INSTRUCTION MANUAL

INSPIRED SIGNAGE XPRESS PLAYERS

IS-SPX-1000, IS-SPX-1300

Bonjour

AV FOR AN IT WORLD

IMPORTANT SAFETY INSTRUCTIONS

1. READ these instructions.
2. KEEP these instructions.
3. HEED all warnings.
4. FOLLOW all instructions.
5. DO NOT use this apparatus near water.
6. CLEAN ONLY with dry cloth.
7. DO NOT block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. DO NOT install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. 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 wider blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. PROTECT the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. ONLY USE attachments/accessories specified by the manufacturer.

12. USE ONLY with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. UNPLUG this apparatus during lightning storms or when unused for long periods of time.
14. 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.
15. 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.
16. To completely disconnect this apparatus from the AC Mains, disconnect the power supply cord plug from the AC receptacle.
17. Where the mains plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.
18. DO NOT overload wall outlets or extension cords beyond their rated capacity as this can cause electric shock or fire.

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 product.

The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electrical shock to persons.

ESD Warning: The icon to the left indicates text regarding potential danger associated with the discharge of static electricity from an outside source (such as human hands) into an integrated circuit, often resulting in damage to the circuit.

WARNING: To reduce the risk of fire or electrical shock, do not expose this apparatus to rain or moisture.

WARNING: No naked flame sources - such as candles - should be placed on the product.

WARNING: Equipment shall be connected to a MAINS socket outlet with a protective earthing connection.

WARNING: To reduce the risk of electric shock, grounding of the center pin of this plug must be maintained.

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IS-SPX-1000/1300 Inspired Signage XPress Players

Overview

The IS-SPX-1000 (**FG1231-01**) and IS-SPX-1300 (**FG1231-11**) Inspired Signage Xpress Players offer a simple way to deliver digital signage solutions. The rich set of functionalities offered by the SPX Players simplifies the implementation, management and maintenance of a range of audio/visual communication solutions. The SPX Players are designed to satisfy the reliability needs of nonstop 24/7 service and minimize maintenance costs. SPX Players contain no moving parts and are engineered to be used wherever digital signage displays are utilized.

Whether integrated behind displays, beneath a technical floor, or in a custom enclosure, SPX Players are ready to deliver with a small form factor and a low power draw. The USB interface can be used to extend the internal storage through memory sticks or hard drives. The same interface can support external devices such as touch screen controllers or keyboards.

IS-SPX-1000

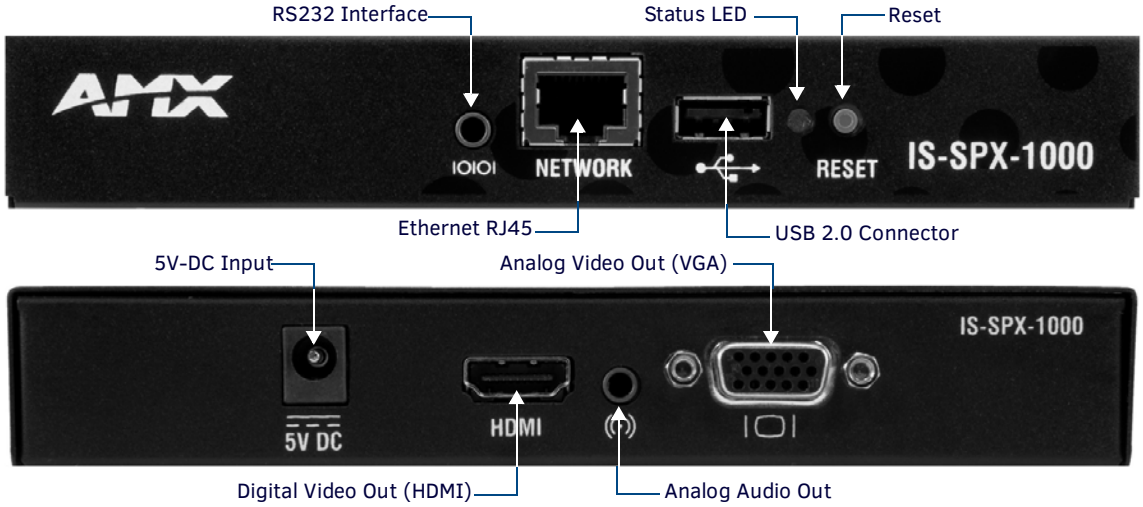

FIG. 1 IS-SPX-1000 IS-SPX Inspired Signage Xpress Player

IS-SPX-1000 Specifications

IS-SPX-1000 Specifications	
Dimensions (HWD):	1.0” x 6.27” x 3.24” (25.4mm x 158.75mm x 82.80mm)
Weight:	0.60 lbs (272.16 g).
Enclosure:	Metal with black matte finish.
Power Supply:	• 5V DC, typ. 0.4A • 2 watts
Power Supply Input:	100-240V 50-60 Hz, max input current 0.6A.
Real time clock:	Min. accuracy 1 minute/month free running, battery backed.
Storage:	• Internal storage: 4GB solid state. • External storage: Flash drives and hard disks via USB 2.0 port.
Supported Video File Types:	
Supported video codecs:	Up to SD resolution: MPEG-4 ASP, MPEG-2, MPEG-1, H.264, MJPEG, Microsoft VC-1 (Windows Media Video 9)
Supported audio codecs:	MPEG audio layer 1/2/3 (MP3), ITU G.711, G.722, PCM, Microsoft WMA, Real Audio
Media container formats:	AVI, WMV/WMA, VOB, AIFF, OGG, WAV
Streaming media protocol:	MMS, RTSP, RTP, SDP, HTTP; Uni- & multicast
Front Panel Components:	
• Ethernet RJ45	Ethernet 10/100 Mbit/s (RJ-45), IEEE 802.3u, 802.3x.
• USB 2.0 Connector	Used with Flash drives and hard disks for additional external storage; interactivity events via touch screen, keyboard and mouse.

Continued ↴

IS-SPX-1000 Specifications	
• Status LED	LED displays status of device: Green LED flashing once per second (regular operation) • Green LED flashing 4 times per second (recovery mode) • Green LED on and flashing occasionally (booting up) • Orange LED blinks steadily (Zeroconf link-local IP address is assigned to device) • LED alternates between red and orange (failure)
• Reset	Reset button for rebooting device.
• RS232 Interface	RS232, up to 115200 bauds, mini-jack 3.5mm.
Rear Panel Components:	
• DC Power Input	5V DC, typ. 0.4A (2W)
• HDMI	HDMI (incl. digital audio), DVI via adapter.
• Analog Audio Out	Line level, stereo, mini-jack 3.5mm.
• Analog Video Out	VGA (DB15 HD connector).
Digital Display Compatibility:	
• Aspect ratio	• 16:9, 16:10, 4:3 (horizontal & vertical)
• Maximum resolution	• 1280x720 (16:9), 1024x640 (16:10), 1024x768 (4:3)
• Video output	• 720p (HD-Ready), 576p, 480p, VGA; 50 or 60 fps
• Video connectors	• HDMI (incl. digital audio), DVI via adapter. VGA (DB15 HD connector). Simultaneous use of HDMI and VGA possible.
Certifications:	• FCC • CE • RoHS
Operating Temperature:	HDMI: 32°F to 104°F (0°C to 40°C); 10% to 90% relative humidity VGA: 32°F to 104°F (0°C to 40°C); 10% to 90% relative humidity
Storage Temperature:	-13°F to 113°F (-25°C to 45°C); 10% to 90% relative humidity
Included Accessories	• Power Source (**3A-161WP05**)
Other AMX Equipment	• NXA-AVB Breakout Box Mounting Kit (**KA-2250-40**) • IS-SPX-MNT Mount adapter (**FG1231-71**) • AMX Inspired Signage Xpress Standard License (**FG1231-20**) • AMX Inspired Signage Xpress Pro License (**FG1231-21**)

IS-SPX-1300

The IS-SPX-1300 Inspired Signage Xpress Player (**FG1231-11**) offers the same functionality as the IS-SPX-1000, but offers a different set of supported video and audio codecs, and media container formats (see *Specifications* tables).

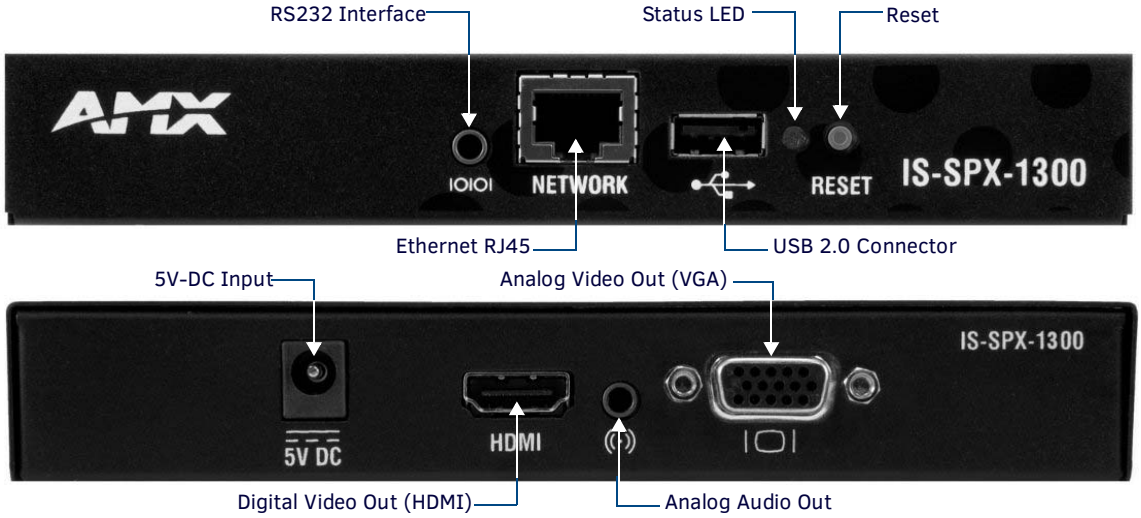

FIG. 2 IS-SPX-1300 IS-SPX Inspired Signage Xpress Player

IS-SPX-1300 Specifications

IS-SPX-1300 Specifications	
Dimensions (HWD):	1.0” x 6.27” x 3.24” (25.4mm x 159.26mm x 82.30mm).
Weight:	0.80 lbs (362.88 g).
Enclosure:	Metal with black matte finish.
Power Supply:	• 5V DC, typ. 0.6A / 3 watts
Power Supply Input:	• 100-240V 50-60 Hz
Real time clock:	• Min. accuracy 1 minute/month free running, battery backed.
Storage:	• Internal storage: 4GB solid state. • External storage: Flash drives and hard disks via USB 2.0 port.
Supported Video File Types:	
Supported video codecs:	• Up to 720p resolution: MPEG-4 part 2 (ASP), MPEG-2 • Up to SD resolution: MPEG-1, H.264, MJPEG, Microsoft VC-1 (Windows Media Video 9)
Supported audio codecs:	MPEG audio layer 1/2/3 (MP3), ITU G.711, G.726, PCM, Microsoft WMA, AAC
Media container formats:	AVI, WMV/WMA, VOB, AIFF, WAV, MP4, MOV (Quicktime)
Streaming media protocol:	MMS, RTSP, RTP, SDP, HTTP; Uni- & multicast
Front Panel Components:	
• Ethernet RJ45:	Ethernet 10/100 Mbit/s (RJ-45), IEEE 802.3u, 802.3x.
• USB 2.0 Connector:	Used with Flash drives and hard disks for additional external storage; interactivity events via touch screen, keyboard and mouse.
• Status LED:	LED displays status of device: • Green LED flashing once per second (regular operation) • Green LED flashing 4 times per second (recovery mode) • Green LED on and flashing occasionally (booting up) • Orange LED blinks steadily (Zeroconf link-local IP address is assigned to device) • LED alternates between red and orange (failure)
• Reset:	Reset button for rebooting device.
Rear Panel Components:	
• DC Power Input:	5V DC, typ. 0.6A (3W).
• HDMI:	HDMI (incl. digital audio), DVI via adapter.
• Analog Audio Out:	Line level, stereo, mini-jack 3.5mm
• Analog Video Out:	VGA (DB15 HD connector).
• RS232 Interface:	RS232, up to 115200 baud, mini-jack 3.5mm.
Digital Display Compatibility	
• Aspect ratio:	• 16:9, 16:10, 4:3 (horizontal & vertical)
• Max resolution:	• 1280x720 (16:9), 1024x640 (16:10), 1024x768 (4:3)
• Video output:	• 720p (HD-Ready), 576p, 480p, VGA; 50 or 60 fps • 1080p: 24/25 Hz
• Video connectors:	• HDMI (incl. digital audio), DVI via adapter. VGA (DB15 HD connector). Simultaneous use of HDMI and VGA possible.
Certifications:	• FCC • CE • RoHS
Operating Temperature:	• HDMI: 32°F to 104°F (0°C to 40°C); 10% to 90% RH • VGA: 32°F to 104°F (0°C to 40°C); 10% to 90% RH
Storage Temperature:	-13°F to 113°F (-25°C to 45°C); 10% to 90% RH
Included Accessories	Power Source (**3A-161WP05**)
Other AMX Equipment:	• AC-SMB Surface Mount Bracket Accessory (**FG525**) • IS-SPX-MNT Mount adapter (**FG1231-71**) • IS-SPX-SERIAL Inspired XPress Serial Cable (**FG1231-60**)

Remote Monitoring

IS-SPX Players implement an intuitive on-board web interface. By connecting to the IP address of a unit with any web browser, the user can monitor the status of the unit and even configure specific parameters. To support the management of a large distributed network of IS-SPX devices, native support for the SNMP protocol is provided. Through this standard protocol, the devices can publish all their vital parameters, including storage level and CPU status. Via this protocol, the IS-SPX Players can interface with any SNMP network management tool. These tools can provide graphical frameworks for remote monitoring the status of an individual IS-SPX unit or a complex network of units.

Storage

IS-SPX Players come with 2 gigabytes of internal memory, but this may be expanded by connecting to external hard drives, thumb drives, or other storage options via the USB port on the front of the device. The USB port also allows connection to external control devices such as touch panels.

Configuration

IS-SPX Players are configured via an intuitive web interface that can be accessed through any web browser. This interface allows the configuration of display modes, network settings, time zone settings, firmware updates and other operational parameters. For more information, refer to the *Web-Based Configuration Pages* on page 12.

Connectivity

IS-SPX Players connect to displays through on-board HDMI and VGA connectors. Through the HDMI output, it is possible to support DVI displays via an adapter cable, but in this case the digital audio is lost. Both connectors are simultaneously active so that two displays can be supported without the need of additional splitters or distribution amplifiers. Where analog audio is needed an analog audio connector is provided.

IS-SPX Players are high-definition ready devices: they can render content on digital displays with resolution up to 1280x720 at 60Hz (720p resolution). The maximum resolution supported by IS-SPX Players is 1920x1080 for semi static images.

IS-SPX Players connect to the network through a standard RJ-45 connector. Each device has a unique MAC address that allows to identify the unit and thus the associated display.

IS-SPX Players support 10/100BASE-T Ethernet via a standard RJ-45 connector. Each unit has a unique MAC address and supports all the required protocols to connect to network file systems and retrieve media elements. These include:

- Ethernet 10/100 Mbit/s,
- IPv4, DHCP or fixed address
- HTTP configuration server, password protected
- HTTP client for web content retrieval
- WebDAV server, password protected
- SNMPv1/v2c,
- NTP

IS-SPX Players support USB2.0 Hi-Speed with a bandwidth up to 10 Mbyte/second.

Programming

Information on creating content for the IS-SPX Players using the AMX Inspired Signage XPress software is available in the *AMX Inspired Signage XPress Programming Guide*, available from **www.amx.com**.

Supported Video File Types

IS-SPX Players can play video files as indicated in the *Specifications* tables if they were created with supported codecs and are within the video size specifications.

If your IS-SPX Player is not successfully importing an SD video of the supported file type, it was likely created with an unsupported codec or the file size is too large. If this is the case, try to convert the video to a supported codec, using one of the many available tools for video conversion. The best target format is the MPEG4 codec in the mov or avi file format.

Standard and Pro Licenses

The software for the IS-SPX Player comes in two packages, depending upon the number of software licenses to be used. The Standard License (**FG1231-20**) includes one device and one single-node, multi-user license for the accompanying software. The Pro License (**FG1231-21**) includes ten devices and one single-node, multi-user license for the software.

NOTE: *Both the Standard and the Pro Licenses only apply to one computer installation of the software at a time. If the software is installed on a second computer, a new license must be purchased for that computer.*

Formats, Codecs and Encoding Parameters

NOTE: *To test if a video is compatible with the HMP, drag and drop it into a project in HMD with the appropriate HMP target set. HMD will either import the video or report why it is not compatible.*

File Formats

The officially supported multimedia file formats across all devices are:

File Formats	
Audio file formats	AIFF, MP3, M4A (or MP4), WAV and WMA.
Video file formats	AVI, ASF, MOV, MP4, VOB and WMV.

Notes:

- VOB files must not be encrypted. Also, VOB files containing AC3 audio must have the audio trans-coded into a suitable format like AAC, or have the audio track removed.
- M4V is an Apple proprietary format which is unsupported, but for non-DRM-protected M4V and M4P files, often the file can be renamed to .MP4 and work correctly.

Codecs

The degree of support of the video codecs offered by each type of HMP is further detailed below:

Codecs	
Audio codecs	• **AAC** - up to 6 channels input; the following AAC profiles are supported: (MPEG-2 Part 7) Low Complexity Profile, (MPEG-4 Part 3) AAC Profile and High-Efficiency AAC Profile version 1 (HE-AAC v1). **Note**: HE-AAC v1 requires firmware 2.2.5 or later. HE-AAC v2 is not supported. • **MPEG-1/2 Layer III (MP3)** - the previous versions: MPEG-1/2 Audio Layer II (MP2) and MPEG-1 Audio Layer I (MP1) are supported as well • **Linear PCM** (LPCM) • **ITU-T** G.711 and G.726 • **Windows Media Audio** (WMA)
Video codecs	• **H.264** (H.264/MPEG-4 Part 10 or AVC) • **MPEG-4** (Part 2) or MPEG-4 Visual • **MPEG-2** and **MPEG-1** • **Windows Media Video 9** (WMV3) - Simple and Main profiles, Low and Medium levels; **Not supported**: Main Profile @ High Level (MP@HL) and the Advanced Profile (WVC1 / VC-1 Advanced Profile). • **Motion JPEG** (MJPEG) - interlacing is not supported and for QuickTime formats only MJPEG-A is supported (MJPEG-B is not supported).

Unsupported

This list is not exhaustive and any codec that is not written above, should be considered as part of this list:

Unsupported	
Audio codecs	• 24-bit PCM audio • AC3 • MPEG-4 SLS (HD-AAC) • Raw AAC files (use AAC within an MP4 or M4A file instead) • RealAudio
Video codecs	• Flash video - it's not possible to display flash videos (from sharing websites like YouTube), however you might be able to download those videos (as mp4, avi or another supported format) using browser plugins or 3rd party applications. • Windows Media Video 8 (WMV2) • Lossless codecs / Uncompressed video (Quicktime Animation, RLE, DIB BMP, RGB) • RealVideo, Cook • Interchange formats such as OMF / MXF • MxPEG (proprietary, used by some low-power cameras)

IS-SPX Player Profiles and Levels

- **MPEG-4 (Part 2):** Simple and Advanced Simple (SP/ASP) up to level 5 (reference: MPEG-4 levels) - resolution up to 720p for SPX1300 and SD for SPX1000.
- **MPEG-2**: Main profile and Main level (MP@ML) (reference: MPEG-2 profiles and levels) - resolution up to 720p for SPX1300 and SD for SPX1000.
- **H.264**: (aka MPEG4 Part 10) Constrained Baseline or Main profile up to level 3 (reference: H264 levels) - resolution up to SD.
- **MJPEG** - resolution up to SD.
- **Windows Media Video 9 (WMV3)**: Simple and Main profiles, Low and Medium levels - resolution up to SD.

Notes:

- MPEG-4 is the most optimized codec to use on IS-SPX Players.
- Please see *Appendix: Encoding Guides* on page 40 if you need to convert your video to be supported.

Recommended Maximum Resolution

The maximum resolution values below are recommended, based on square-pixel aspect ration for common usage.

- If your video is above these values, you might need to re-encode your video.
- For advanced users, the actual maximum resolutions (including non-square PAR) can be deducted from the codec specification / constraints.

Recommended Maximum Resolution							
Codec	H.264@L3		MPEG4 ASP@L5	MPEG4 ASP@L5+	MPEG2 MP@ML		MPEG2 MP@ML+
FPS	25 fps	30 fps	25/30 fps	25 fps	25 fps	30 fps	25 fps
Aspect Ratio - 16/9	832x468	768x432	832x468	1280x720	704x396	704x396	1280x720
Aspect Ratio - 4/3	736x552	672x504	736x552	960x720	720x540	672x504	960x720
IS-SPX Player	IS-SPX-1000/ 1300		IS-SPX-1000	IS-SPX-1300	IS-SPX-1000		IS-SPX-1300

Recommended Bit Rate

The values below are recommended for optimal usage. The maximum bit-rate can be deducted from the codec specification / constraints.

Recommended Bit Rate			
	H.264	MPEG4	MPEG2
SD	2.5 Mbps (0.24 bpp)	3 Mbps (0.29 bpp)	5 Mbps (0.5 bpp)
720p	4.5 Mbps (0.2 bpp)	6.5 Mbps (0.29 bpp)	9 Mbps (0.4 bpp)

Other Notes

- Video transparency is not supported.
- The specified video standards (e.g. 720p) are performance guides based on standard aspect ratio pixel equivalents; i.e. higher resolutions that 1280x720 could be displayed if the dimensions are adjusted proportionally.
- Interlaced video: IS-SPX Players have a built-in de-interlacing filter for MPEG2 and H264 videos.
- Bitrate limitations are defined in Levels (up to 11mbps).

Installation

Overview

The installation of an IS-SPX Player starts by plugging in two cables: the power cable and the video cable (HDMI and/or VGA) to the display. As soon as it is connected to the power line, the device will boot in a few seconds and automatically select the resolution supported by the associated digital display. Content rendering will begin in less than 1 minute. When connected to a local network through the RJ45 connector, the IS-SPX Player supports both DHCP for automatic configuration of the network and manual configuration by specifying a static IP address and network properties. A hook and loop strip can be used to secure the IS-SPX Player to any desired position on a wall or behind a display. The unit can be easily located near the display, as it does not put off significant heat nor does it contain any moving mechanical parts.

NOTE: *In order to facilitate the best transmission of data, including EDID information, standard pinouts for VGA cables should be used.*

NOTE: *When installing the IS-SPX Player , be careful to avoid any water or high humidity exposure.*

Once installed, getting started with the IS-SPX Player is a matter of a few simple steps. The following sections show how to connect one or more units to a network and how to publish content from the XPRESS software to specific displays.

Powering up the IS-SPX Player

1. Check your digital display. The IS-SPX Player can drive a digital display through HDMI or VGA connections. Make sure that your display supports at least one of the two.
2. Get the correct video cable for the display. Older displays may require a VGA cable.
3. Connect the IS-SPX Player to the display. Simply plug the HDMI or the VGA cable between the corresponding video connector on the IS-SPX Player and the corresponding video input connector of your display.
4. Power up the display. Make sure to select the right video input.
5. Power up the IIS-SPX Player. Use the cables and the power converter provided in the IS-SPX Player package. Plug the power converter on one side to a 110-220V outlet and on the other to the back panel DC jack. Shortly after power up, the screen displays the AMX splash screen.

The first time the IS-SPX Player boots, the automatic configuration procedure takes about 2 minutes. The process will be reduced to less than 50 seconds when you reboot the IS-SPX Player again. During this booting process, the front panel LED shows green and red activity.

At the end of the boot process, the screen will start displaying the animated AMX logo. This is the default content. At this time, the green LED blinks regularly on and off every second to indicate that the IS-SPX Player is in operating normally.

If your system does not behave as described above make sure that the digital displays are functional and that the right input has been selected (some displays have multiple inputs and you may need to manually select the right one). Also check that the reset push button is not being pressed by some other system component. If the set-up appears correct, try to power cycling the IS-SPX Player unit by unplugging and plugging the power.

Resetting the IS-SPX Player to Factory Default Settings

NOTE: *The following procedure will delete all previously saved content and configurations on the IS-SPX Player.*

To reinitialize the IS-SPX Player to its factory default settings:

1. Unplug the IS-SPX Player from the power.
2. Push the reset button and keep it pressed.
3. Power up the IS-SPX Player.
4. Wait with the reset button pressed for at least 8 seconds.
5. Release the reset button.
6. The IS-SPX Player will now boot in the factory default mode.

Updating Firmware

To check if a new version of the firmware is available for your IS-SPX Player:

1. With your preferred web browser, connect to the HTTP server of your unit by entering the IS-SPX Player's IP address into the browser.
2. Click on **Firmware Update** under the Administration menu on your left.
3. Check that the field *Server URI* is equal to:
   - **IS-SPX-1000**: "http://webservices.amx.com/Inspired Signage/IS-SPX-1000/updates/".
   - **IS-SPX-1300**: "http://webservices.amx.com/Inspired Signage/IS-SPX-1300/updates/".

   If this is not the case, click the **Reset to Default** button.
4. In the section *Manual Update*, select the update source "*From server*" and click the **Check for Update** button.

A new page will open. At the end of the check, the page reports the current update status of your IS-SPX Player:

Three cases are possible:

- No updates are available.
- Updates are ready to install. See the *Firmware Update* section on page 33 to learn how to proceed with the update.
- The update failed.

The most probable source of this error is that your IS-SPX Player couldn't contact the update server. It is recommended to check your internet connection and your network configuration. Make sure that a Gateway and a DNS server are configured.

If the IS-SPX Player is not connected to the internet, you need to contact AMX Technical Support to check which update procedure is best suited to your configuration. Please specify in your message if your IS-SPX Player(s) are in a location where you can easily plug an USB key or if they have local network connectivity.

NOTE: *Fatal Error: If the update process reports a fatal error, please contact AMX Technical Support to find how to restore the firmware of your IS-SPX Player.*

If the check for updates procedure reported that updates are available for your IS-SPX Player, click the **Update Now** button to start the update process.

NOTE: *Do not power down the device at any time during the update process.*

The IS-SPX Player will restart automatically once the update process is over. It is possible that the web page displays a time-out error during the update. However, this has no influence on the update process itself. At the end of this process, refresh your web browser to display the new firmware version under the *Current Versions* section.

If you click the **Check for Update** button again, the page will report that no updates are available.

It is possible that the IS-SPX Player performed only a partial update of the firmware. In this case, the firmware will need to be updated a second time.

Automatic Update

If your IS-SPX Player is configured to use automatic update and has direct access to the Internet, it will update its firmware automatically as soon as a firmware update is available. The update will take place at 3:00 AM and will not modify the content played by the IS-SPX Player. This update will also not affect the device's display and networks settings.

To enable the automatic update feature:

1. Check the **Enable automatic updates** check box.
2. Select the update time.
3. Press **Apply** to validate your changes.

Getting Connected

The IS-SPX Player has a special procedure for connection for the first time to a PC using the RJ-45 Ethernet interface. This step is required to remote publish content on an IS-SPX Player. This procedure requires an IS-SPX Player and one of the following configurations:

- PC with RJ-45 10/100/1000 Ethernet interface and an Ethernet cable.
- PC with RJ-45 10/100 Ethernet interface and an Ethernet crossover cable.
- PC with RJ-45 10/100 Ethernet interface, a switch and 2 Ethernet cables.

NOTE: *This procedure applies only if you have not modified the default network configuration of the IS-SPX Player. See the Resetting the IS-SPX Player to Factory Default Settings* on page 7 *to make sure that your IS-SPX Player is in the default network configuration.*

To make a remote connection for the first time:

1. Connect the PC, through the switch if using one in the particular configuration, to the IS-SPX Player following one of the above schemes.
2. Power up the PC (and switch, if applicable).
3. Power up the IS-SPX Player.

NOTE: *Note that the IS-SPX Player does not need to be connected to a display. Allow about one minute to the IS-SPX Player to boot up, with the green light blinking once per second.*

4. Make sure that the IS-SPX Player has completed the booting phase: allow about 1 minute from the start of the powerup. If the device is connected to a display, you should see the default animated logo.
5. Check that the LED is blinking green once per second.
6. Open a web browser and enter the IP address of the IS-SPX Player in the location bar at the top to open the Web-Based Configuration Pages (for more information, please refer to the *Web-Based Configuration Pages* on page 12).

Accessing and Changing the IS-SPX Player IP Address

The IS-SPX Player automatically uses DHCP to assign an IP address to the device when first configured, but this may be changed to a preassigned IP address. To access the IP address for the IS-SPX Player:

1. In a Zero-Configuration-enabled application, such as NetLinx Studio or in a ZeroConfiguration-enabled browser, look for the entry for the IS-SPX Player and its assigned serial number. (This serial number may be found on the underside of the device.)
2. Click on the entry to open the device's Web-Based Configuration Pages. (For more information, please refer to the *Web-Based Configuration Pages* on page 12.)
3. In the *Status* page of the *Information* section, the IP address is displayed below the serial number and firmware version.

To change the IP address of the IS-SPX Player:

1. From the Web-Based Configuration Pages, click the *Network Settings* listing in the *Administration* menu.
2. In the *Basic* tab of the *Network Settings* page, click the **Static** radio button to switch the settings from DHCP to Static.
3. In the fields below the **Static** radio button, enter the desired IP address in the *Address* field.
4. Add the subnet mask, gateway, and DNS information into the appropriate fields and press **Apply**.

NOTE: *If the IS-SPX Player is accidentally configured with an incorrect IP address, you need to reset the unit to its factory default and restart the configuration procedure.*

Troubleshooting

If unable to connect to the IS-SPX Player, check the following items:

1. Double check that you have correctly entered the correct IP address in your web browser.
2. Check the LED on your device. If the LED is blinking from orange to red once per second: the IP address of your device has already been assigned on the network. Check your network configuration and make sure that it is not taken by another device. If the LED is blinking fast (several times per second) from green to red, the device is in recovery mode. In this case, unplug the device, power it up again, and wait about 1 minute. If the IS-SPX Player remains in recovery mode, contact AMX Technical Support.
3. If the device has already been configured and does not have a default IP address, it may be returned to its factory default. Note that all the content stored on the device will be deleted. For more information, refer to the *Resetting the IS-SPX Player to Factory Default Settings* section on page 7.
4. Double-check the connectivity of cables, connectors, and switches in your setup.
5. Check the network configuration of your PC.
6. Verify that the web browser does not have a proxy configured.

Configuring a PC Network Connection

To configure the network connection of your PC via Windows XP Professional in order to connect to an IS-SPX Player in its default configuration:

1. Open the Control Panel (**Start>Control Panel**) and then double click **Network Connections** (FIG. 3).

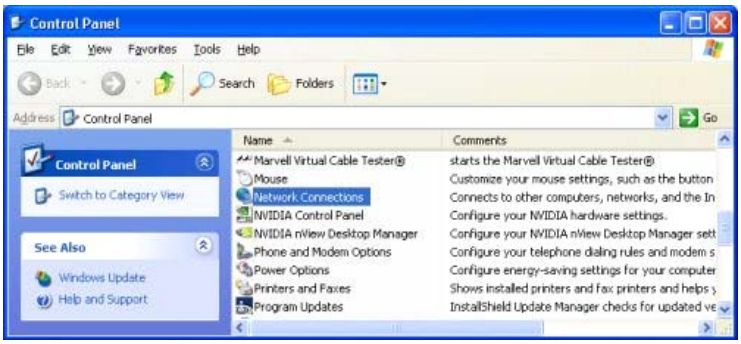

FIG. 3 Windows XP Professional Control Panel

2. Select the local connection corresponding to the RJ-45 Ethernet connection used for the IS-SPX Player. Right-click on the icon and choose *Properties* (FIG. 4).

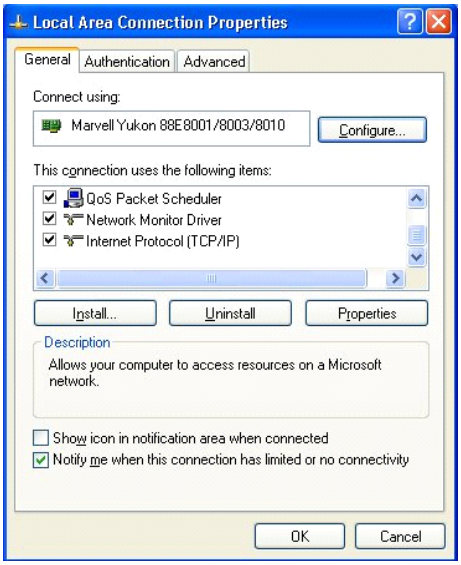

FIG. 4 Local Area Connection Properties

3. Select *Internet Protocol (TCP/IP)* from the list and press the **Properties** button to open the *Internet Protocol (TCP/IP) Properties* tab (FIG. 5).

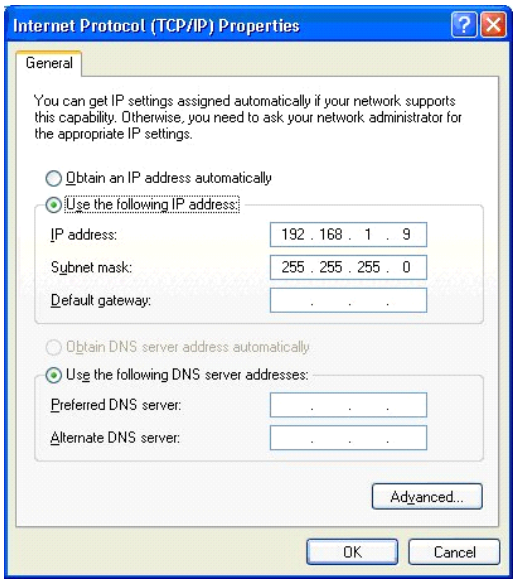

FIG. 5 Internet Protocol (TCP/IP Properties)

4. Configure the Protocol properties and click **OK**.

Installing the IS-SPX-MNT Mount Adapter

The optional IS-SPX-MNT Mount Adapter Kit (**FG1231-17**) is intended to allow attachment of the IS-SPX Player to Vesa display wall mounts, thereby keeping it within easy reach for firmware uploads and other basic maintenance.

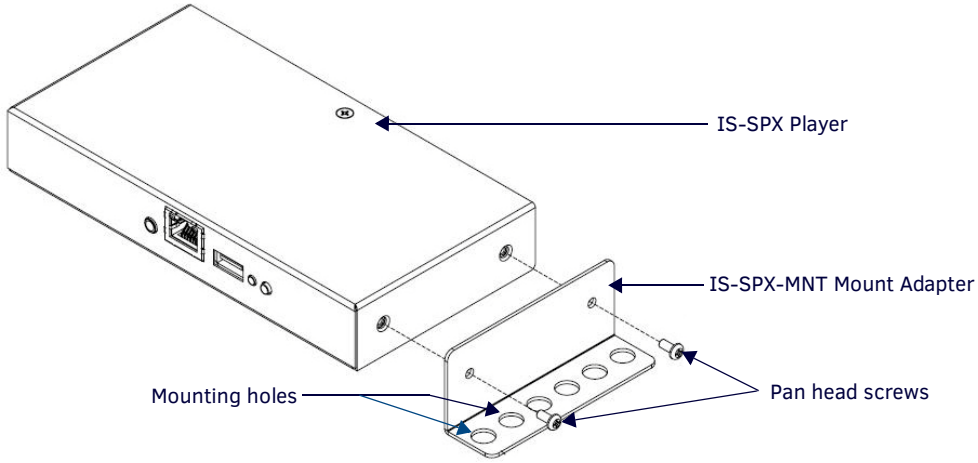

FIG. 6 Installation of the IS-SPX-MNT Mount Adapter (62-1231-03)

To install the IS-SPX-MNT Mount Adapter:

1. Select the side of the IS-SPX Player to which the adapter is to be installed. The IS-SPX-MNT may be installed to either side of the device.
2. Using the supplied pan-head screws, attach the IS-SPX-MNT to the side of the IS-SPX Player.
3. Use the appropriate mounting holes to attach the assembly to the display wall mount.

Installing the NXA-AVB Breakout Box Mounting Bracket

The optional NXA-AVB Breakout Box Mounting Bracket Kit (**FG1231-17**) is intended to allow attachment of the IS-SPX Player to solid surfaces such as desk tops, thereby keeping it within easy reach for firmware uploads and other basic maintenance.

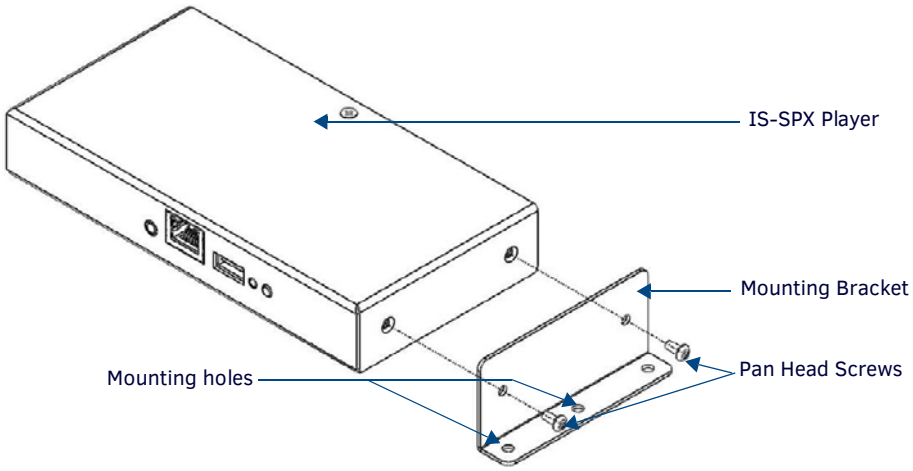

FIG. 7 Installation of the NXA-AVB Breakout Box Mounting Bracket (62-1231-03)

To install the NXA-AVB Breakout Box Mounting Bracket:

1. Select the side of the IS-SPX Player to which the adapter is to be installed. The mounting bracket may be installed to either side of the device.
2. Using the supplied pan-head screws, attach the mounting bracket to the side of the device.
3. Use the mounting holes to attach the assembly to a fixed surface.

Web-Based Configuration Pages

Overview

To access the IS-SPX Player's Web-Based Configuration pages, enter the IP address of the IS-SPX Player into your web browser. This advertisement may be viewed with any Zeroconf-enabled browser, such as NetLinx Studio, or via the Bonjour plug-in for Internet Explorer and Safari.

NOTE: *Bonjour, Bonjour for Windows, the Bonjour logo, and the Bonjour symbol are copyright 2010 Apple, and are used under license.*

NOTE: *The "Software copyrights and licenses" text at the bottom of each page is an active link to the Copyrights and Licenses page. This page contains all of the copyrights reserved on the IS-SPX Player, as well as all software licenses used by the device.*

Navigation Bar

The navigation bar (FIG. 8) appears on the left side of each Configuration page. Each page may be accessed from any other page. The Serial Number for the device always appears at the bottom of the navigation bar.

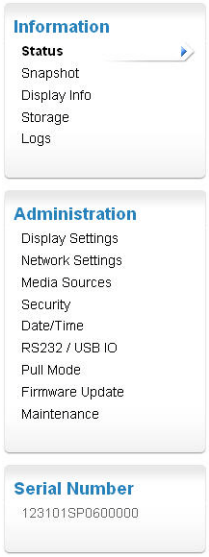

FIG. 8 IS-SPX Player Web-Based Configuration Page Navigation Bar

Navigation Bar	
Information:	This section contains the links for all of the Information pages. These pages are generally read-only.
Administration:	This section contains the links for all of the Administration pages. These pages generally may be modified or edited.
Serial Number:	This number is the IS-SPX-1000's unique serial number.

Information

The *Information* pages contain all of the basic schematics of the IS-SPX Player. This information cannot be edited.

Status

FIG. 9 Information - Status Page

The *Status* page lists the current basic information on the IS-SPX-1000, including the latest firmware version.

Information - Status Page	
Serial Number:	This number is the serial number of the device. The revision number lists the daughter-board and motherboard type used in the device.
Firmware:	This number lists the current firmware version loaded on the device.
MAC:	This number is the device's MAC address number.
Device name:	This number is the individual device name, used for multi-device applications. This number generally is the same as the Serial Number.
Multiscreen ID:	This number is the ID number for the device when used for multiscreen applications. This number generally is the same as the Serial Number.

Snapshot

The Snapshot page gives a snapshot view of the latest information being displayed by the IS-SPX Player.

FIG. 10 Information - Snapshot Page

Information - Snapshot page	
Refresh Now:	This button refreshes the template view currently being displayed by the display monitor.

Display Info

The *Display Info* page lists information on the IS-SPX Player's current display settings and the current HDMI and VGA settings.

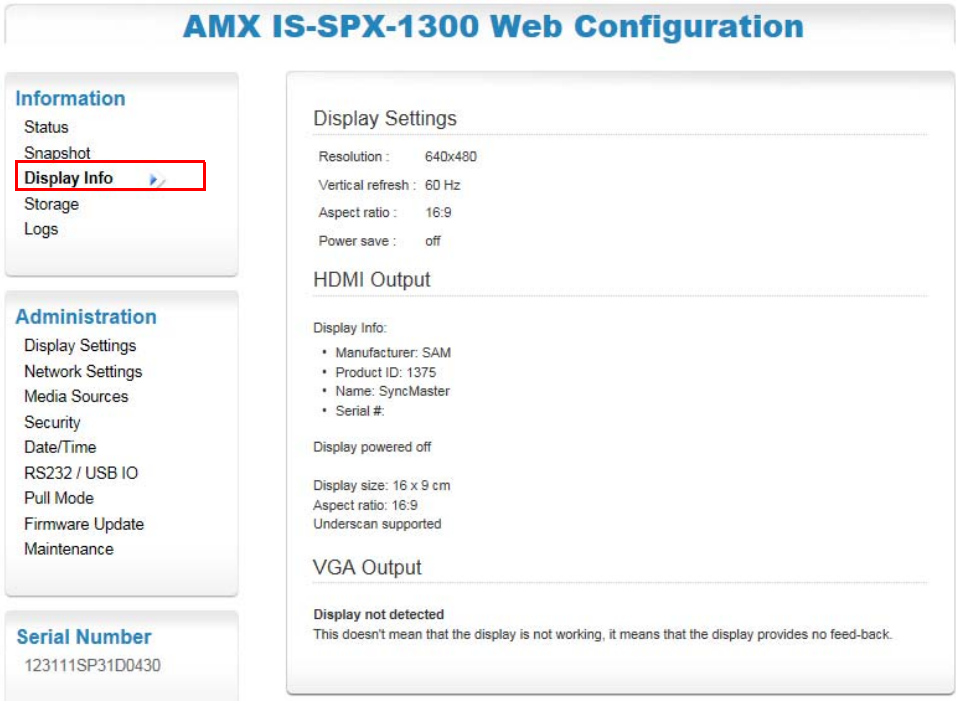

FIG. 11 Information - Display Info Page

Information - Display Info page	
Display Settings:	This section shows the current settings for the display being used, with specifications for resolution, vertical refresh, and the aspect ratio.
HDMI Output:	This section shows details on the current HDMI output from the IS-SPX-1000, including display size, aspect ratio, and support of underscan.
VGA Output:	This section shows details on the current VGA output from the IS-SPX-1000, including the display device's information, display size, aspect ratio, and underscan support.

Storage

The *Storage* page displays all current file storage information on the IIS-SPX Player, including its integral storage, storage devices currently connected to the device (such as USB thumb drives or portable hard drives), and access information for reaching the integral storage

FIG. 12 Information - Storage Page

Information - Storage page	
System:	This section displays the statistics for the storage space used for device system operation, including available (free) drive space, used space, and the total space on the drive.
Local Storage on Internal Storage:	This section displays the integral storage statistics for all storage not used directly by the device. This includes free space, used space, and total space in the IS-SPX Player's integral storage.
Local Storage Access:	This section displays a URL for the Local Storage Access directory server address. Click this link to view the directory hierarchy.

Logs

The *Logs* page contains all current logs of IS-SPX Player use, in both text (.log) and zipped (.log.gz) formats. Click on a particular log to access it.

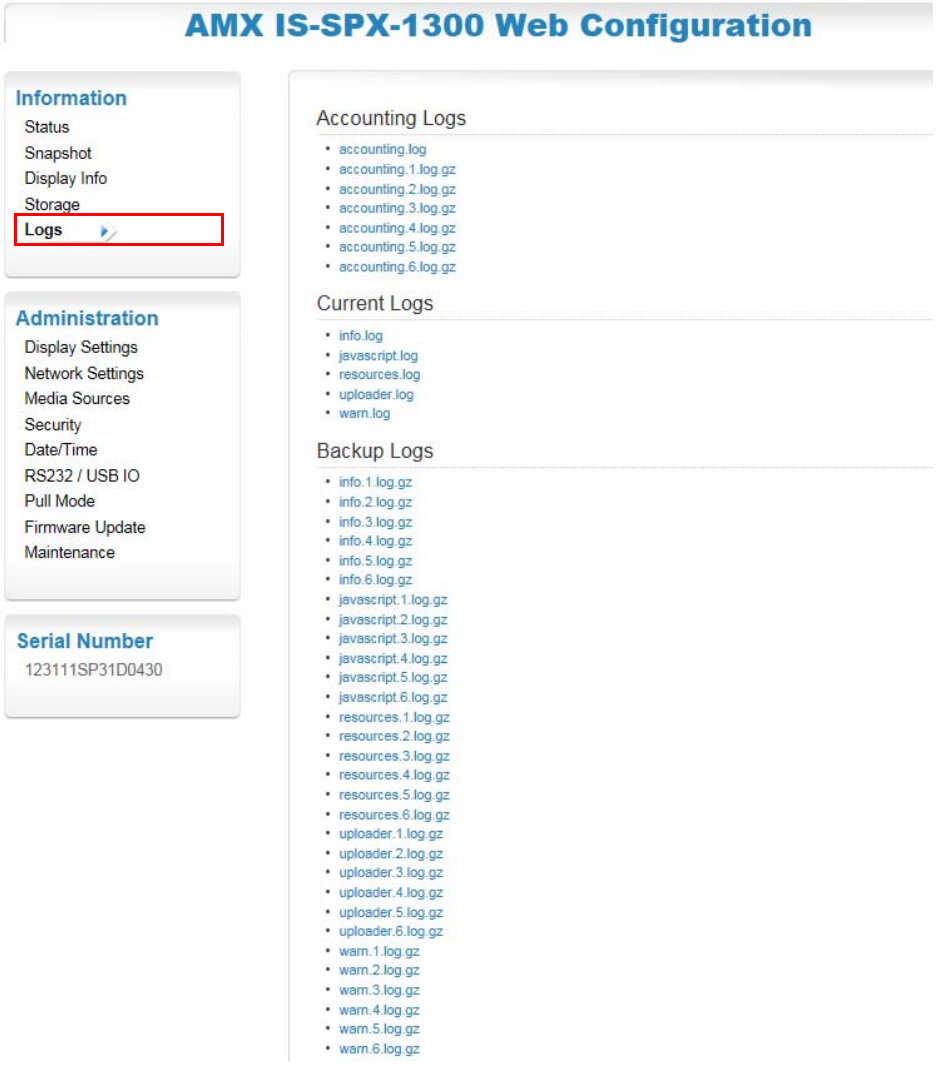

FIG. 13 Information - Logs page

Information - Logs page	
Accounting Logs:	This section catalogs one current total accounting log and up to seven zipped logs.
Current Logs:	This section catalogs all of the separate sections of the current accounting log.
Backup Logs:	This section catalogs up to seven zipped backups of the current logs.

Administration

The *Administration* pages allow you to change the IS-SPX Player's operational parameters through a Web-based interface. Many of the pages allow changes to both basic and advanced features and specifications.

Display Settings

The Display Settings page enables users to custom tailor settings for different display manufacturers.

Display

The *Display* tab enables users to make changes to the presentation on the IS-SPX Player chosen output display.

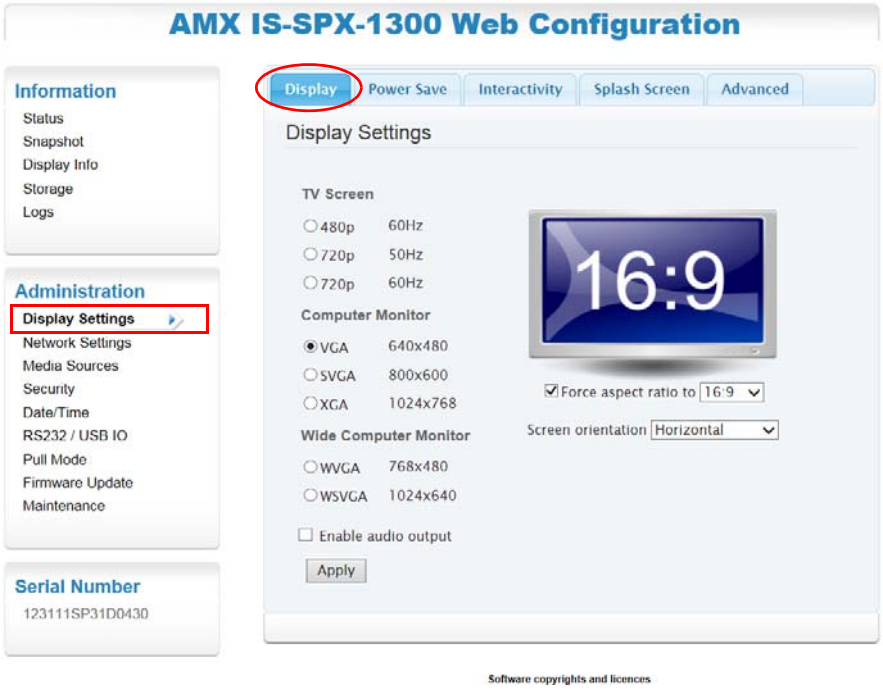

FIG. 14 Administration - Display Settings - Display

Administration - Display Settings - Display	
Display Settings:	
TV Screen	Select between ED (480 pixels @ 60Hz) or HD (720 pixels @ 50Hz or 60Hz). If another resolution is desired, refer to a list of available options in *Advanced* on page 21.
Computer Monitor:	Select between VGA (640 x 480 pixels), SVGA (800 x 600 pixels), or XGA (1024 x 768 pixels).
Wide Computer Monitor:	Select between WVGA (768 x 480 pixels) or WSVGA (1024 x 640 pixels).
Enable audio output:	Click this checkbox to allow audio output through the display.
Force aspect ratio to:	Click this checkbox to force the screen aspect ratio to 4:3, 16:9, or 16:10. The screen on the *Display Setting*s page will change to illustrate each ratio.
Screen orientation:	Use this dropdown menu to choose between screen orientations: Horizontal, Rotate 90 Right, Rotate 90 Left, Rotate 180, Flip Vertical, or Flip Horizontal. The screen on the Display Settings page will change to illustrate each setting.
Apply:	Press this button to apply and save all changes.

Power Save

The *Power Save* tab of the *Display Settings* page enables users to configure the power settings on the chosen output display for the IS-SPX Player.

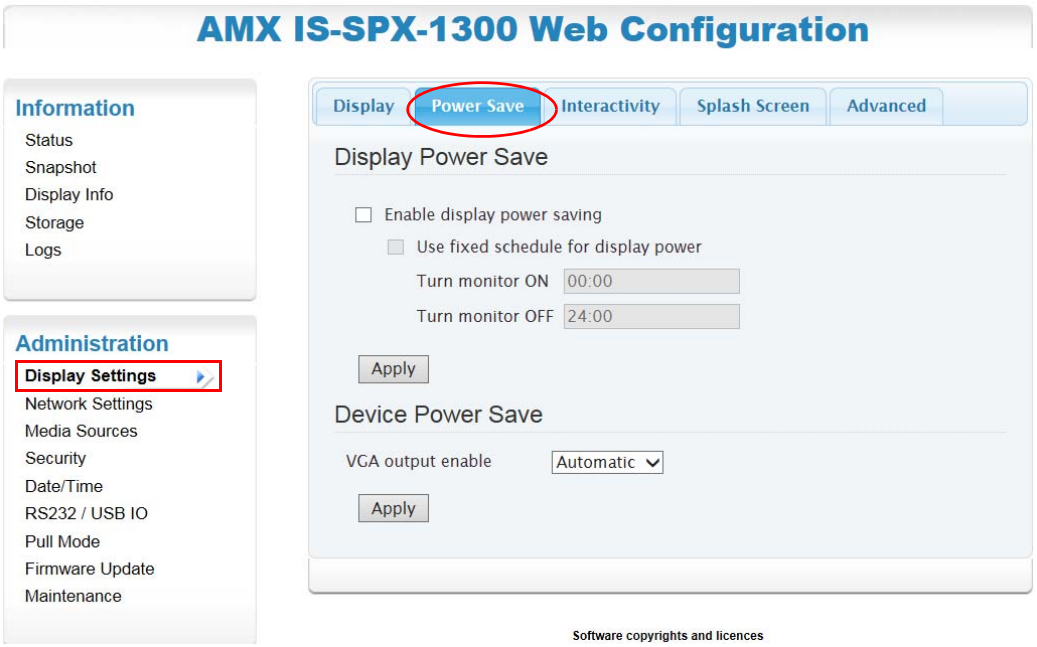

FIG. 15 Administration - Display Settings - Power Save

Administration - Display Settings - Power Save	
Display Power Save Settings:	
Enable display power saving:	Check to enable power saving options on the Signage monitor. The *Use fixed schedule for display power check box becomes valid for selection.* Check *Use fixed schedule for display power* to enable setting a schedule for monitor display using the options below: • Turn Monitor On - Set a time that the monitor turns on and starts displaying Signage content, usually during business hours. Time entered is in a 24 hour format. • Turn Monitor Off - Set a time that the monitor stops displaying Signage content and powers off. Time entered is in a 24 hour format. Select **Apply** to save changes.
Device Power Save	
VGA output enable	Use this dropdown menu to select whether the power mode for VGA output will be Automatic, Always On, or Always Off.
Apply:	Press this button to apply and save all changes.

Interactivity

The *Interactivity* tab of the *Display Settings* page groups several options related to event-triggered interactivity.

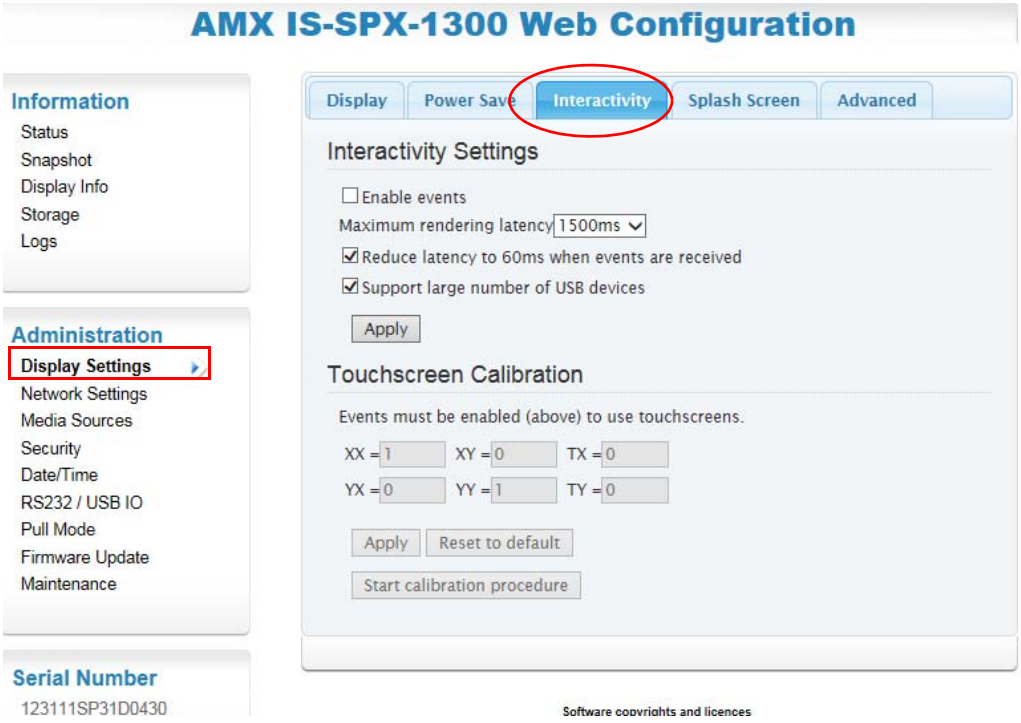

FIG. 16 Administration - Display Settings - Interactivity

Administration - Display Settings - Interactivity	
Interactivity Settings:	
Enable events:	Click this box to allow programmed events to be displayed.
Maximum rendering latency:	This dropdown menu controls the maximum rendering latency of the display in milliseconds. Select between 250, 500, 1000, and 1500 milliseconds **Note:** increasing the rendering latency number will slow the rendering in the case of an event.
Reduce latency to 60ms when events are received:	To speed performance, click this box to reduce the rendering latency to 60 milliseconds when events are to be received by the display.
Support large number of USB devices:	Enable / disable the USB software emulation for supporting a greater number of USB endpoints / devices (when disabled, only 3 USB endpoints are supported). When mixing full or low-speed devices with high-speed hubs, this option should be disabled for compatibility. If any problems are encountered while using an interactive device, try disabling this option to see if that solves the problem.
Apply	Press the **Apply** button to save changes. Pressing this **Apply** button will not affect any Touchscreen Calibration changes made on this page.
Touchscreen Calibration:	
Coordinate Text Fields	If the IS-SPX Player is connected to a touchscreen, the touchscreen display may be calibrated from this interface. Use the text fields to enter manual coordinates, if necessary.
Apply	Press the **Apply** button to save any manual changes. Pressing this **Apply** button will not affect any other changes made on this page.
Reset to Default	Press the **Reset to Default** button to return the calibration settings to the factory defaults.
Start Calibration Procedure:	If the device is connected to a touch screen, press the **Start Calibration Procedure** button and follow the instructions on the touch screen.

Splash Screen

The *Splash Screen* tab groups the options related to the splash screen images shown by the player during booting, shutting down or firmware update sequences. To change one of these images, simply upload the file(s) from a computer and press the "Apply" button.

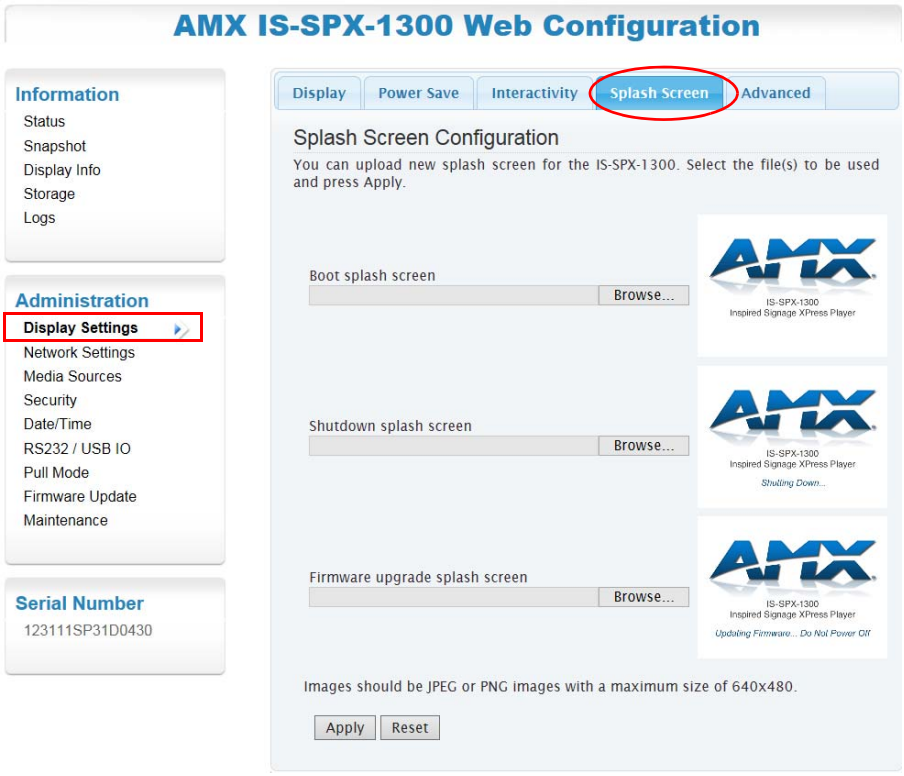

FIG. 17 Administration - Display Settings - Splash Screen

Administration - Display Settings - Splash Screen	
Splash Screen Configuration:	
Boot, Shutdown, and Firmware upgrade splash screens	To choose a new splash screen file, press the **Browse...** button to find and select the file and then press **Apply** to save it to the IS-SPX Player. A thumbnail of the new splash screen file will appear to the right of the **Browse...** button. If a new file is not selected, then the current default file will remain in use.
Apply	Press Apply to save changes to the IS-SPX Player. **Note:** The **Apply** button at the bottom of this section will not affect any other changes made on this page.
Reset	Press the Reset button to return all three settings to the originally loaded default files.

Advanced

While the *Basic* tab allows some changes to the chosen display, the *Advanced* tab allows more fine-tuning of the display output. This tab groups several options related to player video output signal mode configuration.

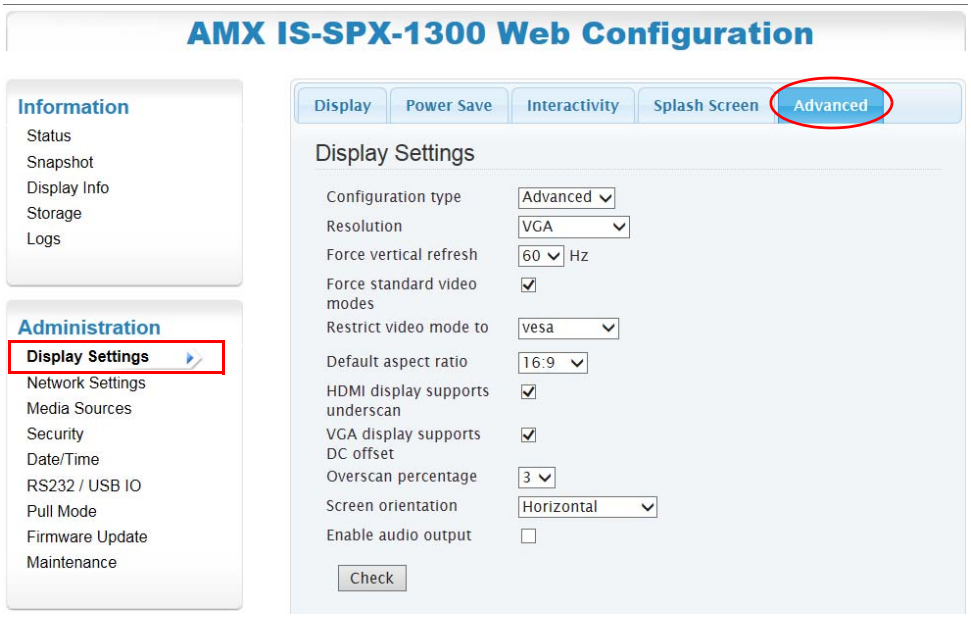

FIG. 18 Administration - Display Settings - Advanced

The *Display Settings* functions may be modified manually, or they may be set to the video display's defaults. Press the **Check** button for the device to scan the current video display. The page will now display a new entry above the *Display Settings* section, reading *Selected Display Settings*. The display settings may still be changed from the defaults at any time. Click **Apply** to make the existing display settings the default, or **Cancel** to return to the existing settings.

Administration - Display Settings - Advanced	
Display Settings	
Configuration Type	The options available change depending on the Advanced or Custom selections.
Resolution:	This dropdown controls the screen resolution on the display. Choose a resolution: • VGA • ED • HD • 640x480 • 720x480 • 720x576 • 768x480 • 800x500 • 800x600 • 1024x640 • 1024x768 • 1280x720 • 1280x800 • 1400x1050 • 1680x1050 • 1920x1080
Force vertical refresh:	This dropdown controls the vertical refresh range in hertz: 24, 25, 30, 50, and 60.
Force standard video modes:	Click this box to force the display into a standard video presentation mode.
Restrict video mode to:	This dropdown controls the ability to restrict the video mode to htmi, vesa, or gtf, or a combination of two of these.
Default aspect ratio:	This dropdown controls the default aspect ratio on the display. Choose between 4:3, 16:9, or 16:10.
HDMI supports underscan:	Click this box if the HDMI display supports underscan.
VGA display supports DC offset	The VGA output has a DC voltage offset in the RGB signals by default. This improves the quality of the black levels and is compatible with the vast majority of displays. If a display or repeater does not support this voltage offset (i.e. the image appears as overexposed), then disable this option.
Overscan percentage:	This dropdown allows a selection of the overscan percentage, ranging from zero to 5.
Screen orientation	This dropdown controls the screen orientation of the display.
Enable audio output:	If the display has audio capability, check box to enable audio output through player
Check / Apply	To save the selected settings, first press the "Check" button (the player will verify that the video output signal is valid) and then press the "Apply" button.

Network Settings

Although the IS-SPX Player may be used on its own with a display and power source, it may also be installed as part of a network. The *Network Settings* page allows configuration with direct or remote networks.

Connections

The *Connections* tab enables users to configure the player network connections.

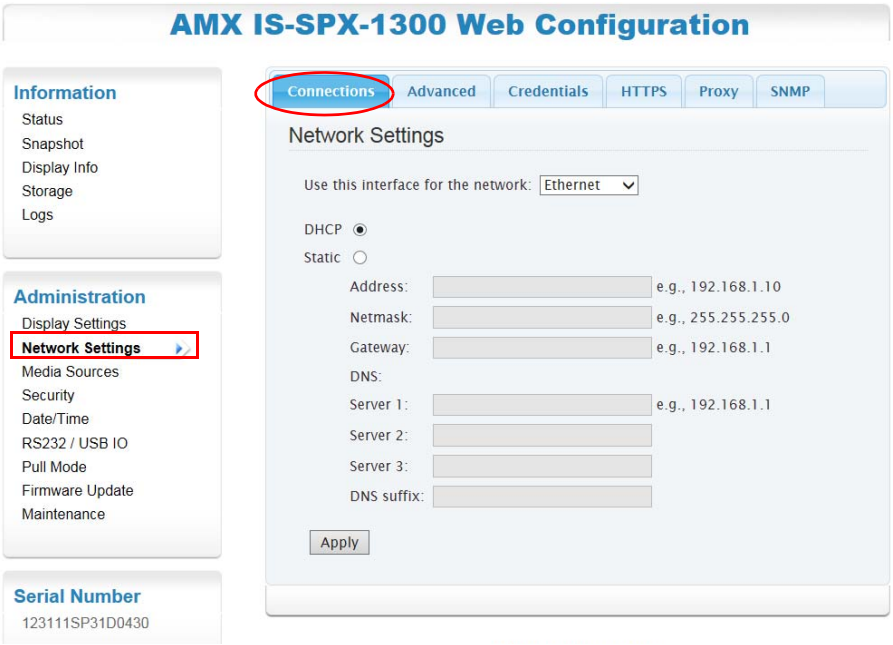

FIG. 19 Administration - Network Settings - Connections

Administration - Network Settings - Connections	
Network Settings:	
Use this interface for the network:	Use this dropdown menu to choose between Ethernet or a 3G Modem.
DHCP:	Click to use the DHCP protocol. If selected, all of the fields below the button are grayed out.
Static:	Click this button to use the Static protocol. If selected, all of the fields below the button are enabled, and the appropriate network information must be entered.
Address:	Enter the IP address for the network server.
Netmask:	Enter the Subnet Mask address.
Gateway:	Enter the Gateway address.
DNS Server 1-3:	In these fields, enter the address of the primary DNS server and any secondary servers, if available.
DNS Suffix:	Enter the DNS suffix for the network.
Apply	Click on **Apply** to save all changes made.

Automatic DHCP Configuration

To manually configure an IS-SPX Player to connect to a specific network using DHCP for the attribution of network addresses:

1. On the *Network Settings* page under the *Basic* tab, check the **DHCP** radio button.
2. Validate the new network configuration by pushing the **Update** button.
3. Re-enter the device's IP address to verify that the configuration is complete.

NOTE: *If the IS-SPX Player has been configured to use DHCP but the DHCP server cannot be contacted by the device, you need to reinitialize the unit to its factory default and restart the configuration procedure.*

Fixed IP Configuration

To manually configure an IS-SPX Player to connect to a specific network with a fixed IP address:

1. Get the information on the network to be reached. This includes a range of free IP addresses that can be allocated to the IS-SPX Player without network conflicts and the correct subnet mask.
2. On the *Network Settings* page *Basic* tab, check the **Static** radio button to enable the *Static Network Settings* fields.
3. Enter a static IP address in the range of the free IP addresses of your network.
4. Make sure that the subnet mask corresponds to your network configuration.
5. Enter the other network parameters if known.

6. Press the **Apply** button to validate the changes.

NOTE: *If the IS-SPX Player has been configured with an incorrect IP address, it will need to be reinitialized to factory default and the configuration procedure restarted.*

Advanced

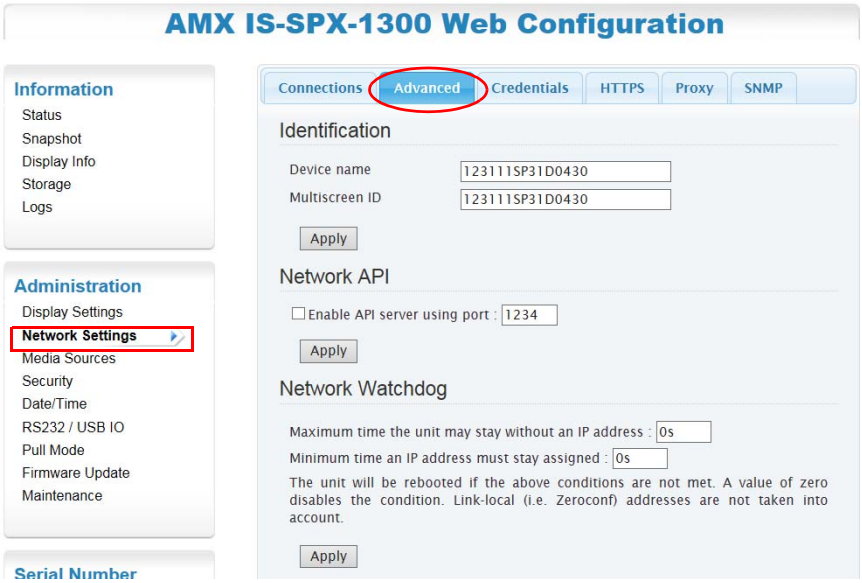

FIG. 20 Administration - Network Settings - Advanced

The *Advanced* tab on the *Network Settings* page includes additional options for accessing networks and proxy servers and changing SNMP settings.

Administration - Network Settings - Advanced	
Identification:	
Device name:	This field displays the name assigned to the device in the network. To change the Device Name, enter a new name in the field and press the **Apply** button. The default is the device's Serial Number.
Multiscreen ID:	This field displays the device's Multiscreen ID. To change the Multiscreen ID, enter a new ID name or number in the field and press the **Apply** button. The default is the device's Serial Number.
Network API:	
Enable API server using port:	Click to change the port for the API server. Click **Apply** to save any changes.
Network Watchdog:	The Network Watchdog is activated if either the Minimum or Maximum conditions are set to a value other than 0 (0s by default). Both parameters can be configured using a time defined in seconds (e.g. 10s), minutes (e.g. 10m) or hours (e.g. 1h). When activated, the player will reboot if one of the conditions is no longer valid. Link-local (i.e. Zeroconf) addresses are not taken into account. The watchdog may be used in case of using a 3G modem, as sometimes it's necessary to reset the 3G dongle by doing a reboot of the player to restore a lost connection. Please be aware that a quick succession of restarts will cause the player to enter into Safe mode and even Recovery mode.

Credentials

The *Credentials* tab provides options for credentials used by the player when accessing resources from remote servers that require authentication (e.g., direct reference, Client/Server mode, Pull Mode etc.). Note that the player only supports basic and digest authentication mechanisms.

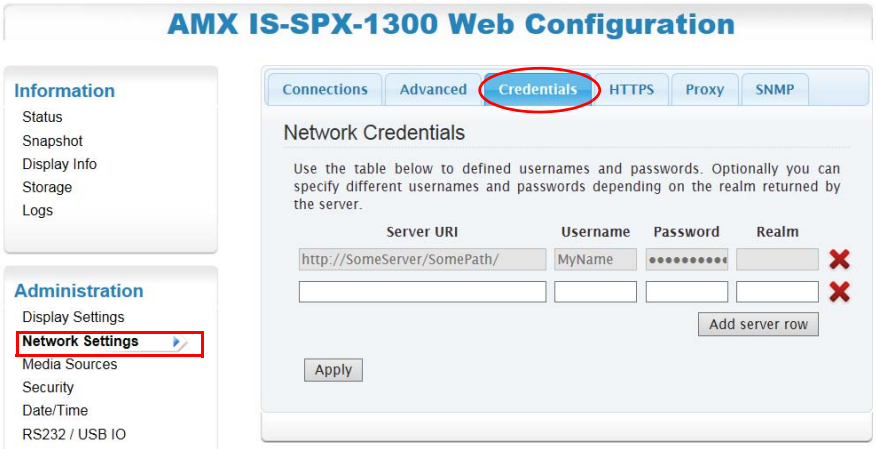

FIG. 21 Administration - Network Settings - Credentials

Administration - Network Settings - Credentials	
Network Credentials:	
Server URI:	The server URI (it can also include a path on the server if different credentials are needed for different parts of the server).
Username:	Enter a valid Username for the remote resource entered in the Server URI.
Password:	Enter a valid Password for the remote resource entered in the Server URI.
Realm:	Optional. Used to specify different credentials based on the realm returned by the server.
Add server row:	Press **Add server row** to add additional servers to the page.
Apply:	Press **Apply** to save the credentials.

Configuring Network Credentials For Remote Servers

To configure network credentials to allow the IS-SPX Player to access a remote server:

1. On the *Media Sources* page in the *Advanced* tab, enter the server's URI path in the *Server URI* field.
2. Enter the server's Username, Password, and Realm into the corresponding fields.
3. If you need to add multiple servers, or if you need to specify multiple Username and Password for the same server but for different realms, press the **Add Server Row** button to open a new row of fields.
4. When finished, press the **Apply** button to save your changes.

NOTE: *If a network storage path has any spaces in the path, these must be replaced with the characters "%20" or the IS-SPX Player cannot find the media source.*

HTTPS

The *HTTPS* tab on the *Network Settings* enables users to enable / disable the full verification of HTTPS certificates.

FIG. 22 Administration - Network Settings - HTTPS

Administration - Network Settings - HTTPS	
Check box:	Check to enable full verification of HTTPS certificates.
Apply:	Press **Apply** to save the credentials.

Proxy

On this tab, users can configure the proxy settings to be used by the player.

FIG. 23 Administration - Network Settings - Proxy

Administration - Network Settings - Proxy	
Proxy Settings:	
Server	Enter the server hostname address (without the http part) for the selected proxy server.
Port	Enter a port number for the selected proxy server.
Bypass proxy server for local addresses:	Click to access local addresses directly without going through the proxy server. When enabled, the player will first query the hostname to find the corresponding IP address. It will then check if the IP address is in the same subnet as the player according to the subnet mask currently configured and if so, the proxy will be bypassed. If the IP is external or the hostname cannot be resolved, then the proxy will be used.
User Name	Enter a username for the selected proxy server.
Password	Enter a password for the selected proxy server.
Apply	Click **Apply** to save changes.
Clear	Press **Clear** to clear all fields.

SNMP

On this tab, you can configure the SNMP settings to be used by the player. The player supports SNMP version 2c (with read-only access), does not generate SNMP traps and runs the Net-SNMP 5.4 (fully patched).

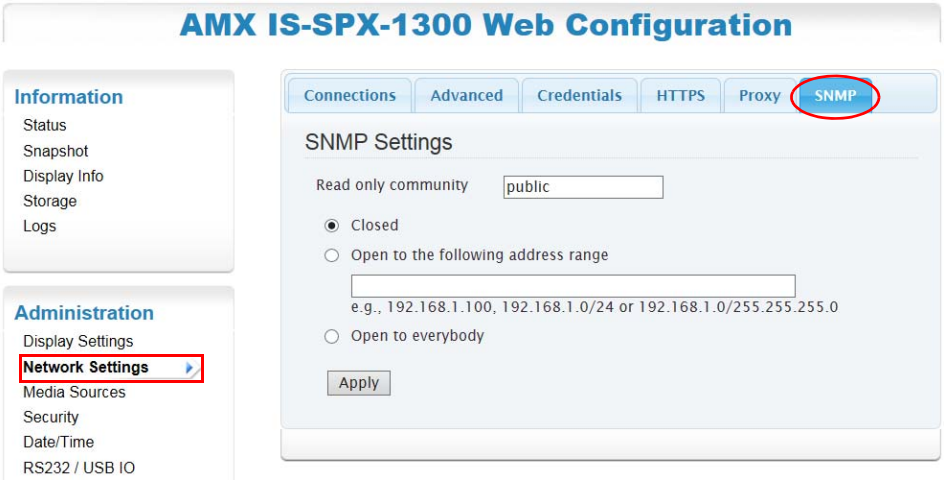

FIG. 24 Administration - Network Settings - SNMP

Administration - Network Settings - SNMP	
SNMP Settings:	
Read only community:	Enter the name of the server's folder.
Closed	By default, the access to SNMP is disabled (closed).
Open to the following address range	Click to open access to SNMP to a specific IPv4 addresses range.
Open to everybody	Click to open without restrictions (IPv6 is accepted in this case), and can be accessed via UDP and TCP

Media Sources

The *Media Sources* page contains options for expanding the integral storage built into the IS-SPX Player. These sources include USB thumb drives, portable hard drives, or storage on a remote network.

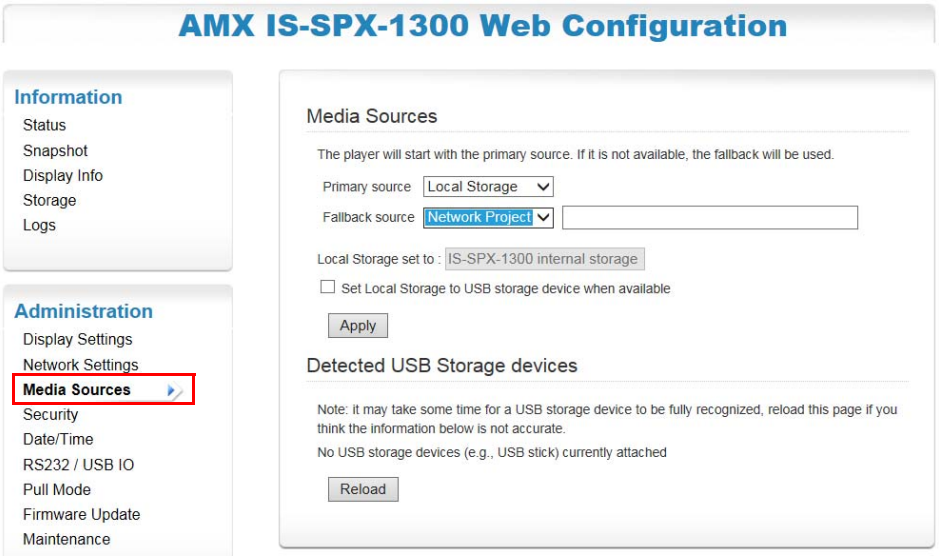

FIG. 25 Administration - Media Sources

Administration - Media Sources	
Media Sources:	
Primary source:	In the dropdown menu, select between Local Storage and Network Project. If Network Project is selected, enter the URL for the project folder. Click **Apply** to save all changes to this section.
Fallback source:	In the dropdown menu, select between Local Storage and Network Project. If Network Project is selected, enter the URL for the project folder. Click **Apply** to save all changes to this section.
Local source set to:	Currently displays the default local storage source location. If the USB storage device option has not been enabled, the location will be set to "IS-SPX-1000 Local Storage" or "IS-SPX-1300 Local Storage". Click **Apply** to save all changes to this section.
Set Local Storage to USB storage device when available:	If a USB storage device is connected to the IS-SPX Player, click this box to choose that device as the default storage option. Click **Apply** to save all changes to this section.
Detected USB storage devices:	
Reload:	This section displays all USB storage devices currently connected to the IS-SPX-1000. If any devices have been connected since the page was last refreshed, click the **Reload** button to rescan for them.

NOTE: *If your network storage path has any spaces in the path, these must be replaced with the characters "%20" or the IS-SPX-1000 cannot find the media source.*

Using a USB drive with the IS-SPX Player

To configure a USB drive as a storage source for the IS-SPX Player:

1. On the *Media Sources* page in the *Basic* tab, make sure that the *Primary source* dropdown menu is set to *Local Storage*.
2. Click the *Set Local Storage to USB storage device when available* check box.
3. Press **Apply** to save your changes.
4. Insert a USB storage into the USB connector on the front of the IS-SPX Player. Wait for a few seconds and then press the **Reload** button at the bottom of the *Media Sources* page.
5. The page should indicate that the local storage is currently set to *USB Storage*.

By default, USB storage device are formatted using FAT file systems. This has the advantage that the USB storage is readable both by the IS-SPX Player and any PC. However, any such USB device can only be used in read-only mode by the IS-SPX Player.

If you need to use the USB storage permanently, the drive must be formatted by the device so it may be able to write new information on it.

To format the USB device:

1. Plug your USB storage device to the IS-SPX Player.
2. Press the **Format Now** button.

NOTE: *If formatting the USB storage device, all content currently on it will be erased. After formatting, the USB storage device will no longer be recognized by Windows PCs.*

3. When the formatting is over, unplug the USB storage device from the IS-SPX Player.
4. If you are using a USB storage device in write mode, it is recommended to press the **Disconnect** button before removing the device from the IS-SPX Player.

Security

Use the *Security* page to control administrative, content, and monitoring access to the IS-SPX Player.

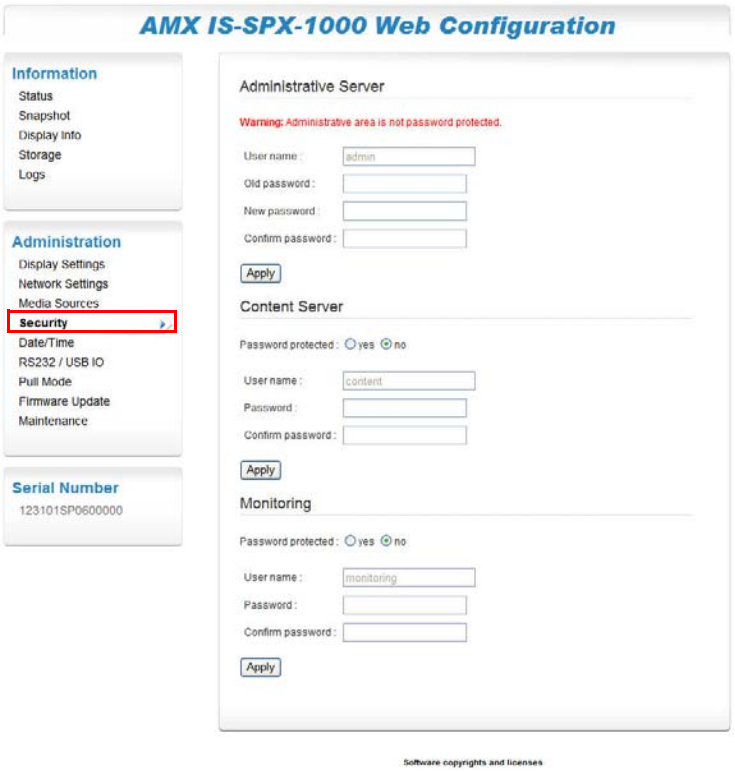

FIG. 26 Administration - Security page

Administration - Security page	
Administrative Server:	Controls access to all sections of the HTTP administration server.
Content Server:	Controls access to all content displayed by the IS-SPX-1000.
Monitoring:	Controls access to the Logs and Snapshot pages.

Controlling User Rights and Permissions

1. On the *Security* page, choose whether you want to configure access for the Administration Server, the Content Server, or the page Monitoring section.

NOTE: *Always having a password for the Administrative Server section is highly recommended. By default, no password is set and the administrative area is not protected, and any previously saved passwords will be removed if the device is returned to its factory defaults.*

2. Enter a password in the *Password* text field and confirm it in the second field.
3. Press **Apply** to save your changes.

NOTE: *Because the Apply button needs to be pressed for each password you want to change, only one password may be changed at a time.*

Date/Time

The Date/Time page is used to set all player time clock related options.

Time Zone

Use the *Time Zone* tab to update or configure the timezone where the player is used.

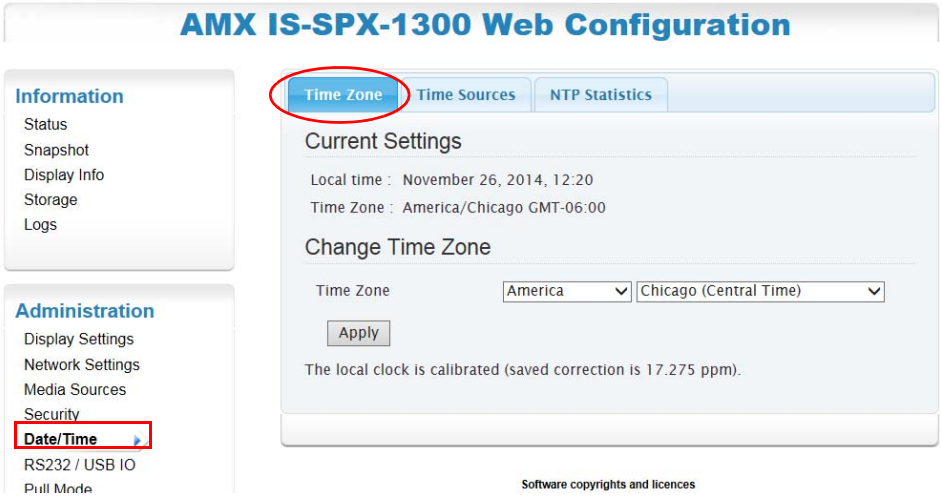

FIG. 27 Administration - Date/Time - Time Zone

Administration - Date/Time - Time Zone	
Current Settings:	This section displays the current date, time, and time zone registered with the IS-SPX Player.
Change Time Zone:	
Time Zone:	Use the dropdown menus to select the country and the closest city to the IS-SPX Player installation site.
Apply:	Click **Apply** to save all changes.

Time Sources

Use the *Time Sources* tab to change the current time registered by the IS-SPX Player, and to synchronize with outside servers.

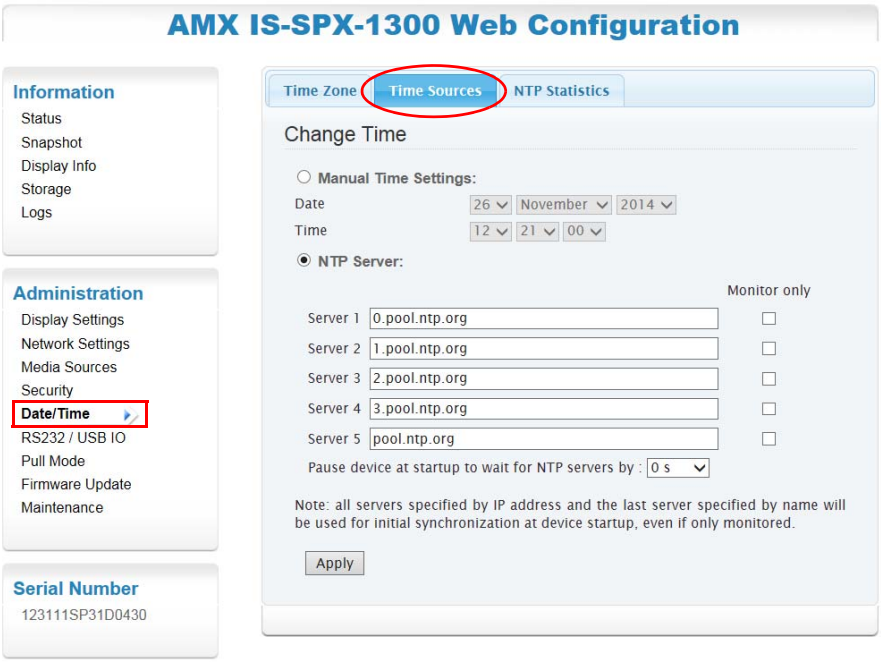

FIG. 28 Administration - Date/Time - Time Sources

Administration - Date/Time - Time Sources	
Change Time:	
Manual Time Settings:	The time registered with the IS-SPX-1000 may be changed manually, or it may be synchronized with an NTP server. Click either button to choose the preferred option and click **Apply** to save all changes in this section. If selecting **Manual**, use the dropdown menus to select the time and the date to be saved on the IS-SPX-1000.
NTP Server:	
Server 1-5:	Enter a URI for each of the servers to be accessed. Up to five servers may be added. Click the Monitor Only box to the right of each server field if you wish only for those servers to be monitored and not accessed.
Pause device at startup to wait for NTP servers by:	Use the dropdown menu to select the delay time in seconds: 0, 90, 120, and 150.

NTP Statistics

The *NTP Statistics* page logs all contact with the NTP servers currently being accessed or monitored.

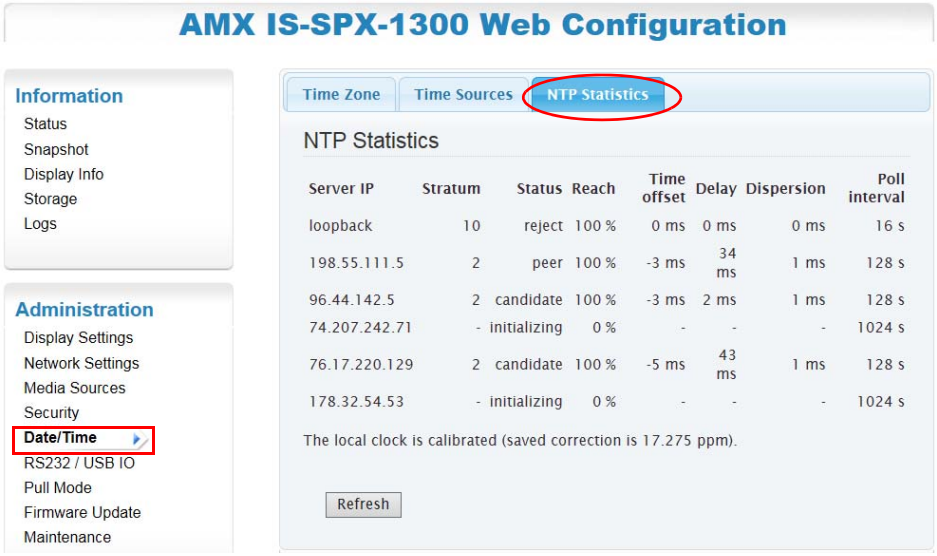

FIG. 29 Administration - Date/Time - NTP Statistics

Administration - Date/Time - NTP Statistics	
NTP Statistics:	This section logs all contact with the NTP servers currently being accessed or monitored. If this option has been chosen. Click the **Refresh** button to update the statistics.The following informations are displayed: **Server IP:** Displays the IP address of the Network sources. **Stratum:** A static measure representing the number of servers up to a reference time server (usually an atomic clock). Status: • peer - The server used for the time synchronization. • candidate - A server whose time is consistent with the player and may be used in case the peer is no longer available. • reject - The server is not used, because its stratum is too low or it has been configured as "Monitor only" in the Time Sources. • outlier - The server is too different from the peer to be used for synchronization. • initializing - Appears during transition phase or when it cannot be reached. **Reach** - How often the server has been reached as a percentage within the last 8 attempts; it should be as close as possible to 100%. **Time offset:** The time difference in milliseconds between the player time and the NTP server time. **Delay**: The time delay in milliseconds between the moment the player has send the request and got the answer from the NTP server; it should be as small as possible. **Dispersion**: When repeatedly reading the time, the time offset may vary almost randomly and the difference (second derivation) of these time offsets is called jitter or dispersion. Note that a small value is needed for synchronized content. **Poll interval:** The time interval between requests towards the NTP server. It will start with the minimum value and gradually increase up to the maximum value; for internal NTP servers (min, max) = (16s, 256s) and for public ones (min, max) = (64s, 1024s). After the NTP statistics, the information regarding the local clock calibration is displayed. The correction is displayed in ppm (part per million); for instance 1ppm would mean that the internal clock will drift with 32 seconds in a year.

RS232/USB IO

Use the *RS232/USB IO* page to change the parameters of the IS-SPX Player's RS232 port. This may be used to control both when information is transmitted to the display and when the display itself is turned on and off.

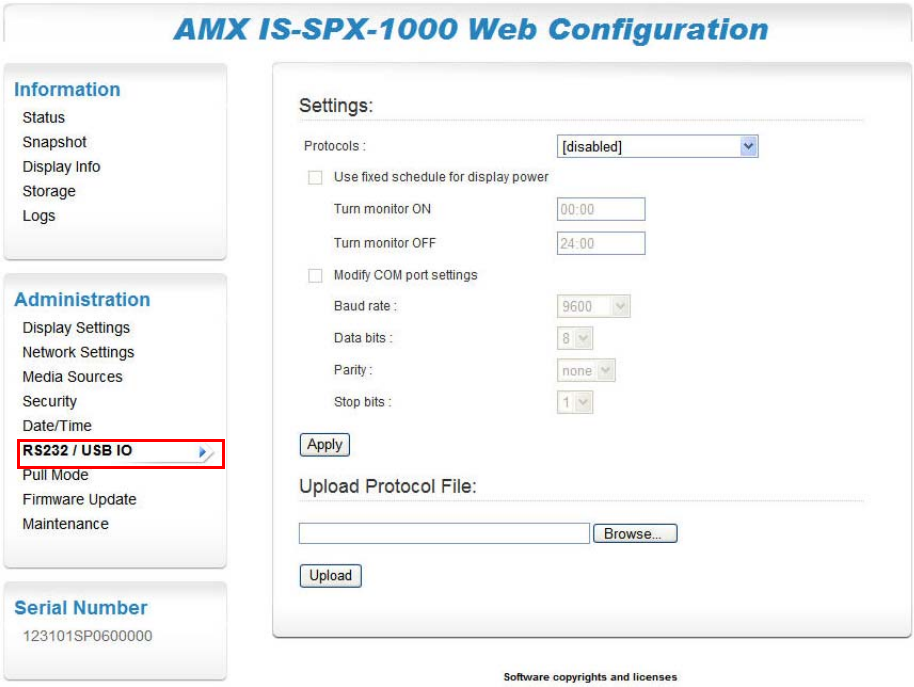

FIG. 30 Administration - RS232/USB IO page

Administration - RS232/USB IO page	
Settings:	
Protocols:	Use this dropdown menu to select the particular serial port protocol to be used. Click Apply to save all changes. **Note:** The default is "Disabled". If this is chosen, all fields below are grayed out.
Use fixed schedule for display power:	Click this box to enable when the display monitor will automatically come on and turn off. When enabled, the *Turn monitor ON* and *Turn monitor OFF* fields below are accessible.
Turn monitor ON:	Select the time (in 24-hour military time) for the monitor to turn on.
Turn monitor OFF:	Select the time (in 24-hour military time) for the monitor to turn off.
Modify COM port settings:	Click this box to enable or disable the *Baud rate*, *Data bits*, *Parity*, and *Stop bits* fields.
Baud rate:	Use this dropdown menu to select the preferred baud rate. The default rate is 9600.
Data bits:	Use this dropdown menu to select the preferred data bit rate: 7 or 8.
Parity:	Use this dropdown menu to select the preferred parity: none, even, or odd.
Stop bits:	Use this dropdown menu to select the preferred stop bit rate: 0 or 1.
Upload Protocol File:	
Browse:	To upload a new protocol to the IS-SPX-1000 to augment the ones already used by the player, use this field to browse a computer or network for the appropriate file.
Upload:	Click **Upload** to upload the selected protocol file to the player.

Uploading Protocol Files

To add to the existing serial port protocols, new protocol files for displays may be uploaded to the IS-SPX-1000. To do so, either enter the URL for the file in the *Upload Protocol File:* field or click the **Browse** button to locate it.

Pull Mode

From the Pull Mode page, the IS-SPX Player may be configured to pull project files, logs, and iCalendar files from remote sources. Determine the type and source of content pulled to the IS-SPX-1000 by selecting between "Disabled," "Manual Settings," "From Uploaded iCalendar File," and "From Remote iCalendar File."

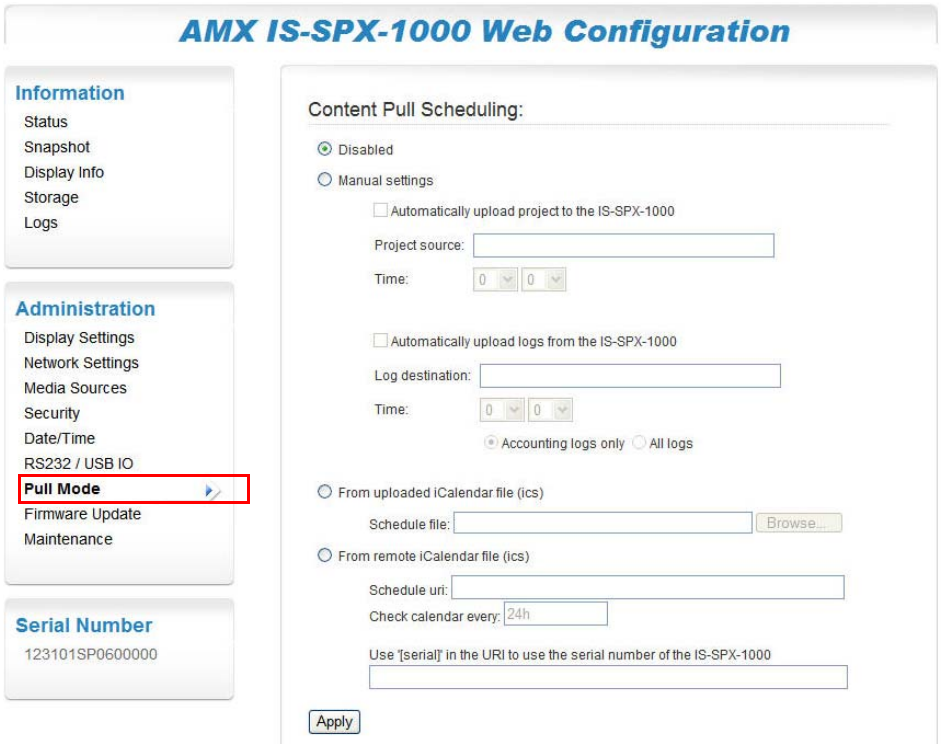

FIG. 31 Administration - Pull Mode page

Administration - Pull Mode page	
Content Pull Scheduling:	
Disabled:	When choosing this option, all other fields on this page are grayed out.
Manual Settings:	This option allows manual control of uploads to and from the IS-SPX Player. • **Automatically upload project to the IS-SPX-1000**: Click this box to enable automatic project uploads from a particular source to the IS-SPX Player. Enter the project's URL in the *Project Source* field and the time of day for the upload, in military time, in the *Time* dropdown menus. **Note:** The time of day may only be set in five-minute increments. • **Automatically upload logs from the IS-SPX-1000**: Click this box to enable automatic log uploads to a particular source from the IS-SPX Player. Enter the receiving folder's URL in the *Log Destination* field and the time of day for the upload, in military time, in the *Time* dropdown menus. Choose between having all logs uploaded to the remote site, or only accounting logs. **Note:** The time of day may only be set in five-minute increments.
From uploaded iCalendar file (ics):	Click this to enable scheduling from an iCalendar schedule file (".ics") on a PC or USB storage device physically connected to the IS-SPX Player. Press the **Browse** button to search for the file.
From remote iCalendar file (ics):	Click this to enable scheduling from an iCalendar schedule file (".ics") on a remote network. Enter the URL for the file in the *Schedule URI* field.
Apply:	Click **Apply** to save all changes.

Accessing a Remote iCalendar File on an IS-SPX Player

Multiple IS-SPX Players may access the same iCalendar schedule file, so long as you have the serial number for the device storing the file. For more information on generating and editing iCalendar files, please refer to the *Inspired Signage XPress Programming Guide*, available at **www.amx.com**.

1. From the *Pull Content Scheduling* page, click the *From remote iCalendar file (ics)* button.
2. In the *Schedule URI* field, enter the URL for the file's folder.
3. At the end of the URL, add "[serial]" to the end, with "serial" replaced with the hosting IS-SPX Player's serial number.
4. Press *Apply* to save changes.

Firmware Update

The *Firmware Update* page enables users to set all player firmware related configuration options.

Firmware

The *Firmware* tab displays the currently loaded firmware and updater tool, as well as offers options on where firmware updates will be made from.

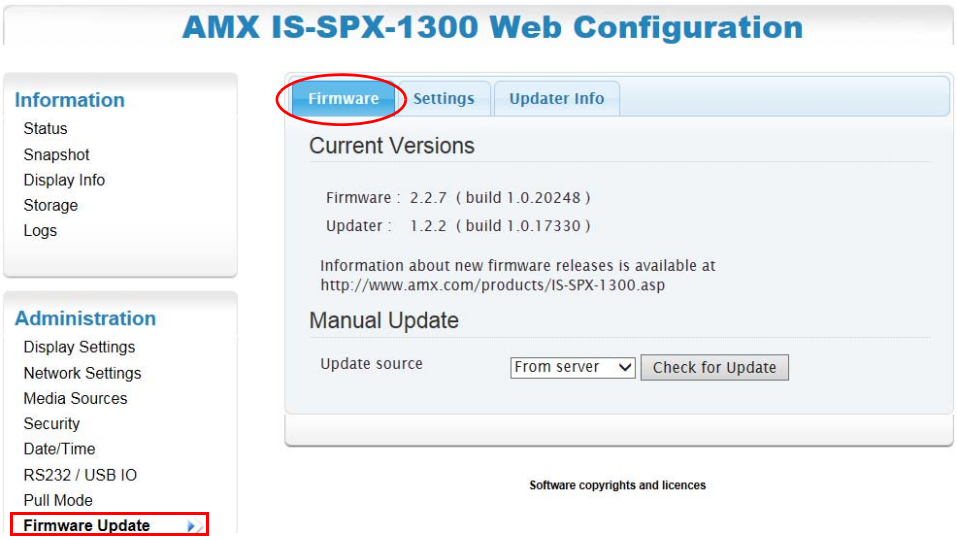

FIG. 32 Administration - Firmware Update Page

Administration - Firmware Update - Firmware	
Current Versions:	This section lists the currently loaded firmware version, including the build number, and the current version of the firmware updater.
Manual Update:	
Update Source:	From the dropdown menu, select whether to make a manual update from a server or from a USB device. Click the **Check for Updates** button to view new updates on the server or USB device since the last scheduled or manual update.
Updater info:	This section includes the current status of the updater and the latest update log.

Settings

The *Settings* tab displays the currently selected update server, as well as offers options on selecting automatic updates and setting when firmware updates will be made. Examples for the IS-SPX-1000 and IS-SPX-1300 are shown below.

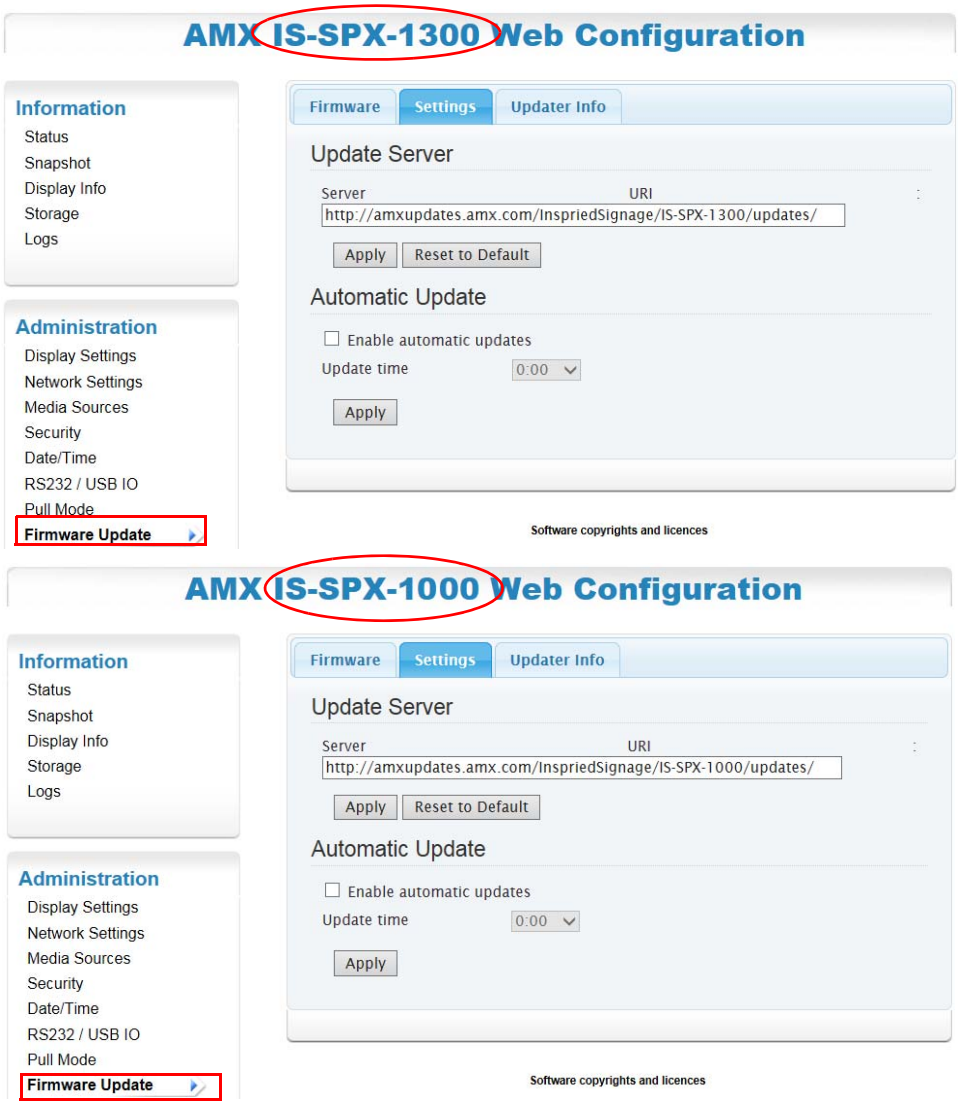

FIG. 33 Administration - Firmware Update - Settings

Administration - Firmware Update - Settings	
Update Server:	
Server / URL	In this field, enter the URL of the folder where firmware updates are stored on a remote server. Click **Apply** to save all changes related to the Update Server, or click **Reset to Default** to return the device to the factory default update location.
Automatic Update:	
Enable automatic updates:	Click this box to enable the *Update time* dropdown menu.
Update time:	This dropdown menu allows selection of a particular firmware update time. **Note:** The update time may be set by hour, not by minute.
Apply	Click **Apply** to save all changes related to the Automatic Update.

Updater Info

The *Updater Info* tab displays the current status of the updater and the latest update log.

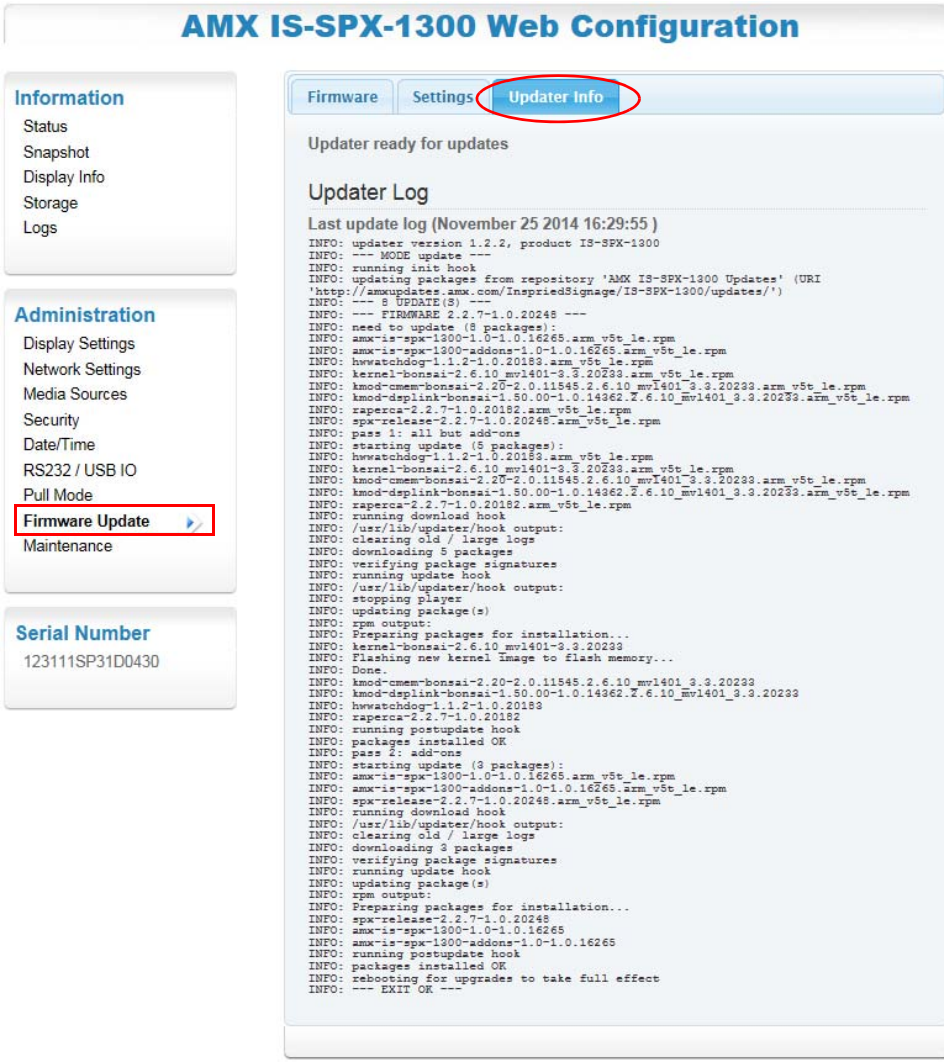

FIG. 34 Administration - Firmware Update page

Maintenance

The *Maintenance* page contains basic user functions for the IS-SPX Player such as restart, restoring default content, getting reports and basic diagnostics.

Basic

The *Basic* tab of the *Maintenance* page contains basic maintenance functions for the IS-SPX Player that require human assistance.

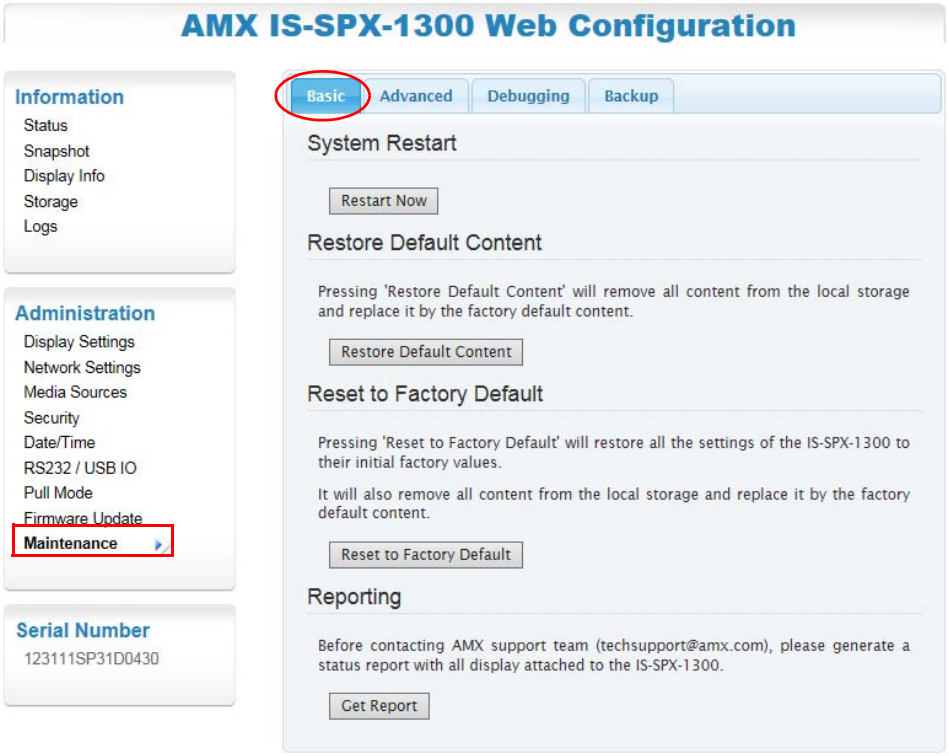

FIG. 35 Administration - Maintenance - Basic

Administration - Maintenance - Basic	
System Restart:	
Restart Now:	Click **Restart Now** to restart the player.
Restore Default Content:	
Restore Default Content:	Click **Reset to Factory Default** to wipe all current content from the player and replace it with the original factory default content.
Reset to Factory Default:	
Reset to Factory Default:	Click **Reset to Factory Default** to store all settings to factory specifications.
Reporting:	
Get Report:	Click **Get Report** to gather a report on IS-SPX Player activity for AMX Technical Support.

Advanced

The *Advanced* tab on the *Maintenance* page contains more features for IS-SPX Player maintenance, including the ability to put the device into diagnostic and installation modes to assist with troubleshooting and firmware updates.

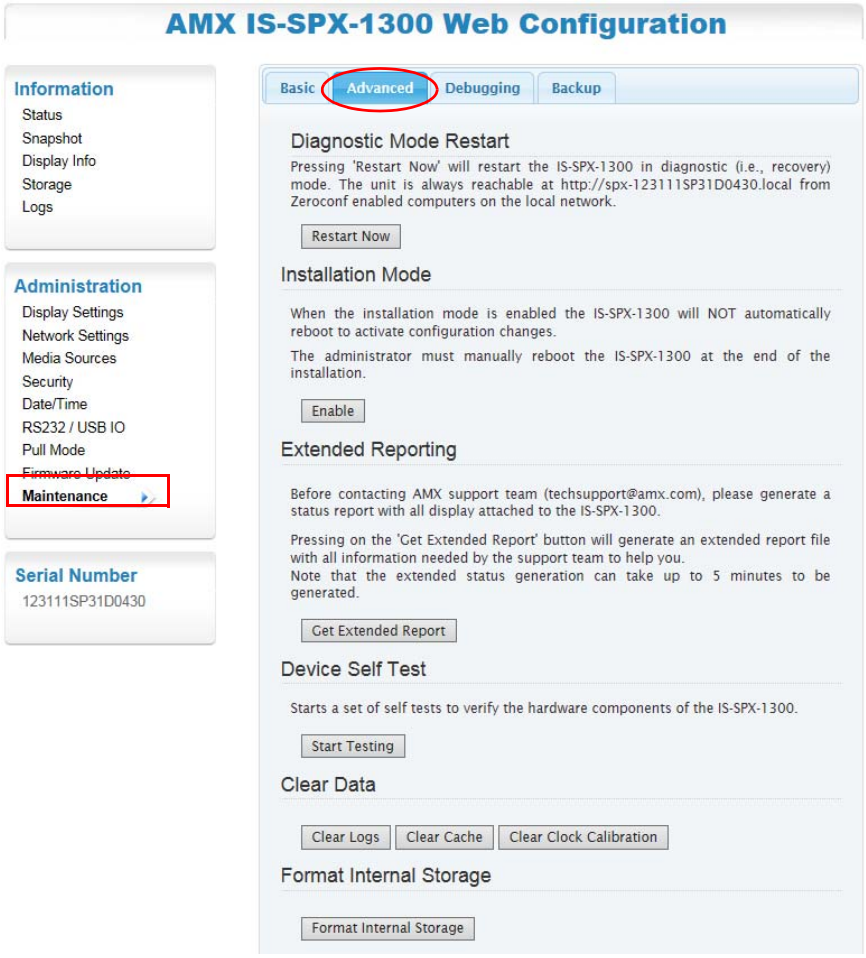

FIG. 36 Administration - Maintenance - Advanced

Administration - Maintenance - Advanced	
Diagnostic Mode Restart:	
Restart Now:	Click **Restart Now** to restart the IS-SPX-1000 in Diagnostic Mode. This facilitates recovery of downloaded files and settings that might otherwise be lost.
Installation Mode:	
Enable:	Click **Enable** to prevent the IS-SPX-1000 from automatically rebooting after changes to the *Administration* pages. The administrator must manually restart the device (see the *Maintenance* on page 36) before any changes are saved.
Extended Reporting:	
Get Extended Report:	Click **Get Extended Report** to get an more detailed Technical Support report (see the *Maintenance* on page 36) to assist with AMX troubleshooting. **Note:** Generation of this report may take up to five minutes.
Device Self Test:	
Start Testing	Click **Start Testing** to start a set of tests to verify the hardware components at the player.
Clear Data:	
Clear Logs:	Click the **Clear All Logs** button to wipe all currently saved information in the player logs. **Note:** Clicking this button automatically restarts the IS-SPX-1000.
Clear Cache:	Click the **Clear Cache** button to wipe all information stored in the player cache. **Note:** Clicking this button automatically restarts the IS-SPX-1000.
Clear Clock Calibration:	Click the **Clear Clock Calibration** button to wipe all data on the player clock calibration. **Note:** Clicking this button automatically restarts the IS-SPX-1000.

Continued ↴

Administration - Maintenance - Advanced	
Format Internal Storage:	
Format Internal Storage:	Click **Format Internal Storage** to format the content partition of the internal storage of the player - useful in case of internal storage corruption. **NOTE:** *This doesn't apply to external storage.*

Debugging

The *Debugging* tab on the *Maintenance* page contains the ability to put the device into diagnostic mode to assist with troubleshooting. In case of problems when streaming video / audio to the player, it is possible to capture the stream packets received by the player and send that capture to AMX Support to help diagnose the problem and find possible solutions. Be aware that a capture stream might create large files on the device storage and should not be left enabled for a long period of time.

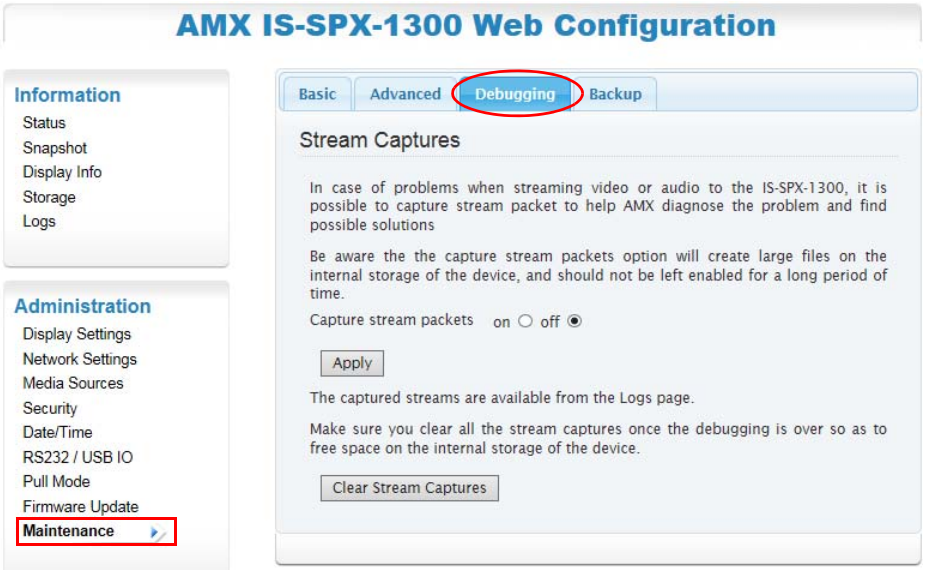

FIG. 37 Administration - Maintenance - Debugging

Administration - Maintenance - Debugging	
Stream Captures:	
Capture Stream Packets:	Click **on** to start a stream capture on the player. Click **off** to end stream capturing. **Note:** The stream capture is available from the **Logs** menu option. Make sure to clear the stream captures once the debugging is over to free space on the internal storage of the player.
Apply	Click **Apply** to restart the player in Diagnostic Mode. This facilitates recovery of downloaded files and settings that might otherwise be lost.
Clear Stream Captures:	Remove all the captures stored on the device by clicking on the **Clear Stream Captures** button.

Backup

The *Backup* tab on the *Maintenance* page enables users to create backup configuration files and restore the player using existing backups previously saved to the player.

FIG. 38 Administration - Maintenance - Backup

Administration - Maintenance - Backup	
Backup Configuration:	
Backup users and Passwords:	Click to enable the **Backup users and passwords** checkbox. This will include the saved credentials on the player into the backup file
Backup:	Clicking the **Backup** button will create a configuration backup of the player.
Restore Configuration:	
Browse:	Use the **Browse** button to choose a previously backed up configuration file.
Restore:	Click on **Restore** to upload the selected backup file and apply it to the player.

Appendix: Encoding Guides

Encoder Tools

FFMpeg

FFmpeg is a complete, cross-platform solution to record, convert and stream audio and video. Download the windows version here.

VLC

VLC is a free and open source cross-platform Multimedia Player, Media Converter and Streamer. Download here.

WinMEnc

WinMEnc is a free front-end for encoder. Download here.

Encoding SD video

NOTE: *The recommended format for SD video that will be played across all HMP devices is MPEG2.*

Encoding Into MOV Format Using FFMpeg

To encode a window media video into a 720p (or 1080p) mpeg-4 video (mov format), you can use something like this:

```
ffmpeg -i video.wmv -vcodec libxvid -s hd720 -r:v 25 -b:v 6500k -bf 1 -acodec libmp3lame -b:a 128k -t 120
video.mov
```

where:

- vcodec libxvid selects mpeg-4 as video format;
- s hd720 reduces the size (if needed) to 720p; (use -s hd1080 for 1080p)
- r:v 25 selects 25 fps;
- b:v 6500k selects 6.5Mbits as target bitrate;
- bf 1 sets one B-frame to improve the coding efficiency;
- acodec libmp3lame select mp3 as audio format;
- b:a 128k selects 128kb for the audio bitrate;
- -t 120 stops writing the output after 120 seconds.

Encoding Into MP4 Format Using FFMpeg

```
ffmpeg -i video_1080p.mp4 -s 832x468 -b:v 2500k -vcodec libx264 -vprofile main -acodec libvo_aacenc -b:a
128k video.mp4
```

This will:

- Select h.264 as video format using -vcodec libx264
- Reduce the size (if needed) to 832x468 using -s 832x468
- Select 2.5Mbits as target bitrate using -b:v 2500k
- Select AAC as audio format: -acodec libvo_aacenc
- Target 128kb for the audio bitrate: -b:a 128k

Transcoding Into MP4 Format Using FFMpeg

If you need to change the format / container of the file without any encodings, use something like these:

```
ffmpeg.exe -i inputfile -acodec copy -vcodec copy outputfile.mp4
ffmpeg.exe -i inputfile -codec: copy outputfile.mp4
```

This will simply copy the audio and video streams (#1) or all the streams (#2) into an mp4 format.

Encoding Into MOV Format Using WinMEnc

To encode a file using preset settings:

1. Download the following preset and save it into the "profile" folder below the folder containing WinMEnc.exe:
   - 6MB MPEG-2, 16x9, MP3 audio

   File: Profile-720w 16x9 6MB MPG2 MP3.7z
2. Open **WinMEnc.exe** and select the profile from the dropdown menu (FIG. 39):

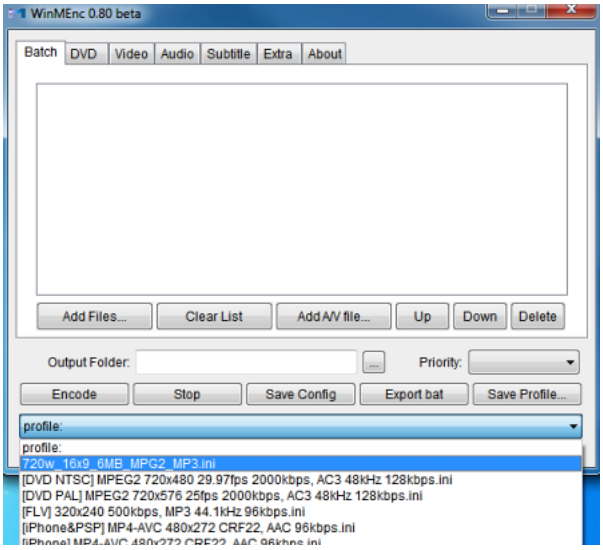

FIG. 39 WinMEnc.exe - Selecting a Profile

3. Drag and drop the file(s) you wish to encode into the first tab (FIG. 40):

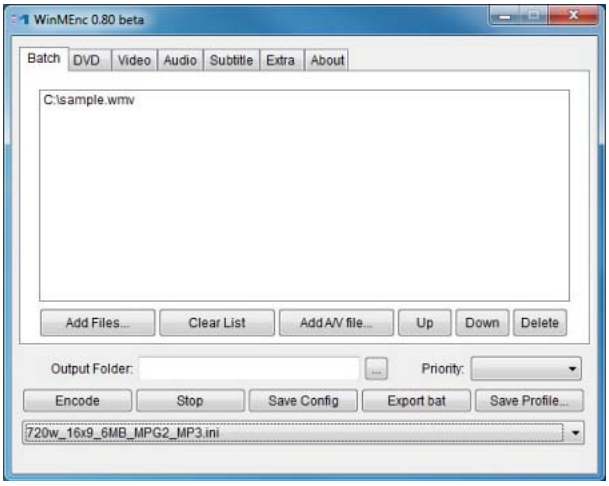

FIG. 40 WinMEnc.exe - Add File(s) to Encode

4. Select an output folder and click **OK** (FIG. 41):

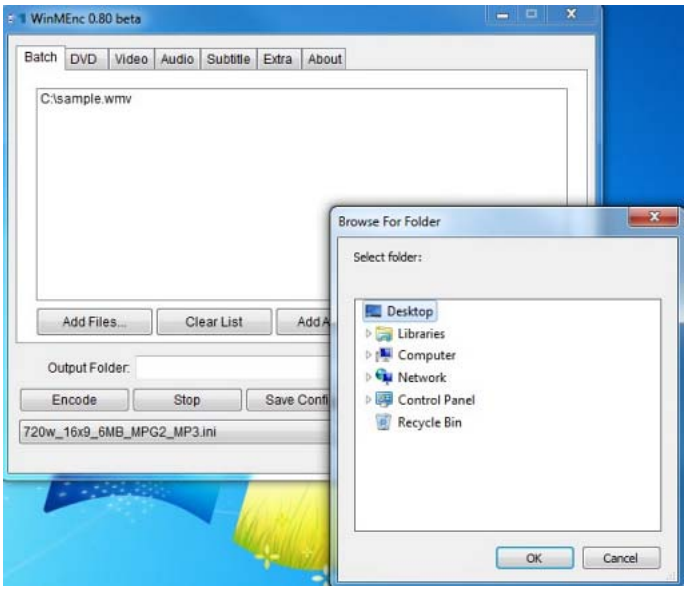

FIG. 41 WinMEnc.exe - Select an Output Folder

5. Press **Encode**

3000 RESEARCH DRIVE, RICHARDSON, TX 75082
AMX.com | 800.222.0193 | 469.624.8000 | +1.469.624.7400 | fax 469.624.7153

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