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| HIFI PACS SPIRE | Joint technical note EGSE Interface unit Functional description | Hifi no: SRON-U/HIFI/TN/2000-001 Inst.no.: Issue: Draft 2 Date: March 6, 2000 Category: 2. |
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Title: EGSE Interface unit, functional description

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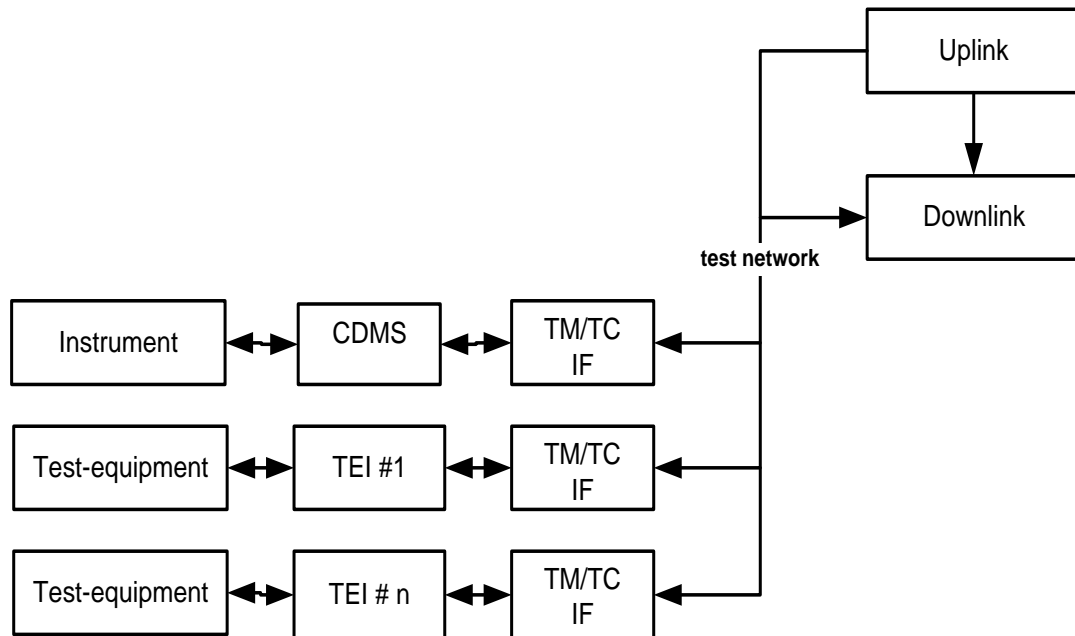
1 Purpose of this document

This document describes the functions of the EGSE interface unit. The interface unit connects the parts of the EGSE responsible for test-control and data-interpretation to the instrument and test-equipment.

2 References

- Joint Technical Note "Common Instrument EGSE concepts" by Ken King, dated Nov 4, 1999
- Minutes of meeting EGSE commonality meeting #2, dated Jan 25, 2000

3 Functional description of interface unit



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3.1 UPLINK

3.1.1 Functions

- 3.1.1.1 Accept TC-packet from test-control
- 3.1.1.2 Route TC-packet through test network to destination CDMS/TEI according to APID
- 3.1.1.3 Associate UTC time label to TC-packet
- 3.1.1.3.1.1 Forward TC-packet + TBD associated information to downlink

3.1.2 Input

- 3.1.2.1 Uplink accepts input form test-control

3.1.3 Output

- 3.1.3.1 Uplink sends output to test network
- 3.1.3.2 Uplink sends output to TC-store

3.1.4 Configuration data

- 3.1.4.1 Table that links APID with CDMS/TEI addresses on test network

3.2 TM/TC interface

3.2.1 Functions

- 3.2.1.1 Accept TC packets from test network
- 3.2.1.2 Route TM packets to Uplink through test network
- 3.2.1.3 Signal CDMS/TEI upon arrival of TC
- 3.2.1.4 Make TC packet available to CDMS-IF/TEI
- 3.2.1.5 Accept TM packet from CDMS-IF/TEI

3.2.2 Input

- 3.2.2.1 TC packets from test network
- 3.2.2.2 TM packet from CDMS-IF/TEI

3.2.3 Output

- 3.2.3.1 TM packets to test network
- 3.2.3.2 TC packet to CDMS-IF/TEI

3.2.4 Configuration data

- 3.2.4.1 APID
- 3.2.4.2 Test network address of uplink

3.3 CDMS-IF

3.3.1 Functions

- 3.3.1.1 Accept TC packet from TM/TC interface
- 3.3.1.2 Translate to 1553B protocol
- 3.3.1.3 Accept TM packet from 1553B protocol
- 3.3.1.4 Forward TM to test network

3.3.2 Input

- 3.3.2.1 TC packet form TM/TC interface
- 3.3.2.2 TM packet from instrument

3.3.3 Output

- 3.3.3.1 TC packet to instrument
- 3.3.3.2 TM packet to TM/TC interface

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3.4 Test-equipment interface (TEI #1 – TEI #n)

3.4.1 Functions

Note: Only functions used in the EGSE context. Functions used during e.g. unit level tests done without uplink/downlink are not covered here

- 3.4.1.1 Accept TC- packet from TM/TC interface
- 3.4.1.2 Control test-equipment according to TC-packet content
- 3.4.1.3 Accept data from test-equipment
- 3.4.1.4 Send data as TM packet to TM/TC interface

3.4.2 Input

- 3.4.2.1 TC packet from TM/TC interface
- 3.4.2.2 Data from test-equipment

3.4.3 output

- 3.4.3.1 Commands to test-equipment
- 3.4.3.2 TM packet to TM/TC interface

3.5 DOWNLINK

3.5.1 Functions

- 3.5.1.1 Accept TM packets from test network
- 3.5.1.2 Associate ERT to TM-packet
- 3.5.1.3 Forward TM-packet + TBD associated information to TM-store
- 3.5.1.4 Forward TM-packet to RTA-real time
- 3.5.1.5 Forward TM-packet to IA-QLA-real time
- 3.5.1.6 Associate verification reports with TC-packets and forward TC-packets to TC-store

3.5.2 Input

- 3.5.2.1 Downlink accepts TM packets from test network

3.5.3 Output

- 3.5.3.1 Downlink sends output to RTA-realtime
- 3.5.3.2 Downlink sends output to IA-QLA-realtime
- 3.5.3.3 Downlink sends output to TM-store

4 Figures

- Figure 1. Interface unit Functional diagram
- Figure 2. CDMS Functional diagram
- Figure 3. Test-Equipment Interface Functional diagram
- Figure 4. Downlink Functional diagram
- Figure 5. Uplink Functional diagram
- Figure 6. TM-TC interface Functional diagram