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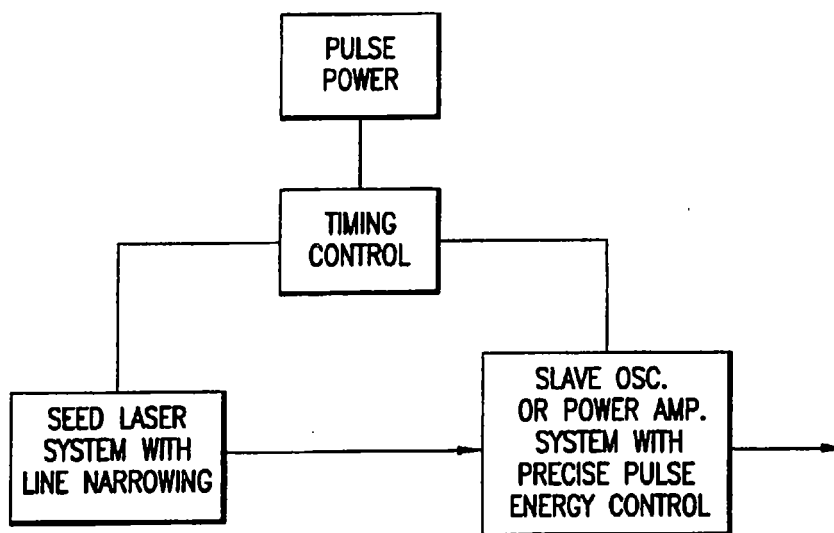
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(54) Title: INJECTION SEEDED F₂ LASER WITH WAVELENGTH CONTROL

(57) Abstract: The present invention provides a narrow band laser system having two laser subsystems. The first laser subsystem (seed laser) provides a very narrow band pulsed output beam which is used to injection seed the second laser subsystem (slave osc. or power amp.) where the narrow band pulsed seed beam is amplified to produce a narrow band pulsed output beam. A pulse power supply (pulse power) precisely times the discharges in the two laser subsystems so that the discharges are properly synchronized. The laser gas comprises F₂ at a partial pressure less than about 1 % with a buffer gas comprised of helium, neon, or a combination thereof. Control of the center wavelength of the output beam is provided by adjusting one or more of the following parameters in the first laser subsystem: the total laser gas pressure, the relative concentration of helium or neon, F₂ partial pressure, laser gas temperature, discharge voltage and pulse energy.

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