

About hyphenation of compound adjectives

You can think about hyphenation of compound adjectives as an English-language version of the use of parentheses in mathematics to demonstrate the scope of the operation.

(This explanation is taken from Segment 29 in Lyn Dupré's *BUGS in Writing*¹)

Here is one common example from your texts:

analog to digital converter

The words "analog to digital" constitute an adjective that is used to modify the noun "converter".

With parenthesis we have:

(analog to digital) converter

So we should write:

analog-to-digital converter

Note that we have

8-bit resolution

but

a resolution of 8 bits

No hyphen in the latter case because "8 bits" it is not used as an adjective here.

More examples:

two step algorithm

(two step) algorithm

two-step algorithm

¹ Lyn Dupré, *BUGS in Writing – A Guide to Debugging your Prose*, Reading, MA: Addison-Wesley, 1998.

25 MHz operating speed

(25 MHz) (operating speed)

25-MHz operating speed

sample and hold circuit

(sample and hold) circuit

sample-and-hold circuit

(switched capacitor) ((common mode) (feedback))

switched-capacitor common-mode feedback

A more complex example with two levels of parenthesis

common mode feedback circuit

[(common mode) feedback] (circuit)

common-mode-feedback circuit

Here one must use an en dash between common-mode and circuit! The rule is like this because the lowest-level connection (the ordinary parenthesis) is the ordinary hyphen and the en dash is the parenthesis on the next level (the square brackets in the example above). The rules for how this is done differ among style manuals but several use this rule.