

Multiplier		Version of multiplicand selected by bit i
Bit i	Bit $i-1$	
0	0	$0 \times M$
0	1	$+1 \times M$
1	0	$-1 \times M$
1	1	$0 \times M$

Figure 6.12 Booth multiplier recoding table.

0 0 1 0 1 1 0 0 1 1 1 0 1 0 1 1 0 0
 ↓ ↓
 0 +1 -1 +1 0 -1 0 +1 0 0 -1 +1 -1 +1 0 -1 0 0

Figure 6.10 Booth recoding of a multiplier.

$ \begin{array}{r} 01101 \quad (+13) \\ \times 11010 \quad (-6) \\ \hline \end{array} $	\Rightarrow	$ \begin{array}{r} 01101 \\ \underline{0-1+1-1\ 0} \\ 0000000000 \\ 111110011 \\ 00001101 \\ 1110011 \\ \underline{000000} \\ 1110110010 \quad (-78) \end{array} $
---	---------------	---

Figure 6.11 Booth multiplication with a negative multiplier.