

Komponenten für die Satellitenkommunikation

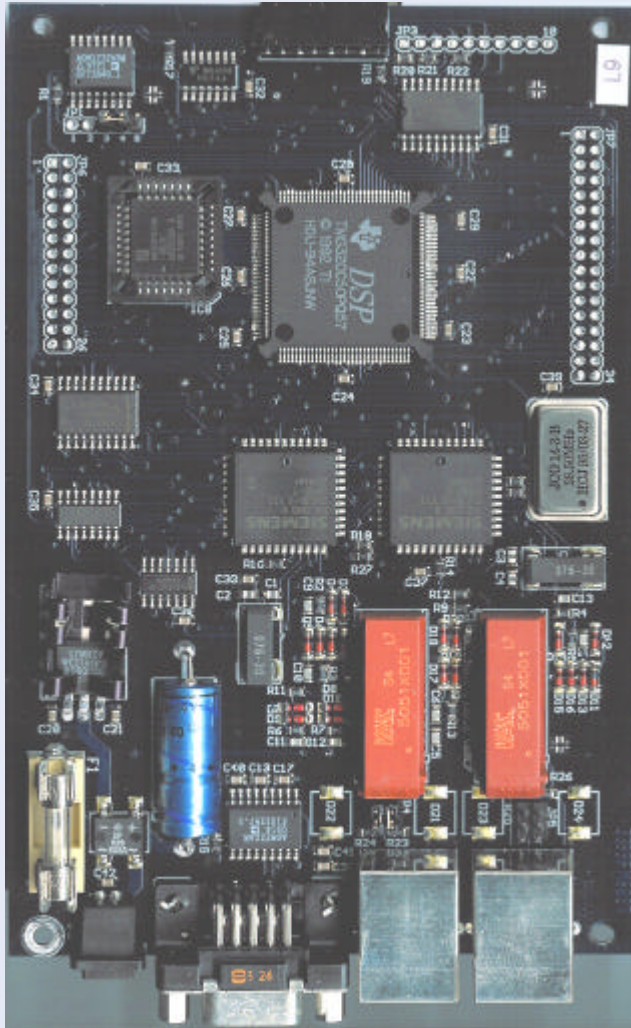
Digitale Signalverarbeitung & Informationstechnik GmbH

Digital Signal Processing and Information technology
GmbH

SME Engineering company founded in 1997, currently 11
employees

Focus on Research and development, active in

Technology-Transfer between university and industry



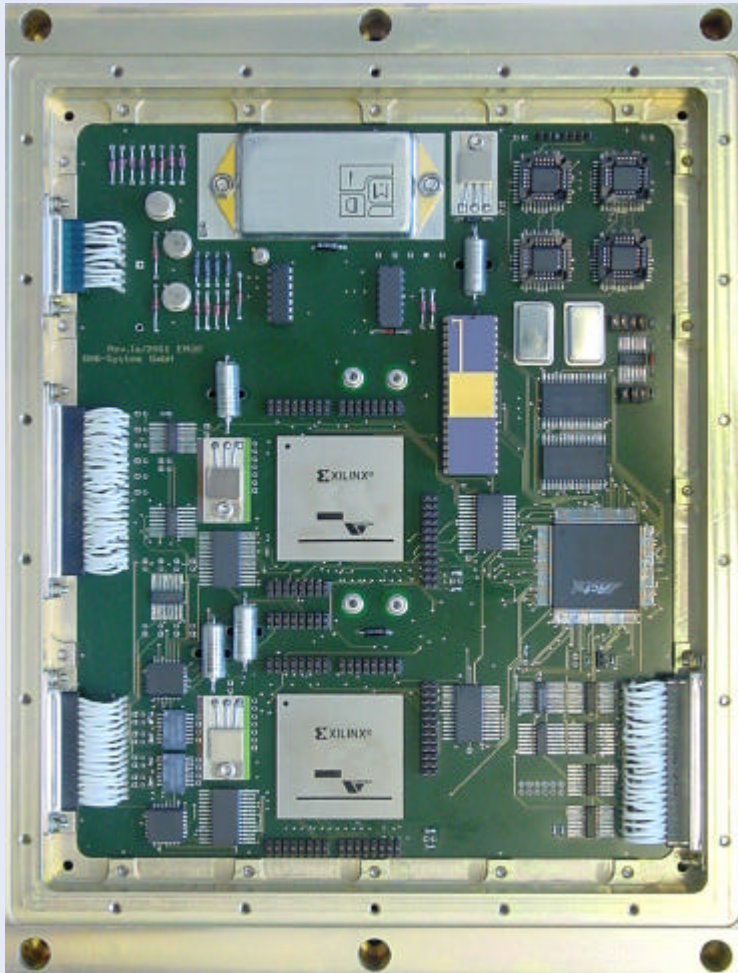
ISDN Encryption Module

Features

- Encryption : IDEA
- Diffie-Hellman Session Key Generation (0,3 s)
- Data Rate : 128 kbit/s
- Implementation in software (DSP, 20 Mips)

In Co-operation with IAT & Comtes

Single Chip Channel Coding FPGA for Satellite Applications



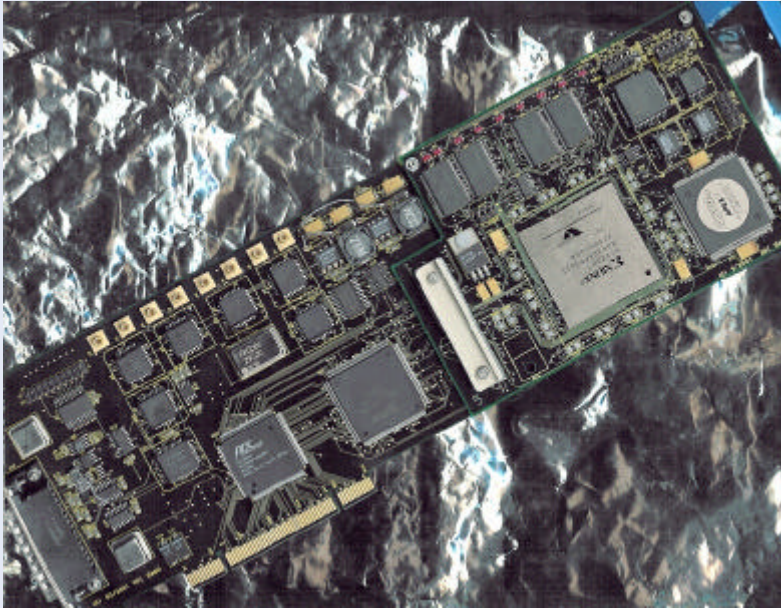
Features

- High Speed Encryption : IDEA
- CCSDS formatter
- Forward Error Correction
- CCSDS randomizer
- Overall Output Data Rate : 320 Mbit/s
- Implementation : XILINX Virtex 600

Possible Modifications

- Encryption : e.g. AES
- Overall Output Data Rate :
Up to 500 Mbit/s
- I/F : Channel Link, G-Link, LVDS,
Space Wire, parallel I/F

High Speed Interface Board for Satellite Ground Stations HSIB



Features

- High Speed Decryption : IDEA
- Input I/F : TTL, ECL, LVDS
- Output I/F : ECL BERT
- PCI Bustmaster I/F
- 8 Mbyte onboard memory
- Input Data Rate up to 200 Mbit/s
- CCSDS deformatter
- CCSDS derandomizer
- RS-Decoding
- Implementation : XILINX Virtex 800

Second Generation of HSIB

- Input I/F : e.g. Parallel I/F, Channel Link, Space Wire
- Output I/F : ECL BERT, Channel Link, etc.
- Implementation : up to XILINX Virtex II 8000
- PCI I/F : Up to 64 bit / 66 MHz
- Input Data Rate : Up to 500 Mbit/s
- 256 Mbyte onboard memory

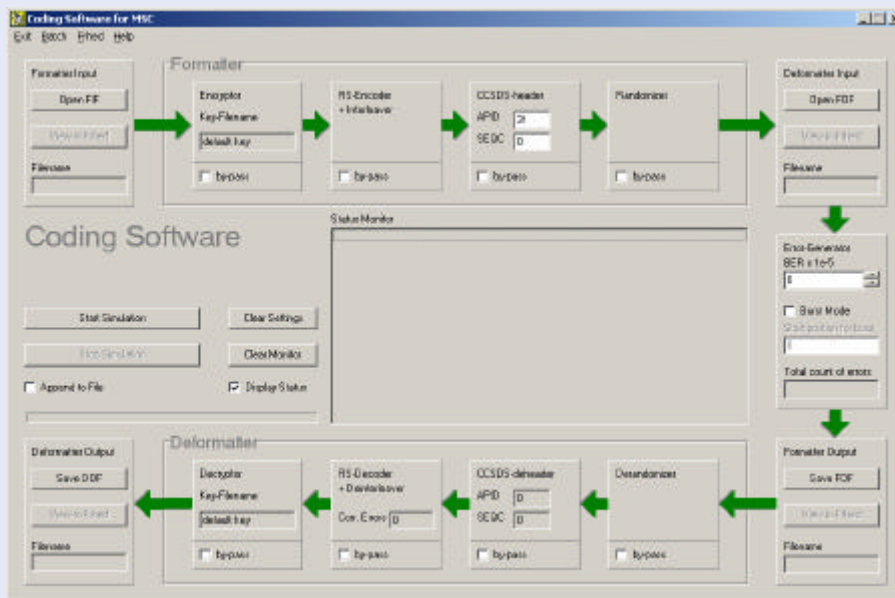
Telemetry Simulator Board TSB



Features

- Universal Data Stimulator
- 1 Mbyte onboard memory
- Input I/F : ECL BERT
- Output I/F : Cypress Hotlink
- Implementation : XILINX Virtex 150

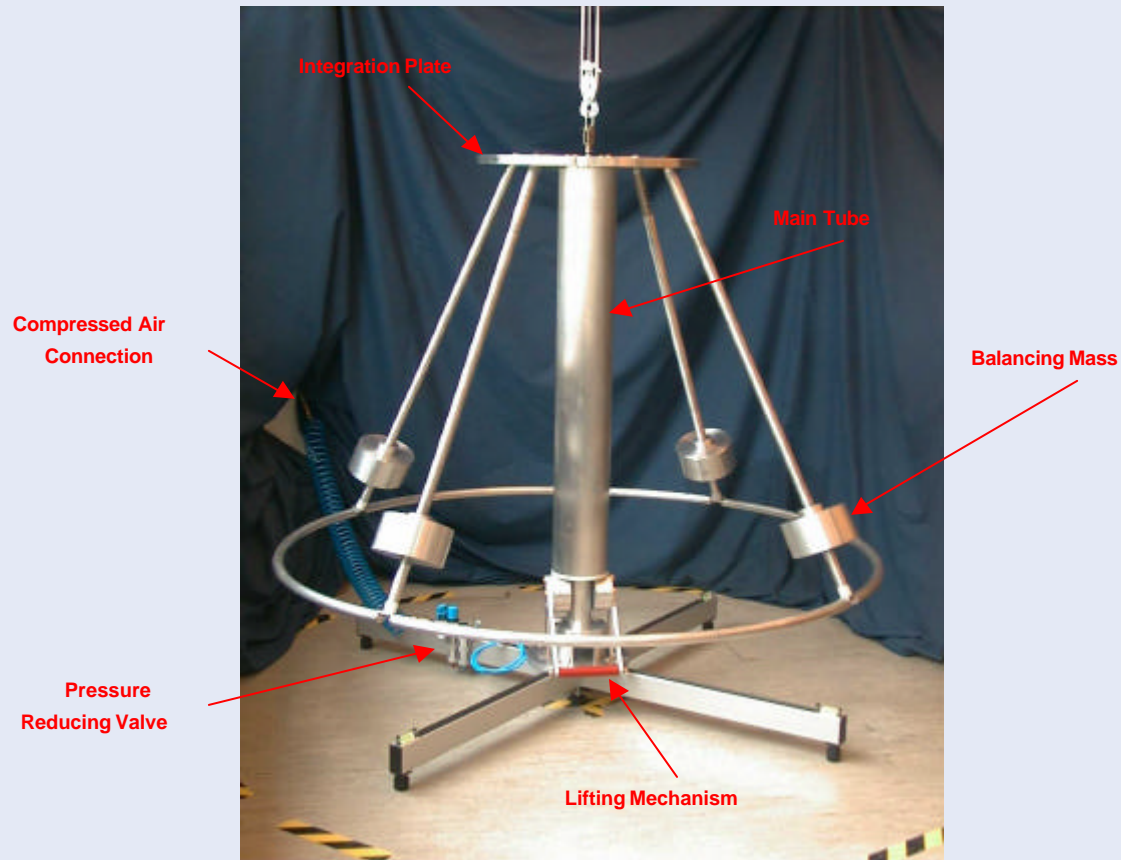
CCSDS Channel Coding/Decoding Software



Features

- Test data generation for hardware testing of formatter and deformatter chain
- Easy Setup Generation and Storage
- Batch File Processing for large missions
- Error Generation Module
- Modularity of all modules

Air Bearing Facility



Air Bearing Facility



Helmholtz Coils

