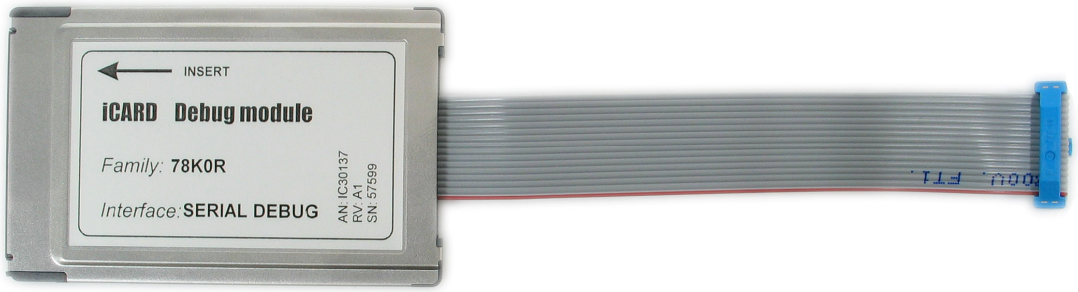
NEC 78K0R family iCARD Serial Debug module

Ordering code	IC30137



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iCard

The iC3000 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 some debugging iCards beside the interface specific cable there's a 3-pin connector. The 5V/300mA output provides power to small low-power targets. On some iCards, also the 12V/60mA programming voltage is available and also generated by the iC3000 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, and also on some iCards, the 12V output is not available since it is not needed.

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.

Temperature range

All iSYSTEM devices, unless explicitly otherwise noted, are specified to operate at room temperatures (specifically, between 10°C/50°F and 40°C/105°F).

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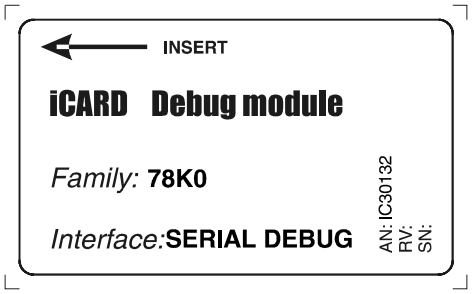
Dimensions (WxLxH, mm)	54x84x5



Supported CPUs
uPD78F1845

The CPU list is very dynamic and changes fast. Please check with your local distributor for the latest list of supported CPUs.

The following pinout is valid on the target side:

2	4	6	8	10	12	14	16
RESET OUT (O)	VCC (I/O)	NC	NC	NC	NC	FLMD0 (O)	TOOL1 (CLK) (I)
GND	TOOL0 (RXD/TXD) (I/O)	TOOL0 (RXD/TXD) (I/O)	NC	NC	NC	NC	RESET IN
1	3	5	7	9	11	13	15

NEC 78K0R target side pinout

Directions from the view of iCARD.
O – output
I – input
I/O input/output

TOOL0 : communication line
TOOL1 : clock input (to iCARD)
VCC : if selected in winIDEA iCARD can drive 5V at this pin to power target. Max. target current consumption in this case is 50mA.

Important iCard information

Note: Despite using the same format, iCARDs are not pin compatible with PCMCIA cards. Do NOT use iCARDs in PCMCIA slots and vice-versa!

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.

Notes: