 1200 is a delicate piece of equipment and needs to be serviced and repaired by Sencore. Periodically it is necessary to return a product for repair or calibration. In order to expedite this process please carefully read the instructions below.

### **RMA Number**

Before any product can be returned for service or calibration, an RMA number must be obtained. In order to obtain a RMA number, use the following steps:

1. Contact the Sencore service department by going online to [www.sencore.com](http://www.sencore.com) and select Support.
2. Select Service and Repair from the options given.
3. Fill in the following required information:
  - a. First & Last Name
  - b. Company
  - c. Email
  - d. Phone Number
  - e. Ship and Bill to Address
  - f. Unit Model and Serial Numbers
4. An RMA number will be emailed to you shortly after completing the form with return instructions.

### **Shipping the Product**

Once an RMA number has been issued, the unit needs to be packaged and shipped back to Sencore. It's best to use the original box and packaging for the product but if this not available, check with the customer service representative for the proper packaging instructions.

*Note: DO NOT return any power cables or accessories unless instructed to do so by the customer service representative.*



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