

# *SAPhotonics*



## **HIGH PERFORMANCE PHOTONIC SYSTEMS**

120 Knowles Drive, Los Gatos, CA 95032 | Phone: 408.560.3500 | [www.saphotonics.com](http://www.saphotonics.com) | [sales@saphotonics.com](mailto:sales@saphotonics.com)

# Sensing and Communication



BeamDirector™

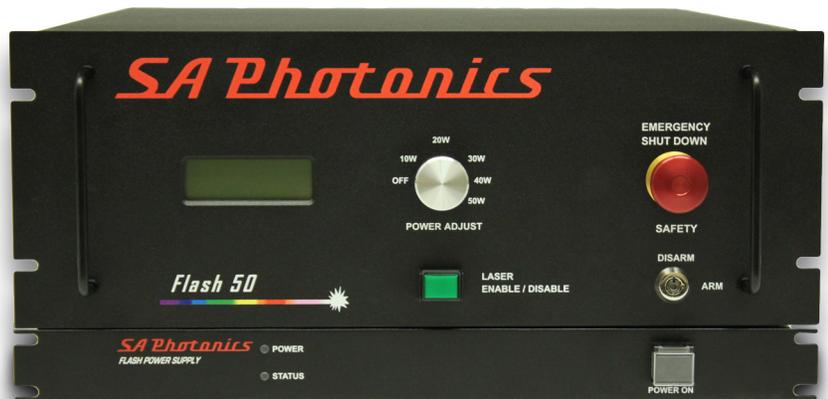


Nexus™



SkyLight™ FSO Crosslink

- » High Speed Free Space Optical Communication Systems
  - › **Nexus™** - 10 Gbps, jam-resistant, LPI/LPD, operates in spectrum-constrained environments with low SWaP
  - › **SkyLight™** - bidirectional satellite-to-ground and satellite crosslinks with very low SWaP
  - › **Neptune** - adaptive underwater FSO system for littoral and deep ocean optical communication
  - › **StabiLight™** - stabilized compact FSO system for sonobuoy and other on-the-move applications
- » Modulated Fiber Lasers and LADAR/LIDAR Systems
  - › **Flash™** - highest power (50 W) supercontinuum broadband laser source
  - › **SLDS** - high energy integrated laser for shipboard defense applications
  - › **TOPHAT** - supercontinuum illuminated active hyperspectral LIDAR imaging system
  - › **Coherent Fiber LADAR** - tracking of high speed targets with simultaneous range- and velocity-resolved measurements
  - › **MILOS** - underwater LADAR imaging from airborne and maritime platforms in littoral and deep ocean environments
- » Other Communication and Sensing Systems
  - › **SA-200** - low noise, high update rate fiber optic gyro (IMU) with very low SWaP
  - › **A2I TWR** - threat warning receiver covering 20 GHz of RF spectrum instantaneously with no frequency scanning
  - › **HPM** - compact, wideband high power microwave threat detection system
  - › **ORFM** - ultra-wideband optical RF memory for advanced radar jamming applications



Flash™ Supercontinuum Laser

# Vision Systems

- » See-through (Augmented Reality) HMDs
  - › **SA-62/S, SA-83/S & SA-92/S** - low-cost augmented reality systems with high resolution, wide field of view, see-through optics and almost no peripheral obscuration; available in 62°, 83° and 92° diagonal FOVs
  - › **SA-62/H** - wide field of view head mounted display for helicopter pilots
- » Direct-view (Virtual Reality) HMDs
  - › **SA-36** - world's highest resolution head mounted display with 20/19 Snellen resolution
  - › **SA-62** - small form factor, wide field of view, high resolution display with minimal peripheral obscuration
  - › **SA-65** - high resolution, wide field of view display
  - › **SA-62/H** - CRT-replacement for IHADSS system (Apache helicopter) with much larger field of view and resolution
- » Wide Field of View Digital Night Vision Systems
  - › State of the art day/night capable night vision systems; wide field of view (>85°) with high resolution digital sensors capable of seeing down to overcast starlight conditions



SA-62/H



SA-62/S

# Other Products, Prototypes and Applications

- » Millimeter wave and THz test and measurement systems
- » Multi-octave optical true-time delay based RF beamformers
- » Wideband RF threat detection system, 20 GHz instantaneous bandwidth, no scan times
- » Space qualified optical cross-connect switch



SA-65



SA-62

Founded in 2002 and headquartered in Los Gatos, California, SA Photonics is a pioneer in the development and deployment of innovative photonics solutions for commercial, military and government customers. Our products and technologies include reliable solutions for optical communications, head-mounted displays, digital night vision systems, novel man-machine interface technologies, high power modulated fiber-based lasers, LADAR/LIDAR systems, fast steering mirror sense and control systems, compact fiber gyros, and RF beamformers. Our experts provide customer confidence from revolutionary ideas to producible, proven operational systems.

## **Advantage**

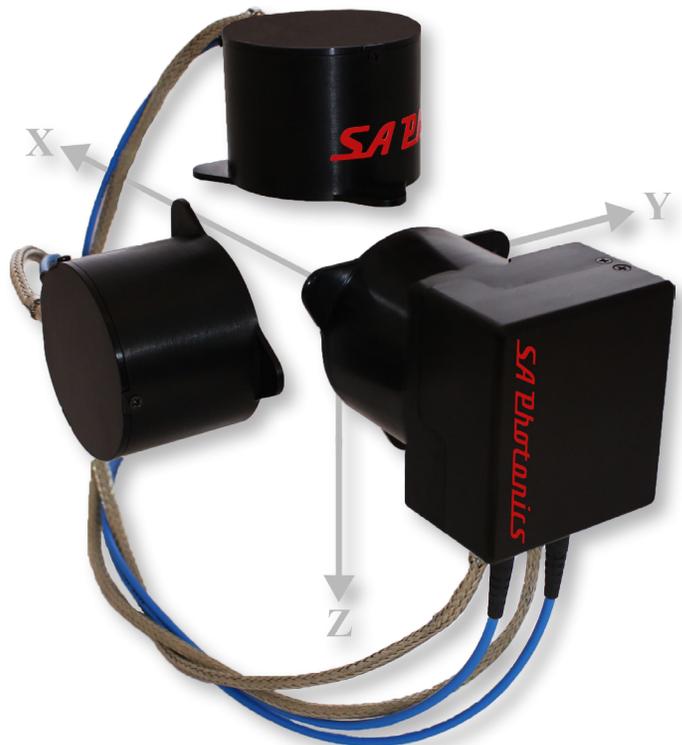
SA Photonics' advantage is our culture of quality and innovation. A strong technical staff and seasoned management provide agile and rapid solutions for RF, laser, sensor and vision systems. Our experts include defense and military professionals, entrepreneurs and leaders in technology and manufacturing. Our combination of experience and agility allows us to develop systems, components and prototypes much faster and more affordably than other companies, without sacrificing quality.

## **Core Competencies**

- » Design and development of complex photonic-based communication and sensing systems
- » System design for harsh environments, including space qualified products
- » Expertise in design and development of modulated fiber amplifier-based laser sources
- » High accuracy and high speed beam steering and control systems
- » RF, analog and coherent photonic-based systems
- » See-through (augmented reality) and direct view (virtual reality) head mounted displays
- » Wide field of view digital night vision systems
- » Development of flight-qualified hardware
- » Low-cost, high performance fiber optic gyros and inertial sensors



StabiLight™ FSO System



SA-200