

# Analog Audio Embedding Modules with AES Output SMX6810N(S)-B2/ SMX6810N(S)-U2

## Description:

The SMX6810N(S)-B2/ SMX6810N(S)-U2 are analog audio embedding modules with AES output. Both modules support 4-channel analog audio embedding and have embedded SDI output with reclocking. The user can choose either from input audio or other audio synthesized by system and embed them into any audio group.

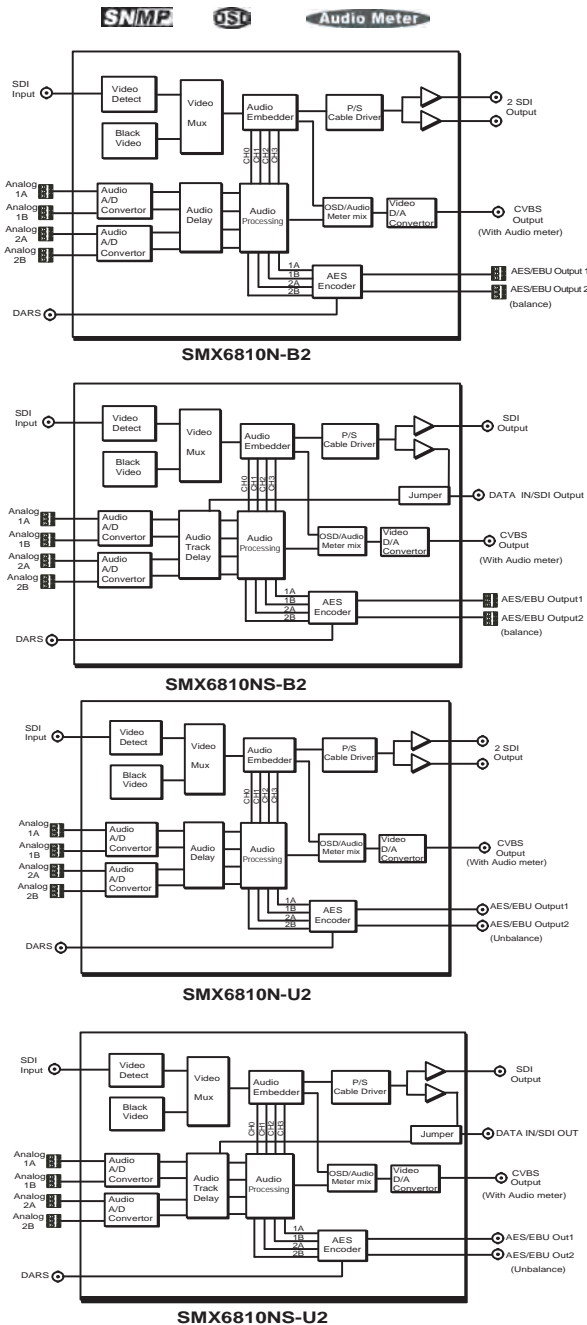
Each module has its distinct feature as follows:

The SMX6810N-B2 has 2 pairs of balanced AES outputs;

The SMX6810NS-B2 has 2 pairs of balanced AES outputs and audio tracking;

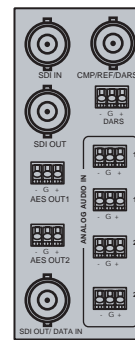
The SMX6810N-U2 has 2 pairs of unbalanced AES outputs/

The SMX6810NS-U2 has 2 pairs of unbalanced AES outputs and audio tracking

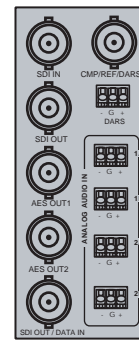


## Features:

- ▶ Supporting audio embedding in 525/625 video standard
- ▶ Supporting 4-channel analog audio embedding
- ▶ Supporting 20-bit and 24-bit audio embedding
- ▶ Both embedded audio group and embedded code selectable
- ▶ Supporting AES output
- ▶ Audio tracking (only applicable to SMX6810NS-B2 & SMX6810NS-U2)
- ▶ Embedded SDI output with reclocking
- ▶ One analog composite video output monitoring
- ▶ SD-SDI video input auto detection and input status feedback
- ▶ Supporting 4-channel audio metering display
- ▶ Embedding tone signal at fixed frequency rate
- ▶ Supporting maximum 1.3 seconds audio delay
- ▶ Supporting audio gain adjustment, invert and mute
- ▶ Input EDH monitoring
- ▶ Re-insert EDH
- ▶ Freeze frame, black field and video loss detection
- ▶ Audio loss and audio overload detection



SMX6810N-B2  
SMX6810NS-B2



SMX6810N-U2  
SMX6810NS-U2



【The pictures are just for reference and subject to actuality】

## Specifications: (Specifications are subject to change without notice)

### SDI Video Input

Signal Standard	SMPTE 259M; 270 Mbps, 525/625 SD component
Impedance	75 ohm
Return Loss	>18dB to 360MHz
Connector	BNC (IEC169-8)
Equalization	Automatic equalizing to 30dB@270 Mbps

### SDI Video Output

Signal Standard	SMPTE 259M-C; 270 Mbps, 525/625 SD component
Connector	BNC (IEC169-8)
Impedance	75 ohm
Return Loss	>18dB to 270MHz
Signal Level	800 mV ± 10%
DC Offset	0 V ± 0.5 V
Rise and Fall Time	400 to 1500ps (20% to 80% of amplitude)
Overshoot	<10% of amplitude
Jitter	<0.2 UI (740ps) peak, typical<500ps

### Analog Composite Video Output

Signal Standard	NTSC, PAL or PAL-M
Level	1Vp-p +/-3dB
Impedance	75 ohm
Return Loss	>40 dB to 5 MHz
DC Offset	0V ± 0.05 V
Frequency Response	±0.2 dB to 5 MHz
Differential Gain	<1%
Differential Phase	<1.5°
Group Delay	+/-10ns to 5 MHz

### Unbalanced AES Outputs (applicable to SMX6810N(S)-U2)

Connector	BNC (IEC 169-8)
Output Level	1.0 V +/-10% (peak to peak)
DC offset	0.0V ± 50.0mV
Rise and Fall Time	30 to 44 ns (10% to 90% of amplitude)
Impedance	75 ohm
Return Loss	>25 dB, 0.1 to 6.0 MHz

### Analog Audio Input

Connector	3-pin
Analog Input Level	28-16dBu
Frequency Response	+/-0.05dB (20-20KHz)
THD+N	-95dB, 20-20KHz@-3dBFS
Crosstalk	-95dB(20-20KHz)

### Balanced AES Output (applicable to SMX6810N(S)-B2)

Connector	3-pin (male)
Output Level	2.0 to 7.0 V (peak to peak)
Jitter	+/-20 ns
Rise and Fall Time	5 to 30 ns (10% to 90%)
Impedance	110 ohm +/- 20% (0.1 to 6 MHz)
CMR Ratio	>30 dB below output signal (0 to 6 MHz)

### DARS Input

Connector	3-pin (male)
Sensitivity	< 200mv
Impedance	110 ohm +/- 20% (0.1 to 6 MHz)
Maximum Input Level	10V (peak to peak)
CMR Ratio	>30 dB below output signal (0 to 6 MHz)

### Unbalanced DARS Input

Connector	BNC (IEC 169-8)
Sensitivity	< 200mv
Impedance	75 ohm
Return Loss	>35 dB, 0.1 to 6.0 MHz

### DATA IN

Input Impedance	75ohm/high impedance (jumper selectable)
Input Sensitivity	500mV pk to pk(minimum)
Input Cable Length	100 meter
Return Loss	<-20dB

### Power Consumption

Power	3.5W
Positive Rail	550 mA
Negative Rail	10 mA

## Ordering Information:

SMX6810N-B2	4-channel analog audio embedding module with 2 pairs of balanced AES outputs	SMX6810N-U2	4-channel analog audio embedding module with 2 pairs of unbalanced AES outputs
SMX6810NS-B2	4-channel analog audio embedding module with 2 pairs of unbalanced AES outputs and audio tracking	SMX6810NS-U2	4-channel analog audio embedding module with 2 pairs of unbalanced AES outputs and audio tracking.