



DEFENSE LOGISTICS AGENCY

GEM & AME PROGRAMS

Bradley Fighting Vehicle System Generalized Emulation of Microcircuits



System

Bradley Fighting Vehicle (WSDC 37A)

Role: Mechanized infantry armored cavalry combat

In Service: 1998 - Present

Systems Produced: 4,641

Used by U.S. Military and Allied Nations

Emulation Support

DLA's GEM Program manufactured a Form-Fit-Function- Interface (F3I) replacement of a Standard Military Drawing (SMD) part with matching performance.

Averted Bradley production and repair line shutdown.

This microcircuit supports 30 weapon systems including Bradley Fighting Vehicle System, F/A-18, F-15, F-22, C-17A, & Trident.

The DLA GEM Program provides a permanent on-demand manufacturing source.

GEM Part Number: GEM34301QPA

Application	Bradley Amored fighting vehicle, microcircuit used in turret distribution box, system control box and gun control unit.
Obsolete Device	CMOS-compatible dual NAND peripheral driver with open collector outputs, generic part number DS1632. NSN: 5962-01-376-2175, SMD part number: 5962-9052201PA.
Emulation Solution	The GEM emulation was verified by system insertion testing prototypes as form-fit-function replacements of the original part with matching critical performance parameters. Additional QML-38535 listed SMD part numbers: 5962-9052201PC, 5962-9052201XA and 5962-9052201XC.
Customer	DLA, U.S. Army, Curtis Wright Inc., United Defense, & all subcontractors.
Benefit to Program	Averted Bradley production and repair line shutdown and provide permanent production support.
Manufacturing Support	Utilized on-demand GEM manufacturing capability to deliver over 13,600 parts on time to support Operation Iraqi Freedom.

Our Story

In the late 1980s, DLA recognized that microcircuit obsolescence threatened the readiness of many American defense systems. Numerous systems in the armed forces were designed and developed in the 1960s and 1970s. For example, the U.S. Air Force began flying the F-15 Eagle tactical fighter in 1972, and the U.S. Navy first tested the AEGIS phased-array radar at sea in 1973. Because of continued advancements in semiconductor technology, the original suppliers stopped manufacturing the microelectronic components used in these and other systems. In 1987, DLA contracted with SRI to begin research and development on how to best replace obsolete microcircuits with standardized, modern integrated circuits (IC). DLA and SRI collaborated to develop the GEM Program. Using its on-site Trusted semiconductor foundry and deep knowledge of IC design/development, SRI produces on-demand, Class Q microcircuits matching the Form-Fit-Function-Interface (F3I) criteria of the required microcircuit. DLA is developing the next generation of F3I microcircuit Emulation capability through the AME Program to further alleviate growing IC obsolescence issues caused by the continued rapid advancements in technology. The new capabilities developed by AME are utilized by the GEM Program to ensure the Emulation Programs continue to meet weapons systems wide-ranging requirements. SRI's semiconductor foundry is accredited as a Department of War (DOW) Trusted Foundry supplier, and our manufacturing processes are qualified to MIL-PRF-38535.

