

## GN-1738

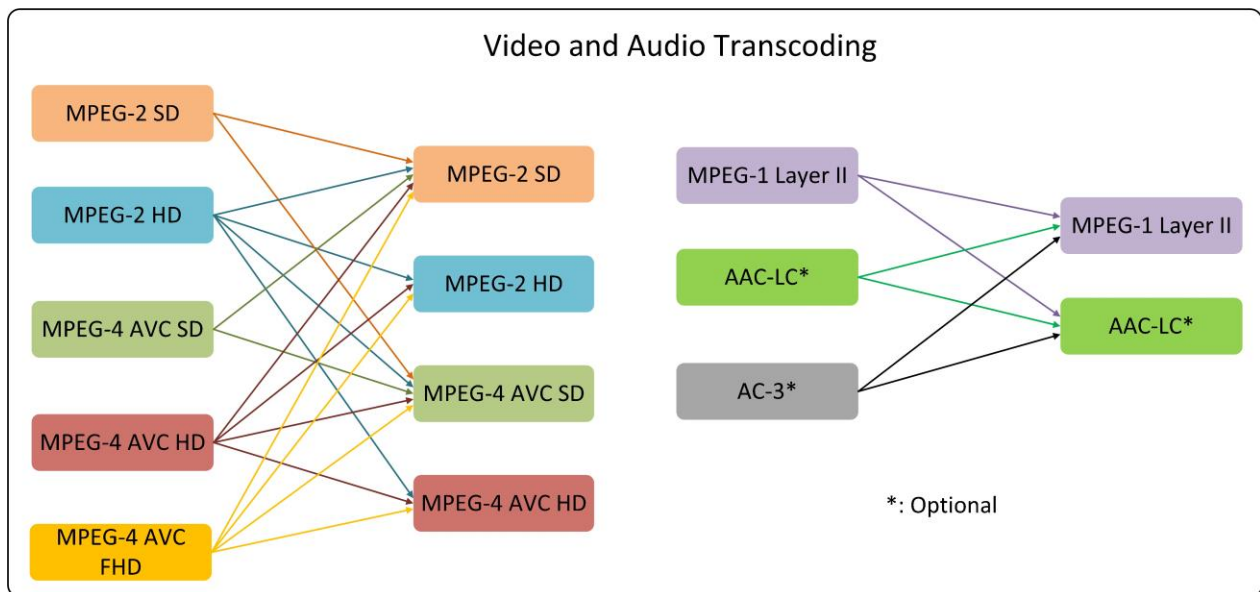
### MPEG-2/MPEG-4 AVC SD/HD Transcoder



#### Product Overview

With the number of video formats increasing fast, DTV operators require the ability to have a transcoding solution to simplify their headend architecture and to reduce the amount of headend equipment needed. To achieve this, they need products able to deal with both MPEG-2 and MPEG-4 AVC video streams from different sources.

GOSPELL's GN-1738 transcoder is highly competitive SD/HD video and audio conversion unit with best-in-class video quality. It can transcode up to eight SD (or four HD) MPEG-2/MPEG-4 AVC live video and audio services for broadcast and Over-The-Top(OTT) applications.



GN-1738 provides a wide range of real-time transport streams input options, from satellite, DVB-ASI and TS-over-IP inputs. This allows it handles any real-time video and audio source, and transcoding outputs via both IP and DVB-ASI, enabling a highly reliable video service to be delivered. In addition, the GN-1738 supports Web and SNMP-based management for conveniently local and remote management as well as maintenance.

## Main Features

- Supports up to 8 SD or 4 HD MPEG-2 and MPEG-4 AVC video and audio services
- MPEG-2 to MPEG-4 AVC or MPEG-4 AVC to MPEG-2 cross-conversion
- MPEG-2 to MPEG-2, MPEG-4 AVC to MPEG-AVC re-encoding
- HD to SD down-conversion
- One-to-one and one-to-many multi-screen transcoding
- Audio streams pass-through
- Supports optional AC-3, AAC-LC and MPEG-1 Layer II audio transcoding and down-mix
- Multiple input options: 4 x DVB-S/S2 RF or 4 x DVB-ASI + IP inputs
- Supports VBR/CBR video encoding
- Web and SNMP-based management for remote management and maintenance

## Resolution Conversion Table

Video Resolution Conversion		Video Output																									
		320 x 288i@25fps	352 x 288i@25fps	352 x 576i@25fps	480 x 576i@25fps	544 x 576i@25fps	640 x 576i@25fps	704 x 576i@25fps	720 x 576i@25fps	320 x 240i@29.97fps	352 x 240i@29.97fps	352 x 480i@29.97fps	480 x 480i@29.97fps	544 x 480i@29.97fps	640 x 480i@29.97fps	704 x 480i@29.97fps	720 x 480i@29.97fps	1280 x 720P@50 fps	1280 x 720P@59.94 fps	1440 x 1080i@25 fps	1920 x 1080i@25 fps	1440 x 1080i@29.97 fps	1920 x 1080i@29.97 fps				
Video Input	320 x 288i@25fps	■																									
	352 x 288i@25fps	■	■																								
	352 x 576i@25fps	■	■	■																							
	480 x 576i@25fps	■	■	■	■																						
	544 x 576i@25fps	■	■	■	■	■																					
	640 x 576i@25fps	■	■	■	■	■	■																				
	704 x 576i@25fps	■	■	■	■	■	■	■																			
	720 x 576i@25fps	■	■	■	■	■	■	■	■																		
	320 x 240i@29.97fps									■																	
	352 x 240i@29.97fps									■	■																
	352 x 480i@29.97fps									■	■	■															
	480 x 480i@29.97fps									■	■	■	■														
	544 x 480i@29.97fps									■	■	■	■	■													
	640 x 480i@29.97fps									■	■	■	■	■	■												
	704 x 480i@29.97fps									■	■	■	■	■	■	■											
	720 x 480i@29.97fps									■	■	■	■	■	■	■	■										
	1280 x 720P@50 fps	■	■	■	■	■	■	■	■									■									
	1280 x 720P@59.94fps									■	■	■	■	■	■	■	■		■								
	1440 x 1080i@25 fps	■	■	■	■	■	■	■	■													■					
	1920 x 1080i@25 fps	■	■	■	■	■	■	■	■													■	■				
	1440 x 1080i@29.97fps									■	■	■	■	■	■	■	■								■		
1920 x 1080i@29.9 fps									■	■	■	■	■	■	■	■							■	■			
1440 x 1080P@50 fps	■	■	■	■	■	■	■	■										■			■						
1920 x 1080P@50 fps	■	■	■	■	■	■	■	■										■			■	■					
1440 x 1080P@59.94 fps									■	■	■	■	■	■	■	■					■			■			
1920 x 1080P@59.94 fps									■	■	■	■	■	■	■	■					■			■			

## Technical Specifications

### RF Input Option

Number of Input	4 x RF Input, 4 x RF Loop Out
Operation Mode	Independent input
Connector Type	F-Type (Female, 75Ω)
Frequency Range	950MHz to 2150MHz
Standards	DVB-S: EN 300 421 DVB-S2: EN 302 307
Constellations	DVB-S: QPSK DVB-S2: QPSK/8PSK
Symbol Rate	QPSK: 2-45 Msym/s 8PSK: 10-31 Msym/s
Input Signal Level	-65 to -25dBm
LNB Power Output	0V/+DC 13V/18V LNB short circuit protection

### TS Input Option

#### DVB-ASI Input

Number of ASI Input	4 x ASI
Operation Mode	Independent input
Connector	BNC female, 75Ω
Standards	DVB-ASI
TS Packet Length	188 or 204 Bytes

#### MPEG TS-over-IP Input

Number of IP Output	1 x 100/1000 Base-T Ethernet
TS Format	7 x 188Byte
IP Encapsulation	MPEG TS-over-UDP/RTP
MPEG TS	MPTS, SPTS
Addressing	Unicast or Multicast
Connector	RJ-45

### ASI Transcoding Output

Number of ASI Output	2 x ASI
Operation Mode	Duplicate output
TS Packet Length	188 Bytes
TS Output Bit Rate	2 to 60Mbps
Connector	4 x BNC*, 75Ω

**Notes:** Only two BNC connectors are available for ASI outputs, the rest two are reserved.

### MPEG TS Over IP Transcoding Output

Number of IP Output	1 x 10/100 Base-T Ethernet
TS Output Bit Rate	2 to 60Mbps
TS Format	7 x 188Byte
IP Encapsulation	MPEG TS-over-UDP/RTP*
TS Mode	MPTS, SPTS
Number of TS Output	8 TS
Addressing	Unicast or Multicast
Connector	2 x RJ-45*

**Notes:** 1) TS-over-RTP is not available for RF input option;  
2) Only one RJ-45 is available, the rest one is reserved.

### Video Transcoding

Video Processing	Decoding and Encoding
	Encoding Format: Cross-conversion
	Resolution: Down-conversion
Video Conversion	Bit Rate: Down-conversion
	Frame Rate: No conversion
	Aspect Ratio: No conversion
Processing Capability	Up to 8 SD video services Or 4 HD video services
Video Format, Profile & Level	MPEG-2 SD: MP@ML MPEG-2 HD: MP@HL AVC SD: MP@L3 AVC HD: HP@L4 AVC FHD: HP@L4.2 (For Input only)
	FHD (For Input only): 1920/1440 x 1080P@50 fps 1920/1440 x 1080P@59.94 fps
	HD: 1920/1440 x 1080i@25 fps 1920/1440 x 1080i@29.97 fps 1280 x 720P@50 fps 1280 x 720P@59.94 fps
Video Resolution and Frame Rate	SD(PAL): 720/704/640 x 576i@25fps 544/480/352 x 576i@25fps 352/320 x 288i@25fps SD(NTSC): 720/704/640 x 480i@29.97fps 544/480/352 x 480i@29.97fps 352/320 x 240i@29.97fps
Encoding Mode	CBR, VBR
Video Output Bit Rate	MPEG-2 SD: 0.5-7 Mbps MPEG-2 HD: 5-20 Mbps AVC SD: 0.25-7 Mbps AVC HD: 2-20 Mbps
Total Output Bit Rate	2 to 60Mbps

### Audio Transcoding

Audio Processing	Decoding and Encoding Pass-through
Audio Conversion	Encoding Format: MPEG-1 Layer II to AAC-LC AAC-LC to MPEG-1 Layer II AC-3 to AAC-LC AC-3 to MPEG-1 Layer II Encoding Rate: No-conversion Audio Channel: 5.1 (surround) to 2.0(stereo) down-mix
Pass-through	MPEG-1 Layer II AAC-LC HE-AAC v1 HE-AAC v2 AC-3 E-AC-3
Processing Capability	Up to 8 audio services
Sample Rate	48KHz

### Remultiplexing

PID	PID filtering, remapping
PSI/SI	PCR, PMT, SI ID modification

## Network Management

Interface	1 x 10/100 Base-T Ethernet
Connector	RJ-45
Management	Web browser and SNMP management

## Miscellaneous

Front Panel	3.5" LCD with 6 x Control Button for 2-lines information display and settings 3 x Dual color LED, for status indications of power, working and Alarm
Rear Panel	1 x 3-Pin Receptacle(AC Input) 1 x Power switch 1 x Serial Console Port(RJ-45)

## Power Supply

Input Voltage	100 - 240 VAC, 50/60Hz
Power Consumption	60W (Maximum)

## Environmental

Operating Temperature	0°C to 45°C(32°F to 113°F)
Storage Temperature	-20 to 80°C(-4°F to 176°F)
Operating Humidity	90%, non-condensing

## Mechanical

Product Dimensions (W x H x D)	482mm x 44.5mm x 400mm 19" x 1.73" (1 RU) x 15.8"
Product Weight	5Kg (11 lbs)

## Rear Panel View (For reference only)



GN-1738-A



GN-1738-B

## Ordering Information

### Ordering Options

Ordering Codes	Descriptions
GN-1738-A	8-Ch SD Transcoder, supports MPEG-2/MPEG-4 AVC video transcoding and audio pass-through, w/ 4 x DVB-S/S2 RF input, 4 x RF Loop Out, 2 x ASI output, 1 x 10/100Base-T output
GN-1738-B	4/8-Ch HD/SD Transcoder, supports MPEG-2/MPEG-4 AVC video transcoding and audio pass-through, w/ 4 x ASI input, 1 x 100/1000Base-T input, 2 x ASI output, 1 x 10/100Base-T output
GN-1738-B-AAC	4/8-Ch HD/SD Transcoder, supports MPEG-2/MPEG-4 AVC video transcoding and MPEG-1 Layer II/AAC-LC audio transcoding, w/ 4 x ASI input, 1 x 100/1000Base-T input, 2 x ASI output, 1 x 10/100Base-T output
GN-1738-B-AAC/Dolby	4/8-Ch HD/SD Transcoder, supports MPEG-2/MPEG-4 AVC video transcoding and MPEG-1 Layer II/AAC-LC/AC-3 audio transcoding, w/ 4 x ASI input, 1 x 100/1000Base-T input, 2 x ASI output, 1 x 10/100Base-T output

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## For More Information

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