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Martinsen et al.

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- (54) **HIGH POWER LASER IMAGING SYSTEMS**
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- (*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 691 days.

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- Related U.S. Application Data**
- (63) Continuation-in-part of application No. 13/486,896, filed on Jun. 1, 2012, which is a continuation-in-part of application No. 12/984,085, filed on Jan. 4, 2011, now Pat. No. 8,835,804.
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- (52) **U.S. Cl.**
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- (58) **Field of Classification Search**
CPC B23K 26/0656; B23K 26/064; B23K 26/066; G02B 5/005; G02B 27/0944; G02B 26/02; G02F 1/11; G02F 1/0045
See application file for complete search history.

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(57) **ABSTRACT**

An imaging system includes a beam generating system configured to generate a light beam of 0.5 kW or greater with a predetermined intensity profile across at least one axis transverse to a propagation axis thereof and to direct the light beam along a beam path, a light modulator configured to receive the light beam and to modulate the light beam into a predetermined illumination pattern, and an optical relay configured to receive the portion of the light beam and reflectively project the beam to a target, wherein the illumination pattern is imaged at the target with substantially time-invariant spatial accuracies of 500 μm or less in a plane transverse to the propagation axis and 1000 μm or less parallel to the propagation axis.

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17 Claims, 5 Drawing Sheets

