



## **EM101x** **Digital TV Encoder Modulator**

EM101x is an integrated base band TV signals to DVB-T/C digital RF TV signal conversion unit (Analog\_to\_Digital and RF output).

Analog AV or digital HDMI base band signal can be encoded, multiplexed and modulated onto one DVB-T/C RF carrier. The RF output signal could be easily mixed into the exist CATV or HFC network without disturbing the exist signals nor re-build the co-axial cabling network. Multiple STB's (Set Top Box) or integrated TV's can receive the clear & clean digitized TV signal simultaneously, and no professional reception equipment is needed. Transmission range over co-axial cable could be longer than 100m without degrade of signal quality.

Suitable for private video distribution, community surveillance network, campus conference, factory on-site monitoring, hotel TV digitization, etc.



### **Main Feature**

- Compliant with H.264/AVC BLP, MP, HP @ L4.0 or less, MPEG-2 MP@ML
- DVB-T or DVB-C RF output (factory options)
- HDMI & CVBS inputs
- HDMI Loop out (pass through)
- NTSC, PAL, SECAM & Video resolution auto detect
- NIT,SDT,LCN auto generation
- LCD display and Control with keyboard
- 30sec QuickSet menu for all parameters
- TS ID, PID, Service name & LCN collision prevention mechanism
- Support IR remote return (factory option)



# Digital TV Encoder & Modulator

Solution . System . Service



## Control & Display Panel



## Input & Output Panel





## Specifications

### Interface

- AV Input: CVBS, Audio\_L/Audio\_R
- Connector type: phone jack for AV
- HDMI: HDMI in\*1 (SD or HD)(HDCP) and HDMI\*1 Loop Out
- LCD display: 2\*16 characters
- Keyboard: 6 keys
- Reset: push button
- RF monitor: F-type female, 75Ω
- RF out: F-type female, 75Ω
- DC Input: 5V/3A, < 15W

### Video Compression

- Analog Input: Analog NTSC, PAL and SECAM
- Digital Input: HDMI 1.4 (support HDCP)
- Compression Standard: H.264/AVC BLP, MP, HP @ L4.0 or less, MPEG-2 MP@ML
- Video Resolution & Recommend Compression Bit Rate H.264  
1080i(1920×1080)@25Hz,29.97Hz,30Hz:SMPTE274M: 1.5~11Mb/s  
720p( 1280×720 )@25Hz,29.97Hz,30Hz:SMPTE296M: 1.5~11Mb/s  
480i ( 720×480 ) @29.97Hz:SMPTE656M: 500K~6Mb/s  
576i ( 720×576 ) @25Hz: SMPTE656M:500K~6Mb/s
- Video Resolution & Recommend Compression Bit Rate MPEG-2  
480i ( 720×480 ) @29.97Hz:SMPTE656M: 3.5~6Mb/s  
576i ( 720×576 ) @25Hz: SMPTE656M: 3.5~6Mb/s
- Aspect Ratio: 4:3/16:9 auto detected
- Video Compression bit rate: 500K~13Mbps

### Audio Compression:

- Audio Input Interfaces: HDMI or Analog
- Compression Standard: MPEG-1 Layer II
- Audio Sampling Rate: 48 KHz
- Audio Compression bit rate:  
MPEG1 Layer II :32~192Kbps(mono), 64~384Kbps( stereo)

### TS Processing

- PSI/SI: PAT, PMT, NIT, SDT and LCN auto generated

### DVB-T Modulation (factory option)

- Constellation: QPSK/16QAM/64QAM
- Bandwidth: 6MHz, 7MHz, 8MHz
- FFT Mode: 2K, 8K
- Guard Interval: 1/4, 1/8, 1/16, 1/32
- Code Rate: 1/2, 2/3, 3/4, 5/6, 7/8
- MER: >38dB

### RF Output

- Connector Type: 1×F type female,75 Ω ( primary output )
- Output Frequency Range: 100~860MHz agile,step by 10KHz
- Output Level: 83~100dB μV , step by 1dB
- Spurious Rejection: 50dBc (typ.)
- Output Return Loss: 10dB (typ.)

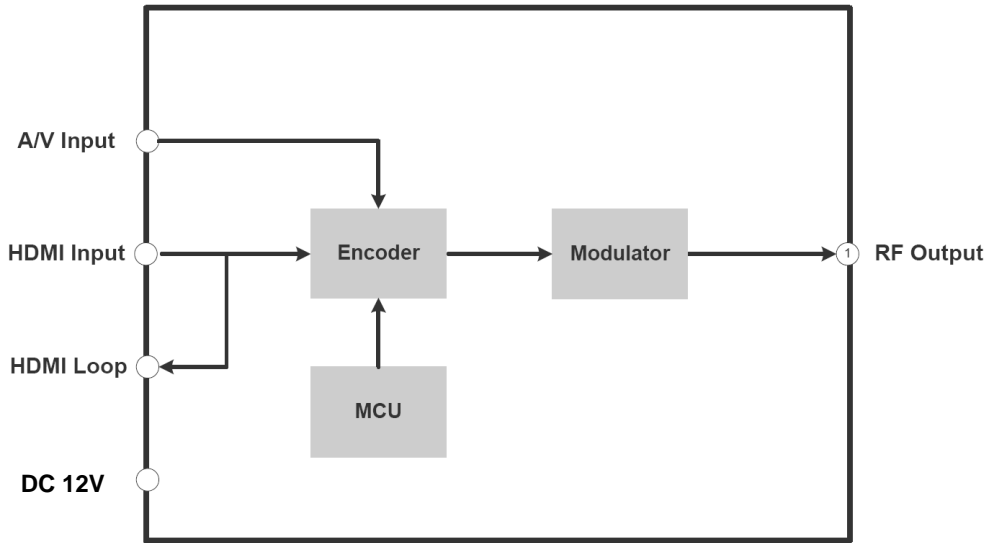
### Control & Monitoring

- Monitoring: LCD
- Control : keyboard

### Physical

- Dimension : 195mm×145mm×40mm
- Net weight : 0.5kg
- Power Supply: DC 12V/1.5A,
- Power Consumption: Maximum 8W
- Operating Temperature: 0~45℃
- Storage Temperature: -10~60℃
- Operating Humidity: 10~90%,non-condensed

**Note:** All specifications are subject to change without notice.

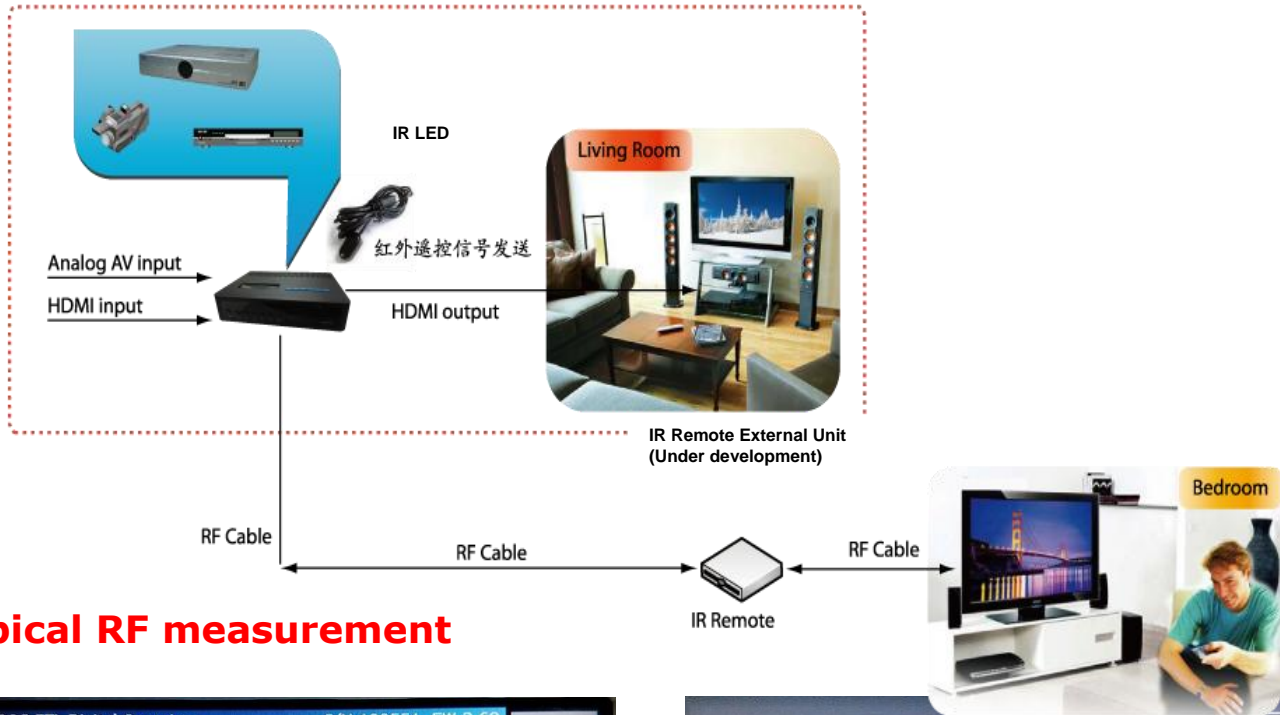


### Order Information

Standard configuration	EM101x			
	EM101-T	EM101-T+	EM101-C	EM101-C+
DVB-T RF output	●	●		
DVB-C RF output			*	*
CVBS input	●	●	●	●
HDMI input	●	●	●	●
HDMI loop output		●		●
LCD&Keyboard	●	●	●	●
H.264 HD/SD	●	●	●	●
MPEG2 SD	●	●	●	●
MPEG1 L2 Stereo	●	●	●	●
IR remote		*		*

**\*Note:** DVB-C model (EM101-C) and IR remote Under development, further information available upon request.

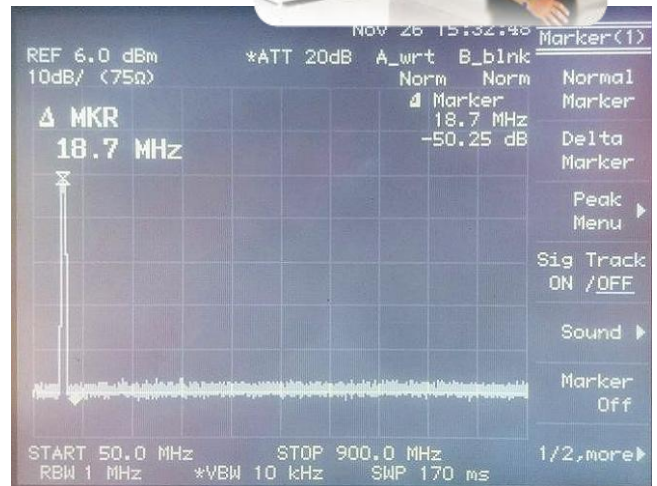
## Application Example



## Typical RF measurement



BER < 0.0e-8, MER > 38dB, RF=100MHz



Spurious Rejection > 50dBc, RF=100MHz