



## Modulator Encoder QAM (Annexes A and B)

HDTV Encoder/Modulator range providing MPEG-2 or H.264 encoding with rates up to 1080 p. The range includes several modules equipped with 2 HDMI and component video inputs, one module equipped with 2 component video inputs, and one module equipped composite video inputs; all of them produce a single RF QAM output channel in HDTV to be distributed on a coaxial infrastructure. They support Dolby® Digital audio and include the Closed Captioning service, as well as an optional EAS interface with ASI input and output. The units are also equipped with an RF combiner and an integrated Ethernet switch to manage the whole system without the need for additional accessories.

Ref.	563802
EAN13	8424450170946

### Other features

Encoder inputs	Composite Video (4 inputs)
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### Packaging info

Box	1 pcs.
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### Physical data

Net weight	1,243.00 g
Gross volume	5.50 dm <sup>3</sup>
Gross weight	1,500.00 g
Width	50.00 mm
Height	219.00 mm
Depth	200.00 mm
Main product weight	1,105.00 g

## Highlights

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- Perfect image and audio synchronization
- Compatible with multiple formats, resolutions, and TV set sizes
- Editing of all the modulation and encoding parameters
- Configurable via web interface or PCT5.0 programmer
- High output power without the need for extra amplification
- Multi-standard output format
- Excellent output quality (MER>40 dB)
- Device monitoring and signal status LED diodes
- Energy-efficient thanks to their low power consumption
- Integrated RF combiner and Ethernet switch
- Remote firmware update
- Configuration via a web interface embedded in the encoder

## Discover

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### Considerations

The terms HDMI, HDMI High-Definition Multimedia Interface, HDMI Trade dress and the HDMI Logos are trademarks or registered trademarks of HDMI Licensing Administrator, Inc.

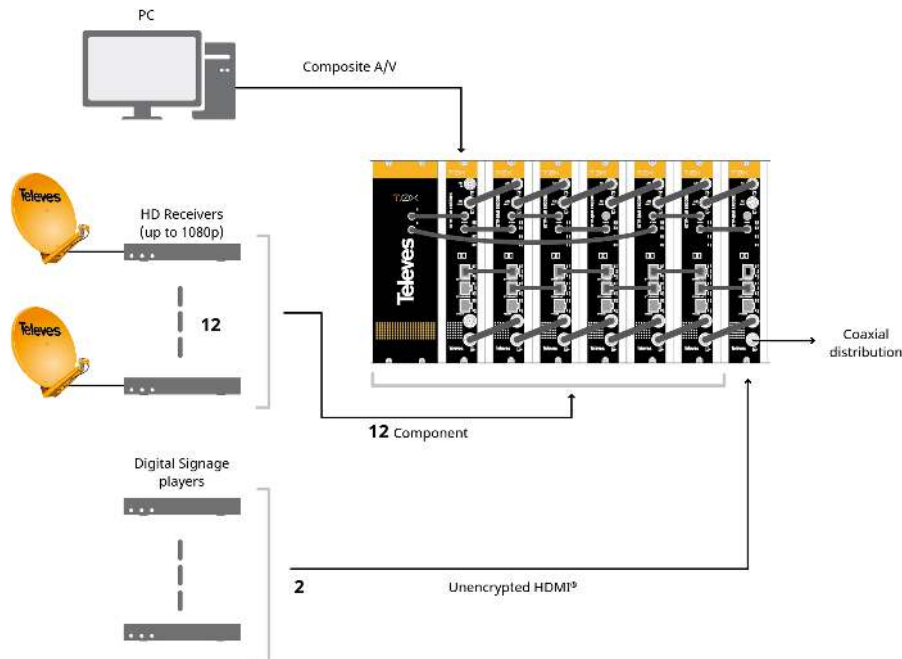
## Application example

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### **RESTAURANTS & BARS (WITH EAS)**

**Use the existing coax wiring to distribute full HD programming in restaurants and bars without rewiring or using component matrix switchers.**

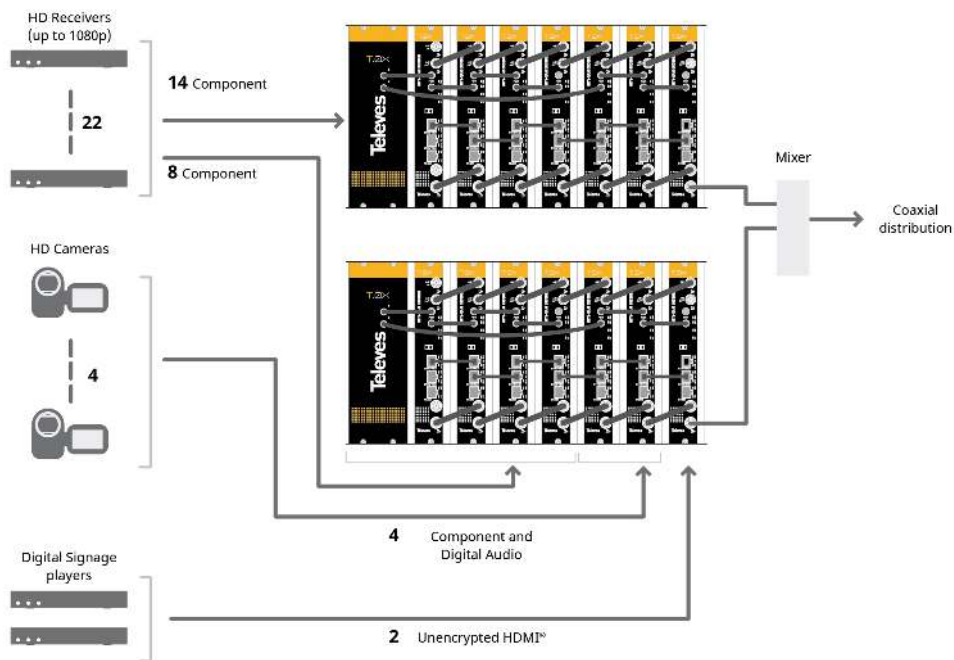
Easily add high definition in-house content using HDMI® digital signage players, and take advantage of a simple PC connected to an EAS encoder to display special promotion announcements on every screen at the same time.



1: Twin component to QAM (EAS) / 2...6: Twin component to QAM / 7: Twin HDMI® to QAM

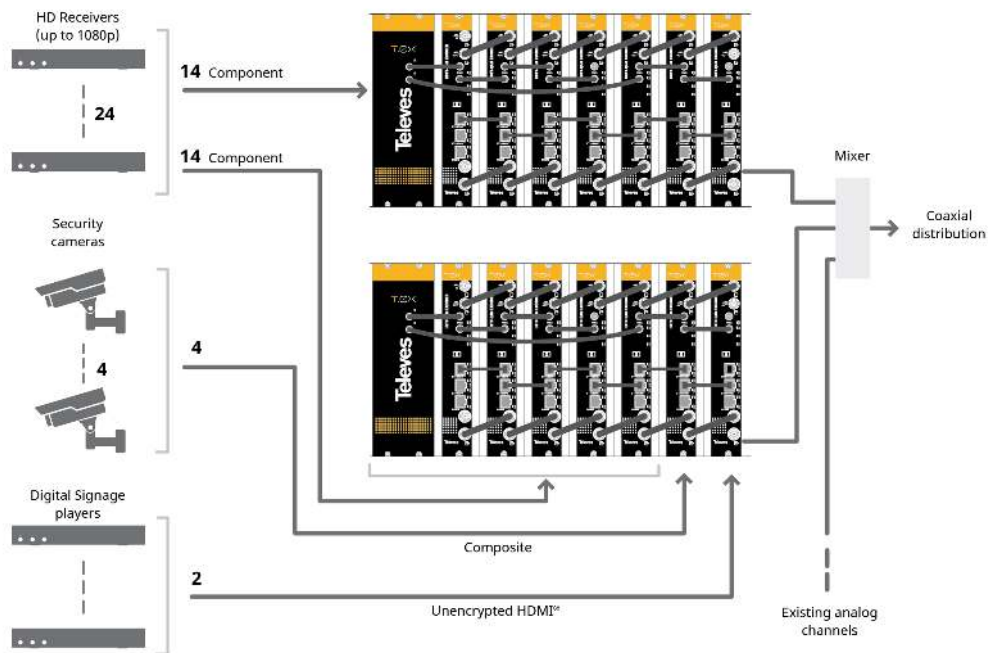
## BALLPARKS, ARENAS & STADIUMS

**Hundreds of inexpensive HDTV displays installed across the stadium can be operated from a rack of HDTV Encoder/Modulators** providing live HD video content from other games via cable or satellite receivers, live TV game action from the field HD cameras, and even additional digital signage channels displaying trivia, statistics or special announcements, all of it **using the already existing cable distribution.**



## MULTIPLE DWELLING UNITS

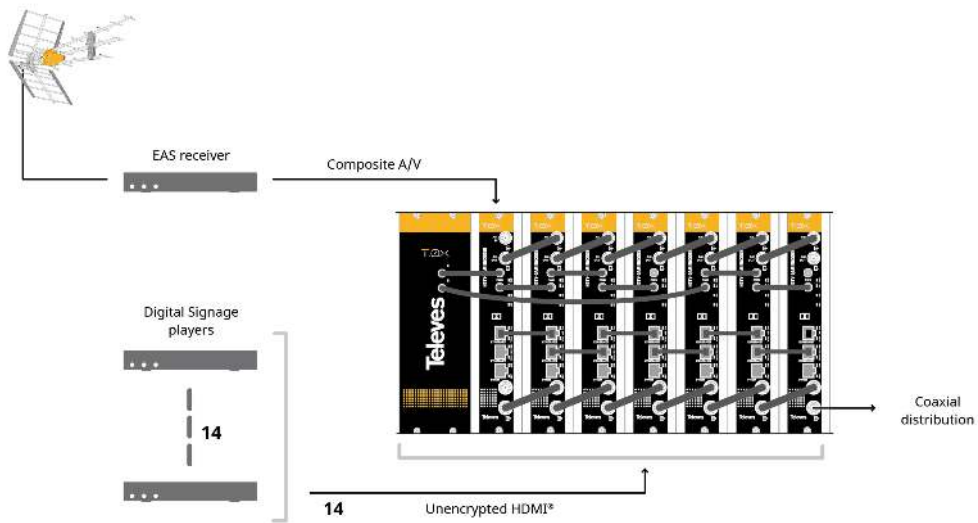
This example shows various inputs including up to **1080p HD programming**, **security camera content**, and **locally generated digital signage announcement channels**, delivered over the building's single wire coax infrastructure without set top boxes to every existing and future HDTV in the property.



1...12 : Dual component to QAM / 13: Quad composite to QAM / 14: Twin HDMI\* to QAM

## DIGITAL SIGNAGE (WITH EAS)

Broadcast an easily scalable number of digital signage channels to a potentially **unlimited number of displays without using any additional devices at the HDTVs**. Adding a single EAS module to the system provides plant-wide alert announcement capability, with builtin EAS signal distribution and RF combination.



1: Twin HDMI® to QAM (EAS) / 2...7: Twin HDMI® to QAM

## Technical specifications

References			QUAD COMPOSITE TO QAM		DUAL COMPONENT TO QAM		DUAL HDMI®/ COMPONENT TO QAM		
			563802	563821	563801	563811	563803	563831	
INPUTS	VIDEO	Connectors	4 sets – 1x RCA for video (CVBS)		2 sets – 3x RCA for video (Y, Pb, Pr)		2 sets – 3x RCA for video (Y, Pb, Pr) 2 sets – 2x HDMI® (unencrypted)		
	AUDIO	Connectors	4 sets – 2x RCA for analog audio (L, R)		2 sets – 2x RCA for analog audio (L, R)				
					2 sets – 1x RCA for digital audio (PCM)				
					2 sets – 1x toslink for digital audio (Optical)				
	CLOSED CAPTIONING	Connectors	4 sets – 1x RCA (CVBS in)		2 sets – 1x RCA (CC in)				
	EAS	Connectors	n/a	3x RCA (CVBS,L,R)	n/a	3x RCA (CVBS,L,R)	n/a	3x RCA (CVBS,L,R)	
		Trigger	Vdc	n/a	5-12 (Dry contact closure)	n/a	5-12 (Dry contact closure)	n/a	5-12 (Dry contact closure)
	ASI	Connectors	1x BNC						
		Format	DVB-ASI						
		Standard	ETSI EN 50083-9						
QAM	Connectors	1x "F" Female (loop-through mix input)							
ENCODING PROFILE	VIDEO	Output Format	MPEG-2, H.264						
		Resolution	480i & 576i	480i, 480p, 576i, 576p, 720p, 1080i (MPEG-2/H.264) & 1080p (H.264)					
		Supports auto-scan for input resolution							
		Aspect Ratio	4:3, 16:9, and pass-through						
		GOP	10, 12, 15, 16, 18, 20, 24 or 30						
		Transport rate	Variable						
		Video bit rate	Variable						
	AUDIO	Output format	Dolby® Digital AC-3 or MPEG-1 Layer 2						
		Sampling rate	KHz	48					
		Output bitrate	Variable						
CLOSED CAPTIONING	Format	EIA-608		EIA-608, EIA-708					

SALIDAS	QAM	Connectors		1x "F" Female
		Modulation standards		ITU-A: 16, 32, 64, 128, 256, 512, 1024 QAM
				ITU-B: 64, 256 QAM
		Frequency Range	MHz	5 - 1002 MHz (supports return path applications)
		Channel plans		CATV STD, HRC, IRC, Broadcast, Frequency
		Max output level	dBmV	55 (43 with loop-through)
		MER	dB	>40 (Typ)
		Spurious	dBc	-60
		Impedance	Ω	75
		I/Q Phase Error	°	< 1
	I/Q Amplitude Imbalance	%	< 1	
	ASI	Connectors		1x BNC
		Format		DVB-ASI
ALARMS / MONITORING / CONTROL	Local control		Full configuration with LCD handheld programmer	
	Local monitoring		EAS status LED	
			LOOP status LED	
			QAM status LED	
			TEMP status LED	
			CH1/2 - CH3/4 status LEDS	CH1/2 status LED
			Ethernet status LEDS	
Remote monitoring		Centralized web based remote control, management, alarms, and software upgrades		
Control		Daisy-chain built-in ethernet switch		
GENERAL	Power supply	Vdc	24	
	Power disipation	W	< 19.2 (@1080p)	
	Operating Temperature	°F/ °C	32 ... 122 / 0 ... 50	
	Storage Temperature		-13 ... 158 / -25 ... 70	