

1. DESCRIPTION

The ASI6514 and ASI6518 are professional PCI sound cards designed for use in radio broadcast automation.

Providing up to 16 play streams that are mixed to 4 (ASI6514) or 8 (ASI6518) stereo outputs and up to 2 record streams fed from one stereo input, the ASI6514 and ASI6518 feature AudioScience's unique "anything to anywhere" mixing and routing.

The ASI6514 and ASI6518 provide both balanced analog and AES/EBU inputs and outputs. The maximum analog input and output level is +24dBu.

A choice of uncompressed PCM, MPEG layer 2 and MP3 is available for both recording and playback. All compression is handled by an on-board floating point DSP, allowing the host computer to focus on other tasks.

ASI6514 and ASI6518 functionality includes MRX™ multi-rate mixing technology that allows streams of different sample-rates and formats to be mixed digitally. TSX™ time scaling allows compression/expansion of any or all playback streams in real time with no change in pitch.

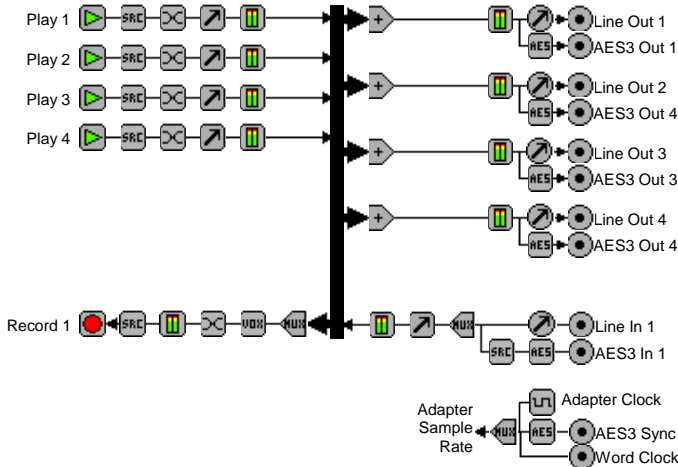
For emerging surround sound applications, SSX™ mode allows multichannel streams of up to 8 channels to be played and mixed.

2. FEATURES

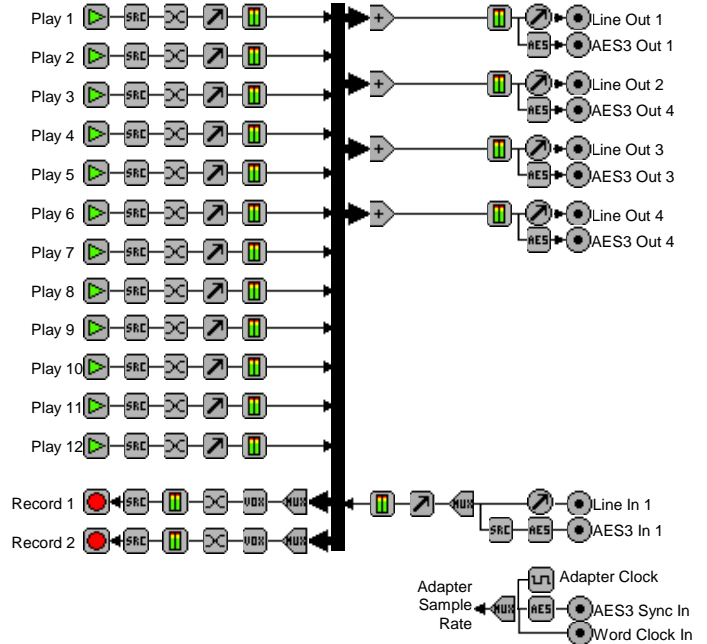
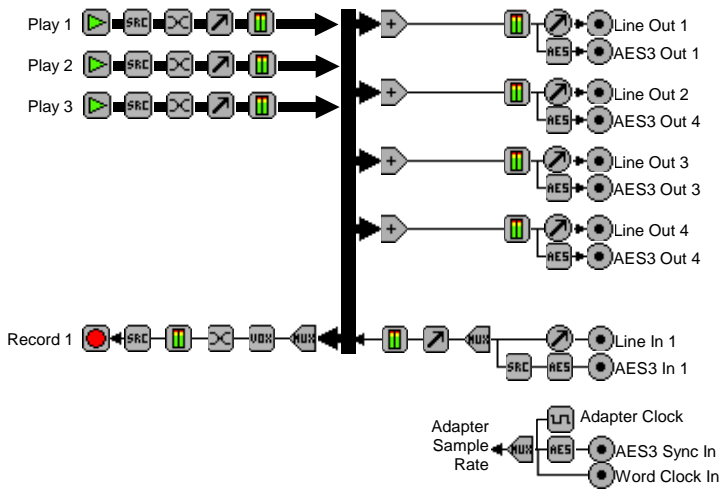
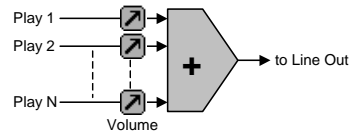
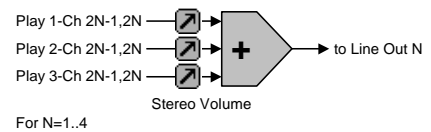
- 4 or 12 mono/stereo streams of playback into 4 stereo outputs (ASI6514)
- 8 or 16 mono/stereo streams of playback into 8 stereo outputs (ASI6518)
- 1 or 2 mono/stereo streams of record from 1 stereo input
- Formats include PCM, MPEG layer 2 and MP3 with sample rates to 96kHz
- MRX™ technology supports digital mixing of multiple stream formats and sample rates
- TSX™ time scaling allows compression/expansion of play streams by up to +/-20% with no pitch shift
- SSX™ mode for multichannel playback and mixing
- Balanced stereo analog inputs and outputs with levels to +24dBu
- 24bit ADC and DAC with 110dB SNR and 0.0015% THD+N
- AES/EBU inputs and outputs with sample rate converters on all inputs
- Dedicated AES/EBU and Word clock Sync input
- SoundGuard™ transient voltage suppression on all I/O
- Short length PCI card format (6.6 inches/168mm)
- Up to 4 cards in one system
- Windows 2000/XP/Server 2003/Vista and Linux software drivers available



3. ASI6514 BLOCK DIAGRAMS

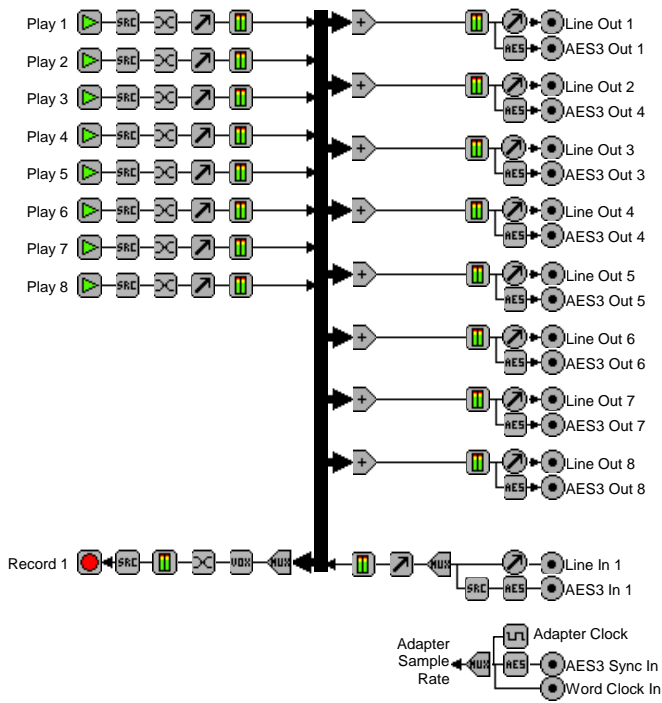
ASI6514 – 4 Play Mode


- Key:
- Record Stream
 - Play Stream
 - Input/Output
 - Volume
 - Level
 - Mixer
 - Multiplexer
 - AES/EBU Tx/Rx
 - Meter
 - Sample Rate Converter
 - Channel Mode
 - Clock Source

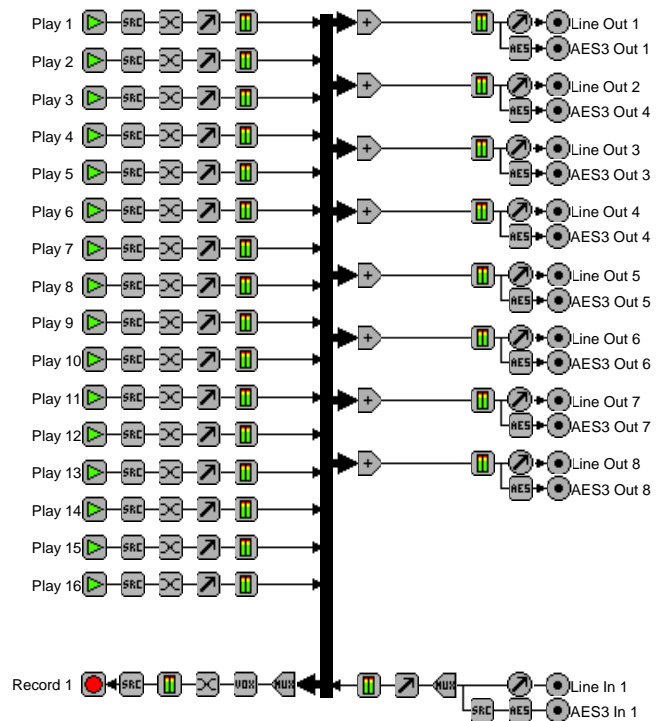
ASI6514 – 12 Play Mode

ASI6514 – SSX Multi Channel Mode

ASI6514 Mixer – 4 and 12 Play Mode

ASI6514 Mixer – SSX Mode


4. ASI6518 BLOCK DIAGRAMS

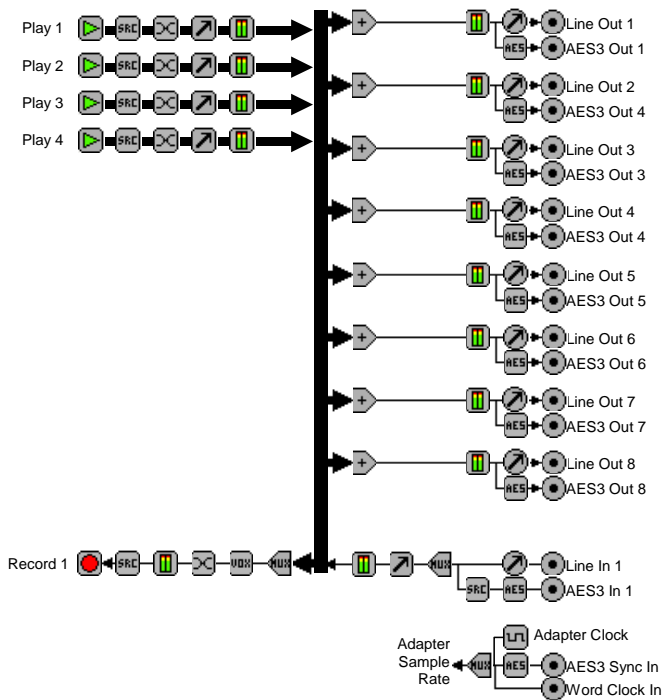
ASI6518 – 8 Play Mode



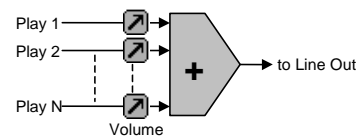
ASI6518 – 16 Play Mode



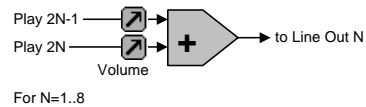
ASI6518 – SSX Multi Channel Mode



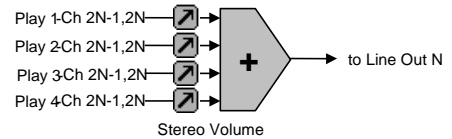
ASI6518 Mixer – 8 Play Mode



ASI6518 Mixer – 16 Play Mode



For N=1..8



For N=1..4

5. SPECIFICATIONS

ANALOG INPUT/OUTPUT

Type	Balanced
Connector	Mini50 (SCSI-II type)
Input Level	-10 to +24dBu in 0.5dBu steps
Input Impedance	10K ohms
A/D converter	24bit oversampling
Output Level	-10 to +24dBu in 0.5dBu steps
D/A converter	24bit oversampling
Load Impedance	600ohms or greater
Dynamic Range [1]	110dB (record or play)
THD+N [1]	0.0015% (record or play)
Frequency Response	20Hz to 20kHz +0/-0.2dB 20Hz to 40kHz +0/-3dB
Inter-channel Phase	<0.1 degrees (record or play)
Inter-channel Crosstalk	>110dB (record or play)

DIGITAL INPUT/OUTPUT

Type	AES/EBU (EIAJ CP-340 Type I / IEC-958 Professional)
Input/Output Impedance	110 ohms
Connector	Mini26 (SCSI-II type)
Sample Rates	32, 44.1, 48, 88.2 and 96kHz with sample rate converters on inputs

SAMPLE RATE CLOCK

Internal (Adapter)	32, 44.1 48, 88.2 and 96kHz
AES/EBU Sync In	32, 44.1 48, 88.2 and 96kHz on dedicated AES/EBU input
Word In	32, 44.1 48, 88.2 and 96kHz
Word Out	32, 44.1 48, 88.2 and 96kHz

SIGNAL PROCESSING

DSP	Texas Instruments TMS320C6713@300MHz
Memory	8MB
Audio Formats	8 bit unsigned PCM 16 bit signed PCM 32 bit floating point PCM MPEG-1 Layer 2 MPEG-1 Layer 3(MP3) (MPEG Layer-3 audio coding technology licensed from Fraunhofer IIS and THOMSON multimedia)

BREAKOUT CABLES or BOBs (NOT INCLUDED)

Analog	CBL1004: Mini 50 to Centronics 50 adapter CBL1044: Centronics 50 to 8 in and 8 out XLR (ASI6514) BOB1024 or BOB1025 (ASI6518)
Digital	CBL1101: Mini 26 to Centronics 50 adapter CBL1144: Centronics 50 to 4 in, 4 out XLR, 1 BNC in, 1 BNC out (Word Clock). (ASI6514) BOB1024 or BOB1025 (ASI6518)

GENERAL

Bus	32bit Universal PCI. PCI-X compatible.
Dimensions	PCI short-length form factor (6.6 inches/168mm long).
Weight	8 oz (227g) max
Operating Temperature	0C to 70C
Power Requirements	+3.3V@1.5A, +12V@275mA

[1] – Dynamic Range and THD+N measured using a +24dBu 1kHz sine wave sampled at 48kHz and A weighting filter.

6. REVISIONS

Date	Description
26 June 2009	Added REVISIONS section. Added Note on J7 for ASI6518. Added ASI6518 adapter modes. Removed CBL1018/1118 (BOBs should be used with ASI6518).

7. ADAPTER MODES

The ASI6514 supports two adapter modes; 4-Play and 12-Play. The ASI6518 supports two adapter modes; 8-Play and 16-Play. A restart of the machine is required after selecting a new mode. The mode setting is saved on the adapter's EEPROM.

In ASIMixer, select the Mode by clicking on the appropriate setting in the Line Out 1 panel as shown below. In ASIControl, select the Mode by clicking on the adapter name in the left-hand side and selecting the appropriate setting from the Mode dropdown list on the right-hand side.



In ASIControl, select the mode by clicking on the adapter name in the left pane (if nothing is showing up in the left pane, click on the adapter in the top pane first) then select the mode from the Mode dropdown list in the right pane.

ASI6514 4-Play (default)

This mode supports 4 Play streams, 4 Record streams, and 4 Out streams with full mixing capabilities.

ASI6514 12-Play

This mode supports 12 Play streams, 8 Record streams, and 4 Out streams with full mixing capabilities.

ASI6518 8-Play (default)

This mode supports 8 Play streams, 1 Record stream, and 8 Out streams with full mixing capabilities.

ASI6518 16-Play

This mode supports 16 Play streams, 1 Record stream, and 8 Out streams with full mixing capabilities.

NOTE: On the ASI6518, AES/EBU outputs 7 and 8 are muxed with AES/EBU inputs 3 and 4. What function they have depends on the jumper settings on J7 on the card (either in or out, but not both).

Looking at the front (label side) of the card with the 50pin connector end to the left, the jumper settings for J7 are:

Inputs 3,4 enabled (default): **XX::XX::**

Outputs 7,8 enabled: **::XX::XX**

If outputs 7 and 8 are enabled, this allows for one BOB1024 or one BOB1025 to have 8 outputs for the ASI6518; the BOB's AES/EBU inputs 3 and 4 would become outputs 7 and 8.

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