

EDAC Techniques

EDAC Method	EDAC Capability
Parity	Single bit error detect
Cyclic Redundancy Check (CRC)	Detects if any errors have occurred in a given structure
Hamming Code	Single bit correct, double bit detect
Reed-Solomon Code	Corrects multiple and consecutive bytes in error
Convolutional Code	Corrects isolated burst noise in a communication stream
Overlying Protocol	Specific to each system. Example: retransmission protocol

Control-Error Protection Schemes

Protection Method	Capability
Watchdog Timer	If not reset within the designed interval, perform some function (usually a system reset).
Redundancy	Two equivalent systems operate on the same data. If the two systems disagree, a system reset is performed.
Lockstep	Two devices in a system are clocked simultaneously, and which are provided common inputs. If the devices disagree, perform a system reset.
Voting	Use three or more devices to perform the same function. If one device disagrees with the rest, use the remaining devices to determine the next system state.
Repetition	A system must provide the same data more than once to perform some action. Used, for instance, to lower the risk of an inadvertent spacecraft command being executed.