

Solid State Laser Hybrid light engine in a LCOS projector

Rodney D. Sterling

ABSTRACT

Solid state light sources are becoming the standard in many new aircraft simulator installations. This is mostly due to the low maintenance required on the projector and the longer life of projector and light source. This paper will discuss the JVC laser hybrid projectors being offered with regards to life cycle cost, life of the illumination system and optical components. Power versus lifetime will be brought out and the best way to optimize your visual system. Also, additional benefits from the hybrid system include IR capability for NVGs, very low speckle contrast, high dynamic range, higher brightness and lower black levels. Discussion on the latest IEC 60825-1:2014 ed3, FDA guidance document on Laser Illuminated Projectors (LIPs), ICAO 9625 laser specifications and other laser safety information will be discussed. Comparisons to classical lamp based projectors for baseline will be used to determine advantages over older technologies.

BIO

Rodney D. Sterling
Chief Engineer
JVC Technology Center
JVCKENWOOD USA Corporation
Long Beach, CA

Rod Sterling is Chief Engineer, of JVC Technology Center, JVCKENWOOD USA Corporation, in Long Beach, California. He received his MS in Electrical Engineering, Applied Physics from the University of California, San Diego. He currently supports the efforts in ultra-high resolution displays, Reference Series and Visualization Series projectors and their applications, with focus on Simulation, Visualization, Home Theatre, and Stereoscopic displays. He has over 31 years of experience in the display area and over 23 years in Simulation and Electronic/Digital Cinema. He is the author of over 23 journal articles, 12 patents and 2 screen credits. He is an active member of SID, IEEE, SPIE and SMPTE.