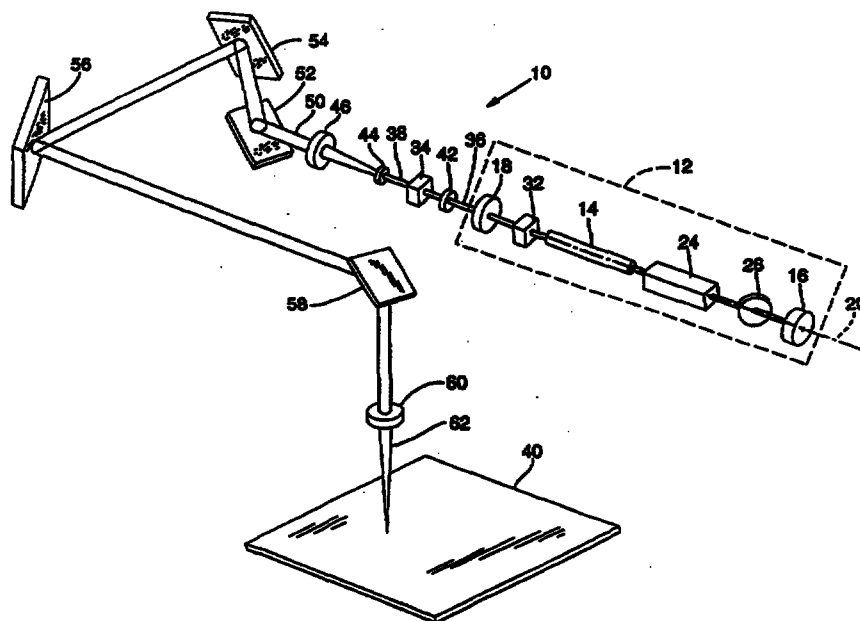




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(54) Title: LASER METHOD FOR PLATING VIAS



(57) Abstract

The output of a continuously pumped, Q-switched, Nd:YAG laser (10) is frequency converted to provide ultraviolet light (62) for plating internal wall surfaces (79, 126) of vias (72, 74) in multi-layered electronic devices (80). The parameters of the output pulses (62) are selected to facilitate substantially uniform deposition of plating material particles explosively vaporized from a substrate (124) onto the internal wall surface (79, 126). These parameters typically include at least two of the following criteria: high average power of greater than about 100 milliwatts measured over the beam spot area, a temporal pulse width shorter than about 100 nanoseconds, a spot diameter of less than about 50 microns, and a repetition rate of greater than about one kilohertz.