



Operation/Reference Guide

IS-SPX-1000 IS-SPX-1300

Inspired Signage XPress Players



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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

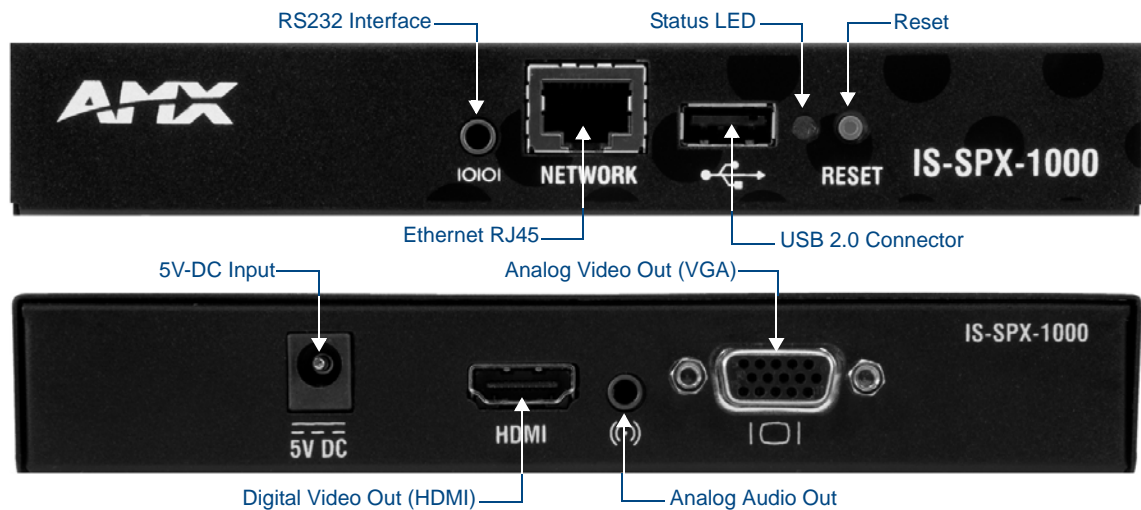


FIG. 1 IS-SPX-1000 IS-SPX Inspired Signage Xpress Player

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:	<ul style="list-style-type: none"> 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:	<ul style="list-style-type: none"> 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

IS-SPX-1000 Specifications (Cont.)	
Supported Video File Types (Cont.):	
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: <ul style="list-style-type: none"> • 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:	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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).

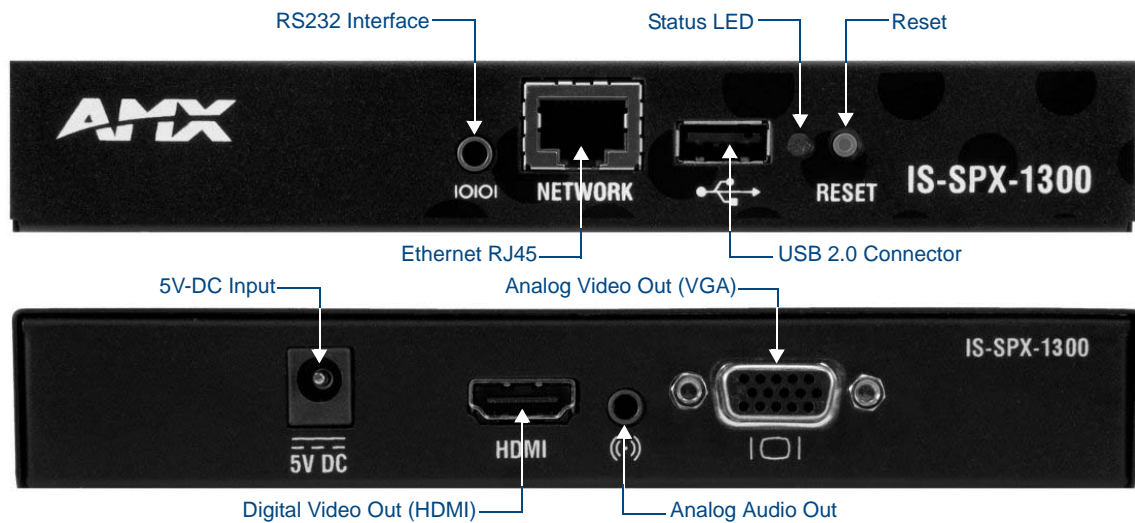


FIG. 2 IS-SPX-1300 IS-SPX Inspired Signage Xpress Player

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:	<ul style="list-style-type: none"> 5V DC, typ. 0.6A / 3 watts
Power Supply Input:	<ul style="list-style-type: none"> 100-240V 50-60 Hz
Real time clock:	<ul style="list-style-type: none"> Min. accuracy 1 minute/month free running, battery backed.
Storage:	<ul style="list-style-type: none"> Internal storage: 4GB solid state. External storage: Flash drives and hard disks via USB 2.0 port.
Supported Video File Types:	
Supported video codecs:	<ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> 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.

IS-SPX-1300 Specifications (Cont.)	
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 13.

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



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:

- When using Fusion, some of these formats are not supported and cannot be uploaded as Fusion content (for instance, audio files are not supported).
- 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	<ul style="list-style-type: none"> • 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). <p>Note: HE-AAC v1 requires firmware 2.2.5 or later. HE-AAC v2 is not supported.</p> <ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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; <p>Not supported: Main Profile @ High Level (MP@HL) and the Advanced Profile (WVC1 / VC-1 Advanced Profile).</p> <ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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 HMP130 and SD for HMP100.
- **MPEG-2:** Main profile and Main level (MP@ML) (reference: MPEG-2 profiles and levels) - resolution up to 720p for HMP130 and SD for HMP100.
- **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 35 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)
1080p	8 Mbps (0.16 bpp)	-	16 Mbps (0.32 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 than 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.



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



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 IS-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



WARNING

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 32 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.



WARNING

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 10 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 13).

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 13.)
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**.



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 you are unable to connect to your 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 10.
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).

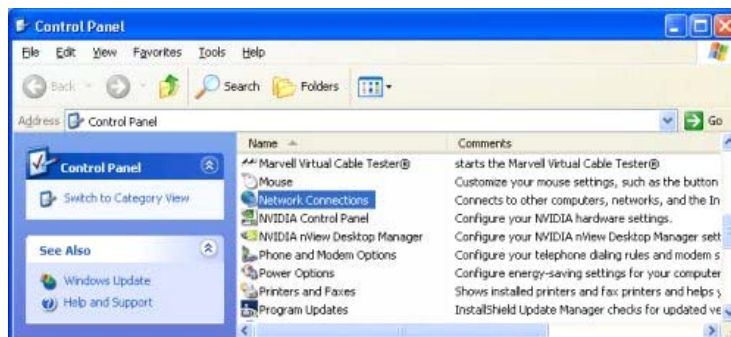


FIG. 3 Windows XP Professional Control Panel

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).

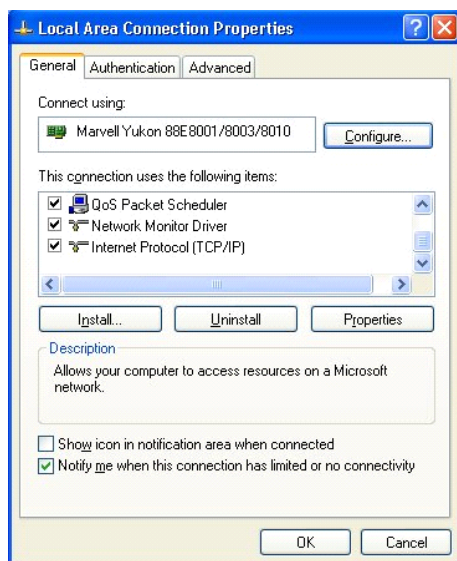


FIG. 4 Local Area Connection Properties

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).

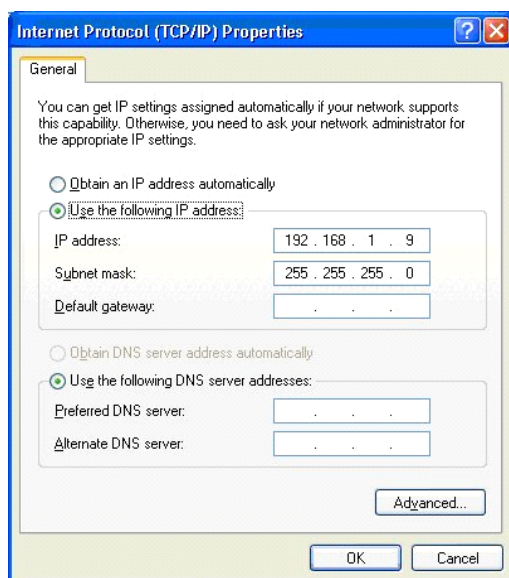


FIG. 5 Internet Protocol (TCP/IP) Properties

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.

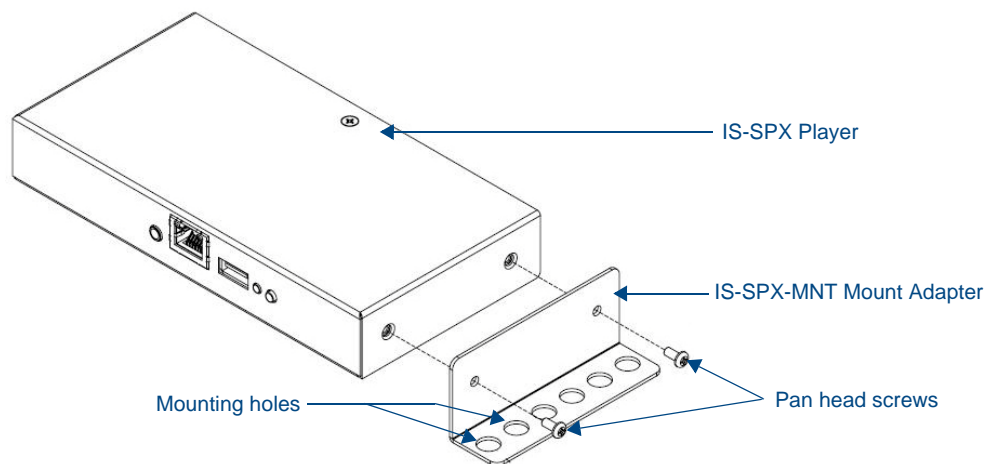


FIG. 6 Installation of the IS-SPX-MNT Mount Adapter (62-1231-03)

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.

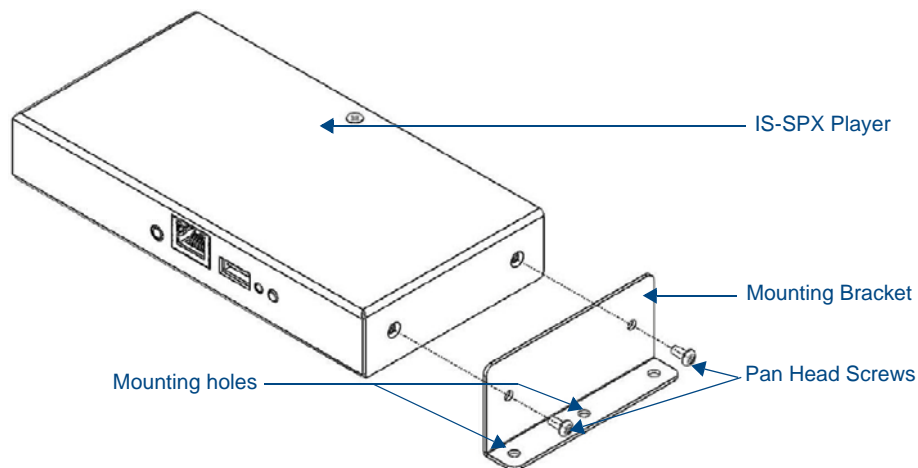


FIG. 7 Installation of the NXA-AVB Breakout Box Mounting Bracket (62-1231-03)

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.



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



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

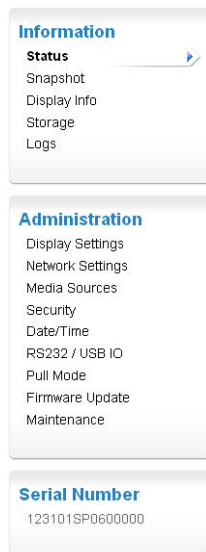


FIG. 8 IS-SPX Player Web-Based Configuration Page navigation bar

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.

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

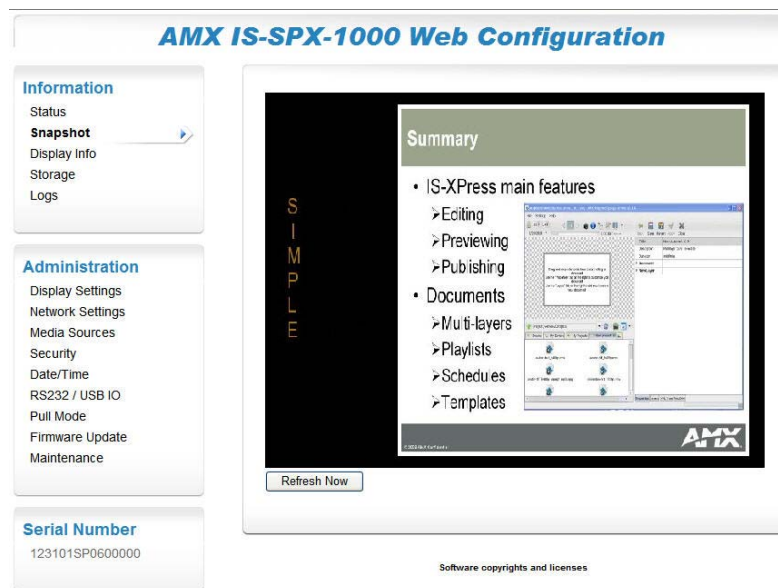


FIG. 10 Information - Snapshot page

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

Information - Snapshot page

Refresh Now:	This button refreshes the view currently displayed by the device.
--------------	---

Display Info

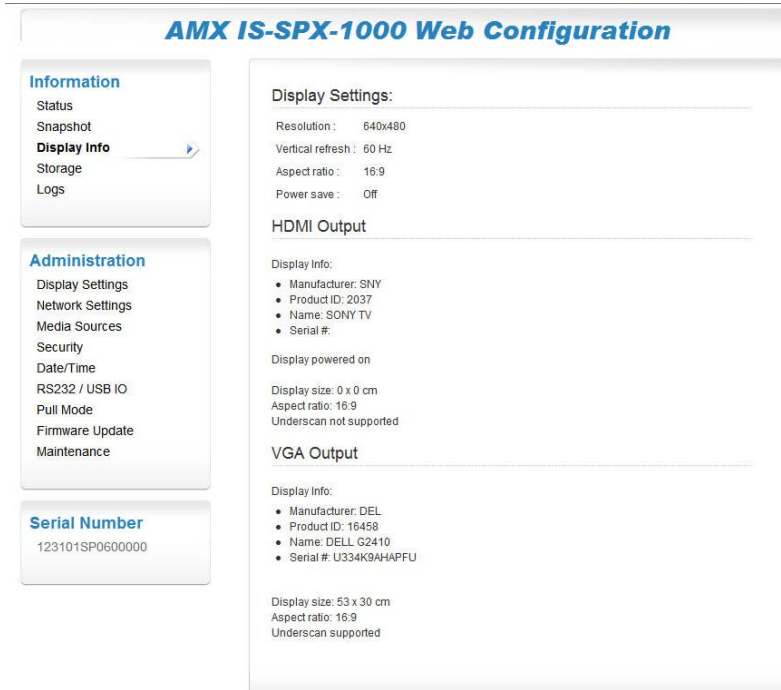


FIG. 11 Information - Display Info page

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

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

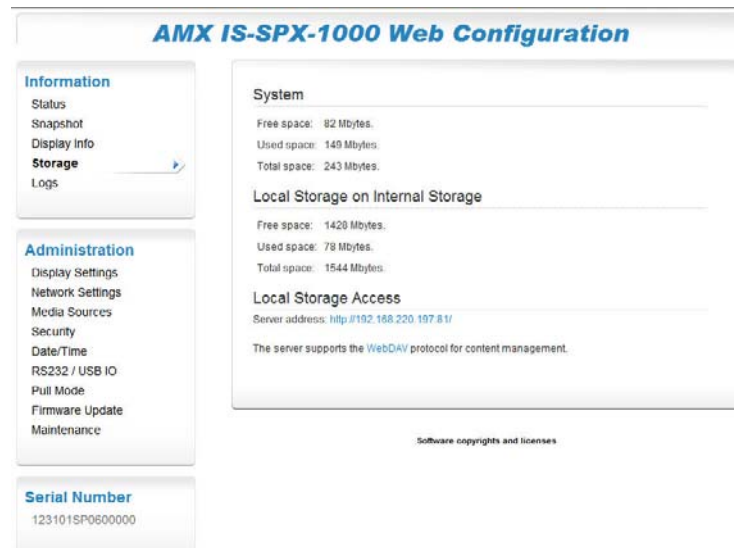


FIG. 12 Information - Storage page

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.

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

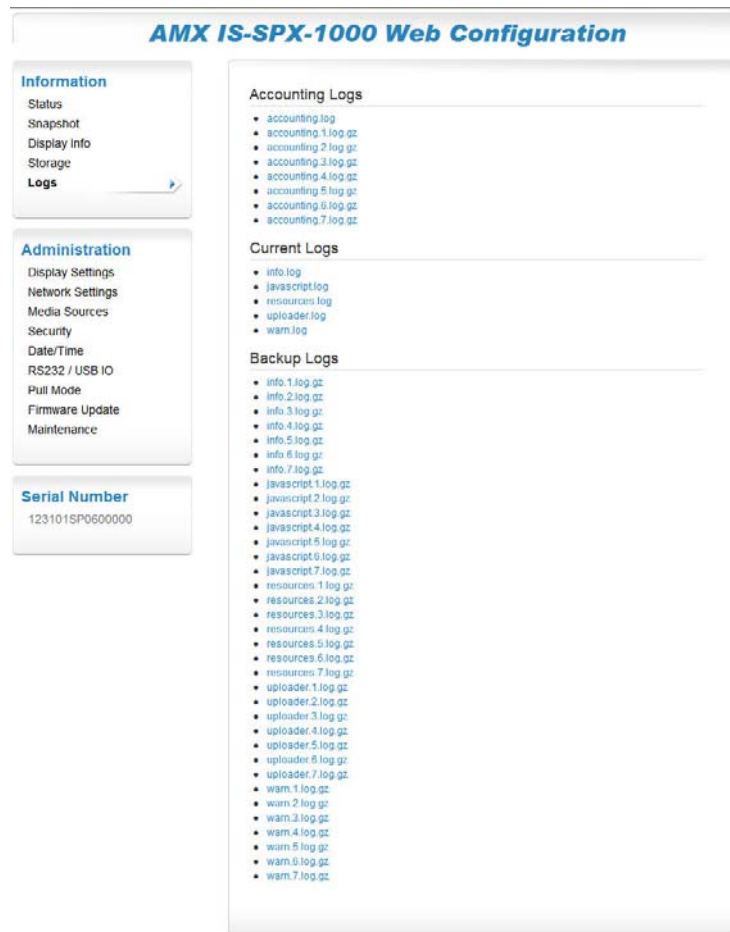


FIG. 13 Information - Logs page

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.

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 - Basic

FIG. 14 Administration - Display Settings - Basic page

The *Basic* tab of the *Display Settings* page allows changes to the presentation on the chosen output display for the IS-SPX Player.

Administration - Display Settings - Basic page	
Display Settings:	
TV Screen	Select between ED (480 pixels) or HD (720 pixels).
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 <i>Display Settings</i> 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 <i>Display Settings</i> page will change to illustrate each setting.
Overscan percentage:	Use this dropdown menu to select an overscan percentage on the screen between zero and 5. The default is 3.
Power mode for VGA output:	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.

Display Settings - Advanced

The screenshot shows the 'AMX IS-SPX-1000 Web Configuration' interface. On the left is a sidebar with 'Information' (Status, Snapshot, Display Info, Storage, Logs) and 'Administration' (Display Settings, Network Settings, Media Sources, Security, Date/Time, RS232 / USB IO, Pull Mode, Firmware Update, Maintenance). Below this is the 'Serial Number' 123101SP0600000. The main area has two tabs: 'Basic' and 'Advanced'. The 'Advanced' tab is selected, showing 'Display Settings' with fields for Resolution (VGA), Default aspect ratio (16:9), Force standard video modes (checked), Restrict video mode to (vesa), Power mode for VGA output (Always On), HDMI display supports underscan (unchecked), Overscan percentage (3), Force vertical refresh (60 Hz), Screen orientation (Horizontal), and Enable audio output (checked). Below this is a 'Check' button. The 'Interactivity Settings' section has 'Enable events' checked, 'Maximum rendering latency' set to 1500ms, and a checked box for 'Reduce latency to 60ms when events are received'. An 'Apply' button is present. The 'Touchscreen Calibration' section has input fields for XX, XY, TX, YX, YY, and TY, with 'Apply' and 'Reset to Default' buttons. A 'Start calibration procedure' button is also shown, followed by instructions. The 'Splash Screen Configuration' section allows uploading boot, shutdown, and firmware upgrade splash screens, each with a 'Browse...' button and a preview image. At the bottom, it states 'Images should be JPEG or PNG images with a maximum size of 640x480' and includes 'Apply' and 'Reset to default' buttons.

FIG. 15 Administration - Display Settings - Advanced page

While the *Basic* tab allows some changes to the chosen display, the *Advanced* tab of the *Display Settings* page allows more fine-tuning of the display output.

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 page	
Display Settings:	
Resolution:	This dropdown menu controls the screen resolution on the display. Choose a specific resolution or between VGA, ED, or HD.
Default aspect ratio:	This dropdown menu controls the default aspect ratio on the display. Choose between 4:3, 16:9, or 16:10.
Force standard video modes:	Click this box to force the display into a standard video presentation mode.
Restrict video mode to:	This dropdown menu controls the ability to restrict the video mode to htm1, vesa, or gtf, or a combination of two of these.
Power mode for VGA output:	In this dropdown menu, select between Automatic, Always Off, and Always On.
HDMI supports underscan:	Click this box if the HDMI display supports underscan.
Overscan percentage:	This dropdown menu allows a selection of the overscan percentage, ranging from zero to 5.
Force vertical refresh:	This dropdown menu controls the vertical refresh range in hertz: 24, 25, 30, 50, and 60.
Screen orientation	This dropdown menu controls the screen orientation of the display.
Enable audio output:	If the display has audio capability, click this box to enable audio output through the IS-SPX Player
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.
Touchscreen Calibration:	
Start Calibration Procedure:	<p>If the IS-SPX Player is connected to a touchscreen, the touchscreen display may be calibrated from this interface.</p> <ul style="list-style-type: none"> Use the text fields to enter manual coordinates, if necessary. Press the Apply button to save any manual changes. <p>Note: Pressing this Apply button will not affect any other changes made on this page.</p> <ul style="list-style-type: none"> Press the Return to Default button to return the calibration settings to the factory defaults. 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 Configuration:	<p>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.</p> <p>You may choose to change the boot, shutdown, and firmware upgrade splash screens. If a new file is not selected, then the current default file will remain in use.</p> <p>Press the Reset to Default button to return all three settings to the originally loaded default files.</p> <p>Note: The Apply button at the bottom of this section will not affect any other changes made on this page.</p>

Network Settings - Basic

AMX IS-SPX-1000 Web Configuration

Information
 Status
 Snapshot
 Display Info
 Storage
 Logs

Administration
 Display Settings
Network Settings
 Media Sources
 Security
 Date/Time
 RS232 / USB IO
 Pull Mode
 Firmware Update
 Maintenance

Serial Number
 123101SP0600000

Basic | **Advanced**

Identification:
 Device name:
 Multiscreen ID:

Network Settings:
 Use this interface for the network:
 DHCP: ☒
 Static: ☐
 Address:
 Netmask:
 Gateway:
 DNS:
 Server 1:
 Server 2:
 Server 3:
 DNS suffix:

FIG. 16 Administration - Network Settings - Basic page

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.

Administration - Network Settings - Basic page	
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 Settings:	
Use this interface for the network:	Use this dropdown menu to choose between Ethernet or a 3G Modem.
DHCP:	Click this button 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.

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.



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 under the *Basic* tab, check the **Static** radio button. This enables 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.



If the IS-SPX Player has been configured with an incorrect IP address, you need to reinitialize the unit to its factory default and restart the configuration procedure.

Network Settings - Advanced

The screenshot shows the 'AMX IS-SPX-1000 Web Configuration' interface. On the left is a sidebar with sections: 'Information' (Status, Snapshot, Display Info, Storage, Logs), 'Administration' (Display Settings, Network Settings, Media Sources, Security, Date/Time, RS232 / USB IO, Pull Mode, Firmware Update, Maintenance), and 'Serial Number' (123101SP0600000). The 'Network Settings' page has two tabs: 'Basic' and 'Advanced'. The 'Advanced' tab is active, showing sections for 'Network API' (with an 'Enable API server using port' field set to 1234 and an 'Apply' button), 'Proxy Settings' (with fields for Server, Port, Username, and Password, a checked 'Bypass proxy server for local addresses' checkbox, and an 'Apply' button), and 'SNMP Settings' (with a 'Read only community' field set to 'public', a 'Limit access to SNMP from the network' section with radio buttons for 'Closed', 'Open to the following address range' (with a text input field and an example), and 'Open to everybody' (which is selected), and an 'Apply' button).

FIG. 17 Administration - Network Settings - Advanced page

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 page	
Network API:	
Enable API server using port:	Click to change the port for the API server. Click Apply to save any changes.
Proxy Settings:	Enter the server IP address, port number, username and password for the selected proxy server. Click Apply to save changes.
Bypass proxy server for local addresses:	Click to access local addresses directly without going through the proxy server.
SNMP Settings:	
Read only community:	Enter the name of the server's folder.

Media Sources - Basic

AMX IS-SPX-1000 Web Configuration

Information
 Status
 Snapshot
 Display Info
 Storage
 Logs

Administration
 Display Settings
 Network Settings
Media Sources
 Security
 Date/Time
 RS232 / USB IO
 Pull Mode
 Firmware Update
 Maintenance

Serial Number
 123101SP0600000

Basic | **Advanced**

Media Sources:
 The player will start with the primary source. If it is not available, the fallback will be used.

Primary source: Local Storage [text box]
 Fallback source: Local Storage [text box]

Local Storage set to: IS-SPX-1000 internal storage

☐ Set Local Storage to USB storage device when available.

Apply

Detected USB Storage devices:

Note: It may take some time for a USB storage device to be fully recognized, reload this page if you think the information below is not accurate.

No USB storage devices (e.g., USB stick) currently attached.

Reload

Software copyrights and licenses

FIG. 18 Administration - Media Sources - Basic page

The *Basic* tab of 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.

Administration - Media Sources - Basic page	
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:	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.



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 your 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.



If you choose to format 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.

Media Sources - Advanced

FIG. 19 Administration - Media Sources - Advanced page

In some cases, a project may require storage access to multiple sources. Use the *Advanced* tab on the *Media Sources* page to select those sources and save usernames and passwords for easy access.

Administration - Media Sources - Advanced page

Network credentials:	<p>In each row, enter the Server URI, the username, the password, and the particular realm to be accessed.</p> <p>To add additional sources, click the Add Server Row button to start a new row.</p> <p>Click Apply to save all changes.</p>
----------------------	--

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.



If your 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.

Security

Information

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AMX IS-SPX-1000 Web Configuration

Administrative Server

Warning: Administrative area is not password protected.

User name : admin

Old password :

New password :

Confirm password :

Apply

Content Server

Password protected : yes no

User name : content

Password :

Confirm password :

Apply

Monitoring

Password protected : yes no

User name : monitoring

Password :

Confirm password :

Apply

FIG. 20 Administration - Security page

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

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

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



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.

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



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

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Current Settings:
 Local time: March 5, 2010, 16:10
 Time Zone: US/Central GMT-06:00

Change Time Zone:
 Time Zone:

Change Time:
☐ Manual Time Settings:
 Date (DD MM YYYY):
 Time:
☐ NTP Server:
 Server 1: ☐
 Server 2: ☐
 Server 3: ☐
 Server 4: ☐
 Server 5: ☐
 Pause device at startup to wait for NTP servers by:
 Note: all servers specified by IP address and the last server specified by name will be used for initial synchronization at device startup, even if only monitored.

NTP statistics

Server IP	Stratum	Status	Reach	Time offset	Delay	Dispersion	Poll interval
loopback	10	reject	100 %	0 ms	0 ms	0 ms	10 s
216.45.57.38	-	step change	0 %	-	-	-	256 s
204.15.208.61	2	candidate	25 %	196 ms	207 ms	10 ms	64 s
216.45.57.38	2	reject	38 %	188 ms	305 ms	153 ms	64 s
64.73.32.134	2	peer	25 %	216 ms	275 ms	16 ms	64 s
208.113.193.9	2	candidate	25 %	204 ms	273 ms	14 ms	64 s

The local clock is calibrated (saved correction is -5.058 ppm).

FIG. 21 Administration - Date/Time page

Use the Date/Time page to update or change the current time registered by the IS-SPX Player, and to synchronize with outside servers.

Administration - Date/Time page	
Current settings:	This section displays the current date, time, and time zone registered with the IS-SPX Player.
Change time zone:	Use the dropdown menus to select the country and the closest city to the IS-SPX Player installation site. Click Apply to save all changes.
Change time:	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 Reply to save all changes in this section.
Manual Time Settings:	Use the dropdown menus to select the time and the date to be saved on the IS-SPX-1000.
NTP Server:	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:	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.

RS232/USB IO

The screenshot shows the 'AMX IS-SPX-1000 Web Configuration' interface. On the left, there are three main sections: 'Information' (Status, Snapshot, Display Info, Storage, Logs), 'Administration' (Display Settings, Network Settings, Media Sources, Security, Date/Time, **RS232 / USB IO**, Pull Mode, Firmware Update, Maintenance), and 'Serial Number' (123101SP0600000). The 'RS232 / USB IO' section is highlighted with a blue arrow. The main content area is titled 'Settings:' and contains the following controls:

- Protocols:** A dropdown menu currently set to '[disabled]'.
- ☐ Use fixed schedule for display power
- Turn monitor ON:** A time input field set to '00:00'.
- Turn monitor OFF:** A time input field set to '24:00'.
- ☐ Modify COM port settings
- Baud rate:** A dropdown menu set to '9600'.
- Data bits:** A dropdown menu set to '8'.
- Parity:** A dropdown menu set to 'none'.
- Stop bits:** A dropdown menu set to '1'.
- Apply:** A button to save changes.
- Upload Protocol File:** A section with a text input field and a 'Browse' button.
- Upload:** A button to upload the selected file.

At the bottom of the page, there is a small link for 'Software copyrights and licenses'.

FIG. 22 Administration - RS232/USB IO page

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.

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.
Control monitor power:	Click this box to enable or disable the <i>Turn monitor ON</i> and <i>Turn monitor OFF</i> fields.
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 <i>Baud rate</i> , <i>Data bits</i> , <i>Parity</i> , and <i>Stop bits</i> 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:	To upload a new protocol to the IS-SPX-1000 to augment the ones already used by the IS-SPX Player, use this field to browse a computer or network for the appropriate file.

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

FIG. 23 Administration - Pull Mode page

From the *Pull Mode* page, the IS-SPX Player may be configured to pull project files, logs, and iCalendar files from remote sources.

Administration - Pull Mode page	
Content Pull Scheduling:	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." Click Apply to save all changes.
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 <i>Project Source</i> field and the time of day for the upload, in military time, in the <i>Time</i> 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 <i>Log Destination</i> field and the time of day for the upload, in military time, in the <i>Time</i> 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 box 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 box to enable scheduling from an iCalendar schedule file (".ics") on a remote network. Enter the URL for the file in the <i>Schedule URI</i> field.

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.

- At the end of the URL, add "[serial]" to the end, with "serial" replaced with the hosting IS-SPX Player's serial number.
- Press *Apply* to save changes.

Firmware Update

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Current Versions:

Firmware: 2.1.0 (build 1.0.9847)
 Updater: 0.95 (build 1.0.9847)

Information about new firmware releases is available at
<http://www.amx.com/products/IS-SPX-1000.asp>

Update Server

Server URI:

Automatic Update

☐ Enable automatic updates

Update time:

Manual Update

Update source:

Updater Info

Current status:
 Updater ready for updates

FIG. 24 Administration - Firmware Update page

The *Firmware Update* page displays the currently loaded firmware and updater tool, as well as offers options on when and how firmware updates will be made.

Administration - Firmware Update page	
Current Versions:	This section lists the currently loaded firmware version, including the build number, and the current version of the firmware updater.
Automatic Update:	In this field, enter the URL of the folder where firmware updates are stored on a remote server. Click Apply to save all changes, or click Return to Default to return the device to the factory default update location.
Enable automatic updates:	Click this box to enable the <i>Update time</i> 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.
Manual update:	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.

Maintenance - Basic

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Basic | Advanced

System Restart
 Restart Now

Restore Default Content
 Pressing "Restore Default Content" will remove all content from the local storage and replace it by the factory default content.
 Restore Default Content

Reporting
 Before contacting AMX support team (techsupport@amx.com), please generate a status report with all display attached to the IS-SPX-1000. Pressing on the "Get Report" button will generate a file with all information needed by the support team to help you.
 Get Report

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FIG. 25 Administration - Maintenance - Basic page

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

Administration - Maintenance - Basic page	
System Restart:	Click this button to restart the IS-SPX Player
Restore Default Content:	Click this button to wipe all current content from the IS-SPX Player and replace it with the original factory default content.
Reporting:	Click this button to gather a report on IS-SPX Player activity for AMX Technical Support.

Maintenance - Advanced

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Basic | **Advanced**

Diagnostic Mode Restart
 Pressing "Restart Now" will restart the IS-SPX-1000 in diagnostic (i.e., recovery) mode. The unit is always reachable at <http://spx-123101SP0600000.local> from Zeroconf enabled computers on the local network.
 Restart Now

Installation Mode
 When the installation mode is enabled the IS-SPX-1000 will NOT automatically reboot to activate configuration changes.
 The administrator must manually reboot the IS-SPX-1000 at the end of the installation.
 Enable

Extended Reporting
 Before contacting AMX support team (techsupport@amx.com), please generate a status report with all display attached to the IS-SPX-1000. Pressing on the "Get Extended Report" button will generate an extended report file with all information needed by the support team to help you. Note that the extended status generation can take up to 5 minutes to be generated.
 Get Extended Report

Clear Data
 Note: Clearing any data will restart the IS-SPX-1000.
 Clear All Logs Clear Cache Clear Clock Calibration

FIG. 26 Administration - Maintenance - Advanced page

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.

Administration - Maintenance - Advanced page	
Diagnostic Mode Restart:	Click this button to restart the IS-SPX-1000 in Diagnostic Mode. This facilitates recovery of downloaded files and settings that might otherwise be lost.
Installation Mode:	Click this button to prevent the IS-SPX-1000 from automatically rebooting after changes to the <i>Administration</i> pages. The administrator must manually restart the device (see the <i>Maintenance - Basic</i> on page 33) before any changes are saved.
Extended Reporting:	Click this button to get an more detailed Technical Support report (see the <i>Maintenance - Basic</i> on page 33) to assist with AMX troubleshooting. Note: Generation of this report may take up to five minutes.
Remote Support:	Click this button to open Remote Support Services with AMX Technical Support. Note: if this is clicked accidentally, click the Stop Support button to end the connection.
Clear Data:	Click the Clear All Logs , Clear Cache , or Clear Clock Calibration buttons to wipe all currently saved information on the IS-SPX-1000. Note: Clicking any of these buttons automatically restarts the IS-SPX-1000.

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



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. 27):

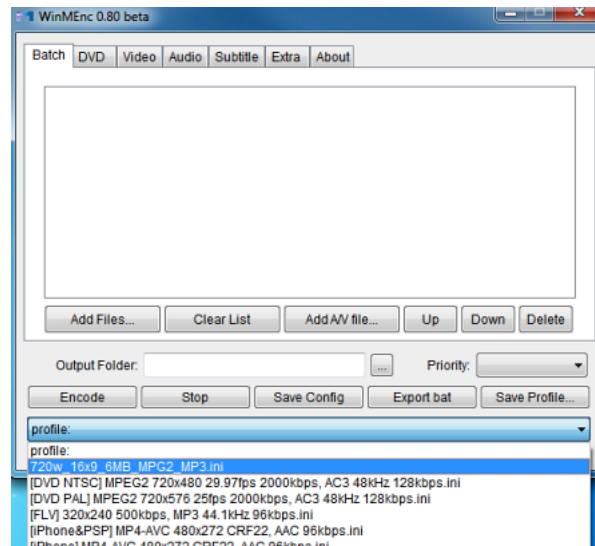


FIG. 27 WinMEnc.exe - Selecting a Profile

3. Drag and drop the file(s) you wish to encode into the first tab (FIG. 28):

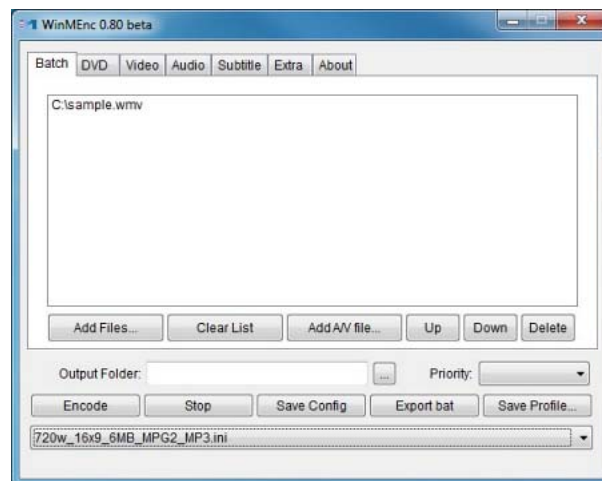


FIG. 28 WinMEnc.exe - Add File(s) to Encode

4. Select an output folder and click **OK** (FIG. 29):

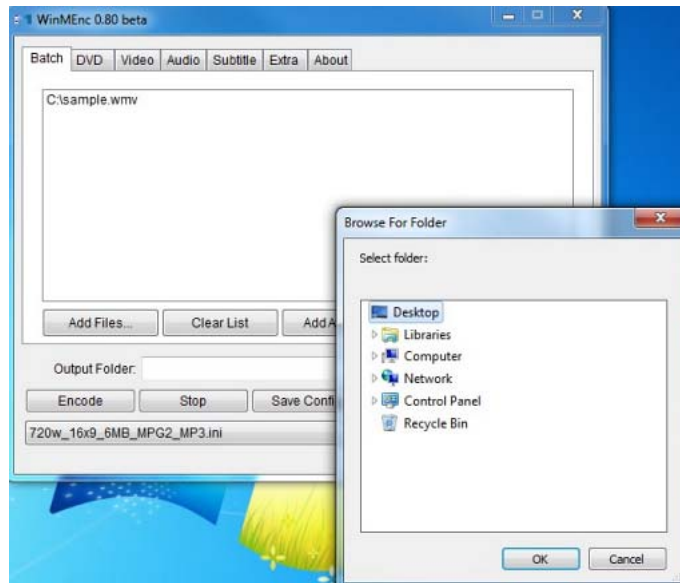


FIG. 29 WinMenc.exe - Select an Output Folder

5. Press **Encode**



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