

ABSTRACT**WAVELENGTH-INDEPENDENT AMPLIFIER APPARATUS AND METHOD OF
OPERATION**

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A wavelength-independent amplifier apparatus comprises: a fibre amplifier stage (10); a first optical circulator (1) for receiving a first light signal (Tx1) of a first wavelength propagating in a first direction; and a second optical circulator (5) for receiving a second light signal (Tx2) of a second wavelength propagating in a second direction. The apparatus amplifies light signals having any wavelength in the range of wavelengths, the first wavelength being different from the second wavelength, the first direction being opposite the second direction. The first light signal is amplified to produce an amplified first light signal which is propagated to the second optical circulator for continued propagation in the first direction. The second light signal is amplified to produce an amplified second light signal which is propagated to the first optical circulator for continued propagation in the second direction.

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(Fig. 3)