The Jet Propulsion Laboratory's (JPL) Advanced Multi-Mission Operations System (AMMOS) system processes data received from deep-space spacecraft, where error rates can be high, bit rates are low, and data is unique precious. Frame synchronization and data extraction of CCSDS packet telemetry as performed by AMMOS enhance data acquisition and reliability for maximum data return and validity. Unique aspects of sync acquisition, maintenance, and loss are discussed. Also covered are Reed-Solomon decoding and checksum processing, as they relate to frame sync processing. Data validity and phase determination, invalid data processing and analysis, and other topics are covered.