



HDTV ENCODER / MODULATORS



Unlimited HD Video Distribution Over Coax

High density, professional HD video encoding solution for new or existing coax infrastructure, for better quality in less bandwidth. **Compatible with any HDTV, use your existing coax cabling to distribute pristine high definition to an unlimited number of flat screen TVs!**

DESCRIPTION

This family of HDTV encoder/modulator products offers MPEG-2 or H.264 encoding at rates up to 1080p, with either 2 HDMI and component, 2 component, or 4 composite inputs with a single QAM RF channel out for broadcast over new or existing single-wire coax cable infrastructure to an unlimited number of HDTVs.

It supports Dolby® Digital audio encoding ensuring quality and compatibility with any HDTV, Closed Captioning, and an optional EAS interface with ASI input and output for convenient signal management.

The units are also equipped with the innovative Televes integrated RF combiner and a built-in ethernet switch for integration and control of an entire system without needing additional accessories. Its high density, with up to 28 encoded channels per chassis, is optimum for large channel count environments where modularity and flexibility are critical.

All this with the same form factor and comprehensive local and web based remote monitoring, control, and update capability of the T.OX family of products for easy integration and operation of a unified video headend.

INPUT OPTIONS

- **Two HDMI or HD component** video channels multiplexed into one RF QAM channel
- **Two HD component** video channels multiplexed into one RF QAM channel
- **Four composite** video channels multiplexed into one RF QAM channel

Dual HDMI /
Component to QAM

Dual
Component to QAM

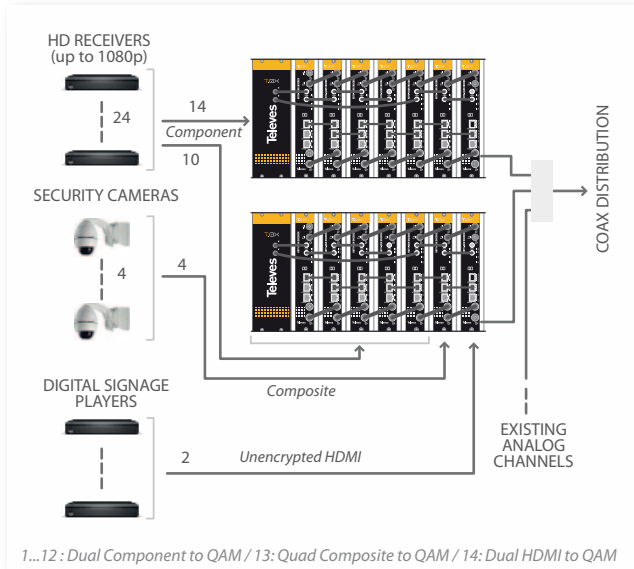
Quad
Composite to QAM



✓ Features

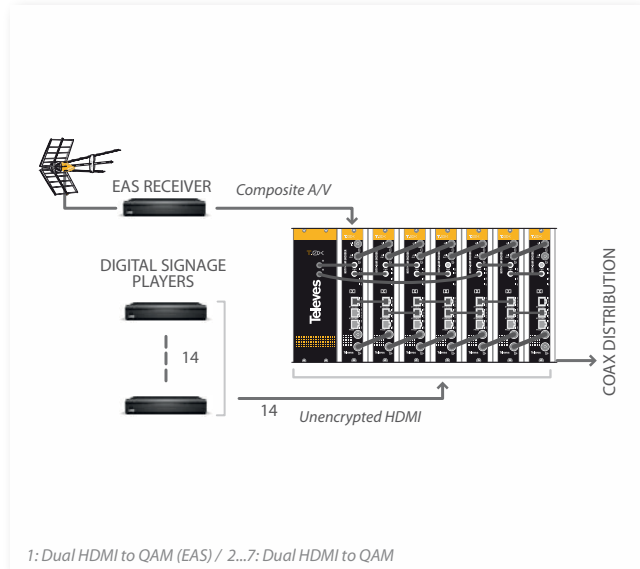
- Up to 1080p MPEG-2 and H.264 encoding
- Real-time Dolby® Digital audio encoding
- +55 dBmV fully agile RF output from 5 to 1002MHz (return applications)
- Optional EAS interface with composite video and L/R audio
- Integrated ASI I/O provides easy EAS signal management
- Same form factor and interface as the other T.OX family members
- Comprehensive remote control/monitoring/alarms from any web browser
- Local configuration with hand-held programmer
- Integrated RF Combiner and Ethernet switch for rapid deployment
- Automatic remote firmware upgradeability

MULTIPLE DWELLING UNITS



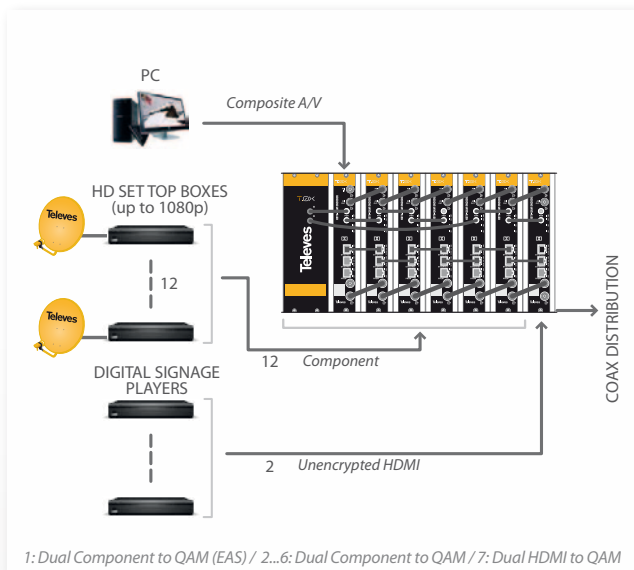
This example shows various inputs including up to **1080p HD programming**, **security camera content**, and **locally generated digital signage announcement channels**, delivered over the building's single wire coax infrastructure without set top boxes to every existing and future HDTV in the property.

DIGITAL SIGNAGE (WITH EAS)



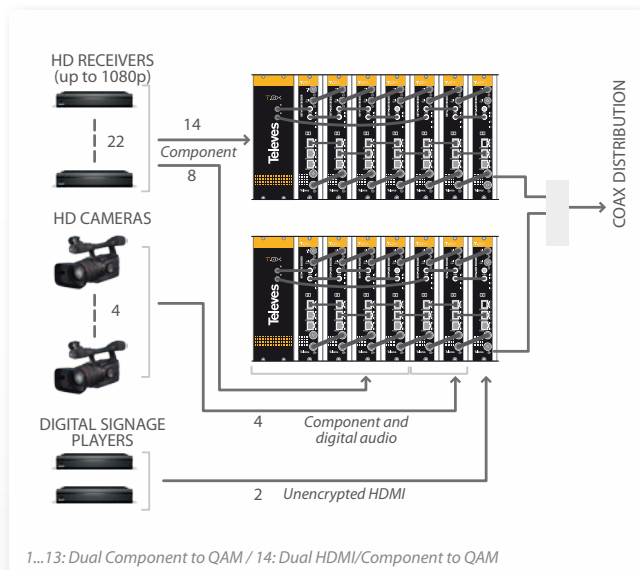
Broadcast an easily scalable number of digital signage channels to a potentially **unlimited number of displays without using any additional devices at the HDTVs**. Adding a single EAS module to the system provides plant-wide alert announcement capability, with built-in EAS signal distribution and RF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

RESTAURANTS & BARS (WITH EAS)



Use the existing coax wiring to distribute full HD programming in restaurants and bars without rewiring or using HDMI or 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.

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**.

FI15102013 The specifications, pictures, and information provided in this brochure are being provided for informational purposes. Televés reserves the right to withdraw, modify, or replace the specification at any time, without notice.

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	3xRCA (CVBS, L, R)	n/a	3xRCA (CVBS, L, R)	n/a	3xRCA (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)					
		Aspect Ratio	Supports auto-scan for input resolution 4:3, 16:9, and pass-through						
		GOP	10, 12, 15, 16, 18, 20, 24 or 30						
		Transport rate	Variable						
	AUDIO	Video bit rate	Variable						
		Output format	Dolby® Digital AC-3 or MPEG-1 Layer 2						
		Sampling rate	kHz	48					
CLOSED CAPTIONING	Output bitrate	Variable							
	Format	EIA-608		EIA-608, EIA-708					
OUTPUT	QAM	Connectors	1x "F" female						
		Modulation standards	ITU-A: 16, 32, 64, 128, 256, 512, 1024 QAM ITU-B: 64, 256 QAM						
		Frecuency 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	°F/°C	-13 ... 158 / -25 ... 70						