



How to connect the external speaker to MD78X&RD98X

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Version: V1.1

Suitable Model: MD78X,RD98X

Prepared by	Liguang Su	Date	2012-07-13
Translated by	Viki Zhang	Date	2012-07-13
Checked by	Lee Shen	Date	2012-07-13
Approved by	Adam Sun	Date	2012-07-13

Revision History		
Date	Revision History	Note
2012-07-13	First ReleaseV1.0	Translated from Chinese document CSN-JSWJ-201207004
2012-7-26	V1.1	Check red

How to connect the external speaker to MD78X&RD98X

1. MD78X

1) MD78X's DB26 pin's description



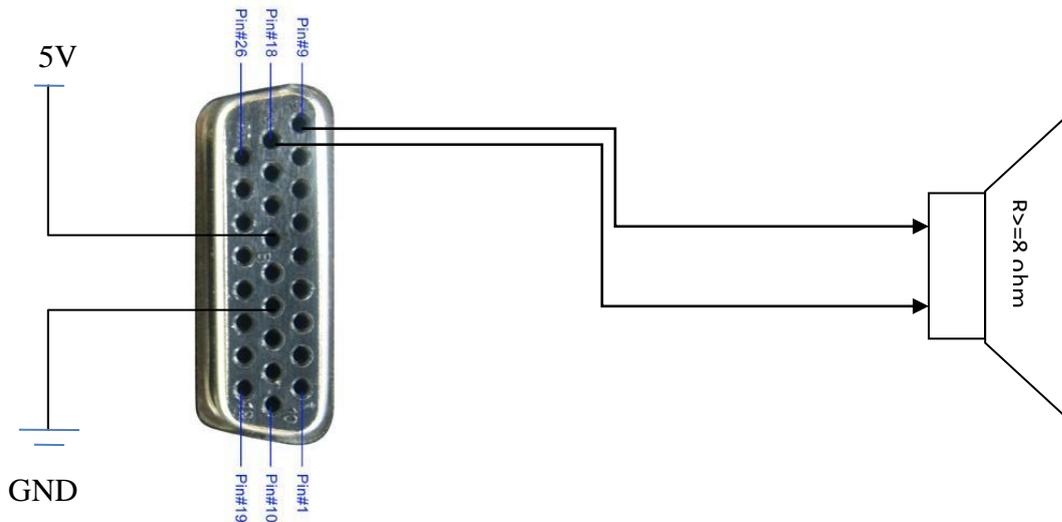
NO.	DISCRIPTION	FUNCTION
1	Vbus USB	Power
2	Ground	Ground
3	GP5_3	Digital in/out
4	SW B+ sense	Power
5	External Alarm	Analog voltage out
6	Power Ground	Power Ground
7	Tx Audio	Analog in
8	Rx Audio	Analog out
9	Spkr-	Analog out
10	D+ USB	USB Data+
11	USB_Ground	USB Ground
12	GP5_2	Digital in/out
13	ACC_IO2	Digital in
14	Emerg Sw	Digital in
15		Digital in
16	PRGM_IN_PTT	Digital in
17	Audio Ground	Audio Ground
18	Spkr+	Analog out
19	D- USB	USB Data-
20	GP5_8	in/out
21	Ground	Ground
22	GP5_7	in/out
23	GP5_6	Digital in/out
24	AUX Audio Out 1	Analog out
25	AUX Audio Out 2	Analog out
26	Ign Sense	Analog voltage in

2) Connection

► Connect the speaker directly:

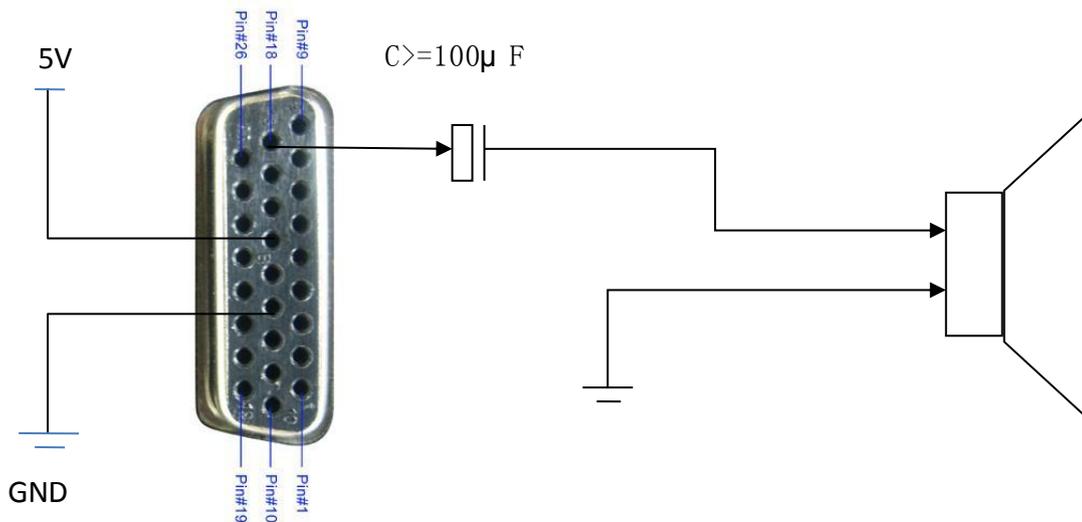
MD78X's pin 9&pin 18 normally works together. To drive the external speaker to output the audio signal from mobile radio.(The resistor of the external speaker must $>8\Omega$). **The default pin 15 is high level 5V, please**

connect pin13 to low level(0V, ground), like the circuit below:



The diagram of double-output

If we need only use one pin, we need to add a block condenser, $C > 100\mu\text{F}$.

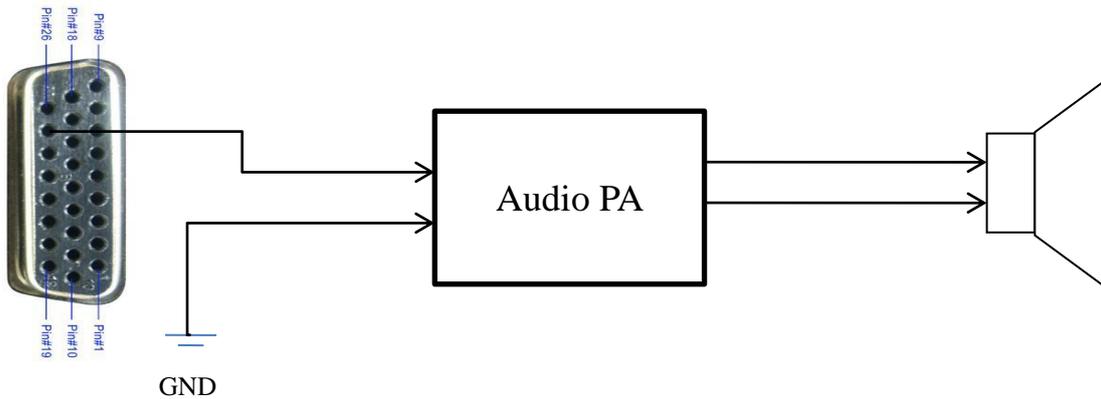


The diagram of single-output

► **Connect external audio PA(DB26 port, public address function, use audio PA and external speaker to amplify audio signal)**

Open CPS->Common->Accessories->Public Address

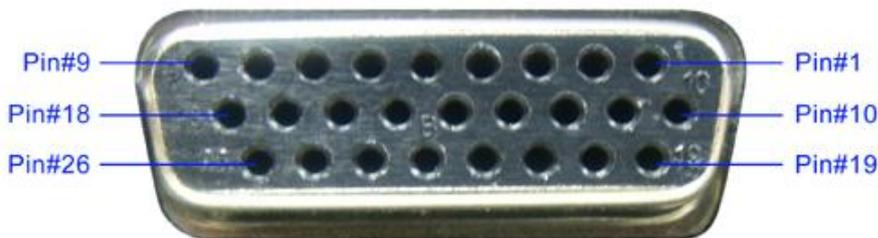
- If choose Public Address 1, it corresponds to pin 24 audio output.(Load resistor $> 1\text{K}\Omega$)
- If choose Public Address 2, it corresponds to pin 25 audio output. (Load resistor $> 1\text{K}\Omega$)
- If choose Public Address 1&2, both pin 24&pin 25 can output audio. (Load resistor $> 1\text{K}\Omega$)
- Give this Public Address functions to one key



The diagram of external audio PA

2. RD98X

1) MD78X's DB26 pin's description

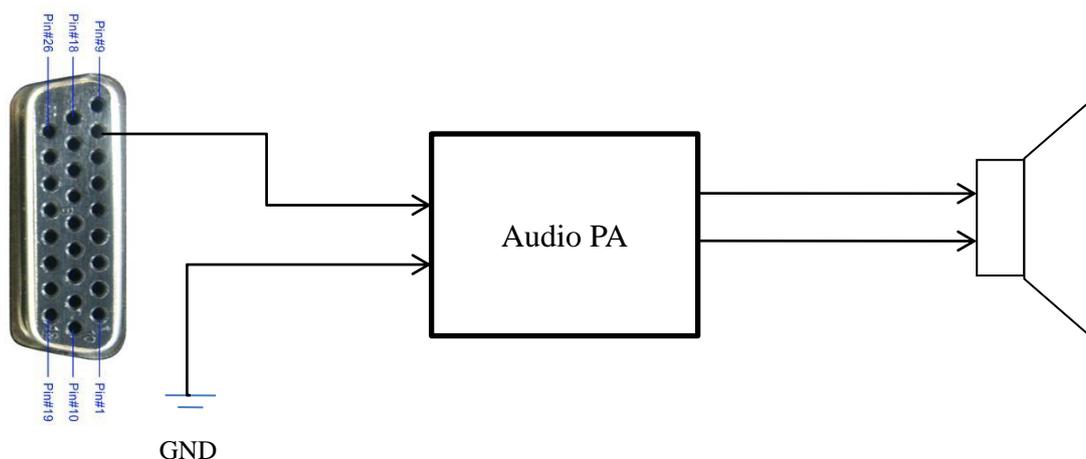


PIN	NAME	FUNCTION
1	NC	
2	Ground	

3	DB26_GPIO4	GPIO determined by CPS
4	SW B+	
5	NC	
6	AGND	
7	Tx Audio	Analog signal in
8	Rx Audio	Analog signal out
9	GND	Analog GND
10	D+	USB DATA+
11	GND	Digital GND
12	DB26_GPIO2	GPIO determined by CPS
13	ACC_IO2	Digital in
14	PROM IN	Digital in
15	ACC_IO3	Digital in
16	DB26_PTT_IN	Digital in
17	GND	
18	Pf_DET	Analog out
19	D-	USB DATA-
20	DB26_GPIO3	GPIO determined by CPS
21	GND	Digital GND
22	DB26_GPIO5	GPIO determined by CPS
23	DB26_GPIO6	GPIO determined by CPS
24	SlotA_Audio	Analog out A
25	SlotB_Audio	Analog out B
26	RSSI	Analog out

2) **Connection**

- ▶ **We cannot connect RD98X directly to an external speaker.**
- ▶ **Connect to external audio PA, use DB26 port, works both analog mode and digital mode**
 - a) Pin 8 is audio out pin,(load resistor >1KΩ)



- b) Under digital repeat mode, pin 24 &25 could be the receive audio output pin.
- c) Open CPS->Conventional->Accessories->GPIO pins, choose Audio Play back A or Audio Playback B,

or choose them both (load resistor >1K Ω)

