

SBIR 06.2 PHASE I - AWARD DETAILS	
ORGANIZATION	CERDEC
TOPIC NUMBER	A06-115
CONTRACT NUMBER	
YEAR OF AWARD	
AWARD START DATE	
AWARD COMPLETION DATE	
PROPOSAL NUMBER	A062-115-1288
TITLE	Micro Solid State Low Light Level Camera
PROJECT MANAGER	Bruce Willy (408) 433-2555 bruce.willy@fcimg.com
COMPANY	Fairchild Imaging 1801 McCarthy Blvd. Milpitas CA 95035 Minority Owned: No Veteran Owned: No Number of Employees: 139
KEYWORDS	Solid state low light level TV camera, CCD, frame transfer CCD, active reset CMOS, CMOS, image intensification, night vision,
ABSTRACT	There is a distinct need to replace the current Gen III image intensifier imaging system with a solid state low light level camera. Fairchild Imaging has been working (SBIR A04-116) on an innovative hybrid CCD/ CMOS approach that combines the best of CCD imaging characteristics (high quantum efficiency, low dark current, excellent uniformity and low cross talk) with the high speed, low power, and ultra-low read noise of the active pixel CMOS readout technology via indium bumps. To date we have demonstrated excellent imagery from full day light down to quarter moon light level performance with acceptable MRC performance. Additional technology enhancements such as modifications to the serial shift register on the CCD, a ROIC designed on 0.18um design rules and changes to the indium bump process will improve MTF and SNR as well as reduce read noise and improve the overall performance of the camera. With the implementation of these performance enhancements to the existing low light level camera expect to see a solid state low light level imager with comparable or better Gen III performance.
BENEFITS	Uncooled, low power (150mWatts) man-portable low light level imaging solution. Applications for night vision goggles, rifle sights, night vision pilotage, night driving, scientific imaging.