



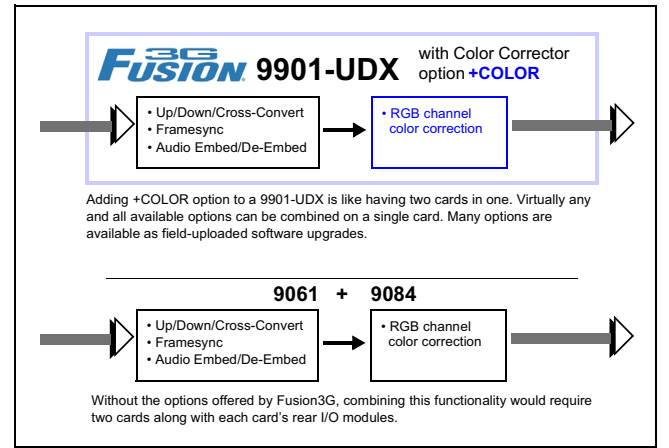
Our Fusion3G® cards support the broadest array of options of any cards in our line. Using these powerful options is like having two or more cards in one card. Adding options allows adding processing versatility without the expense and space usage of extra, added cards.



Many Fusion3G® options can be field-installed via an easy software feature upload, allowing select options to be installed as needed on already-installed cards. Software option upgrades typically take less than a minute to upload and

require no removal of the card from its frame (these options of course can be ordered for new cards with the option already installed).

All of the Fusion3G® options described here can be installed on **any** Fusion3G® card (unless noted otherwise).



## I/O Options

Option	Overview	Installation
+AES	<b>16-Channel Audio Embedding/De-embedding Option.</b> Provides eight (total) AES pair BNC connections that can be GUI-configured as inputs or outputs. Independent SRC for all AES inputs, with auto and manual bypass for non-PCM data.	Licensable feature ordered on new card or can be field-installed with feature upload. Requires appropriate compatible rear I/O module(s).
+AES16	<b>8-Port AES Output Expansion Option.</b> Provides the 16-channel embed/de-embed of option +AES (see above) as well as eight added AES output ports to provide a total complement of AES I/O 1 thru AES I/O 8 and added ports AES OUT 1 thru AES OUT 8. Allows 16 channels of AES embedding and 16 channels of AES de-embedding simultaneously.	Hardware feature available only on new card. Requires appropriate compatible rear I/O module(s).
+ANA +ANV	<b>Analog Audio/Video I/O Options.</b> Assorted options provide balanced analog audio and component/CVBS video input/outputs. +ANAIO – Analog audio I/O +ANAVI – Analog audio/video inputs +ANAVO – Analog audio/video outputs +ANAVIO – Analog audio/video inputs/outputs See Analog I/O Options detail on web page for more information.	Hardware feature available only on new card. Requires appropriate compatible rear I/O module(s).
+FTx +FRx	<b>Fiber Input/Output Options.</b> Provides up to two fiber connections per card. Connector type is dual LC with blind-mate connectors. Cards are fully swappable. +FRx – Single fiber receive (input) +FTx – Single fiber transmit (output) +FRxTx – Fiber receive (input) / fiber transmit (output) +FRxRx – Dual fiber receive (input) +FTxTx – Dual fiber transmit (output)	Hardware feature available only on new card. Requires appropriate compatible rear I/O module(s).

## Audio Options

Option	Overview	Installation
+ADM	<b>Auto Downmix Software Option.</b> Provides automatic stereo downmix from selected alternate multi-channel sources if primary stereo channels lose signal.	Licensable feature ordered on new card or can be field-installed with feature upload.
+AFO	<b>Auto Failover Audio Software Option.</b> Provides automatic failover to alternate ("secondary") channels to substitute for the primary channels in the event of audio signal loss.	Licensable feature ordered on new card or can be field-installed with feature upload.
+DEC	<b>Dolby® Decoder Option.</b> Adds a Dolby® decoder which decodes Dolby E, Dolby Digital, and Dolby Digital Plus into routable PCM channels.	Hardware feature available only on new card.
+ENCDA thru +ENCDD	<b>Dolby® Digital™/Digital Plus™ Encoder Software Options.</b> Provides full assortment of Dolby® Digital/Digital Plus encoding formats with multiple stream encoding – all on the same card. Uses any combination of audio sources supported by the card (including mixed, upmixed, and loudness processed signals). Encode using internal metadata selections with a full complement of encoding formats and bit rates, as well as from serial or SMPTE 2020 external metadata. Contact sales for information about multiple simultaneous encode modes.	Licensable feature ordered on new card or can be field-installed with feature upload.
+ENCE	<b>Dolby® E Encoder Software Option.</b> Provides Dolby® E encoding from any combination of audio sources supported by the card (including mixed and loudness controlled signals). Full metadata support using internally generated or external metadata via SMPTE 2020 or serial. Can be added to card already equipped with ENCD option(s) above.	Licensable feature ordered on new card or can be field-installed with feature upload.
+LM	<b>Audio Loudness Meter Software Option.</b> Adds Loudness Metering software which works in conjunction with the award-winning OGCP-9000 Remote Control Panel and our new WinOGCP Desktop Virtual Control Panel to provide a flexible, complete solution for ingest or on-air loudness metering, assessment, and records. Where Fusion3G card is licensed for +LP option(s), +LM option allows selection of pre-processed or post-processed loudness to be displayed. Several cards can reports loudness data to one or virtually any number of control panels.	Licensable feature ordered on new card or can be field-installed with feature upload.
+LP51/LP20	<b>Linear Acoustic® Loudness Processing Software Option.</b> Using Linear Acoustic® AEROMAX® algorithms, performs ATSC A/85-compliant 5.1 or stereo loudness processing on any of six channels outputted by the card. Available in the following packages: +LP51A, +LP51B – Two independent 5.1-channel loudness processors +LP20A, +LP20B, +LP20C, +LP20D – Four independent 2.0-channel loudness processors +LP20A, +LP20B, +UMA, +UMB – Two 2.0-channel loudness processors; two upmixers (see +UM below) +LP51A, +LP20A, +UMA – 5.1-channel loudness processor, aux stereo (SAP) loudness processor, one upmixer	Licensable feature ordered on new card or can be field-installed with feature upload.
+SDVS	<b>Surround DVS Software Option.</b> Provides SDVS retaining all the surround content from the original 5.1-channel mix, with this content aesthetically ducked (via new External Program Scaling Factor (EPSF) metadata) to accommodate and promote the descriptive narrative when present. The vision-impaired listener experiences the dynamicism and impact of the full multi-channel program audio while being provided with the useful descriptive content without compromise. (Requires card also licensed with +ENCDA and +ENCDB.)	Licensable feature ordered on new card or can be field-installed with feature upload.
+UM	<b>Audio Upmixer Software Option.</b> Featuring Linear Acoustic UPMAX™ technology, the 5.1 upmixer uses any stereo pair accommodated by the card and generates a six-channel 5.1 complement (L, R, C, LFE, Ls, Rs) from the stereo source, thereby allowing legacy stereo programming to adapt to and fully utilize 5.1-channel audio capabilities. Upmixing can be combined with loudness processing options as listed in +LP51/LP20 above.	Licensable feature ordered on new card or can be field-installed with feature upload.

## Video Options

Option	Overview	Installation
+COLOR	<b>Color Correction Software Option.</b> Provides independent RGB channel controls for luma, black, and gamma. Ultra-fast response time. The color correction feature is perfectly suited for use with Cobalt OGCP-9000/CC Remote Control Panel.	Licensable feature ordered on new card or can be field-installed with feature upload.
+KEYER	<b>Keying Option.</b> Provides keying using independent SDI inputs for key and fill signals. A separate preview SDI output is provided for observing key results before applying to program video output. Alpha Threshold mode allows full-color key/fill using low-cost PC-based graphics host where the same signal provides a shared key/fill input.	Hardware feature available only on new card. Not available on 9931 models. Requires appropriate compatible rear I/O module(s).
+WINGS	<b>Wings Insertion Software Option.</b> Provides wings insertion using an independent SDI input provided for wings signal. On cards equipped with a scaler, allows wings insertion width to automatically track with AFD.	Licensable feature ordered on new card or can be field-installed with feature upload.

## Format Support Options

Option	Overview	Installation
+CGMS	<b>CGMS Support Software Option.</b> Provides controls for using analog video CGMS copy protect bit/indicator.	Licensable feature ordered on new card or can be field-installed with feature upload.
+LTC	<b>Audio/RS-485 LTC Software Option.</b> Allows bidirectional transfer and conversion between video timecode formats and audio/RS-485 LTC. Audio LTC can be received or sent over various card audio channels. RS-485 LTC can be received or sent via a rear module RS-485 port.	Licensable feature ordered on new card or can be field-installed with feature upload.

## Upgrade/Enhancement Options

Option	Overview	Installation
+3G	<b>3G Upgrade Software Option.</b> On card purchased as alternate HD/SD model (for example "9901-UDX-HD"), allows upgrade to full 3G/HD/SD-SDI I/O and processing.	Licensable feature ordered on new card or can be field-installed with feature upload.
+FS	<b>Add Framesync Software Option.</b> Adds frame sync to 9931 embedder/de-embedder card. Offers unsurpassed accuracy in audio-video delay (lip sync) management, with glitch-free per-channel audio delay adjustment.	Licensable feature ordered on new card or can be field-installed with feature upload.
+MEM	<b>Frame Buffer Expansion Option.</b> Increases the independently adjustable audio and video delay buffer capacity to 47 seconds for SD video, 8 seconds for HD video, or 4 seconds for 3G video.	Hardware feature available only on new card.