

WT588D MODULE WRITERS

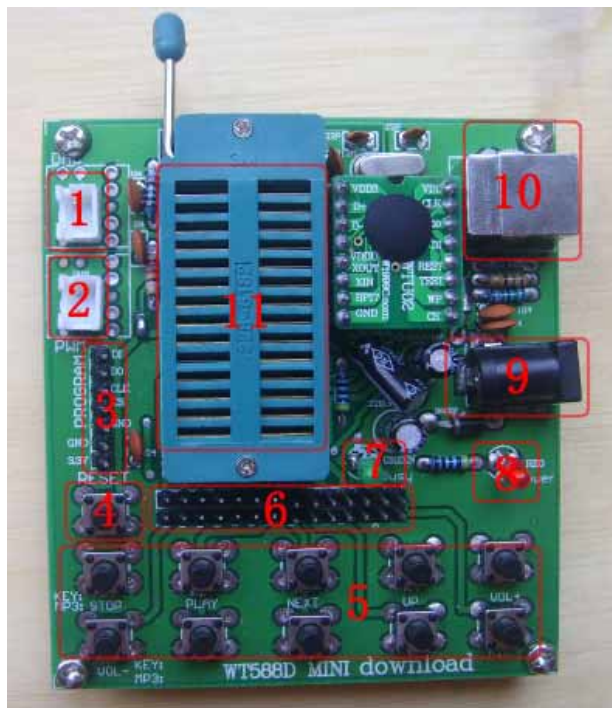
1. WT588D Mini Download

1.1 DESCRIPTIONS

This writer can program the module and test it. The modules can be tested in following modes. Key mode(10 I/Os), MP3 mode(6 I/Os), Parallel mode, One line serial mode(need external MCU control part), Three line serial mode, Three line I/O extension mode(need external MCU control part), Matrix 3X8 mode(need to connect matrix keyboard).

1.2. DOWNLOAD OPERATIONS FOR WT588D MINI DOWNLOAD

Put the module or the Flash(on additional switch seat), and download files to the memory by the PC software .When connect writer to PC with USB cable, Power supply from PC directly , DC 9V power input is unnecessary.



PICTURE 1 WT588D Mini Download

- 1.DAC output, connect to external amplifier.
- 2.PWM output, direct drives speaker.
- 3.Download pins(when the Flash memory already on your circuit board, and you want to change the voice, we can use these pins connect to the pins on the circuit board which come out from the Flash memory.)
- 4.Reset key
5. Test keys. K1、K2、K3、K4、K5、K6、K7、K8、K9、K10 corresponding I/O P00、P01、P02、P03、P04、P05、P06、P07、P10、P11
- 6.I/Os output.
- 7.BUSY
- 8.Power light
- 9.DC 9V input
10. USB slot
11. Module seat (additional switch seat is necessary if directly download to the Flash which will solder on the module).

1.3. TEST OPERATIONS FOR WT588D MINI DOWNLOAD

1.3.1. POWER SUPPLY OF WT588D MINI DOWNLOAD

USB power supply, writer with download and test functions. "DC 9V" power supply, writer with test function only .

1.3.2. AUDIO OUTPUT OF WT588D MINI DOWNLOAD

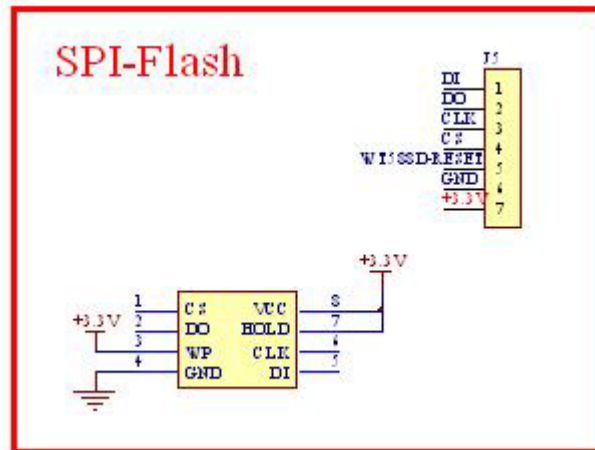
DAC or PWM output can be selected in the software options. In DAC output, external amplifier is necessary. PWM output , direct drives 0.5W/8Ω speaker.

13.3. TEST IN EACH MODE

Module can be tested directly in Key mode, Parallel mode. External MUC is needed when test in one line serial mode , three line serial mode and three line serial I/O extension mode. External matrix keyboard is needed when test in matrix 3X8 mode. I/Os can come out form position 6 in Picture 1.

1.3.4. PROGRAM BY DOWNLOAD PINS

Connect the download pins(position 3 in picture 1) to the relative Flash memory pins.



PICTURE 2 FLASH MEMORY CONNECTIONS

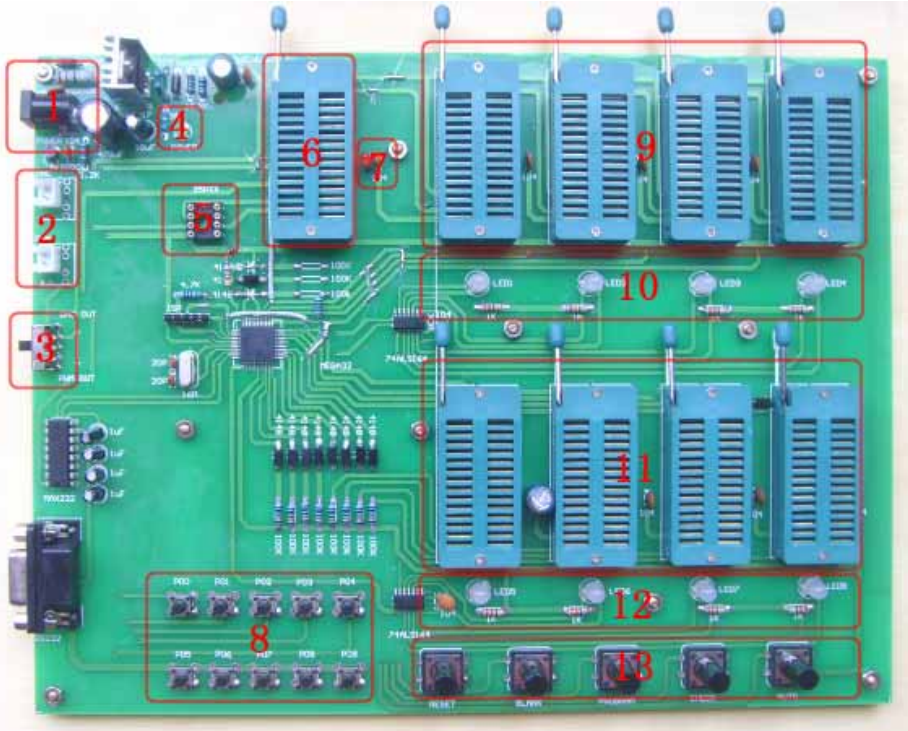
2. WT588D 1 TO 8 WRITER

2.1. WT588D 1 TO 8 WRITER DESCRIPTIONS

Powerful writer with on/off line program , 1 to 8, test functions.

Program can be 1 to 8 ,module to module, module to flash, flash to module, flash to flash. More convenient for mass production.

2.2. PICTURE OF WT588D 1 TO 8 WRITER



PICTURE 3 WT588D 1 TO 8 WRITER

- 1.DC 9V power input.
2. Audio output
3. Audio output switch
- 4.BUSY
- 5.Master flash memory (DIP8)
- 6.Master WT588D module or flash memory(additional switch seat is needed for flash memory)
7. Power light
- 8.Test keys, K1、K2、K3、K4、K5、K6、K7、K8、K9、K10 corresponding I/O P00、P01、P02、P03、P04、P05、P06、P07、P10、P11
9. Slave seat I
- 10.Slave I indicator light
- 11.Slave seat II
- 12.Slave II indicator light
- 13.Function key group

Note: position 5 and 6 in PICTURE 3 can't be put master on at the same time.

2.3.OPERATIONS FOR WT588D 1 TO 8 WRITER

2.3.1.OFF LINE 1 TO 8 PROGRAM

Program without connecting PC ,position 5 and 6 are for MASTER , position 9 and 11 are for SLAVES .

(1) Manual program

Press "reset" key, If the SLAVE module already on the seat, the relative indicator lights will be on (green), then press "blank" key, SLAVE relative indicator lights will be glittery (red), turn to keep green after finish erasing. Then press "program" key to program, relative lights are glittery(green), after finish programming relative lights will keep green. Then press "check" key to verify, relative lights are glittery(red and green), after finish verifying relative lights will keep green.

When the modules or Flash memory in wrong position or damaged in blank, program or check process. The corresponding light will keep red to show errors. One module or Flash error(corresponding light extinguished) will not affect others(corresponding lights are green)

(2)Auto program

Press “auto” key to finish all the process.. When the modules or Flash memory in wrong position or damaged in blank, program or check process. The corresponding light will keep red to show errors. One module or Flash error(corresponding light extinguished) will not affect others(corresponding lights are green)

2.3.2.OFF LINE ON BOARD PROGRAM

Program without connecting PC, from MASTER to the Flash memory which already on the finished product. The Flash memory pins must link out on the board, and connect to the writer .

2.4.AUDIO OUTPUT OF WT588D 1 TO 8 WRITER.

DAC or PWM output can be selected in the software options. There is a DAC and PWM switch on the writer, you can choose the output mode by switch. PWM output , direct drives 0.5W/8Ω speaker. DAC output, amplifier already built in the writer, can drive speaker without external amplifier.

2.5.TEST OPERATION OF WT588D 1 TO 8 WRITER

Module can be tested directly in Key mode, Parallel mode. External MUC is needed when test in one line serial mode , three line serial mode and three line serial I/O extension mode. External matrix keyboard is needed when test in matrix 3X8 mode.

This version only support all functions test in KEY mode and MP3 mode.

3. TEST INFORMATION

3.1.TEST IN KEY MODE

The relationship of I/Os and keys

I/O KEY		P00	P01	P02	P03	P04	P05	P06	P07	P10	P11
		MODEL									
WT588D-16	16PIN MODULE	K1	K2	K3	K4	---	---	---	---	---	---
WT588D-28	28PIN MODULE	K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
WT588D-18P	DIP18 CHIP	K1	K2	K3	K4	---	---	---	---	---	---
WT588D-20SS	SSOP20 CHIP	K1	K2	K3	K4	---	---	---	---	---	---
WT588D-32L	LQFP32 CHIP	K1	K2	K3	K4	K5	K6	K7	K8	K9	K10

3.2.TEST IN MP3 MODE

The relationship of I/Os and keys

I/O		P00	P01	P02	P03	P04	P05
KEY		K1	K2	K3	K4	K5	K6
FUNCTION		STOP	PLAY/PAUSE	NEXT	PREVIOUS	VOL +	VOL-
WT588D-16	16PIN MODULE	OK	OK	OK	OK	---	---
WT588D-28	28PIN MODULE	OK	OK	OK	OK	OK	OK
WT588D-18P	DIP18 CHIP	OK	OK	OK	OK	---	---
WT588D-20SS	SSOP20 CHIP	OK	OK	OK	OK	---	---
WT588D-32L	LQFP32 CHIP	OK	OK	OK	OK	OK	OK

3.3.TEST IN PARALLEL MODE

The relationship of I/Os and keys

MODEL		PIN								
		P00	P01	P02	P03	P04	P05	P06	P07	P10
WT588D-16	16PIN MODULE	SBT	A0	A1	A2	---	---	---	---	---
WT588D-28	28PIN MODULE	SBT	A0	A1	A2	A3	A4	A5	A6	A7
WT588D-18P	DIP18 CHIP	SBT	A0	A1	A2	---	---	---	---	---
WT588D-20SS	SSOP20 CHIP	SBT	A0	A1	A2	---	---	---	---	---
WT588D-32L	LQFP32 CHIP	SBT	A0	A1	A2	A3	A4	A5	A6	A7

Note: WT588D-16 module, WT588D-18P、WT588D-20SS only with 3 I/Os in this mode. In other word, they can control 8 groups of voice only. Test in this mode, connect the I/O and GND on MINI writer by cap, and press key 1 to test.

3.4.TEST IN ONE LINE SERIAL MODE

The relationship of I/Os and keys

MODEL		I/O									
		P00	P01	P02	P03	P04	P05	P06	P07	P10	P11
WT588D-16	16PIN MODULE	K1	K2	K3	DATA	---	---	---	---	---	---
WT588D-28	28PIN MODULE	K1	K2	K3	DATA	K5	K6	K7	K8	K9	K10
WT588D-18P	DIP18 CHIP	K1	K2	K3	DATA	---	---	---	---	---	---
WT588D-20SS	SSOP20 CHIP	K1	K2	K3	DATA	---	---	---	---	---	---
WT588D-32L	LQFP32 CHIP	K1	K2	K3	DATA	K5	K6	K7	K8	K9	K10

3.5.TEST IN THREE LINE SERIAL MODE

The relationship of I/Os and keys

MODEL		I/O									
		P00	P01	P02	P03	P04	P05	P06	P07	P10	P11
WT588D-18P	DIP18 CHIP	---	DATA	CS	CLK	---	---	---	---	---	---
WT588D-20SS	SSOP20 CHIP	---	DATA	CS	CLK	---	---	---	---	---	---
WT588D-32L	LQFP32 CHIP	---	DATA	CS	CLK	---	---	---	---	---	---
WT588D-16	16PIN MODULE	---	DATA	CS	CLK	---	---	---	---	---	---
WT588D-28	28PIN MODULE	---	DATA	CS	CLK	---	---	---	---	---	---

3.6.TEST IN THREE LINE SERIAL I/O EXTENSION MODE

The relationship of I/Os and keys

MODEL		I/O										
		P00	P01	P02	P03	P04	P05	P06	P07	P10	P11	P12
WT588D-18P	DIP18 CHIP	A0	DATA	CS	CLK	---	---	---	---	---	---	---
WT588D-20SS	SSOP20 CHIP	A0	DATA	CS	CLK	A1	A2	A3	A4	A5	A6	A7
WT588D-32L	LQFP32 CHIP	A0	DATA	CS	CLK	---	---	---	---	---	---	---
WT588D-16	16PIN MODULE	A0	DATA	CS	CLK	---	---	---	---	---	---	---
WT588D-28	28PIN MODULE	A0	DATA	CS	CLK	A1	A2	A3	A4	A5	A6	A7

3.7.TEST IN MATRIX 3x8 MODE

The relationship of I/Os and keys

I/O	P00	P01	P02	P03	P04	P05	P06	P07
P10	KEY1	KEY 2	KEY 3	KEY 4	KEY 5	KEY 6	KEY 7	KEY 8
P11	KEY9	KEY 10	KEY 11	KEY 12	KEY 13	KEY 14	KEY 15	KEY 16
P12	KEY 17	KEY 18	KEY 19	KEY 20	KEY 21	KEY 22	KEY 23	KEY 24

Note: only WT588D-28 pin module and WT588D-32L chip with this function.