

BOA™ PULSE COMPRESSOR SPECIFICATIONS (IR WAVELENGTHS)

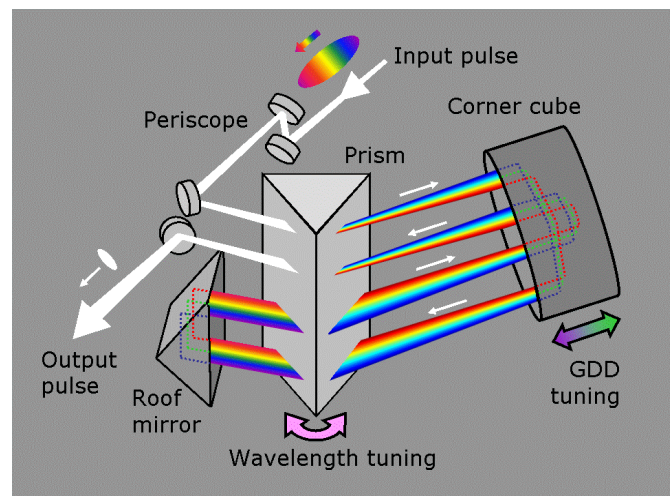
| Pulse compressor model: | BOA-800 | BOA-1050 | BOA-1300 | BOA-1550 |
|--|-------------------------|-------------------------|-------------------------|-------------------------|
| Wavelength range: | 700 - 1100 nm | 900 - 1200 nm | 1200 - 1450 nm | 1400 - 1700 nm |
| Max neg. GDD @ center wavelength*: | -38,000 fs ² | -14,000 fs ² | -44,000 fs ² | -20,000 fs ² |
| Transmission @ shortest wavelength @ center wavelength*: | > 95% > 85% | > 95% > 90% | > 95% > 90% | > 95% > 90% |
| Max bandwidth @ maximum GDD** @ half-maximum GDD : | 40 nm 70 nm | 110 nm 190 nm | 65 nm 110 nm | 120 nm 200 nm |
| Maximum peak power: | 500 MW | | | |
| Total additional beam path: | < 1.5 m | | | |
| Pulse repetition rate: | Any | | | |
| Angular dispersion (dθ/dλ) added: | 0 | | | |
| Pulse-front tilt (dt/dx) added: | 0 | | | |
| Spatial chirp (dx/dλ) added: | 0 | | | |
| 1D beam magnification: | 1 | | | |
| Output/input beam collinearity: | < 10 mrad | | | |
| Required input polarization: | Horizontal | | | |
| Polarization rotation: | <0.1° | | | |
| Required input-beam diameter: | 1 – 4 mm (collimated) | | | |
| Input-beam lateral-displ. tolerance: | 1 mm | | | |
| Number of alignment knobs: | Zero | | | |
| Time to set up: | ~ 10 minutes | | | |
| Dimensions (L x W x H): | 46 cm x 13.5 cm x 16 cm | | | |
| Weight: | ~ 5 kg | | | |

* Center wavelength in nanometers is the number following the "BOA-" in the device model. Wavelength-dependent data for the full operation range is given in the following pages.

** As with all dispersive pulse compressors, the maximum bandwidth is limited by beam clipping on the second pass through the prism and so depends on the prism-corner-cube separation (and hence the device's maximum negative GDD). A unique advantage of the BOA single-prism/corner-cube design, which tunes GDD by varying this separation, however, is that, if less than the full negative GDD is needed, the beam path will be shorter, and, as a result, the compressor can accommodate a pulse with a larger bandwidth. In addition, the maximum bandwidth also depends on the wavelength and is slightly larger at longer wavelengths. Finally, users of any pulse compressor should keep in mind that, for large bandwidths, higher-order distortions will become apparent.

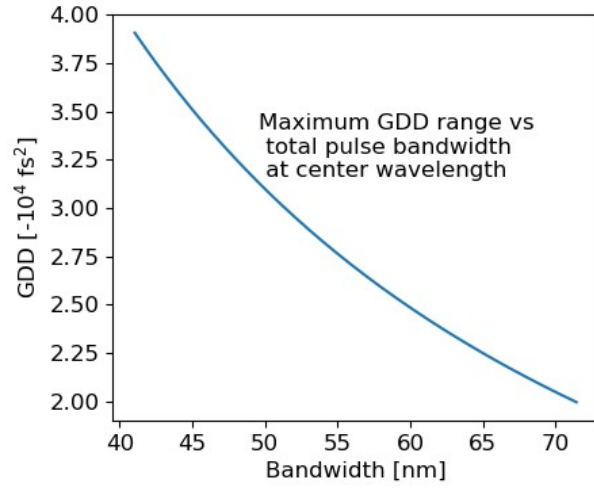
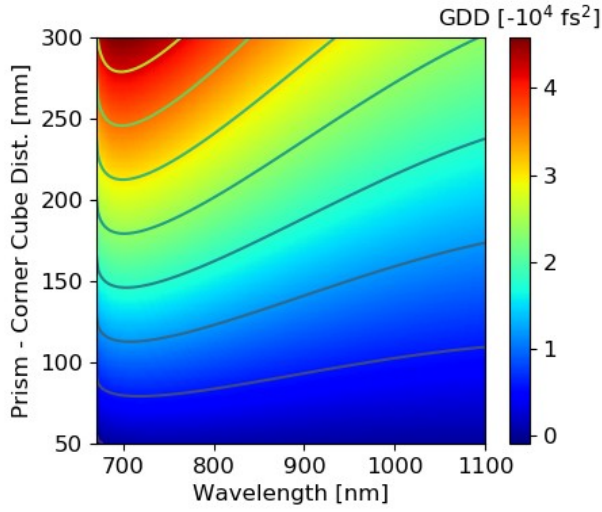
ADDITIONAL NOTES

- The added angular dispersion, pulse-front tilt, and spatial chirp can be shown to always be identically zero and were all immeasurable in our experiments.
- If your beam is larger than 4 mm, please let us know, and we can easily design a pulse compressor with a larger aperture at no extra cost.
- Alignment of the pulse compressor into a beam is achieved using a simple trick: back-reflection off a removable glass window (provided) is used to make sure the beam is incident perpendicularly to the compressor-axis. Once you do this, simply remove the window. You are all set to compress your pulses.
- The pulse compressor itself is auto-aligning, so no alignment knobs are required for internal components.
- Motorized and computer-controlled versions are available upon request.

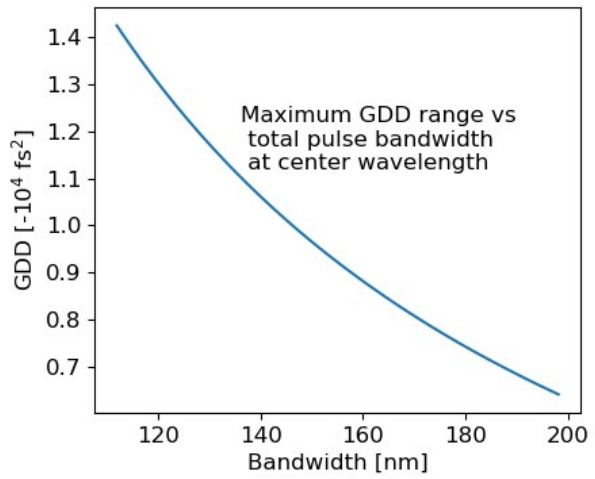
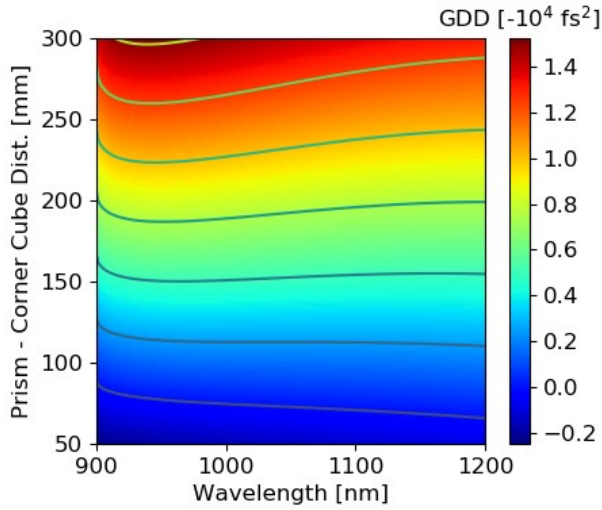


Layout for the BOA single-prism pulse compressor

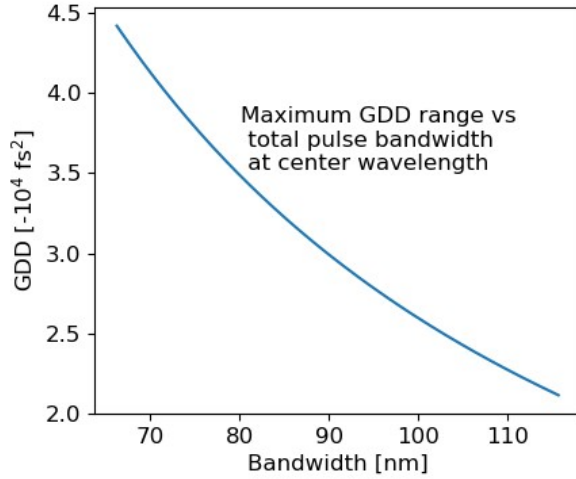
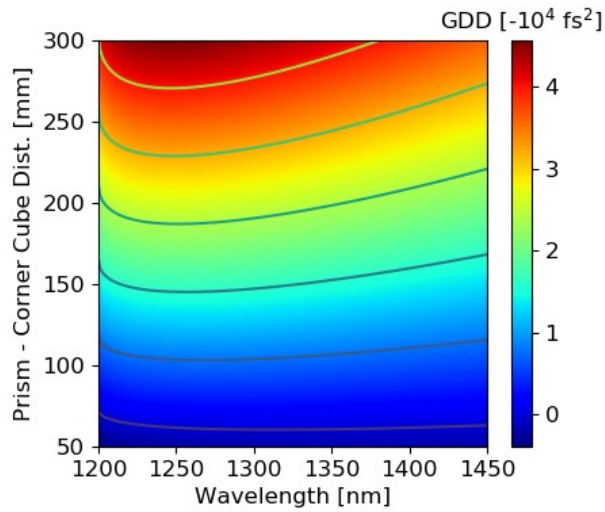
Single Prism Pulse Compressor, BOA-800



Single Prism Pulse Compressor, BOA-1050



Single Prism Pulse Compressor, BOA-1300



Single Prism Pulse Compressor, BOA-1550

