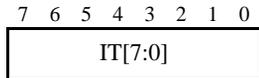


A2.5.2 ITSTATE



This field holds the If-Then execution state bits for the Thumb IT instruction. See *IT* on page A8-104 for a description of the IT instruction and the associated IT block.

ITSTATE divides into two subfields:

IT[7:5] Holds the *base condition* for the current IT block. The base condition is the top 3 bits of the condition specified by the IT instruction.

This subfield is 0b000 when no IT block is active.

IT[4:0] Encodes:

- The size of the IT block. This is the number of instructions that are to be conditionally executed. The size of the block is implied by the position of the least significant 1 in this field, as shown in Table A2-2 on page A2-18.
- The value of the least significant bit of the condition code for each instruction in the block.

———— **Note** —————

Changing the value of the least significant bit of a condition code from 0 to 1 has the effect of inverting the condition code.

This subfield is 0b00000 when no IT block is active.

When an IT instruction is executed, these bits are set according to the condition in the instruction, and the *Then* and *Else* (T and E) parameters in the instruction. For more information, see *IT* on page A8-104.

An instruction in an IT block is conditional, see *Conditional instructions* on page A4-4 and *Conditional execution* on page A8-8. The condition used is the current value of IT[7:4]. When an instruction in an IT block completes its execution normally, ITSTATE is advanced to the next line of Table A2-2 on page A2-18.

For details of what happens if such an instruction takes an exception see *Exception entry* on page B1-34.

———— **Note** —————

Instructions that can complete their normal execution by branching are only permitted in an IT block as its last instruction, and so always result in ITSTATE advancing to normal execution.

———— **Note** —————

ITSTATE affects instruction execution only in Thumb and ThumbEE states. In ARM and Jazelle states, ITSTATE must be '00000000', otherwise behavior is UNPREDICTABLE.