iPlay

Network Audio Stream Player

User Warnings and Cautions

The installation and service instructions in this manual are for use by qualified personnel only. To avoid electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Refer all servicing to qualified personnel.

This instrument has an autoranging line voltage input. Ensure the power voltage is within the specified range of 100-240VAC. The ~ symbol, if used, indicates an alternating current supply.

This symbol, wherever it appears, alerts you to the presence of uninsulated, dangerous voltage inside the enclosure – voltage which may be sufficient to constitute a risk of shock.

This symbol, wherever it appears, alerts you to important operating and maintenance instructions. Read the manual.

CAUTION: HAZARDOUS VOLTAGES

The instrument power supply incorporates an internal fuse. Hazardous voltages may still be present on some of the primary parts even when the fuse has blown. If fuse replacement is required, replace fuse only with same type and value for continued protection against fire.

WARNING:

The product's power cord is the primary disconnect device. The socket outlet should be located near the device and easily accessible. The unit should not be located such that access to the power cord is impaired. If the unit is incorporated into an equipment rack, an easily accessible safety disconnect device should be included in the rack design.

To reduce the risk of electrical shock, do not expose this product to rain or moisture. This unit is for indoor use only.

This equipment requires the free flow of air for adequate cooling. Do not block the ventilation openings on the rear and sides of the unit. Failure to allow proper ventilation could damage the unit or create a fire hazard. Do not place the units on a carpet, bedding, or other materials that could interfere with any panel ventilation openings.

If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

USA CLASS A COMPUTING DEVICE INFORMATION TO USER.

WARNING:

This equipment generates, uses, and can radiate radio-frequency energy. If it is not installed and used as directed by this manual, it may cause interference to radio communication. This equipment complies with the limits for a Class A computing device, as specified by FCC rules, part 15, subpart j, which are designed to provide reasonable protection against such interference when this type of equipment is operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference. If it does, the user will be required to eliminate the interference at the user's expense. Note: objectionable interference to TV or radio reception can occur if other devices are connected to this device without the use of shielded interconnect cables. FCC rules require the use of shielded cables.

CANADA WARNING:

"This digital apparatus does not exceed the Class A limits for radio noise emissions set out in the radio interference regulations of the Canadian department of communications."

"Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques (de Class A) prescrites dans le règlement sur le brouillage radioélectrique édicté par le ministère des communications du Canada."

CE CONFORMANCE INFORMATION:

This device complies with the requirements of the EEC council directives:

♦ 93/68/EEC (CE MARKING)

♦ 73/23/EEC (SAFETY – LOW VOLTAGE DIRECTIVE)

♦ 89/336/EEC (ELECTROMAGNETIC COMPATIBILITY)

Conformity is declared to those standards: EN50081-1, EN50082-1.

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Patent information can be found at www.TelosAlliance.com/legal

Updates

Axia iPlay features and operations are determined largely by software. The Telos Alliance strives to provide the most stable and feature-rich software available. We encourage you to check for software updates from time to time by visiting our website or by contacting us directly.

Feedback

We welcome feedback on any aspect of our products or this manual. In the past, many good ideas from users have made their way into software revisions or new products. Please contact us with your comments or suggestions.

We support you…

By Phone/Fax

You may reach our Telos Support Team in emergencies by calling +1 216-622-0247. For billing questions or other non-emergency technical questions, call +1 216-241-7225 between 9:00 AM to 5:00 PM USA Eastern Time, Monday through Friday.

By Email

Non-emergency technical support is available at Support@TelosAlliance.com.

By Web

The Axia Web site has a variety of information that may be useful for product selection and support. The URL is https://www.telosalliance.com/Axia .

SERVICE

You must contact Telos Alliance before returning any equipment for factory service. We will need your unit's serial number, located on the back of the unit. We will issue a return authorization number, which must be written on the exterior of your shipping container. Please do not include cables or accessories unless specifically requested by the Technical Support Engineer. Be sure to adequately insure your shipment for its replacement value. Packages without proper authorization may be refused. US customers, please contact Telos Alliance Technical Support at +1-216-622-0247. All other customers should contact local representative to make arrangements for service.

Warranty

For the latest Telos Alliance warranty, visit: telosalliance.com/warranty

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Register your product today to get the full benefits of our warranty, support, and product updates.
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Creating the Most Exciting and Engaging Audio Experiences Imaginable

Congratulations on your new Telos Alliance product!

The gang here at Telos is committed to shaping the future of audio by delivering innovative, intuitive solutions that inspire our customers to create the most exciting and engaging audio experiences imaginable.

We're grateful that you have chosen audio tools from Telos® Systems, Omnia® Audio, Axia® Audio, Linear Acoustic®, 25-Seven Systems®, and Minnetonka Audio®. We're here to help you make your work truly shine. We hope that you enjoy your Telos Alliance product for many years to come and won't hesitate to let us know if we can help in any way.

The Telos Alliance

Chapter One:

Introduction and Installation

Introduction

Axia iPlay is a software interface between your Livewire network and your Windows PC audio device. It provides a way to listen to Axia audio streams without the installation of Axia's IP audio driver. iPlay is used in cases where a user does not need to add any new audio streams to the network. iPlay is designed to provide economical "listen-only" capability where it is needed.

iPlay includes the following functions:
- Automatic detection of Livewire sources.
- User friendly interface that allows filtering and sorting Livewire channels making it easy to navigate in big systems containing hundreds Livewire channels.
- Preset buttons that allow quick access to eight pre-selected channels.
- Playback of Livewire audio sources.
- Restricted access by use of Access Control Lists.

A Livewire system incorporates at least two types of audio streams. **Standard Streams** are best suited to iPlay since Windows can handle this type of stream without difficulty. The ability to preview or play Livestreams is highly dependent on the available resources and performance of your PC. Many iPlay users can preview **Livestreams** with no problems.

Axia iPlay 1.0.x supports the following Operating System platforms:
- Microsoft Windows 2000 Professional
- Microsoft Windows XP Professional Edition (32-bit, standard)
- Microsoft Windows XP Home Edition
- Microsoft Windows 2003 Server R2

Installing iPlay

If you are running a recent version of your Windows operating system, or have installed the latest service pack from Microsoft, your installation will go smoothly. In the rare cases where the installer gives an error message indicating that the installer is outdated, you must update your operating system using Microsoft's update service. It is generally considered good practise to install the latest service pack from Microsoft.

Note that iPlay is licensed for each individual installation and a unique key will be required each time you install iPlay.

To install the Axia iPlay follow these steps:

1. Insert your Axia iPlay CD. If auto-play is disabled, you can browse the CD and double-click *Axiaiply.Msi* to start the installation process. Use *NEXT* button to proceed with the installation.

Figure 1-1: Installation Wizard

2. Review and accept the conditions of the End Users License Agreement - shown in Figure 1-2 on the following page.
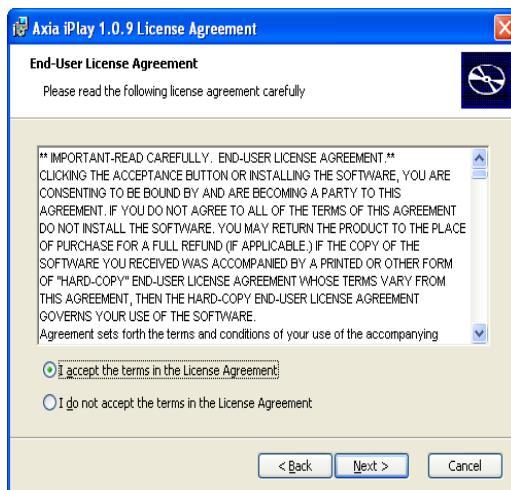
Figure 1-2: License Agreement

Figure 1-4: iPlay Registration

3. Choose the desired installation. "Typical" setup is recommended and acceptable for most users.

Figure 1-3: Installation Type

4. You will be prompted for your license number and license key. Enter this information and press *OK* to proceed with the installation

All iPlay license numbers and keys are intended for "single-user" licensing and are unique for each iPlay installation.

5. Select *Finish* to complete the installation and proceed with configuration described on the next page.

Removing Axia iPlay 1.0.x

1. From the Windows Control Panel, launch the *Add-Remove Programs* .
2. Select Axia iPlay, and click "Remove".
3. All components installed in your system will be removed automatically

Configuring Axia iPlay

Axia iPlay requires very minimal configuration. All you need to do is select the network card connected to your Livewire network. If your PC has only one network card, no configuration should be necessary. Note that the network adaptor should be wired as opposed to a wireless adaptor. Livewire audio streams require more bandwidth than that provided by most wireless connections.

Basic Configuration

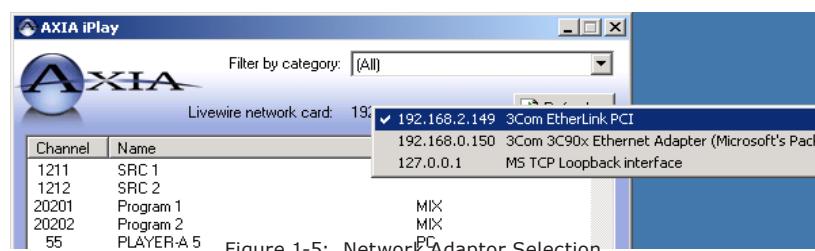In a small network with only a few studios, no special configuration is required.

Figure 1-5: Network Adaptor Selection

To begin, simply start iPlay. If you have multiple network adaptors and if the IP address shown at the top of the window does not correspond to the network card connected to your Livewire network, click on it, and a selection list will pop-up as shown in Figure 1-5.

As soon as appropriate network interface is selected, Livewire channels should appear on the list. There may be a few seconds delay before they are detected since Livewire sources are advertised approximately every 10 seconds.

The basic configuration will give iPlay users access to all Livewire channels in your network. If you wish to restrict access - read on! That information is contained in the following section.

Access Control List

In a larger network with several studios, it may be desirable to restrict the sources available to various iPlay users. This will make iPlay easier to use since only the relevant sources will be available to users. A large installation will have several hundred audio streams and it can be very tedious to scroll through such a long list even though the sources may be categorized. In addition, it is often desirable to limit iPlay stream access for privacy reasons.

iPlay (version 1.0.7 or later) has provision for an access control list that may be implemented in two different ways. The first is by means of a direct registry edit. This is done by adding a specific key that contains the access control list information. The second technique also involves a registry edit however in this case, an external ACL (access control list) file is referenced. Each method has its advantages. We will discuss these two scenarios below.

A registry entry can be created in HKEY_LOCAL_MACHINE\SOFTWARE\Telos Systems\Axia iPlay. This new entry will be a string value named ACL. The data for this new key will consist of a list of specific Live wire source channel numbers and ranges. A basic example looks something like the example shown in Fugure 1-6
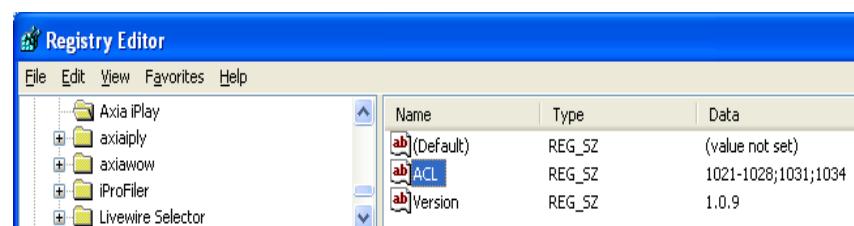

Figure 1-6: Registry Key Configuration

In this example, we are allowing the iPlay user to access only channels 1031, 1034 and the range of 1021 through 1028. The channels and ranges can be anything you choose. Note that all users on a specific machine will be limited by this ACL.

Another way to accomplish access control is to create an ACL file that can be located locally or on a server, and then reference that file in the registry. In the example shown in Figure 1-7, we have created an ACL file named **iplay_ACL.txt**. This file is referenced in the registry by creating a registry key in a similar manner as outlined above however instead of listing the ACL right in the registry, we specify the location and name of the external ACL file. The data of the registry key will be in the format of **file://\\[server]\[share]\[ACL file name]**. The server may be specified by using its name or IP address. Since it is the purpose of the ACL to provide a level of security, a server location with controlled permissions is recommended.

The ACL file itself is a plain text file. An example of a basic ACL file is shown below where we have specified two channel ranges and two individual channel numbers. You can make this access control file as simple or complex as you wish. The order of the entries in the list is of no significance. Comments in the ACL file are preceeded by a semi-colon character.

    ; i-Play Access Control List
    ; List permitted channels and ranges below
    allow 1038
    allow 1035
    allow 1021-1028
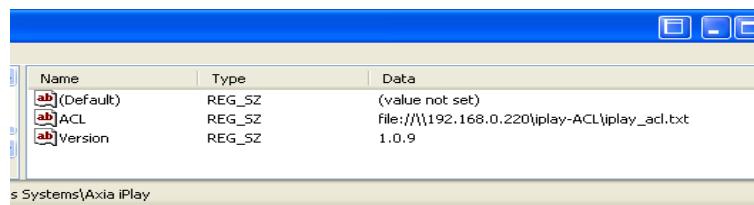   allow 11101-11105

Figure 1-7: ACL File Setup

The results of using an ACL like this are shown in FIgure 1-8. You can see that the number of sources presented to the user is small. The user does not have access all sources in the Livewire network or even to sources outside a specific studio.

Figure 1-8: iPlay with ACL in effect

An example where limited access might be helpful is in the case of a News workstation. You may wish to give that user access to all satellite and TV audio feeds and possibly your studio PGM 1 feeds and block the user from all raw microphone feeds and other in-studio sources.

The implementation of the ACL feature is a powerful tool for ensuring the privacy of your employees.

Chapter Two:

Operation: Using iPlay

What is iPlay?

iPlay is a tool used for monitoring Livewire audio streams on a standard Windows PC. iPlay will use the default Windows playback device for this purpose. In order to use iPlay, it is necessary to have a network connection directly to the Axia LAN, not just to your Pathfinder server via the "office LAN". In some cases, it may be necessary to have dual NIC's in your PC if you wish to connect to multiple LANs.

General View

The active Livewire channel list is displayed and dynamically updated as new sources are discovered or unused sources are deleted.

Note that new sources will always appear at the end of the list regardless the sort order. If a channel name has been updated, its position on the list will not change regardless the sort order.
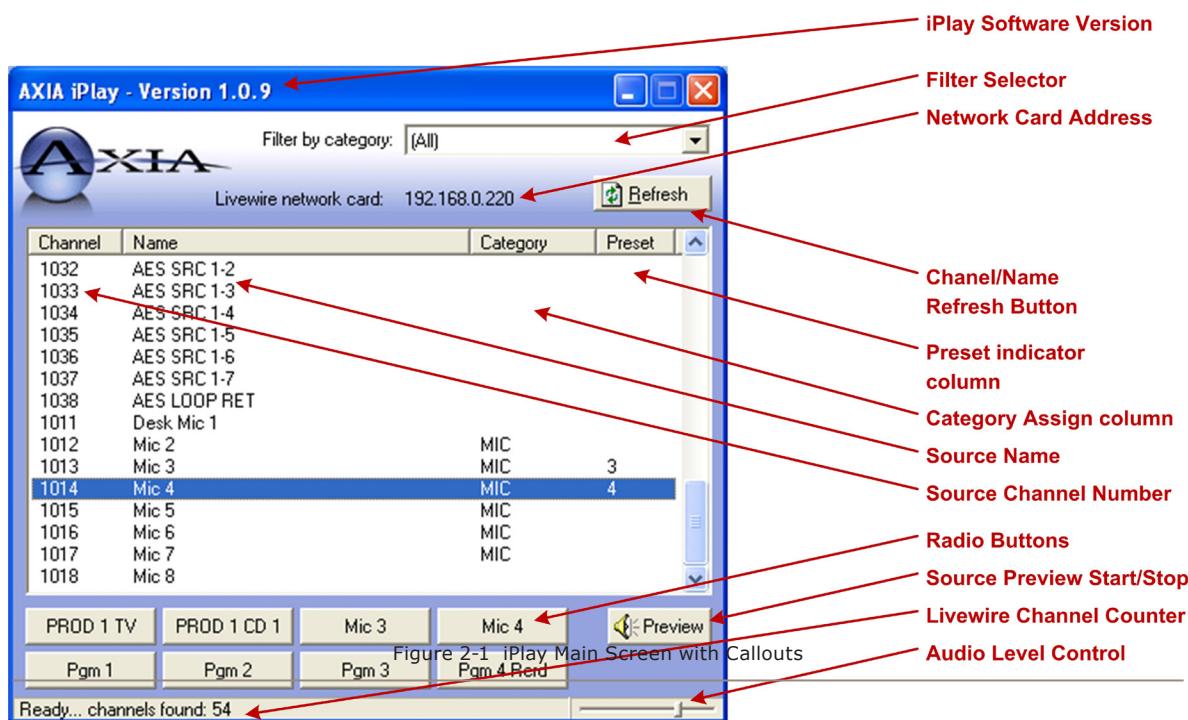
You may click **Refresh** to update the view and correct the order of new sources and to eliminate recently deleted sources.

Sorting and Searching

The Livewire channel source list can be sorted by Channel Number, Name or Category. In a manner familiar to most Windows users, simply click the appropriate column header of the list to change the sort order. To see your sources listed in order of their name, click on the **Name** column header. To sort your list by Category, click on the **Category** column header .

While it is useful to sort your source list in various sort orders as described above, it is probably much more useful to define caregories as described in the next section. This way you can list only those sources that belong to a specific group or category and get a small, user-specific list in a couple of clicks.

Some illustrations of the sort and search feature are provided in the following topics.

Figure 2-1 iPlay Main Screen with Callouts

Presets

The user can assign sources to 8 radio buttons and use them in a manner similar Axia's Router Selector node. To assign preset buttons, you can use one of the following methods:

- Click in "Preset" column across from your source of interest and the type radio button number (1 through 8) or select the desired preset button number from the drop-down list.
- Drag and drop the channel on one of radio buttons: Select a channel on the list, push left mouse button down, move cursor over a radio button and release the mouse button.

Since there are eight preset buttons, your are naturally limited to having 8 presets per installation. It is possible, however to Preview any stream without assigning it to a preset. Use presets for your 8 favorite audio sources.

Figure 2-2: Assigning iPlay Presets

To change a Preset button, simply assign or drag/drop a new source to that Preset button

Assigning Categories to Channels

To assign a category to a channel, click on the list in the "Channel" column to select or type a name. If you type a name that did not exist, a new category will be automatically created and it will appear in the filter drop down list.

To clear category assignments, simply clear the text in the edit area.
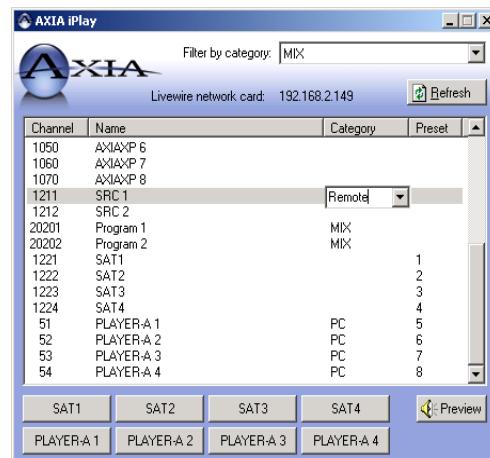

Figure 2-3: Assigning iPlay Categories

Categories are assigned locally on each iPlay workstation. This provides a great deal of flexibility for your users and makes iPlay very fast to use, even in a large network.

Filtering by Category

Categories are locally assigned by the user to help quickly locate sources. All category names that are in use will appear in the filter drop down box shown below. To restrict your view to a specific category of sources, simply click the category drop-down and select the desired category. The souce list is immediately updated with the new category filtering applied and you will see only the sources that belong to the category you have selected.
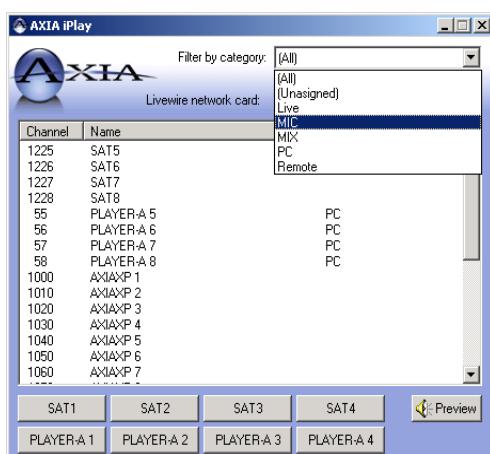

Figure 2-4: Filtering by Category

Once you have applied a filter, the list of sources might look like Figure 2.5. You still have the same 8 preset buttons and now you have another specific list of sources that you may preview.

Figure 2-5: Filtered List of Sources

Preview

This is the single function of iPlay that you will use the most. It is very quick since many of the other features of iPlay are designed to make this one really fast and easy.

To quickly preview a source, select it on the list and click **Preview**. The preview button changes to **Stop** as soon as the audio preview begins. Use this same button to stop the audio preview.

To play a channel assigned to a radio preset button, simply click appropriate radio button.

Figure 2-6: Previewing an Audio Stream

While playing back, an audio level meter is visible. This meter shows the peak value. Yellow segments indicate the nominal operating range from –38dBFS to –20dBFS.

To impress your friends, you can also point out how many packets per second are being processed by iPlay. This information is displayed on the small status bar at the bottom of the window below the preset buttons. As a matter of interest to the geek in all of us, a Livestream is approximately 4000 packets per second and a Standard Stream is 200 packets/sec.

Appendix A: Livewire Ports

Standard ports are used for specific functions within the Livewire system. Here is a summary of the ports and their use. If you have installed an Axia application with your Windows firewall enabled, the applications and ports will be automatically added to your Windows firewall exceptions. If your installation has been performed with the Windows firewall disabled and you have subsequently enable the firewall, you may have to perform some tweaking of the firewall to get things operating normally. This information will be helpful in that case or in the event that you are using some other firewall.

Port	Protocol	Description
67,68	UDP	BOOTP Server/Client
		- Remote IP address assignment
93	TCP	Livewire Routing Protocol
123	UDP	NTP
514	UDP	Syslog logging
2055	UDP	Multicast based GPIO (CMsg2 protocol) (mcast on 239.192.255.4)
		- GPIO commands from GPIO node to console-type endpoint
2060	UDP	Multicast based GPIO (CMsg2 protocol) (mcast on 239.192.255.4)
		- GPIO commands from console-type endpoint to GPIO node
4000	UDP	Livewire Advertisement and Source Allocation Protocol
		- Full info advertisement requests and source allocation requests
4001	UDP	Livewire Advertisement and Source Allocation Protocol (mcast on 239.192.255.3)
		- Periodic announcements and full info advertisements
		- Source allocation state announcements and responses
4002	UDP	Engine supervision protocol (mcast on 239.192.255.3)
4010	TCP	Livewire Control Protocol
4011	UDP	LWCP for Accessory Modules (from module to console) (mcast on 239.192.255.4)
4012	UDP	LWCP for Accessory Modules (from console to module) (mcast on 239.192.255.4)
5004	UDP	RTP Livewire Audio
7000	UDP	Livewire Clock
9997	TCP	Protocol logging (for debug) in Element

Appendix B: Warranty

Telos Alliance Limited Warranty

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