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(54) Title: OPTICAL NETWORK 		
(57) Abstract A gated optical amplifier (5) for a PON comprises an input for receiving an optical signal to be amplified, an output for outputting and amplified optical signal, an optical amplifier device (11) for amplifying an optical input thereto, a detector (16), and an optical switch (14) for allowing the amplified optical signal to leave the output upon the detector detecting the presence of an optical signal of a predetermined magnitude.		