

**3S TECHNOLOGY**




DEVICE NAME

AV-111MD

# PRODUCT DATASHEET

( DEVICE MODEL NO : AV-111MD )

**TITLE : UHF transmitter module**

	ISS.	CHK.	APP.
SIGN			
DATE	2007.02.15	2007.02.15	2007.02.15



301-1103, Bucheon-Technopark, 365, Samjung-dong,  
Ojung-gu, Bucheon, Kyonggi, Korea  
TEL : +82.32.621.1080 / FAX : +82.32.621.1083  
<http://www.3stech.co.kr>



## OVERVIEW

TV transmitter AV-111MD is a new type solution for the wireless Video/Audio solution. AV-111MD is a high quality and new UHF transmitter module which transmits the analogue Video & Audio signal from the media players such as DVD player, laptop, game player to Television.

No other receiver is needed. AV-111MD brings to your product to the wireless.

## FEATURE AND APPLICATION

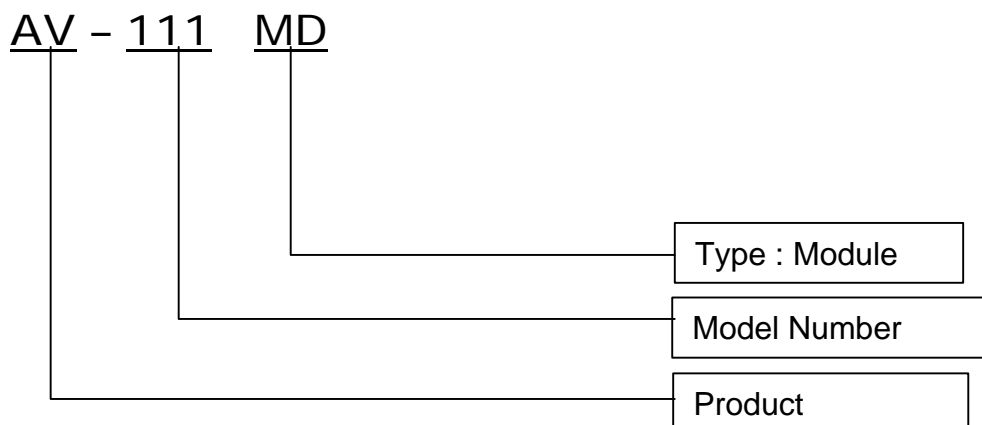
### 1. Features

- High quality Wireless Audio / Video transmission
- Small sized dimension

### 2. Applications

- Divx, DVD, DMB, car navigation, Personal computer, Game machine, PDA mobile phone

### 3. Ordering Information





## SPECIFICATION

### 1. Power supply

NO	ITEM	SPECIFICATION			UNIT	REMARK
		MIN	TYP	MAX		
1-1	Supply Voltage	4.8	5	5.2	Vdc	
1-2	Current Consumption	-	-	130	mA	

### 2. Audio Video Characteristics

NO	ITEM	SPECIFICATION			UNIT	REMARK
		MIN	TYP	MAX		
2-1	Audio Input Impedance	10	-	-	k $\Omega$	0.1 ~ 10kHz
2-2	Audio Input Level			-10	dBV	
2-3	Audio Modulation	65	80	95	%	$\pm 50\text{kHz}=100\%$ , at-6.5 dBs
2-4	Audio S/N	40	-	-	dB	
2-5	Audio Distortion	-	-	0.5	%	Standard Modulation
2-6	Audio Frequency Response	-3	-	3	dB	0.1~10kHz with 1kHz ref.
2-7	Audio Separation	-30	-	-	dB	At 1kHz ref. L-channel
2-8	Video Input Impedance	-	75	-		unbalanced
2-9	Video Input Level			1.5	V <sub>cvbs</sub>	
2-10	Video Modulation	65	75	85	%	NTSC 1Vp-p
2-11	Video S/N	40	-	-	dB	

### 3. TV Output Characteristics

NO	ITEM	SPECIFICATION			UNIT	REMARK
		MIN	TYP	MAX		
3-1	RF carrier Frequency	200		650	MHz	Ref. TV UHF control
3-2	RF Carrier Level	-	-	0	dBm	When modulated at 50 loaded
3-3	Output Impedance	-	50	-		unbalance
3-4	Output distance Range	-	-	5	m	

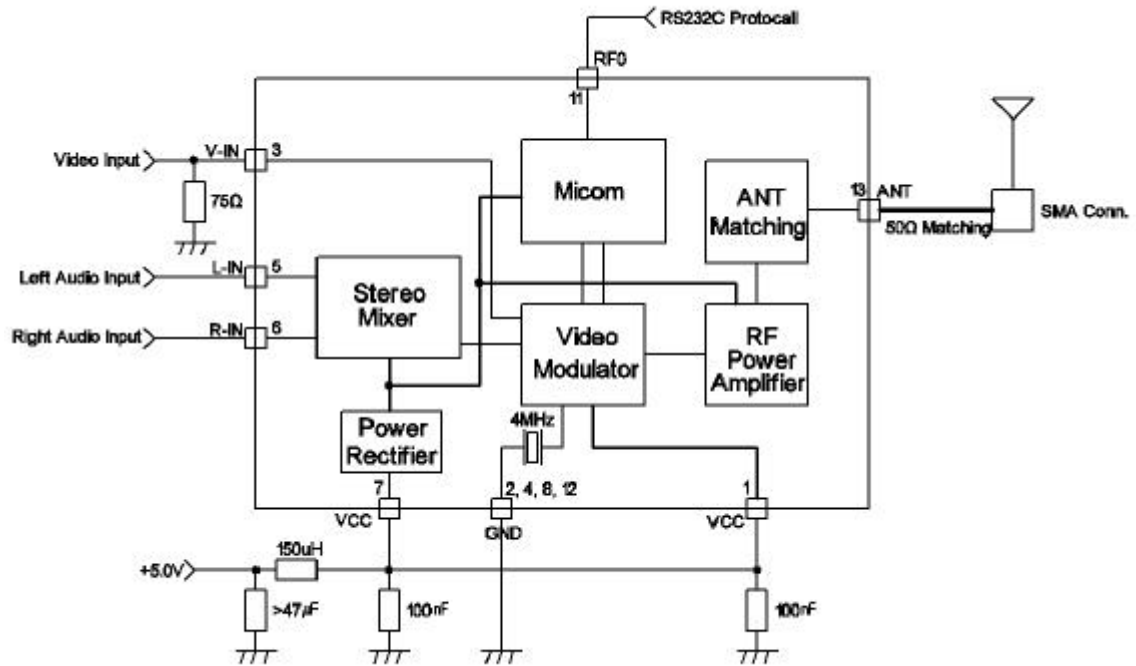
#### 4. TV UHF channel control

AV-111MD supports 16 TV channels. It provides serial channel control method using **RS232C(1200bps, 5V)**. The control port is **RFO** pin. And preset frequency is 211.25MHz(13ch @ NTSC, US).

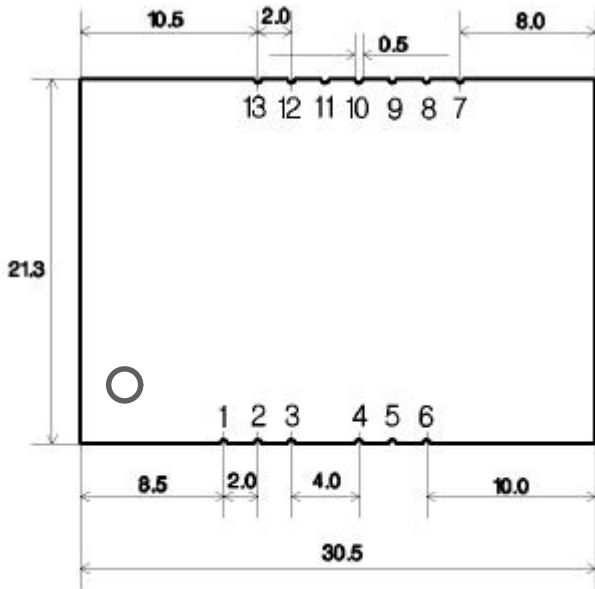
- Interface : RS-232C
- Data Transfer mode : Start stop synchronization
- Transfer Rate : 1,200bps
- Start bit (ST) : 1bit
- Data bit (b0 ~ b7) : 8bits
- Stop bit (SP) : 1bit
- Parity (P) : Non-parity
- Channel Data

UHF						
HEX	EX. CONTRY	SYSTEM		CH.	fp freq.[MHz]	fs freq.[MHz]
0X30	KOR, U.S.A, Taiwan Canada, Mexico, etc (JAPAN)	NTSC	M	14(13)	471.25	475.75
0X31				15(14)	477.25	481.75
0X32				38(37)	615.25	619.75
0X33				39(38)	621.25	625.75
0X34	U.A.E, Kuwait, Austria, Sweden, Denmark, Israel, etc	PAL	G	21	471.25	476.75
0X35				22	479.25	484.75
0X36				39	615.25	620.75
0X37				40	623.25	628.75
0X38	Hongkong, U.K., etc	PAL	I	21	471.25	477.25
0X39				22	479.25	485.25
0X3A				39	615.25	621.25
0X3B				40	623.25	629.25
0X3C	China	PAL	D	13	471.25	477.75
0X3D				14	479.25	485.75
0X3E				26	615.25	621.75
0X3F				27	623.25	629.75

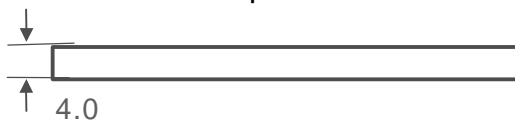
### 5. Block diagram



### 6. Dimension & Pin description



< Top view >



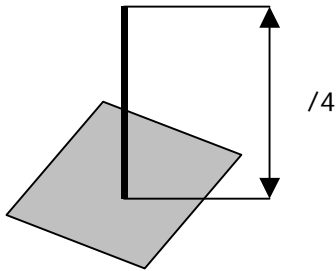
< Side view >

No	Pin name	Remark
1	VCC	5V
2	GND	Ground
3	V-IN	Video input
4	GND	Ground pin
5	L-IN	Left audio input
6	R-IN	Right audio input
7	VCC	5V
8	GND	Ground
9	NC	Non-Connection
10	NC	Non-Connection
11	RFO	Channel Control Port
12	GND	Ground
13	ANT	RF out

## APPLICATION

### Whip antenna

The whip antenna is the simplest. This a quarter wavelength wire that stands above a ground plane.



The size whip is defined by  $L = \lambda / 4 = c / 4f_0$   
Where  $f_0$  is the carrier frequency, " $\lambda$ " The wave length and And " $C$ " the celerity of light.

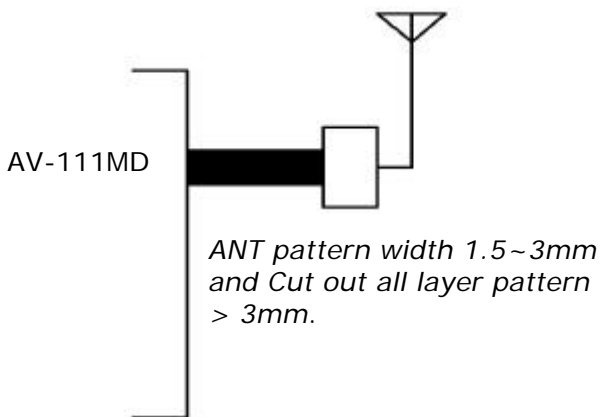
For and in UHF band application

$f_0 = 800.0\text{MHz}$  and

$$L = (3 \times 10^8) / 4 \times 800 \times 10^6 = 0.093 \text{ m}$$

A matching network is included in AV-111MD.

Just connect 50 impedance antenna. But ANT pattern must be routed below figure.



### PCB drawing for AV-111MD

