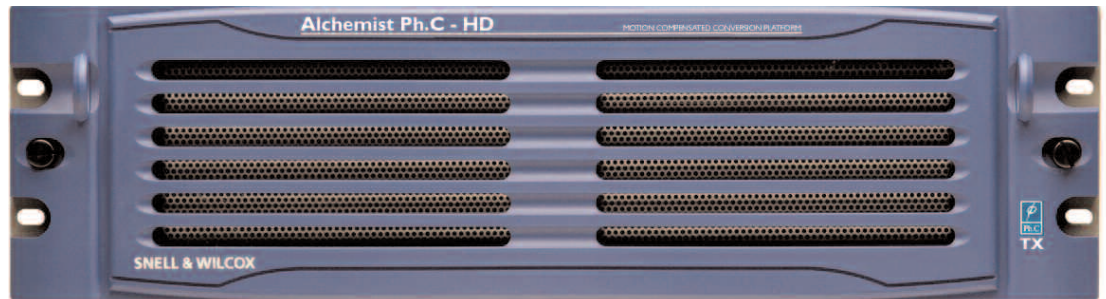


Alchemist Ph.C™ - HD TX The world's finest motion compensated high-definition standards converter

The **Alchemist Ph.C**, now in its sixth generation, is recognized throughout the world as the undisputed gold standard of motion compensated frame rate standards conversion. Now Snell & Wilcox is bringing Alchemist Ph.C quality to the HD domain with the introduction of **Alchemist Ph.C – HD TX**, the world's finest motion compensated high-definition standards converter.

The Alchemist Ph.C - HD TX brings the performance benefits of Alchemist Ph.C to Transmission, Earth Station and Telco applications providing synchronisation, aspect ratio conversion and frame rate standards conversion to desired output format.

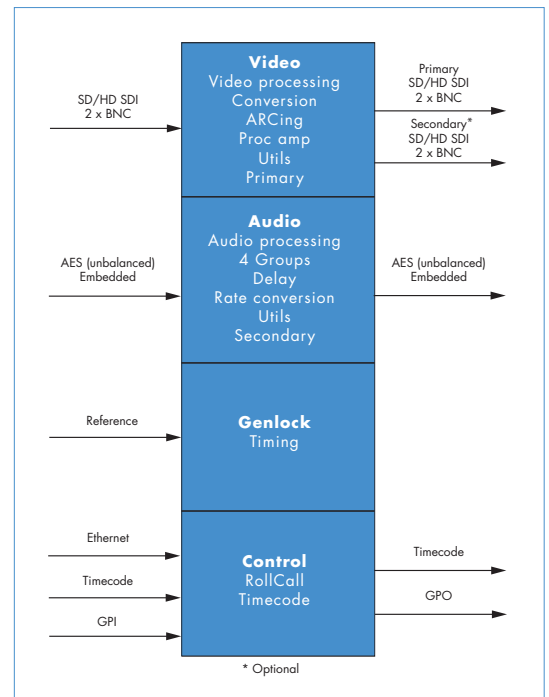
The result of extensive research into the exacting demands of HD frame-rate conversion, Alchemist Ph.C – HD TX is designed to produce converted HD outputs that are virtually indistinguishable from the input.



The system's conversion quality is guaranteed through the utilization of the company's Emmy® award-winning Ph.C motion measurement technology. The Ph.C algorithms have been continuously refined since the introduction of the first Alchemist Ph.C in 1992 and have been optimized to prevent motion-related artifacts in high-definition video. The resulting output images are clear, sharp and free from the motion artifacts commonly associated with standards conversion.

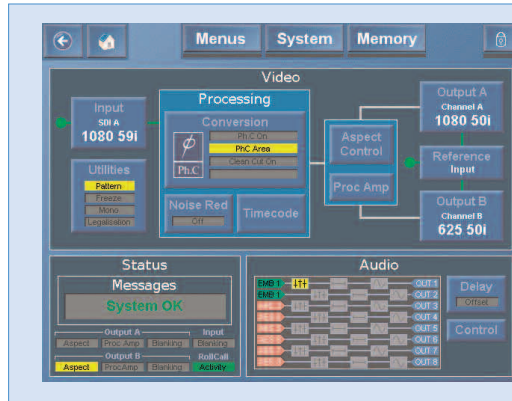
With Alchemist Ph.C - HD TX, high-definition content including news, sports, live events and entertainment programming can now be broadcast around the globe in multiple high-definition standards and formats without degradation of image quality. Alchemist Ph.C – HD TX automatically processes image movement to produce clear, smooth motion with the widest range of input material.

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Ph.C is a proprietary Snell & Wilcox technology that utilizes phase correlation-based motion estimation, the most powerful and accurate method of motion measurement, to produce stunningly sharp and detailed converted outputs that are virtually indistinguishable from the input. Because Ph.C operates in the frequency rather than spatial domain, it is highly tolerant to noise and rapid changes in luminance levels that are commonly found in many types of content.



As an option the Alchemist Ph.C – HD TX may be equipped with the same intuitive active front panel as the standard Alchemist PhC - HD. Featured here is the Home screen, this provides instant status information about the condition and configuration of the unit. At a glance the output standard and reference status can be determined. The screen also acts as the control interface providing easy visual access to the major system control functions. The touch sensitive screen provides an easy intuitive way to navigate and control the unit.

The Alchemist Ph.C – HD TX provides a complete one-box system solution that can easily integrate into any transmission environment. It has the ability to convert from all commonly used HD broadcast standards and formats to the desired output format. Whatever the output format there is an Alchemist Ph.C – HD TX product to suit all customer needs, the TX50 for 625, 720P and 1080i25 or the TX60 for 525, 720P59 or 1090i29. The Alchemist Ph.C – HD TX is also capable of cross conversion, upconversion and downconversion, and has a built in aspect ratio converter.

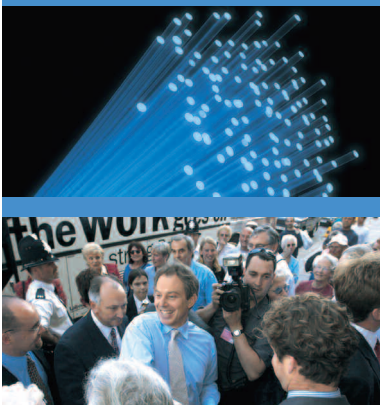
In addition, noise reduction will be available to further aid in applications where compression preprocessing is needed. The tight integration of motion compensated conversion, CleanCut and noise reduction combine to make the Alchemist Ph.C – HD TX a very compression-friendly device.

The Alchemist Ph.C – HD TX is designed to meet the challenges of today’s multichannel audio world , handling embedded audio and providing 8 AES inputs and outputs. In addition to handling 16 channels of PCM audio, the Alchemist Ph.C - HD TX is Dolby E ready using the optional Dolby E transcoder card. In order to eliminate lip-sync issues, all audio that passes through the system is time compensated via an integral audio delay.

Adding to its operational flexibility, the Alchemist Ph.C – HD TX provides optional capability for two independent video outputs, a feature that provides expansion capability for two simultaneous program feeds of different standards. For example, if the input is 1080/25i, the outputs could be 1080/29i and 525/29i. This removes the need for an outboard downconverter or a second standards converter. A Gamut legalization circuit also ensures that even if the input is out of spec, the output of the unit will be compliant.

Also included is CleanCut™ technology, a Snell & Wilcox technique that ensures that video cuts at the input appear as identical cuts at the output. Accurate cut detection and processing is an important factor in maintaining quality control of converted video and with the Alchemist Ph.C – HD TX this is done automatically.

As with all Snell & Wilcox “smart” infrastructure products, the Alchemist Ph.C – HD TX can easily be integrated with the Snell & Wilcox RollCall® networked control and management system and monitored via Rollcall. Set-up is as simple as plugging in a single cable. The converter self configures automatically on the network in minutes. Alchemist Ph.C set the industry standard for the finest SD frame-rate conversion. With the Alchemist Ph.C - HD TX, Snell & Wilcox has once again engineered a conversion platform without compromise or peer, thereby extending its franchise into the high-definition domain.



Base Model

Alchemist Ph.C HD TX50
Motion-compensated Standards Conversion Platform with SD & HD SDI I/O with 625, 720P50, 1080i50 output. Includes Up, Cross, Down and SD/HD standards conversion capability, embedded & AES audio, CleanCuts™, redundant PSU, passive front panel, RollCall control, 3 RU frame. (5049050)

Alchemist Ph.C HD TX60
Motion-compensated Standards Conversion Platform with SD & HD SDI I/O with 525, 720P59, 1080i59 output. Includes Up, Cross, Down and SD/HD standards conversion capability, embedded & AES audio, CleanCuts™, redundant PSU, passive front panel, RollCall control, 3 RU frame. (5049060)

Option

Secondary Output - Adds format converter to secondary outputs. Provides for simultaneous SD or HD on secondary outputs at different standard to primary outputs. (5045007)

Active Front Panel - Intuitive touch screen, provides local control of unit. (5045006)

TX Dolby E (1 channel) - adds 1 channel of Dolby E transcoding and Dolby E decode function. (5045008)

TX Dolby E (2 channels) - Adds 2 channels of Dolby E transcoding and Dolby E decode function. (5045018)

Alchemist Ph.C - HD TX50 Conversions		OUTPUT			
		SD SDI	HD SDI		
		625	720P50	1080i25	
I N P U T	SD SDI	625	ARC Synchronize	Up Convert ARC Synchronize	Up Convert ARC Synchronize
		525	Standards Convert ARC Synchronize	Standards Convert Up Convert ARC Synchronize	Standards Convert Up Convert ARC Synchronize
	HD SDI	720P50	Down Convert ARC Synchronize	ARC Synchronize	Cross Convert ARC Synchronize
		720P59	Standards Convert Down Convert ARC Synchronize	Standards Convert ARC Synchronize	Standards Convert Cross Convert ARC Synchronize
1080i25		Down Convert ARC Synchronize	Cross Convert ARC Synchronize	ARC Synchronize	
		1080i29	Standards Convert Down Convert ARC Synchronize	Standards Convert Cross Convert ARC Synchronize	Standards Convert ARC Synchronize

Alchemist Ph.C - HD TX60 Conversions		OUTPUT			
		SD SDI	HD SDI		
		525	720P59	1080i29	
I N P U T	SD SDI	625	Standards Convert ARC Synchronize	Standards Convert Up Convert ARC Synchronize	Standards Convert Up Convert ARC Synchronize
		525	ARC Synchronize	Up Convert ARC Synchronize	Up Convert ARC Synchronize
	HD SDI	720P50	Standards Convert Down Convert ARC Synchronize	Standards Convert ARC Synchronize	Standards Convert Cross Convert ARC Synchronize
		720P59	Down Convert ARC Synchronize	ARC Synchronize	Cross Convert ARC Synchronize
1080i25		Standards Convert Down Convert ARC Synchronize	Standards Convert Cross Convert ARC Synchronize	Standards Convert ARC Synchronize	
		1080i29	Down Convert ARC Synchronize	Cross Convert ARC Synchronize	ARC Synchronize



As with all Snell & Wilcox "smart" infrastructure products, Alchemist Ph.C - HD is "self aware" and ready for centralized set up and monitoring through the RollCall network management system.

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Company policy is one of continuous product improvement. Specifications are therefore provisional and subject to change without notice.

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Signal Inputs

Serial Digital	Dependent on Option 2 x 75 Ohm SD/HD Serial Digital with embedded audio (4 Groups) Input Standards: 1.5 Gbit/s HD-SDI SMPTE292M/SMPTE299M 270M Mbit/s SD-SDI SMPTE259M
Reference	2 x loop-through HDTV Trisync/SD Bi-sync (Black & Burst) SMPTE 240M/274M, with auto selection dependant on output standard
Audio AES	8 channels unbalanced AES-3 via BNC connectors (75 Ohm)

Signal Outputs

Serial Digital Primary	Dependent on Option, 2 x 75 Ohm SD/HD Serial Digital with embedded audio (4 Groups) Output Standards: 1.5 Gbit/s HD-SDI SMPTE292M/SMPTE299M 270M Mbit/s SD-SDI SMPTE259M
Serial Digital Secondary	Dependent on Option 2 x 75 Ohm SD/HD Serial Digital with embedded audio (4 Groups) Output Standards: 1.5 Gbit/s HD-SDI SMPTE292M/SMPTE299M 270M Mbit/s SD-SDI SMPTE259M
Audio AES	8 channels unbalanced AES-3 via BNC connectors (75 Ohm)

Control Functions

Input Select	Input A, Input B
Input Blanking	Left, Right, Top, Bottom
Input Loss	Input, Freeze, Black
Input Standard	Auto (525 , 625 ,720p 50, 720p 59 1080i 50, 1080i 59)

Output Standard Primary	TX50 625,720P50,1080i 50 TX60 525,720P59,1080i 59 Colorimetry (Auto)
Output Standard Secondary	As Primary, unless Secondary output option fitted TX50 625,720P50,1080i 50 TX60 525,720P59,1080i 59 Colorimetry (Auto)
Output Blanking	Left, Right, Top, Bottom

Conversion Functions

Convert	Ph.C™ Motion Compensation CleanCut™
De-Enhance	Horizontal & Vertical aperture adjustment
Modes	HD Standards Conversion SD Standards Conversion Up Conversion Down Conversion Cross Conversion

Ph.C Area	5 user definable keys with overlays to define active and inactive areas
Aspect Ratio Conversion	Preset Input and Output ARC Settings 4:3, 16:9, 14:9LB, 16:9LB, 4:3PB, Anamorphic, No Change User (Pan, Size, Asp, Tilt)
CleanCut™	On/Off F1/F2/Any

Audio Functions

Audio Select	Embedded, AES
Audio Channel Selection	Group 1 pair 1, Group 1 pair 2 Group 2 pair 1, Group 2 pair 2 Group 3 pair 1, Group 3 pair 2 Group 4 pair 1, Group 4 pair 2 AES1 , AES2, AES3, AES4 AES5, AES6, AES7, AES8 PCM, Data
Audio Type	Mute, Tone (1KHz,4KHz)
Audio Mode	-190 to 250 ms (global)
Audio Delay Offset	-190 to 250 ms (per pair) Max and Min dependent on convert mode

System

Utilities	Patterns Freeze Legalise Mono Enhance (Horizontal & Vertical) Auto / Ref. A / Ref. B/Input/Freerun Timing: H & V Offset
Genlock	6 user definable presets with names & factory recall
Memories	Touch Screen Front panel (optional) Calibrate, Clean, TimeOut,Dim Shaped Horizontal Blanking Active Line Length (analog/digital) Analog Blanking Software version Auto-test features
Control Source	
Setup	
Info	
Diagnostics	

Communications

GPI	6 inputs, 6 outputs via 25 way D type
RollCall	Ethernet & RollNet BNC Unit Address Unit Name Log Server Name RollTracks (audio delay) Log (input status, input standard, output standard, reference status)

Power

Input Voltage Range	100 V to 240 V rms., 50/60 Hz
Mains Fuse Rating	T 8 AH 250 V. (Each Power supply)
Maximum Input Current	7 - 3 A (Each Power supply)
Power Consumption	500 W

Mechanical

Temperature Range	0 to 35° C operating
Cooling	Axial fan, front-to-rear airflow
Weight	Approximately 20 kg
Case Type	3 RU Rack Mounting
Dimensions	483 mm x 563 mm x 132 mm (w, d, h)