Overview

The IS-SPX-1000 InspiredSignage XPress Player (**FG1231-01**) offers a simple way to deliver digital signage solutions. The rich set of functionalities offered by the IS-SPX-1000 simplifies the implementation, management and maintenance of a range of audio/visual communication solutions.

The SPX-1000 is designed to satisfy the reliability needs of nonstop 24/7 service and minimize maintenance costs. The SPX-1000 contains no moving parts and is engineered to be used wherever digital signage displays are utilized. Whether integrated behind displays, beneath a technical floor, or in a custom enclosure, the IS-SPX-1000 is 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 externally powered hard drives. The same interface can support external devices such as touch screen controllers or keyboards.
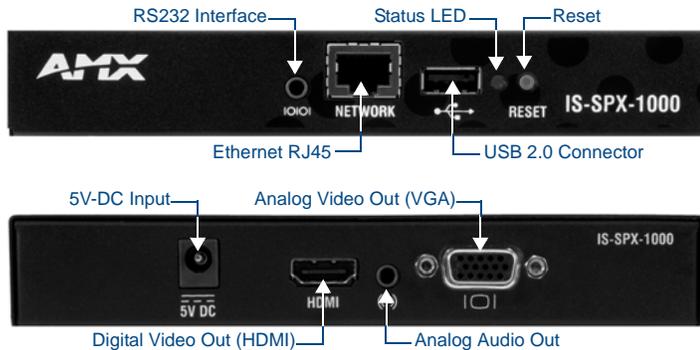

FIG. 1 IS-SPX-1000 InspiredSignage XPress Player

Specifications

IS-SPX-1000 Specifications	
Dimensions (HWD):	1.0" x 6.27" x 3.24" (25.4mm x 159.26mm x 82.30mm)
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: 2GB solid state. • External storage: Flash drives and hard disks via USB 2.0 port
Formats, Codecs and Encoding Parameters	
Audio file formats:	AIFF, MP3, M4A (or MP4), WAV and WMA.
Video file formats:	AVI, ASF, MOV, MP4, VOB and WMV
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).

IS-SPX-1000 Specifications (Cont.)	
Formats, Codecs and Encoding Parameters (Cont.)	
Profiles and Levels:	• **MPEG-4 (Part 2)**: Simple and Advanced Simple (SP/ASP up to level 5; reference: MPEG-4 levels) and SD. • **MPEG-2**: Main profile and Main level (MP@ML; reference: MPEG-2 profiles and levels) and SD. • **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. *Note*: *MPEG-4 is the most optimized codec to use on IS-SPX Players.*
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. 0.4A (2W).
• HDMI:	HDMI (incl. digital audio), DVI via adapter.
• Analog Audio Out:	Supported audio codecs: MPEG audio layer 1/2/3 (MP3), ITU G.711, G.722, G.729, PCM, Microsoft WMA, Real Audio.
• 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)
• 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 Temp:	HDMI: 32ºF to 104ºF (0ºC to 40ºC); 10% to 90% RH VGA: 32ºF to 104ºF (0ºC to 40ºC); 10% to 90% RH
Storage Temp:	-13ºF to 113ºF (-25ºC to 45ºC); 10% to 90% RH
Included Accessories:	• Power Source (**3A-161WP05**) • IS-SPX-1000 Installation Guide (**93-1231-01**)
Other AMX Equipment:	• NXA-AVB Breakout Box Mounting Kit (**KA-2250-40**) • IS-SPX-MNT Mount adapter (**FG1231-71**)

Remote Monitoring

The IS-SPX-1000 implements 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-1000 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-1000 can interface with any SNMP network management.

These tools can provide graphical frameworks for remote monitoring the status of an individual IS-SPX-1000 unit or a complex network of units.

Storage

The IS-SPX-1000 comes 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

The IS-SPX-1000 is configured via an intuitive web interface that can be accessed by using AMX ZeroConfiguration technology or by entering the device's IP Address into a ZeroConfiguration-enabled 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 *IS-SPX-1000 & IS-SPX-1300 Operation/Reference Guide*.

Connectivity

The IS-SPX-1000 connects 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.

The IS-SPX-1000 is a high-definition ready device: it can render content on digital displays with resolution up to 1280x720 at 60Hz (720p resolution).

The maximum resolution supported by the IS-SPX-1000 is:

- 1280x720 (16:9)
- 1024x640 (16:10)
- 1024x768 (4:3)

The IS-SPX-1000 connects to the network through a standard RJ-45 connector. Each device has a unique MAC address that allows the network to identify the unit and thus the associated display.

The IS-SPX-1000 supports 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

The IS-SPX-1000 supports USB 2.0 Hi-Speed with a bandwidth up to 10 Mbps.

Installation of the IS-SPX-1000

The installation of an IS-SPX-1000 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 cable, the device will boot in a few seconds and automatically select the resolution supported by the associated digital display. Content rendering will begin in approximately 1½ minutes.

When connected to a local network through the RJ45 connector, the IS-SPX-1000 supports both DHCP for automatic configuration of the network and manual configuration by specifying a static IP address and network properties.

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: When installing the unit, be careful to avoid any water or high humidity exposure.

Once installed, getting started with the IS-SPX-1000 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 AMX InspiredSignage XPress software to specific displays.

Powering up the IS-SPX-1000

To power up the IS-SPX-1000:

1. Check your digital display. The IS-SPX-1000 can drive a digital display through HDMI or VGA connections. Make sure that your display supports at least one of the two.
2. Connect the IS-SPX-1000 to the display. Simply plug the HDMI or the VGA cable between the corresponding video connector on the IS-SPX-1000 and the corresponding video input connector of your display.
3. Power up the display. Make sure to select the right video input.
4. Power up the IS-SPX-1000. Use the cables and the power converter provided in the IS-SPX-1000 package. Simply 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-1000 boots, the automatic configuration procedure takes about 1½ minutes. The process will be reduced to less than 50 seconds when the IS-SPX-1000 is rebooted. 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-1000 in operating normally.

If your system does not behave as described above, make sure that the digital displays are functional and powered and that the correct input has been selected. Some displays have multiple inputs and you may need to manually select the right one.

Also, make sure that the *Reset* pushbutton is not being pressed by some other system component. If the set-up appears correct, try power-cycling the IS-SPX Player by unplugging and replugging the power to the device.

Accessing the Configuration Pages

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, refer to the *IS-SPX-1000 & IS-SPX-1300 Operation/ Reference Guide*.
3. In the *Status* page of the *Information* section, the IP address is displayed below the serial number and firmware version.

Resetting the IS-SPX-1000 to Factory Default Settings

WARNING: The following procedure will delete all the content and configurations on the IS-SPX Player.

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

1. Unplug the unit 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 and will have the factory default IP address.

Updating Firmware

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

1. With a Zero-Configuration-enabled browser, connect to the HTTP server for the IS-SPX Player to access the device's Web-Based Configuration Pages.
2. Click on **Firmware Update** under the *Administration* menu on your left.
3. Check that the field Server URI is equal to:
   "http://webservices.amx.com/InspiredSignage/IS-SPX-1000/updates/".
   If this is not the case, click the **Reset to Default** button
4. In the *Manual Update* section, select the update source "*From server*" and click the **Check for Update** button.
5. 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 step 6).
- The update failed. The most probable source of this error is that your IS-SPX Player could not 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.
   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.
6. 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.

Important: Do not power down the IS-SPX Player 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.

Additional Documentation

- Refer to the *IS-SPX-1000 & IS-SPX-1300 Operation Reference Guide* for more information, including additional details on Formats, Codecs and Encoding Parameters, as well as troubleshooting information.
- Refer to the *InspiredSignage XPress Programming Guide* for instructions on using the XPress configuration tool with the IS-SPX Players.