

Modular RTU

The Remote Terminal Unit (RTU) is a unit that is usually present on medium-large size spacecraft. On large Spacecrafts more than one RTU can exist. The RTU offloads the On Board Computer from analogue and discrete digital data acquisition and actuators control tasks and it represents an example of implementation of distributed control system on board a satellite. The RTU is usually a not-intelligent unit and it is interfaced with the On-Board Computer with serial communication busses (MIL-STD-1553B, RS422 ...). A RTU may either be integrated in the OBC or operates as independent remote unit.

The RTU has been identified by the SAVOIR Advisory Group as a high priority building block due to the large domain of applicability covering all mission types. An R&D activity called Modular RTU design has been developed by AirbusDS-Crisa based on their strong heritage in RTU/RIU design. The Modular RTU development includes the following key characteristics:

- Conceived as an assembly of different modules/slices with standardized mechanical and internal electrical interfaces than can be used across different missions
- Interfaces compliant with the ECSS and CCSDS standards
- Use of digital interfaces for interconnection to sensors

The modular RTU developed in the frame of this activity is used on the Proba-3 mission.