

STMB 201A

Before operating the system,
please read this manual thoroughly
and keep it for future reference.



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2.4GHz

2.4GHz WIRELESS TRANSMITTER

STMB201A
UTEL CO.,LTD
STMB201A

THIS DEVICE COMPLIES WITH PART 15
OF THE FCC RULES.

OPERATION IS SUBJECT TO THE
FOLLOWING TWO CONDITIONS :

- (1) THIS DEVICE MAY NOT CAUSE
HARMFUL INTERFERENCE, AND
- (2) THIS DEVICE MUST ACCEPT ANY
INTERFERENCE RECEIVED,
INCLUDING INTERFERENCE THAT MAY
CAUSE UNDESIRE OPERATION.

Caution : Any changes or
modifications in construction of this
device which are not expressly
approved by the party responsible
for compliance could void the
user's authority to operate the
equipment.

SUB - ASSY'S IN THIS UNIT

Standard package	STMB201A
	1- Transmitter
	1- 8PIN harness ass'y
	1- User's manual

Optional items	Extra wireless transmitter(ST-01)
(Not included)	Transmitter with audio amp(ST-02)
	Receiver (RIU-100AN)(ST-03)
	CCD Video Camera(ST-04)
	Warranty registration card(ST-05)
	Adaptor(ST-06)

SPECIFICATIONS

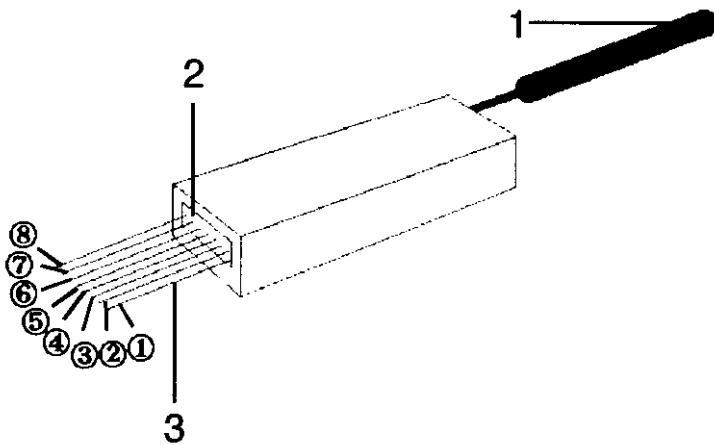
FREQUENCY RANGE	2411~ 2473 MHz
POWER SUPPLY	DC 12V
RF OUTPUT POWER	FCC SPEC
SPURIOUS EMISSION	-40 dBc
OUTPUT IMPEDANCE	50 Ω NOMINAL
OPERATING TEMPERATURE	-10°C ~ +60°C
POWER CONSUMPTION	200 mA
WEIGHT	45g
SIZE(without antenna)	100(L) X 29(W) X 16(H)

CHECK LIST PRIOR TO USE

You can use it after checking below instructions

1. Keep a distance at least 10 feet between transmitter and receiver when you install it.
Because high frequency radio wave of 2.4GHz may cause an interfering problem between channels, which will cause a distorted picture on the monitor.
2. Power supply is DC 12V, and it is applied to the two orange wires.
This module has a bridge diode in it, so power supply(+12V & power ground) can be applied alternately.
3. External radio wave may cause an interfering problem and communication range may be affected by geographical condition.

HARNESS ASS'Y AND FUNCTIONS



1. 2.4GHz A/V ANTENNA

High gain dipole antenna sends A/V modulated RF signal to the receiver. It is better to position the antenna vertically if you want to get maximum communication range.

2. 8 PIN CONNECTOR

This connector is connected to 8 pin harness ass'y.

HARNESS ASS'Y AND FUNCTIONS

3. 8 PIN HARNESS ASS'Y.

A) WIRE ① (YELLOW)-VIDEO INPUT

This wire can be connected to external video input. The level of video input should be 1V P-P. If it exceeds 1V P-P, the receiving picture may be distorted.

B) WIRE ② (BLACK)-GROUND

This wire is a signal ground for external video source, audio source and sensor input. Do not use this wire for power ground input.

C) WIRE ③ (ORANGE) / WIRE ④ (ORANGE) - DC 12V INPUT

Power supply (+12V DC & power ground) can be applied alternately to wire 3 and wire 4 because it has a bridge diode in it.

D) WIRE ⑤ (RED) - DC 12V OUTPUT TO VIDEO SOURCE

External video source and external detector sensor sometimes need power supply to operate them. This wire(RED) and black wire can be used power supply for external module. The maximum current of external module should be under 200mA.

HARNESS ASS'Y AND FUNCTIONS

The voltage between two wires is 1.4V lower than that of input power supply.

E) WIRE ⑥ (WHITE) - SENSOR INPUT

In normal mode, this module does not operate. When this pin is connected to ground or this pin in negative trigger input, the set will operate and transmit RF signal. If you does not use external detector input, you should connect this pin to signal ground(WIRE ②).

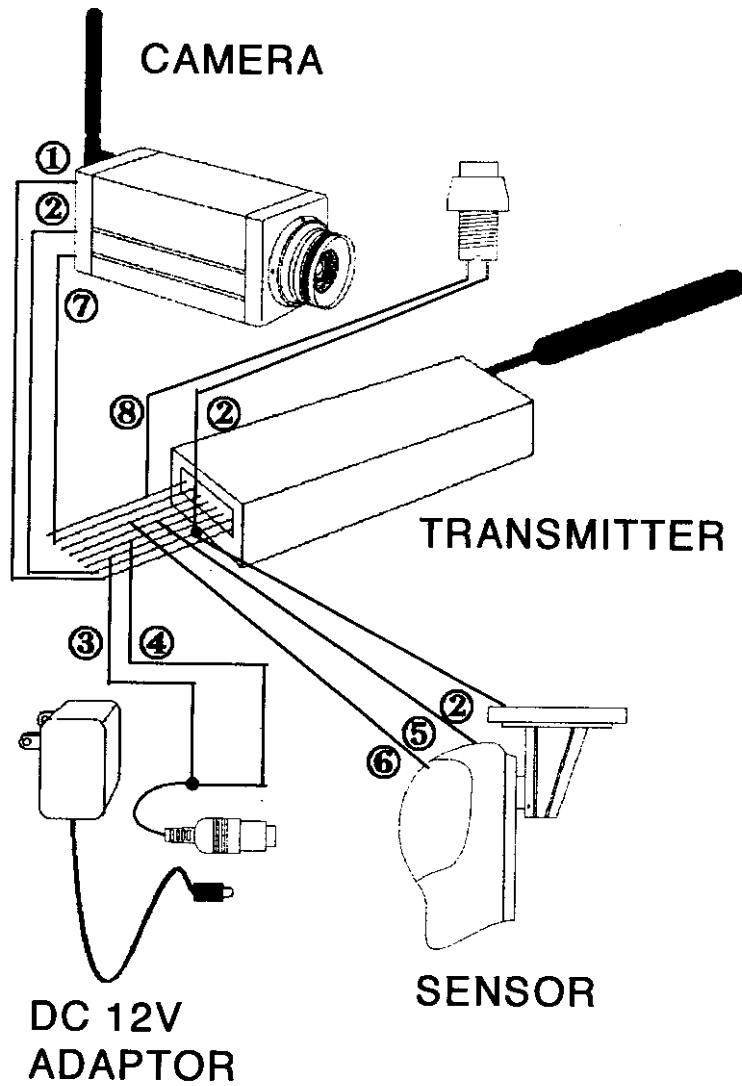
F) WIRE ⑦ (BROWN) - AUDIO INPUT

This wire is used to connect with audio input. The level of audio input should be 1V P-P. If you want audio input to use mic directly, please use another transmitter mentioned on the page 2.

G) WIRE ⑧ (BLUE) - CHANNEL SELECT

This transmitter has 4 channels in the band. The channels can be changed by touching this wire with signal ground(WIRE②). When you touch this wire to ground 4 times, the currunt channel will be returned to original channel.

INSTALLATION

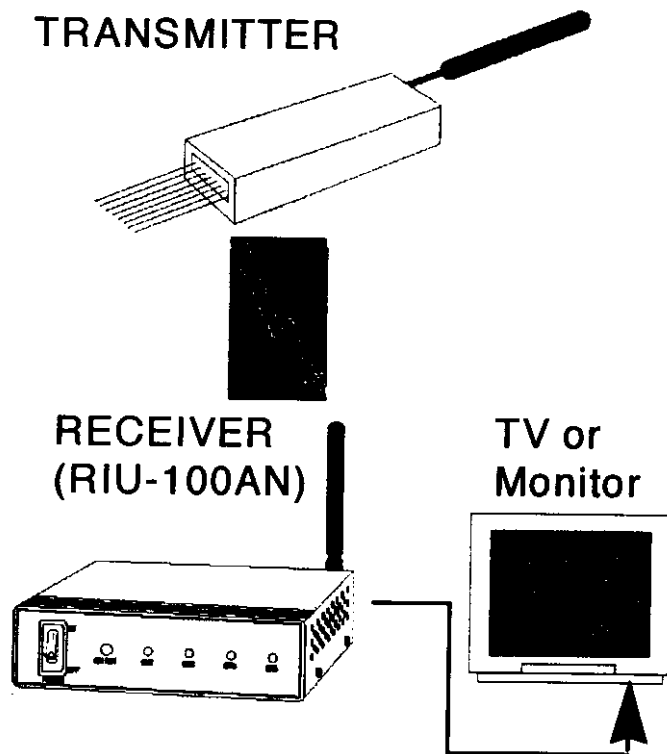


7

INSTALLATION

- ① Disconnect the 8PIN HARNESS A' SSY with transmitter.
- ② Connect WIRE①(YELLOW) with the videooutput of camera and WIRE② (BLACK) with the signal gound of camera. And then, connect WIRE⑦(BROWN) with the audio output of camera.
If you use transmitter with internal audio amp, connect WIRE② and WIRE⑦with mic directly.
- ③ Connect the adaptor with WIRE③ and WIRE④.
Two wires can be connected alternately.
- ④ If needed, connect the WIRE⑦ with negative trigger with sensor. Connect the WIRE② with sensor for signal ground. Connect WIRE⑤ if the sensor needs power supply.(DC 12V)
If the sensor does not needed, connect WIRE⑥ directly with signal ground(WIRE②).
- ⑤ Connect WIRE② and WIRE⑧ with external toggle switch or push button to change the channel of transmitter.

NORMAL OPERATION

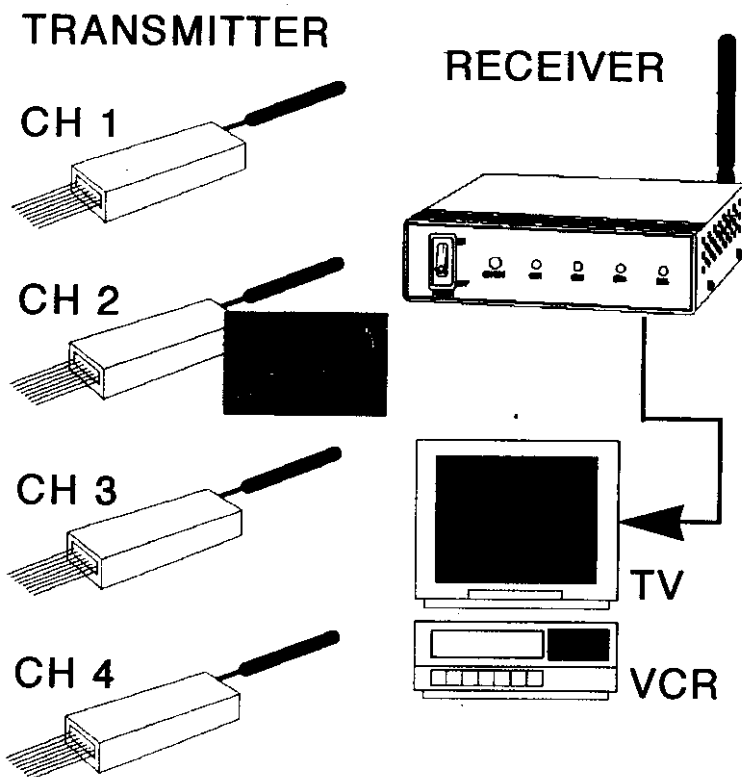


1. Connect the 8 pin harness ass'y of transmitter with exact source and power supply.
2. Connect the receiver to the TV or monitor.
3. Change the channel of transmitter as same as that of the receiver.
4. Adjust the antenna direction to get a clear picture.

SCAN MODE OPERATION

ONE RECEIVER AND MULTIPLE TRANSMITTER OPERATION

You can transmit signals from several transmitters to a remote location with one wireless receiver, for this system has 4 wireless channel capability. You can watch 4 different A/V's by using the receiver on scan mode operation.



* MODEL CODE : 1999

* MODEL NAME : STMB201A(TRANSMITTER)

99-02-24

Seq.	Part-No.	Part Name	Description	Type	Q'ty	Location No.
1	500-02M-A	MAIN PCB ASS'Y				
		Ceramic Filter	SFSH 6.5MCB	Lead	1	CF1
		Ceramic Capacitor	GRM39X7R102K50:1000PF	chip	4	C5, 15, 35, 41
		Ceramic Capacitor	GRM40X7R102K50:1000PF	chip	1	C60
		Ceramic Capacitor	GRM39Y5V104Z25:0.1UF	chip	11	C3, 13, 24, 26, 27, 36, C37, 42, 44, 57, 58
		Ceramic Capacitor	GRM39Y5V104M25:0.1UF	chip	1	C6
		Ceramic Capacitor	GRM39COG0R5C50:0.5PF	chip	2	C7, C8
		Ceramic Capacitor	GRM39COG010C50:1PF	chip	2	C9, 40
		Ceramic Capacitor	GRM39COG020C50:2PF	chip	1	C14
		Ceramic Capacitor	GRM39X7R222K50:0.022UF	chip	1	C10
		Ceramic Capacitor	GRM39X7R331J50:330PF	chip	1	C11
		Ceramic Capacitor	GRM39X7R103K50:0.01UF	chip	4	C12, 20, 21, 23
		Ceramic Capacitor	GRM39COG330J50:33PF	chip	7	C16, 61, 63-67
		Ceramic Capacitor	GRM39X7R473K50:0.047UF	chip	1	C17
		Ceramic Capacitor	GRM42-6Y5V155Z16:1.5UF	chip	2	C18, 19
		Ceramic Capacitor	GRM39COG180J50:18PF	chip	1	R43
		Ceramic Capacitor	GRM39COG820J50:82PF	chip	1	C22
		Ceramic Capacitor	GRM39COG101J50:100PF	chip	1	C39
		Ceramic Capacitor	GRM39X7R471K50:470PF	chip	2	C2, 59
		Tant. Capacitor	TA-010TCMS 100M-AR (10UF/10V)	chip	2	C4, 38
		Elec. Capacitor	470UF/25V	Lead	1	C43
		Diode (VVC)	1SV245	chip	1	D1
		Diode (5.1V ZENER)	RLZ5.1B	chip	1	D2
		Diode (Switching)	RLS4148	chip	1	D3
		Diode	1N4002	chip	5	D4, 5, 7-9
		Regulator IC	SEC7808	Lead	1	U7
	720-002	Heat Sink			1	U7
		Jumper	L:20mm, W:0.5mm	Lead	1	L1
		Transistor	2N3904S	SOT-23	2	Q1, 6
		Transistor	BFG540/X	sot-143	1	Q2
		Transistor	KTA1664Y	SOT-89	1	Q5
		Resistor (1608)	100	chip	3	R1, 3, 42
		Resistor (1608)	1K	chip	1	R18
		Resistor (1608)	390	chip	1	R2
		Resistor (1608)	270	chip	3	R22, 24, 31
		Resistor (1608)	75	chip	3	R5, 6, 9
		Resistor (1608)	47	chip	1	R19
		Resistor (1608)	18	chip	2	R7, 23
		Resistor (1608)	0	chip	4	R8, 14, 71, 72
		Resistor (2012)	0	chip	1	L2
		Resistor (1608)	4.7K	chip	2	R10, 11
		Resistor (1608)	5.1K	chip	1	R68
		Resistor (1608)	6.2K	chip	1	R27
		Resistor (1608)	10K	chip	12	R12, 13, 16, 17, 46, 47, R49, 50, 52, 54, 69, 70
		Resistor (1608)	15K	chip	3	R15, 20, 28
		Resistor (1608)	7.5K	chip	2	R25, 53
		Resistor (1608)	22K	chip	1	R21

STMB201A

Seq.	Part-No.	Part Name	Description	Type	Q'ty	Location No.
		Resistor (1608)	820	chip	1	R26
		Resistor (1608)	2.2K	chip	1	R29
		Resistor (1608)	330	chip	3	R32,44,45
		Resistor (1608)	220	chip	2	R30,48
		Resistor (1608)	180	chip	1	R41
		Resistor (1608)	300	chip	1	R4
		Resistor (1608)	200	chip	1	R55
		Resistor (1608)	2.7K	chip	1	R33
		Resistor (1608)	3.3K	chip	1	R51
	310-002	Tunning Coil	D30047	Lead	1	TC1
		IC	NE592D	chip	1	U1
		IC	LA7058R	Lead	1	U2
		IC	SP5055S	chip	1	U4
		IC	PIC16F84-04/SO	chip	1	U5
		Slide Switch	CSS-1240A	Lead	1	SW1
		Tri.Potentiometer	POZ3AN-1-472N:4.7K	chip	1	VR1
		Crystal	H4.000MHZ (20PF-10PPM)	Lead	1	X1
		Wafer	53015-0810(Right Angle)	Lead	1	CON2
	590-003	Harness	8Pin (100mm)		1	
		Screw	3*10 Machine		1	
		Nut	3mm		1	
	406-010-A	PCB	96.4 x 26.1 x 0.8t (FR4)		1	
2	500-02A-A	AUDIO ASS'Y				
		CER.CAPACITOR	GRM39X7R471K50:470PF	CHIP	4	C48-50,55
		CER.CAPACITOR	GRM39Y5V104Z25:0.1UF	CHIP	2	C51,53
		TANT.CAPACITOR	TA-010TCMS 100M-AR (10UF/10V)	CHIP	1	C54
		TANT.CAPACITOR	TA-016TCMS 2R2M-AR(2.2UF/16V)	CHIP	1	C52
		TANT.CAPACITOR	TA-035TCMS R47M-AR(0.47UF/35V)	CHIP	1	C56
		TANT.CAPACITOR	TA-035TCM R22M-AR(0.22UF/35V)	CHIP	1	C47
		RESISTOR (1608)	100	CHIP	1	R64
		RESISTOR (1608)	150	CHIP	1	R59
		RESISTOR (1608)	1K	CHIP	1	R61
		RESISTOR (1608)	2.2K	CHIP	1	R60
		RESISTOR (1608)	2.7K	CHIP	1	R58
		RESISTOR (1608)	10K	CHIP	2	R62,63
		RESISTOR (1608)	100K	CHIP	1	R57
		COIL	1mH 1/4W	LEAD	1	L3
		TRANSISTOR	2N3904S	CHIP	1	Q4
		IC	LM386 (KA386)	CHIP	1	U8
		JUMPER WIRE	L:45mm, W:AWG28		1	COLOR:BLACK
	406-011-A	PCB	39.9 x 9.07 x 0.8t (FR4)		1	
3	500-02C-A	COVER ASS'Y				
	701-006	Shield Cover	Upper			
	701-007	Shield Cover	Bottom			
	420-001	Antenna	Whip Antenna			
	903-002	Label	Name Label			