

## Axia Mix Engine Upgrade v2.4.9r6 Installation Notes

04 February 2009, Cleveland Ohio, USA

### Usage – Important: Please Read

This software is intended for installation on **Mix Engine Legacy CF images - Red Hat / single-partition / LILO** factory-standard units with original CompactFlash storage media installed:

- Mix engines originally shipped with version 2.4.8 or lower
- Omnia.8x originally shipped with version 1.4.7 or lower

If you have one of the above, always look for update files having the ".tar" extension; for example, *engine\_2-4-9r6\_upgrade.tar*.

If you:

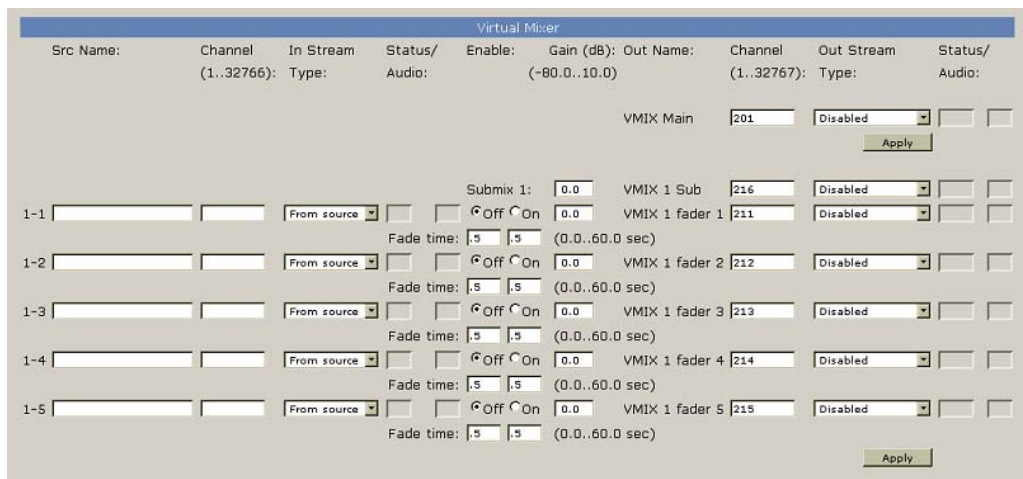
- have received pre-release samples or non-standard units,
- have modified them in any way, other than installing officially released software updates,
- simply do not know what exactly you need,

please consult with Telos/Omnia/Axia before installing any updates.

Prior to performing any software update, you should always navigate to the Engine's System page and save your current configuration file.

## Important Pre-Installation Instructions for VMix Users upgrading from v.2.4.7e2 or lower

Introduced in Engine v2.4.8w3 was a new approach to controlling VMix. When an Engine running earlier software is upgraded to v2.4.8 or higher, the Engine will boot into a new default VMIX mode. **This process will remove any previously specified sources.** So if you were using VMix prior to the upgrade, there are some steps to take to recover your earlier settings.



Src Name:	Channel	In Stream	Status/	Enable:	Gain (dB):	Out Name:	Channel	Out Stream	Status/	
(1..32766):	Type:	Audio:	Audio:		(-80.0..10.0)	(1..32767):	Type:	Audio:	Audio:	
						VMIX Main	201	Disabled	<input type="checkbox"/>	
									<input type="button" value="Apply"/>	
						Submix 1:	0.0	VMIX 1 Sub	216	Disabled
1-1			From source	<input type="checkbox"/>	<input type="checkbox"/>	Off	0.0	VMIX 1 fader 1	211	Disabled
						On				
						Fade time:	.5	.5	(0.0..60.0 sec)	
1-2			From source	<input type="checkbox"/>	<input type="checkbox"/>	Off	0.0	VMIX 1 fader 2	212	Disabled
						On				
						Fade time:	.5	.5	(0.0..60.0 sec)	
1-3			From source	<input type="checkbox"/>	<input type="checkbox"/>	Off	0.0	VMIX 1 fader 3	213	Disabled
						On				
						Fade time:	.5	.5	(0.0..60.0 sec)	
1-4			From source	<input type="checkbox"/>	<input type="checkbox"/>	Off	0.0	VMIX 1 fader 4	214	Disabled
						On				
						Fade time:	.5	.5	(0.0..60.0 sec)	
1-5			From source	<input type="checkbox"/>	<input type="checkbox"/>	Off	0.0	VMIX 1 fader 5	215	Disabled
						On				
						Fade time:	.5	.5	(0.0..60.0 sec)	
										<input type="button" value="Apply"/>

After the Engine reboots from the upgrade, VMix settings will be similar to what is seen above. To preserve your previous settings, you'll need to determine which of the following two approaches best suits you:

- *Option 1.* You already have VMix settings in use with Element control and prefer to continue controlling VMix with Element.
- *Option 2.* You already had VMix settings in use with Element control and want to migrate to local control using the Engine.

### Option 1

1. View the "Engine ID" page of the Engine.
2. Enable "Controlling V-Mixer from Element".
3. Choose "Apply".
4. Reboot Element (not the Engine). This initiates transfer of VMIX settings from Element to the Engine. To do this, press and hold the Fader Options key on Element's Monitor Module and choose "Reboot."

### Option 2

1. Follow the steps outlined in Option 1 above.
2. From the Engine's "Engine ID" page, select the "Save V-Mixer settings to config" option.
3. Disable the "Controlling V-Mixer from Element" option.

## Update Instructions

1. Download software updater package **engine\_2-4-9r6\_upgrade.tar** from [www.AxiaAudio.com/downloads/](http://www.AxiaAudio.com/downloads/) to a PC connected to the Axia network.
2. Using a PC connected to the Livewire network, locate the update package and upload the TAR file into Engine Bank 1. When the software has been received by the Engine, check the "Version ID" line next to the Bank 1 bullet - you should see **[2.4.9r6]** there.
3. Select Bank 1, containing the new Version 2.4.9r6 software, and select "Apply selected bank".
4. After reboot, the engine should be operating from Bank 1 with the new software version installed.

### ***Important note***

The function of the **Commit** button in the software update screen has changed. Previously, selecting Bank 1 and clicking **Commit** would swap Bank 1 software into Bank 0 and clear Bank 1, leaving it empty. Now, pressing **Commit** swaps the contents of Bank 1 and Bank 0, leaving the previous software version in Bank 1 until overwritten by uploading new software. Why the change? From v2.4.8 to v2.4.9, a major modification has taken place — the Mix Engine now features a completely re-designed CompactFlash storage structure. It is now multi-partition, and contains a complete OS in each of its two code banks. This change was made with redundancy and reliability in mind: a copy of the Engine OS in each bank means that, even if one of the code partitions is rendered unusable, the Engine will be able to boot and operate from the second partition.

If you have trouble at any point during the upgrade process, please contact Axia Support via email at [support@AxiaAudio.com](mailto:support@AxiaAudio.com) or by telephone at +1 (216) 241-7225.



## Engine version 2.4.9r6 release notes

Software version compatibility:	
Element application	2.1
SmartSurface application	2.5.0.59
Nodes	2.5.2
IP audio driver Windows	2.4.8.12

New: Major operation environment rework:

- Suse Linux with multi-core kernel, GRUB boot loader
- New multi-partition CF storage structure, OS moved into the dual code bank, software update installation by complete bank rewrite

Added: Omnia headphone processing can now be applied to either PGM1 or Mon1 Headphones.

Added: Users can now set a password for remote access via HTTP using a field on the Engine's Configuration pages (replacing previous versions' Telnet configuration for this option).

Added: Maximum mix-minus audio gain trim has been increased from -3dB to -6dB to allow adequate attenuation of summed dual-mono backfeeds.

Added: Gain control for Aux mix level compensation in mix-minus backfeeds

Added: Gain Control for Pre-fader gain trim

Added: Gain Control to trim Mic output levels after Omnia Mic processing is applied

Added: New metering capabilities providing 10 switchable full-resolution meters

Added: SmartSurface compatibility mode option for source sharing. Users can now switch all engine sources between freely sharable, (SmartSurface compatibility mode), and lockable (normal Element operation). Find the new option in the "Application Interface Options" section of the HTTP configuration pages.

Fixed: When operating in Surround mode, upmixes from L, R, L+R and stereo no longer send L and R to LFE channel.

Fixed: After moving the engine from a 1Gig to a 100Mbps switch port and restarting, the number of active outgoing audio streams is now properly limited to match available bandwidth.

Fixed: "Source is Busy" error that caused Engine sources to be unavailable for assignment on SmartSurface faders.

Fixed: Bug that might cause slow resumption of audio after connection to console.

### Version 2.4.8w3

Software version compatibility:	
Element application	2.0.0r12
SmartSurface application	not recommended
Nodes	2.3.3b2
IP audio driver Windows	2.4.8.12

Added: V-Mixer and V-Mode full local control via engine web page, destination routing control via LWRP, mixing control and mode selection via LWCP.

Added: Source sharing logic is now fully supported; source advertisement logic now allows creating backfeeds for engine outputs.

Added: Audio level meters now provide true peak value with hold function for the refresh period, and standard 300ms average RMS.

Fixed: Omnia headphone processing. New presets, tweaked parameters and eliminated processing bugs

Added: Extended EQ frequency ranges.

Added: Automatic upmixing to surround.

Fixed: LWRP server bugs.

Fixed: Slow show profile loading.

Fixed: A number of other minor and cosmetic enhancements and bug fixes.



Version 2.4.7e2

Software version compatibility	
Element application	1.1.13.13a
SmartSurface application	2.50.59
Nodes	2.3.3b
IP audio driver Windows	2.4.7.3

Added: Automatic updating of MAC address mapping for known IP  
Added: Mon1 headphones - new "Hot HP" Omnia dynamics preset  
Added: Syslog event reporting of stopped/resumed streams, unwanted streams, stream conflicts  
Fixed: Mon1 headphones - Omnia - AGC drive and mixer - Mid and High bands appeared cross-connected

Version 2.4.7c5

Added: Mic and Headphones control accessory module - phase2: source name display on engine, presentation on web page and front panel.  
Added: Logging unwanted multicast to detect flooding  
Fixed: The stream number limit for 100 Mbps links is now correct  
Fixed: Trace log defects in diagnostics logging routines  
Fixed: Fixed: Source loading speed  
Fixed: Individual headphones - volume control now works  
Fixed: Individual headphones - external source selection now works

Version 2.4.6f1

Added: Mic and Headphones control accessory module - phase2: Implemented volume control. Must use Element ver 1.1.13x or higher (still in testing)  
Added: Mon1 HP Omnia processing - meters - interface for enabling/disabling and setting the remote IP address  
Known bug here: Wrong IP address range check causes meters to not work if the remote IP is set >= 128.x.x.x  
Improvement: Advertising discipline - insert a delay before sending advert messages on source changes

Version 2.4.6d8

Added: Dynamics processing in headphones - Phase 1:  
Enabled processing in the CR HP path  
Full list of Omnia A/X presets is offered. factory-defined, currently selectable from Engine web page only  
Added: Engine - SPLITTING the RECORD bus  
Added: Health monitoring functions - support for motherboard  
Added: Web - system status - show fan speed measurement  
Improvement: Diagnostics interface improvements  
Fixed: Front Panel - VMIX - Output page does not automatically follow value changes  
Fixed: Source name for RECORD should be "Program 4 Record", not "Program 3 Record"  
Fixed: VMIX outputs: Pathfinder sees them listed even if they are OFF  
Fixed: V-Mixer - source name is shown only if the input was idle before  
Fixed: Front panel - PGM and Monitor I/O, VMIX I/O screens - audio level indicators do not work  
Fixed: Config backup, executed immediately after entering new output channel numbers, returns them to old values  
Fixed: Fader channel - AUX SEND pre/post-fader - inconsistent startup defaults



Version 2.4.5b1

Fixed: Engine returns wrong backfeed presence status - "disconnected" for existing backfeeds

Version 2.4.5b

Added/Changed: Program 4 split to two streams, Stream Program 4 now follows Post ON/OFF, Post Fader. Stream called Program 4 Record replaces previous Program 4 functionality of Pre ON/OFF, Post Fader operation.

Improvement/Changes: PHONE and RECORD mixing buses in Element mode

Phone Bus- Follows Program 4 selection and is Pre ON/OFF, Pre Fader. Internal to Engine only.

Feed to source option PHONE changed from Program 1 feed to follow Phone buss now.

Feed to source option AUTO now follows rules for channel ON/OFF to feed Pgm 1/Phone Bus to backfeed of Phone and Codec sources

Changed: V-Mixer - default output channel numbers: main 201, Submix 1 faders 211-215, Submix 1 Out 1 216, Submix 2 faders 221-225, Submix 2 out 226,

Changed: Startup defaults for console type and output channels must be for Element console

Improvement: Phone and codec - feed to source - 3dB level compensation for mono sum

Added: Health monitoring functions for Motherboard

Changed: The "OFF" command (shut down and halt) is redundant as it results in restarting the engine

Version 2.4.5a1

Added: V-Mixer added to Engine. Requires Element version 1.1.11x and higher.

Version 2.4.4g6

Fixed: glitching with Element's voice processing, Fixed code and made Compressor Attack faster

Version 2.4.4g5

Fixed: Fader channel - PGM4 pre/post-ON - startup default must be post-ON

Fixed: Backward feed source select - Aux1..Aux4 do not work (Element can use these only starting from release 1.1.10)

Fixed: Headphone backfeed levels from the engine to any Mic Position are at reduced levels

Version 2.4.4g4

Fixed: Mic processing - gain reduction meters not working if signal is present only in one of stereo channels

Version 2.4.4g2

Added: Engine diagnostics interface improvements - new events in the trace log file

Added: New source type COMPUTER

Fixed: Wrong number of sources (NUMS) in adv messages after switching between different console types

Fixed: On enabled outputs, the LW channel numbers cannot be changed

Fixed: At startup, engine does not detect- unplugged network cable and Half Duplex error

Fixed: Improper watchdog handling at application shutdown causes failures to install further software updates



Version 2.4.4x

Added: Surround PAN control on Aux returns

Added: Monitor source select - P1..P4, Aux1..Aux4, Ext1, Ext2

Added: Feed to source options added P3, P4, A1..A4

Added: Code to support new meter source select options - MET2/4.SRSW to RECORD

Added: Front panel passcode. Accessible from System Web Page

Added: Code to support new Mic and Headphones control accessory modules, Phase 1 Improvement:  
Improved Engine diagnostics options

Fixed: Fader channel's stereo PAN (SmartSurface mode)- wrong state when loaded by show profile