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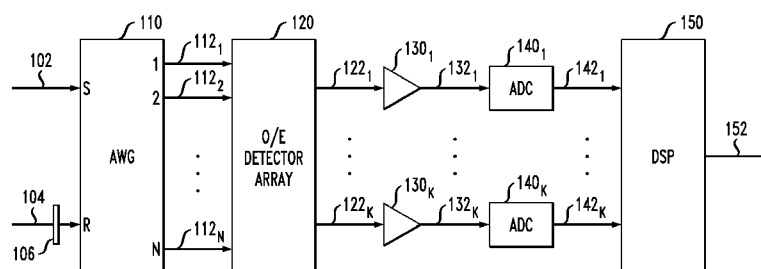
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(54) Title: COHERENT RECEIVER HAVING AN INTERLEAVE-CHIRPED ARRAYED WAVEGUIDE GRATING

FIG. 1

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(57) Abstract: An optical coherent detector that employs an interleave-chirped arrayed waveguide grating (AWG). The AWG has a periodic chirp pattern that enables the AWG to function as an optical 90-degree hybrid. If the AWG is implemented using a birefringent material, then the AWG can also function as a polarization demultiplexer. In one embodiment, the AWG is designed to simultaneously function as a wavelength demultiplexer, a polarization demultiplexer for each wavelength-division-multiplexed (WDM) signal component, and a 90-degree hybrid for each polarization-division-multiplexed component of each WDM signal component.