

VC_Burner DeBugger Specification

Version V1.0.0

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Document resume

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1. Product overview

VC_Burner DeBugger is a burning tool designed for Ai-Thinker's offline voice module, which can upgrade all products of the VC series.

The main control uses a P2064AF2 chip with a high -performance 32 -bit RISC kernel with a maximum frequency of 120MHz. With the ability of the USB device character to automatically, it guarantees the burning speed while ensuring the stability of the records.

1.1. Characteristics

- Processor:
 - ✓ High -performance 32 -bit RISC
 - ✓ Configurable CPU frequency, up to 120MHz
- USB version:
 - ✓ USB2.0
- Compatibility system
 - ✓ Windows 7 X64 and above versions (do not support the Linux system)
- Compatible offline voice products:
 - ✓ VC-01
 - ✓ VC-02
 - ✓ VC-01-Kit
 - ✓ VC-02-Kit
- Power supply voltage: 5V
- Output voltage: 5V
- Output interface: JTAG interface
- Software compatibility: special burning software (Windows system) system

2. Main parameters

Table 1 Description of the main parameters

Model	VC_Burner
Suitbale module	VC-01、 VC-02
Size	65.2*23.0(±0.2)mm
Working temperature	-40 °C ~ 85 °C
Storage environment	-40 °C ~ 125 °C , < 90%RH
Power supply	Power supply voltage 5V current is greater than 500mA
Interfaces	JTAG
Compatibility system	Windows7 X64 and above systems
USB version	USB 2.0

2.1. Static requirements

VC_Burner DeBugger is an electrostatic sensitive device that requires special precautions during handling.



Figure 1 ESD anti-static diagram

2.2. Electrical characteristics

Table 2 Electrical Characteristics Table

Parameters		Conditions	Min. value	Typical value	Max. value	Unit
Supply voltage		VDD	4.5	5	5.3	V
I/O	V_{IL}/V_{IH}	-	-0.3/0.75VIO	-	0.25VIO/4.5	V
	V_{OL}/V_{OH}	-	N/0.8VIO	-	0.1VIO/N	V

3. Appearance size

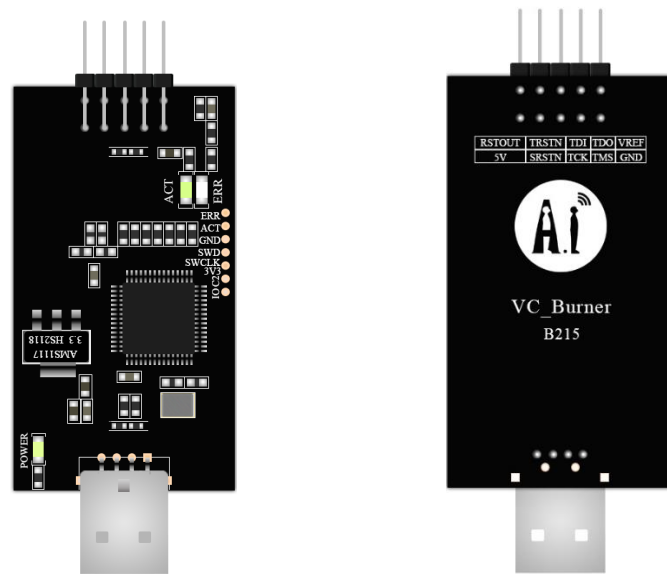


Figure 2 VC-Burner DeBugger appearance(for reference only)

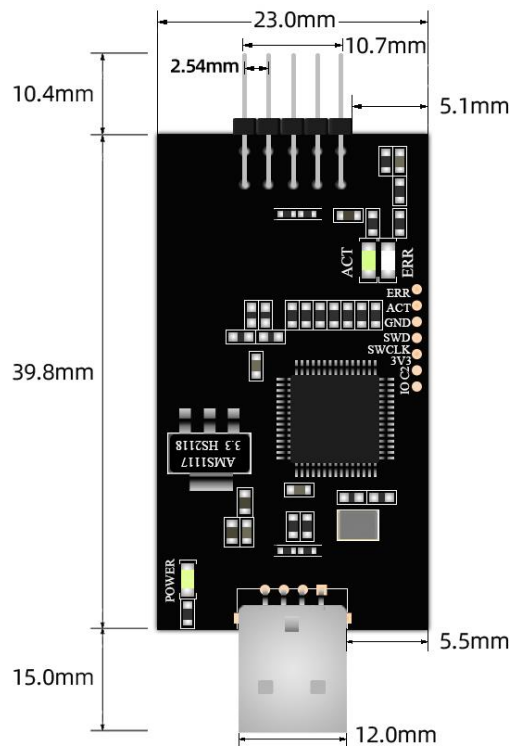


Figure 3 Development board size

4. indicator light description

VC_Burner has a total of 3 indicators, namely: "Power" indicator, "ACT" indicator and "ERR" indicator. As shown below:

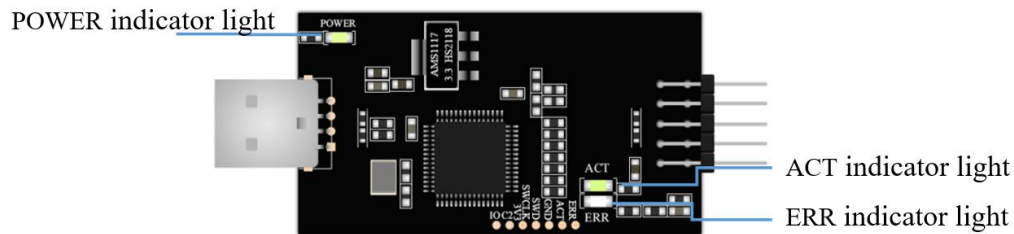


Figure 4 VC_Burner indicator light position

Table 3 indicator light status

indicator light	Features	Color	LED state	
“POWER”	Power indicator	green	Power-on	Always bright
			Power-off	Extinguish
“ACT”	Burn indication	green	JTAG has been connected, not burned	Extinguish
			Burning	Cycle flashes
			Finish	Cycle flashes, VC is extinguished after resetting
“ERR”	Burning error instructions	red	JTAG is not connected	Always bright
			Burning errors	Always bright
			JTAG has been connected, not burned	Extinguish

5. Pin definition

VC_Burner has a total of 10 interface. As shown in below pin diagram, the pin function definition table is the interface definition.

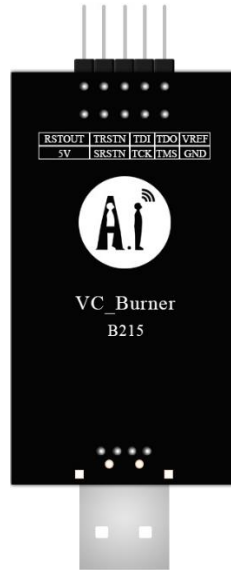


Figure 5 debugger pin diagram (Bottom view)

Table 4 Pin function definition table

Pin sequence	Name	Function description
1	VREF	Reference voltage input
2	TDO	JTAG test data output
3	TDI	JTAG test data input
4	TRSTN	Default Suspended
5	RSTOUT	3.3V output
6	5V	5V output
7	SRSTN	JTAG Signaling signal output
8	TCK	JTAG Clock line
9	TMS	JTAG Data and mode control pin
10	GND	Digital power

6. Schematic

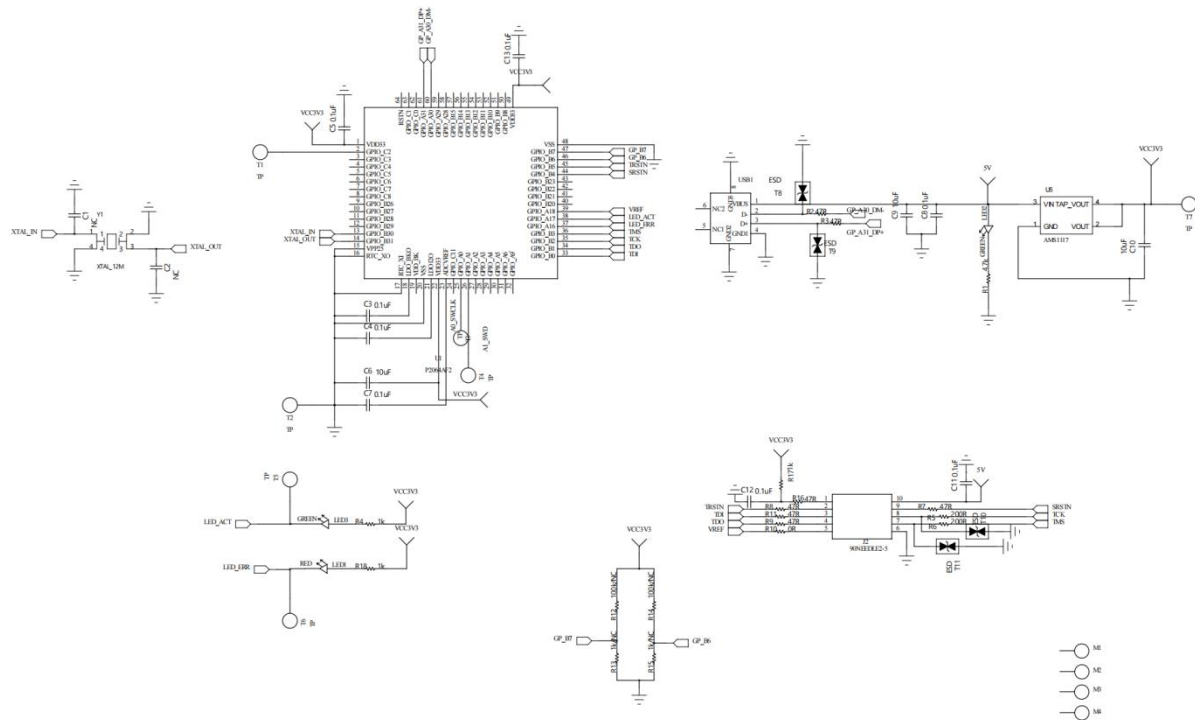


Figure 6 Debugger schematic diagram

7. Applicable product model

Table 5 Applicable product model table

Product model	Power supply	Package	Size
VC-01	3.6-5V, I>500mA	SMD-24	25.5*24*3.2(±0.2)mm
VC-02	3.6-5V, I>500mA	SMD-20	18*17*3.2(±0.2)mm
VC-02-Kit	5V, I>500mA	DIP-19	42.2*35.6(±0.2)mm
VC-01-Kit	5V, I>500mA	DIP-19	42.2*35.6(±0.2)mm
Product related information: https://docs.ai-thinker.com			

8. Product packaging information

Table 6 packaging information table

Packing list	Packaging method	per package number (Static bag bag)	per package number (sealed bag)
VC_Burner	Static bag	1pcs	20pcs

9. Contact US

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