

SPACE SYSTEMS SYMPOSIUM (D1)
Enabling Technologies for Space Systems (2)

Author: Mr. Yair Maryanka
Yamar Electronics Ltd., Israel

Dr. Ofer Amrani
Tel Aviv University, Israel

MPBUS DC POWERLINE COMMUNICATION ELIMINATES WIRING IN LAUNCHERS AND
SPACECRAFTS

Abstract

The MPBUS communication system is a unique technology designed to enable data transfer over ordinary DC power lines. Eliminating wires enhance the performance of space systems by reduce weight, simplify components installation and increase system reliability. The power lines in space systems feed many actuators, sensors and switching power inverters that impose noise on the lines. Transceivers that were designed specially to operate under these harsh conditions are described. It is demonstrated how the MPBUS is employed for battery management and for sensors/actuators network without the need of additional data cables. Mitigation with EMI/EMC requirements is also discussed.