

TCN#: 841-01

DATE: 17 May 2004

DEVICE/TOOL:

On-chip firmware, including download/debug kernel and power-on configuration routine, for all models of ADuC841, ADuC842, and ADuC843.

BACKGROUND:

A “bootload enable option” can be selected during programming, which will configure the chip to start from the bootload address (rather than address 0) on all subsequent power-up or reset events. The bootload address is E000hex for 62kB parts, and 6000hex for 32kB parts. No bootload option exists for 8kB parts. The bootload enable option can only be disabled by reprogramming the chip.

DESCRIPTION OF CHANGE:

The stack pointer is set to 7 on power-up or reset if the bootload enable option is set.

REASON FOR CHANGE:

Previously, on power-up or reset with the bootload enable option set, the stack pointer was 5. If unchanged by user software, this would cause conflict between the default stack and the default register set. The new value of 7 will prevent such unexpected conflicts and is the expected default value of the stack pointer after any other reset.

CHANGE EFFECTIVE DATE:

This change is effective as of 17 May 2004. Devices with this kernel revision can be identified by the brand on the package or by the serial reset-string emitted from the chip’s UART upon entry into download/debug mode. Package marking and reset string are as follows for this kernel revision:

Package Marking = ‘F21’
Reset String = ‘ADI 841 V21x’

where ‘x’ is another digit that depends on the specific model (power supply and memory size options). Also note that ‘841’ is replaced by ‘842’ or ‘843’ with the ADuC842 and ADuC843 parts respectively.

COMPATIBILITY:*With Development Tools...*

The revised on-chip firmware kernel is 100% compatible with existing and future ADI QuickStart™ Development Tools.

With Production Systems...

In systems using the bootload enable option, software should be verified to confirm that the new default stack pointer position does not cause stack overflow problems. In the unlikely event that this is the case, the software will need to be adapted.

Systems making use of the serial download protocol to reprogram the device should note that the reset string returned by the chip on entry to serial download/debug mode has been updated from V20x to V21x on devices containing this revised on-chip firmware.

CONTACT:

MicroConverter Applications Group

in North America....

Grayson King
Analog Devices, Wilmington, MA 01887, USA
grayson.king@analog.com

in Europe & ROW....

Brian O'Mara
Analog Devices, Limerick, Ireland
brian.omara@analog.com