
Hardware Reference

ARCangel2 platform iCARD Debug module rev. G1

Ordering code	IC30112
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Note: The actual iCARD shipped to you can vary slightly from the one portrayed in the above picture. The picture is only symbolic.

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iCard General Notes

The iC3000 and iC4000 support a wide range of serial debug interfaces like Motorola's Background Debug Mode (BDM), the Serial Debug Interface (SDI) and the On-Chip Emulation (OnCE) interface. JTAG based debug interfaces are also supported by these Emulators. For each specific debug interface a special iCARD is available.

The iCARD is a PCMCIA-style interface card which contains all necessary adaptations including the target interface cable for a selected serial debug interface. The iCARD plugs into the PCMCIA-style card slot of the iC3000 unit. Features like on-chip-, in-system programming and programming voltage generation are standard features.

Note: Whenever connecting to the target both target and the Emulator must be switched off. The Emulator is first switched on, and the target right afterwards. Note that otherwise during connecting the target a massive current spike may flow during static discharge or ground potential equalization.

On debugging iCards beside the interface specific cable there's a 3-pin connector. The 5V/300mA output provides power to small low-power targets. The 12V/60mA programming voltage is also generated by the iC3000/4000 development system and routed to the iCARD's 3-pin connector. Note that the 12V output is controlled by the software. The output defaults to 5V. On the iC3000 the current for 12V flows from the 5V source. Thus, a 12V/50mA load represents 120mA load on the 5V power source. Note that on interface cards for ActiveEmulator, iTRACE and similar this connector is not available.

When not in use, the iCARD should be kept in its protective antistatic bag to ensure its dependability and keep the 68-pin PC-Card connector clean.

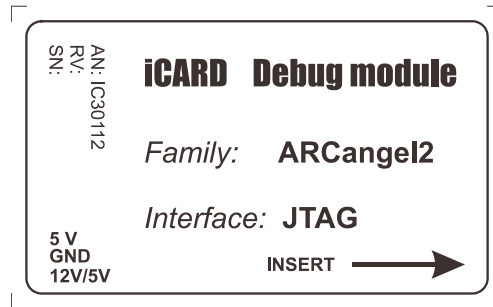
The iCard is a delicate piece of equipment. Always handle it with care, make sure not to bend it or deform it in any way, to keep it clean, etc. If these instructions are not followed, damage to the iCard or the Emulator can occur.

Note: Despite using the same format, iCARDS are not pin compatible with PCMCIA cards. Do NOT use iCARDS in PCMCIA slots and vice-versa! If the iCARD is inserted into a PCMCIA slot, damage to the iCARD and/or the PCMCIA slot will occur. If a PCMCIA card is inserted into the iCARD slot, damage to the PCMCIA card and/or the Emulator will occur.

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Ordering code	IC30112
Dimensions (WxLxH, mm)	54x84x5



Supported platform
ARCangel2

The ARCangel2 iCARD Debug Module is used to connect the ARCangel2 development platform to the emulator.

The following pinout is available on the DSUB-25 male LPT connector:

Pin	Name	Description
1	TCK	JTAG TCK output from the iCARD, used for the debug
2	TDI	JTAG TDI output from the iCARD, used for the debug
3	CCLK	Clock output used for configuring the FPGA
8	TMS	JTAG TMS output from the iCARD, used for the debug
9	DIN	Data input used for configuring the FPGA
11	Busy	Input to the iCARD used for the debug
13	TDO	JTAG TDO input to the iCARD, used for the debug
17	SS0	Open drain I/O, used for configure the FPGA and for the debug as a System Reset
14	ALF	Output from the iCARD used for the configuring the FPGA
12	CONFDONE	Input to the the iCARD used for the configuring the FPGA
16	SS1	Output from the iCARD used for the configuring the FPGA
18-25	GND	Ground

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Note also the direction in which the iCARD is inserted into the iCARD slot. The side with the label is the top side; the arrow shows the direction in which the iCARD should be inserted.

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