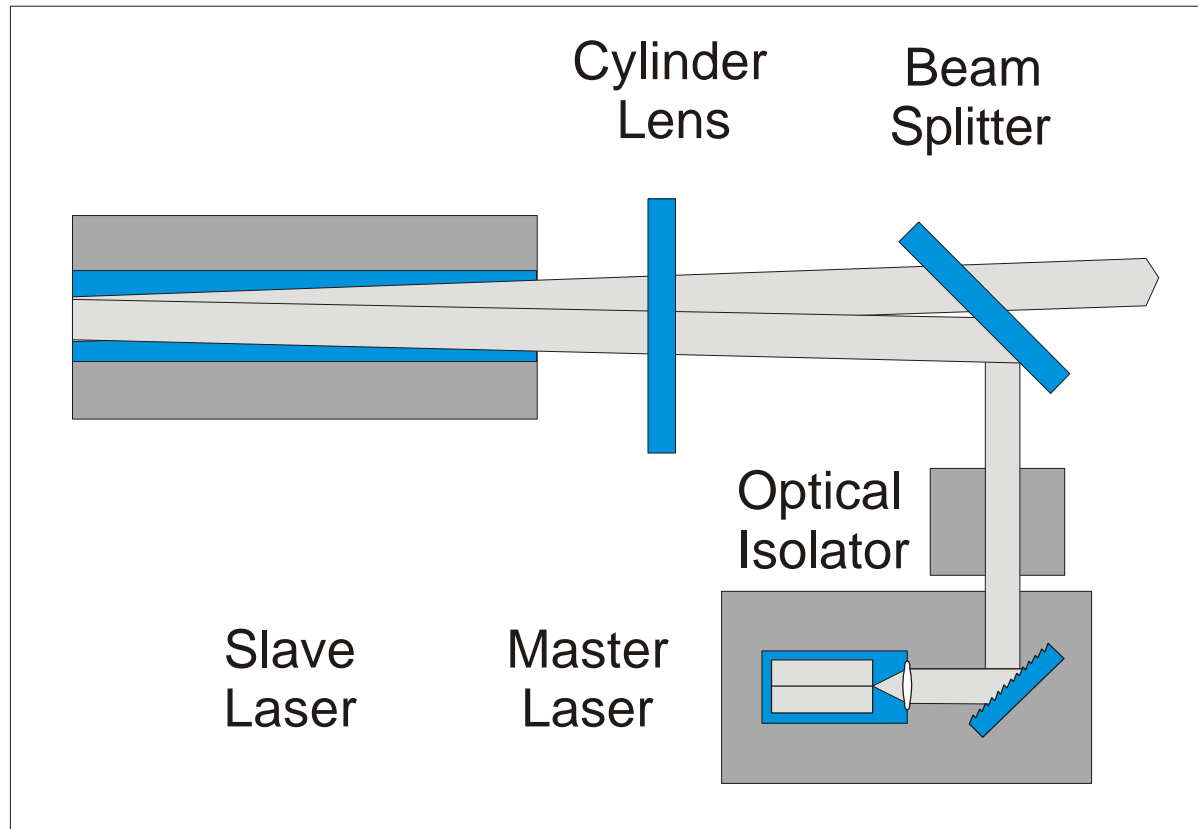


## Technical Note – No. 27

### Optical Amplification Stage basing on an Anti – Reflection Coated Broad Area Diode Laser

Broad Area Diode Lasers are optical high power devices. With an high quality anti-reflection coating, Broad Area Diode Lasers are an easy to handle tool for optical amplification of diode lasers.



The above figure shows the schematic setup on an Broad Area based optical amplification stage. The light of a tunable diode laser is coupled via a beam splitter and a cylinder lens into a broad area diode laser with an angle of about 2 - 5 degrees . The optical isolator protects the tunable diode laser from feedback. The laser light enters the broad area diode laser chip with a slight angle, passes thru the chip to the rear facet. There is reflected and passes a second time thru the laser chip. The light is coupled out of the laser chip via a second pass of the cylinder lens and the beam splitter. Typical output power values of the amplified laser are in the order of 1 Watt with an optical input power of 30mW. Optical properties of the master laser like linewidth and beam shape are transferred to the slave laser.

Document: <http://data.sacher-laser.com/techdocs/BAamp.pdf>  
 Note: Specification are subject to change without further notice

Sacher Lasertechnik GmbH  
 Hannah Arendt Str. 3-7  
 D-35037 Marburg, Germany

Tel.: +49 6421 305290  
 Fax: +49 6421 305299  
 Email: [contact@sacher.de](mailto:contact@sacher.de)

Sacher Lasertechnik, LLC  
 5765 Equador Way  
 Buena Park, CA 90620, USA

Tel.: 1-714-670-7605  
 Fax: 1-714-670-7662  
 Email: [sales@sacher-laser.com](mailto:sales@sacher-laser.com)

