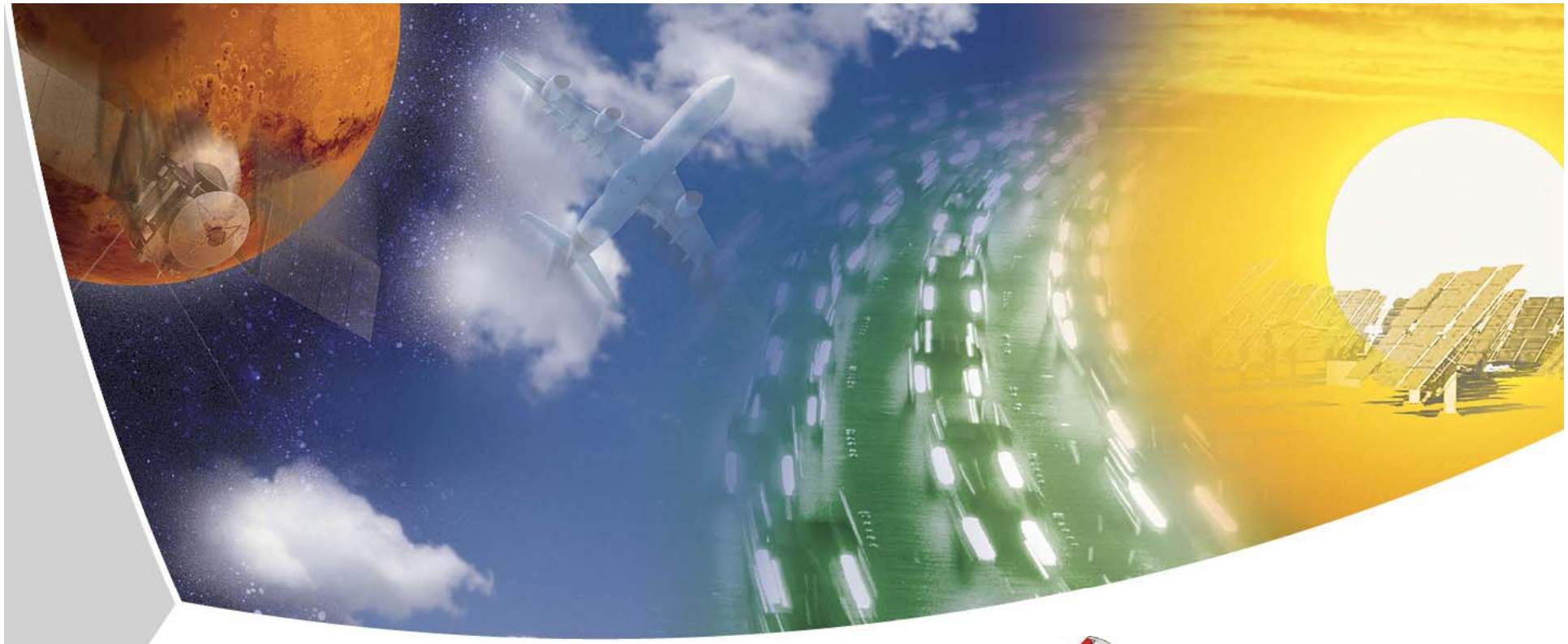


HALO-Wingpod-Workshop

Stromversorgung-Datentransfer

Übersicht

- Infrastruktur für Experimentverkabelung (Leerrohre, Durchführungen an Druckschotts), HIAPER und HALO

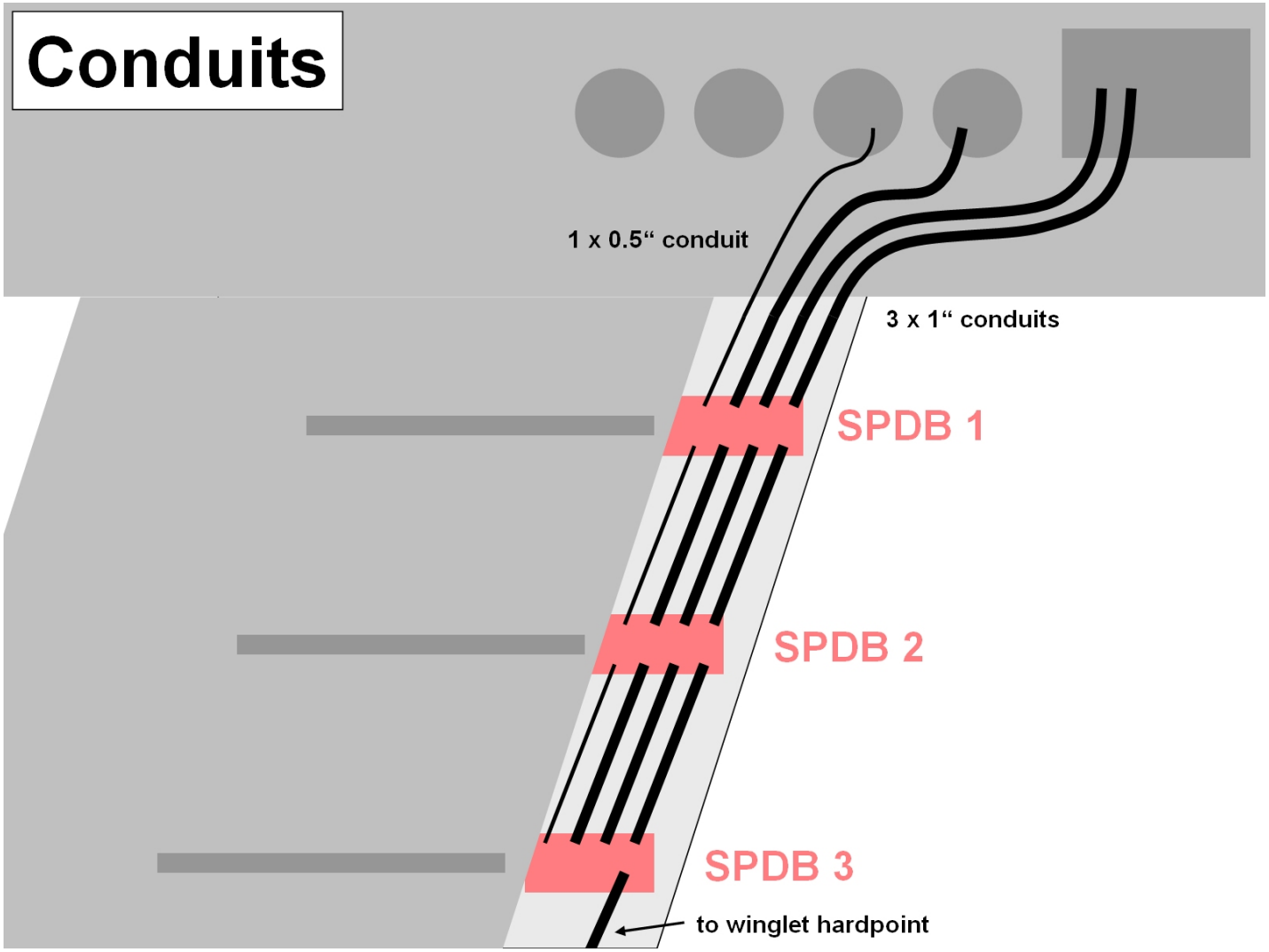
- fixe Verkabelung:
  - Experiment-Stromversorgung
  - Datenverbindungen

Historie

Ergebnisse des HALO Nutzer – Workshops:

- ……..
- Leerrohre zu den Flügelstationen.
- Durchführungen zu den Wingtips, Winglets und zum Leitwerk.
- „Klassische“ PMS-Verkabelung nur zu den inneren Flügelstationen. Alternative Verbindungen zu den weiter außen liegenden Stationen (z.B. Glasfaser - Kabel zur optischen Signalübermittlung).
- Standardspannung, die durch die Generatoren des Flugzeuges (GV) produziert wird: 115 V / 400 Hz, 3 Phasen.
- Hauptstromversorgung an den Flügelstationen: 115 V / 400 Hz. 28 V DC durch Wandlung an der Station bzw. Versorgung durch Leerrohre aus der Kabine
- ……..

Infrastruktur: HALO



Experiment-Stromversorgung

Limited power availability at wing stations. (weight and space issue):

- 115 VAC, 3 phase, 400Hz experiment
- 115 VAC, 3 phase, 400Hz de-icing

Reduced signal wiring
- network CAT5
- optical fibre

Everthing else:
- conduits!
- TRUs and converters (pylon mounted)

Note: three phase power supply potentially requires load balancing!
MIL Specs.: Loads larger than 500W must be balanced!

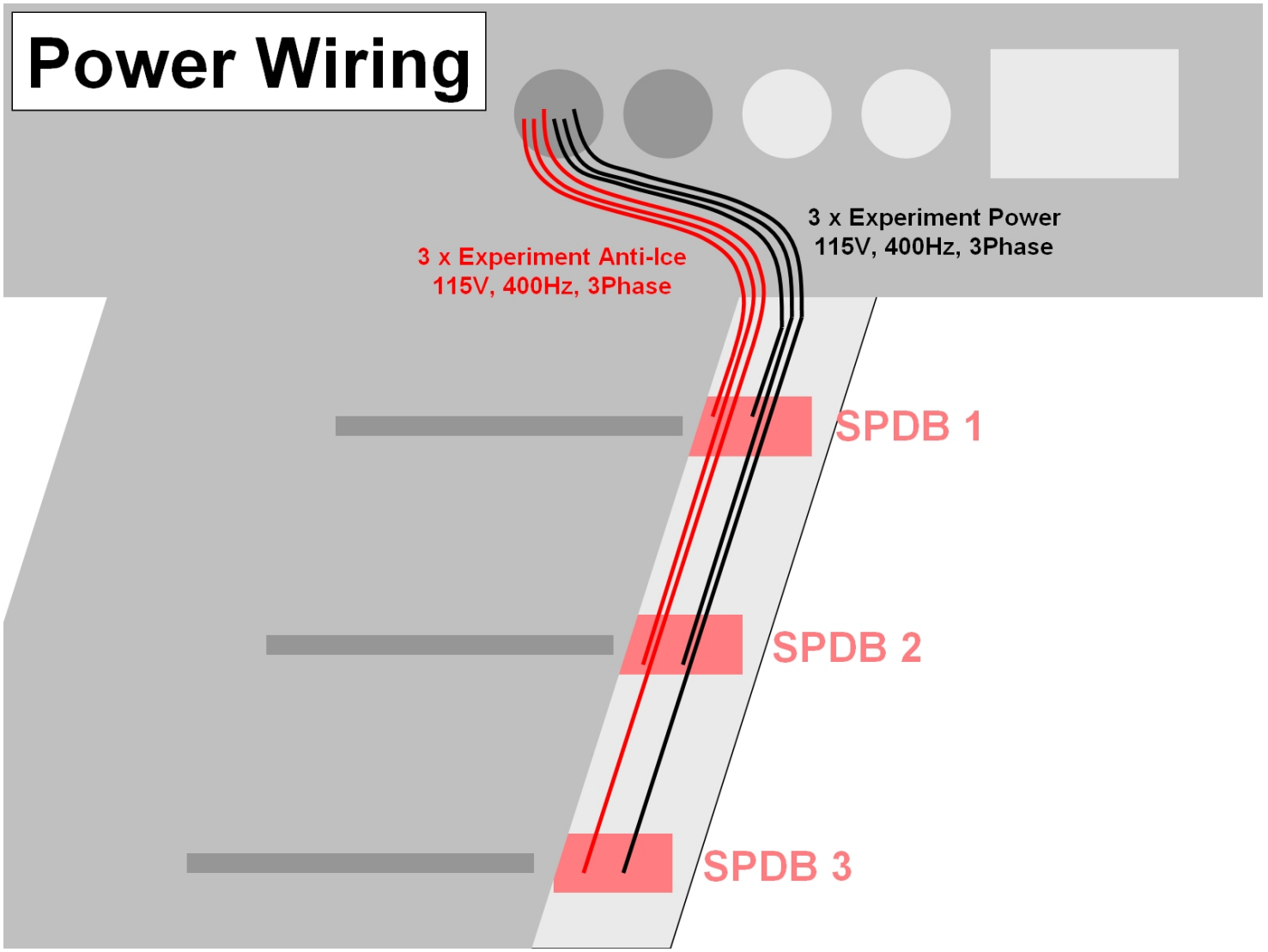
Experiment-Stromversorgung

Load balancing limitations:

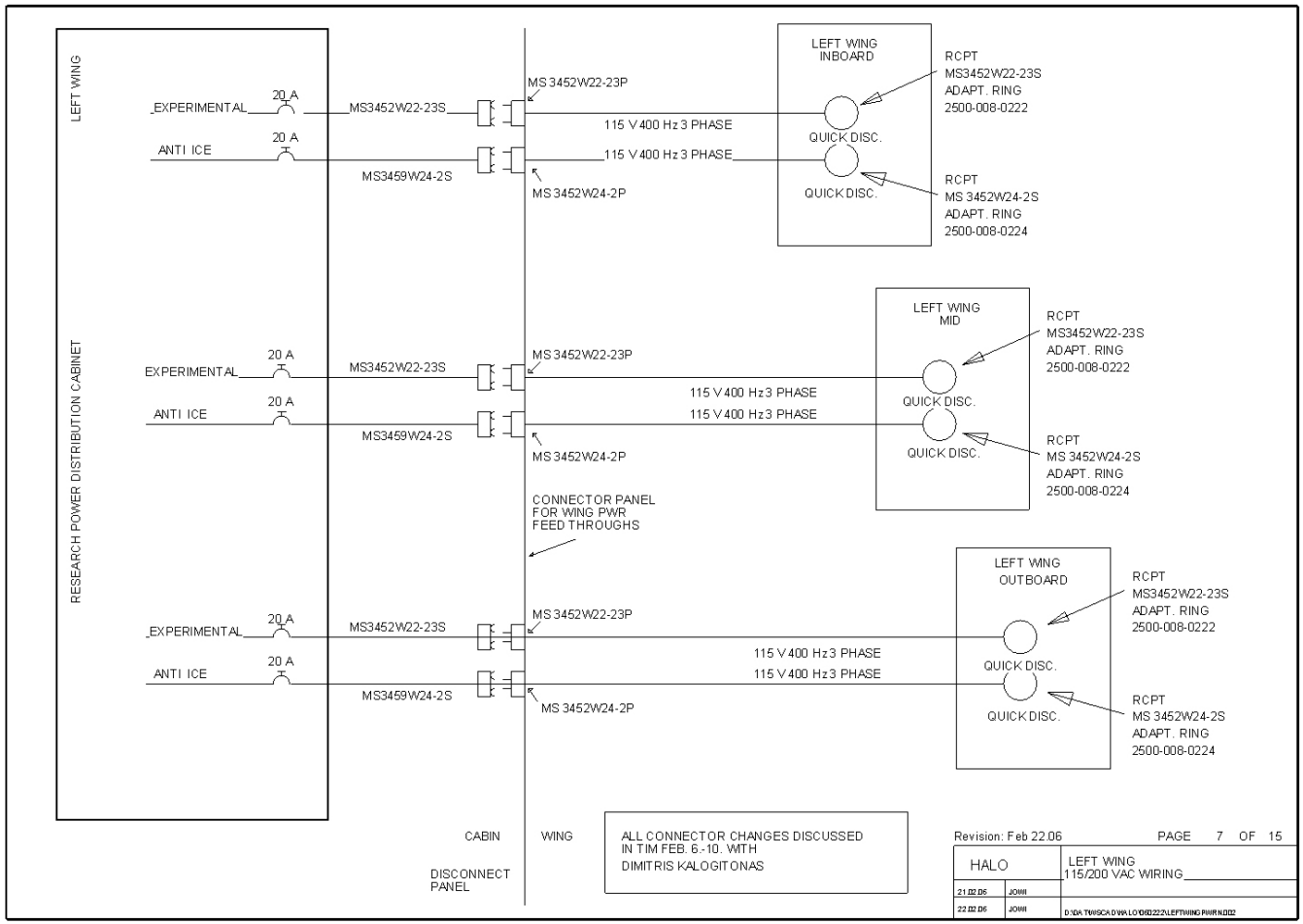
1) With the generator carrying no three-phase load, a single phase line-to-neutral load up to 2/3 of the rated phase current may be connected.
2) With the generator carrying 1/3 rated three phase load or less, a single phase line-to-neutral load up to 2/3 of the rated phase current may be connected.
3) With the generator carrying 2/3 rated load or less, a single phase line-to-neutral load up to 1/3 of the rated phase current may be connected.
4) With the generator carrying up to 5/6 rated load or less, a single phase line-to-neutral load up to 1/6 of the rated phase current may be connected.

Conclusion: Limitations are broad and should allow large flexibility in connecting mission loads.

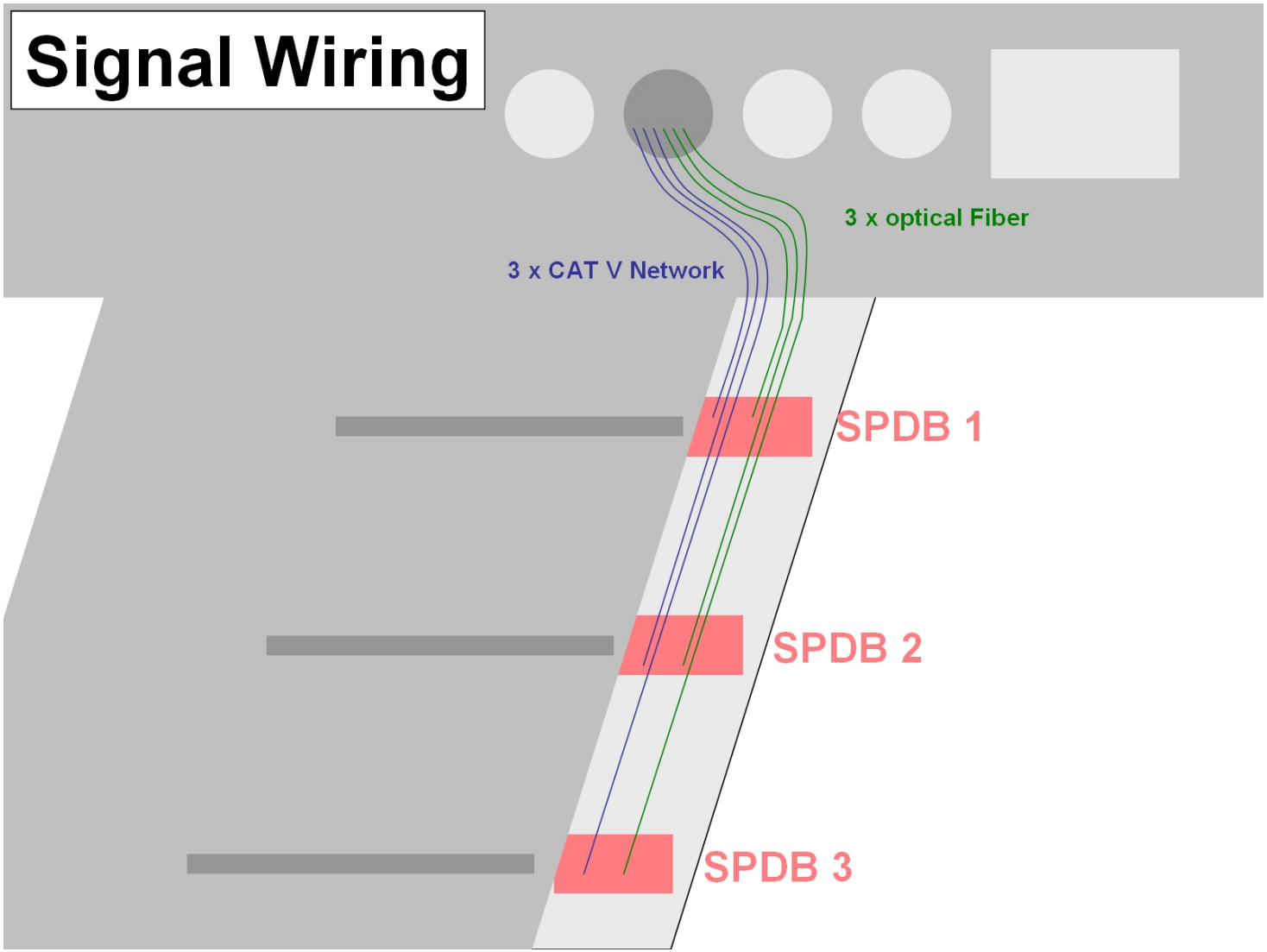
Experiment-Stromversorgung



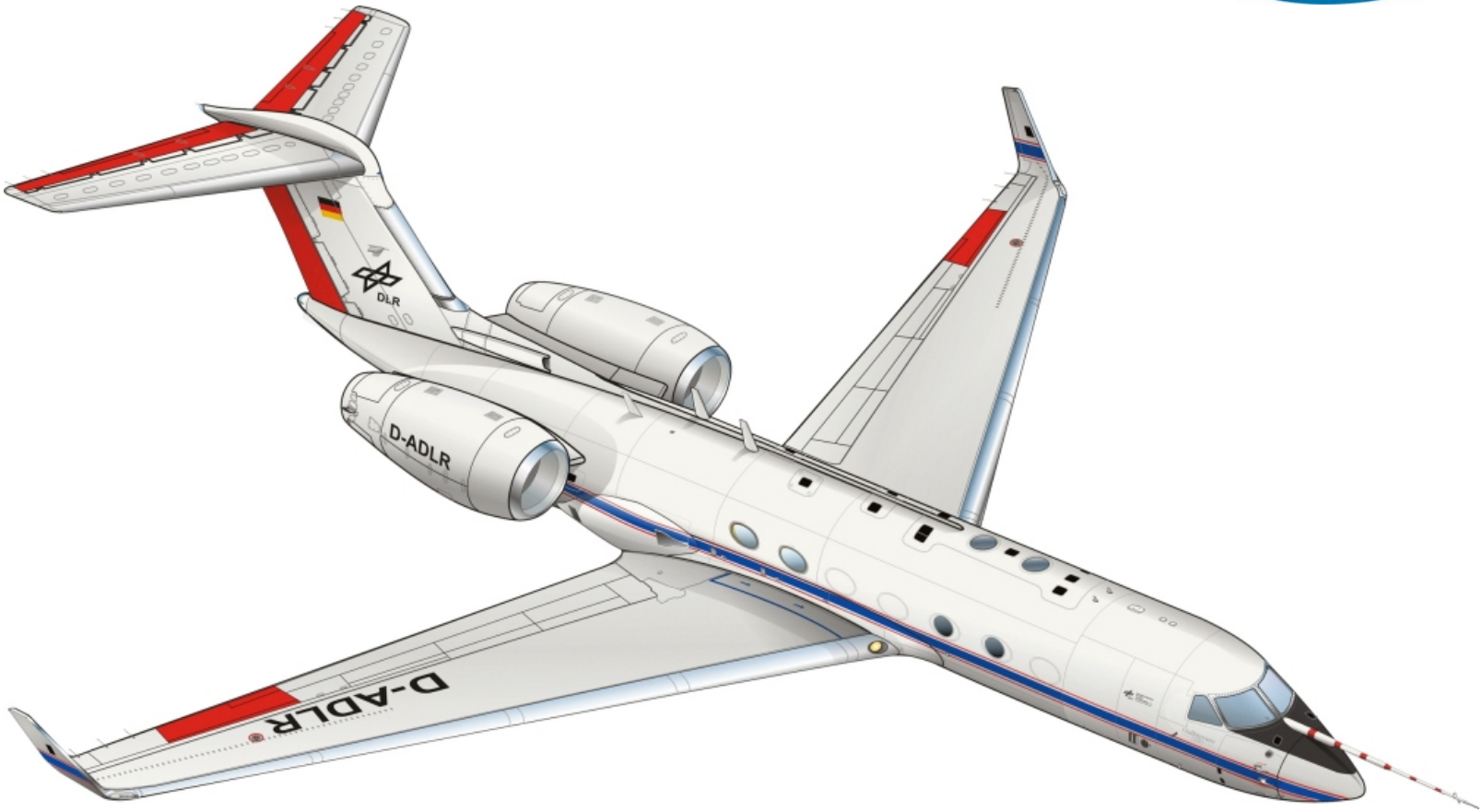
Experiment-Stromversorgung



Experiment-Stromversorgung



Fragen?



SPDBs

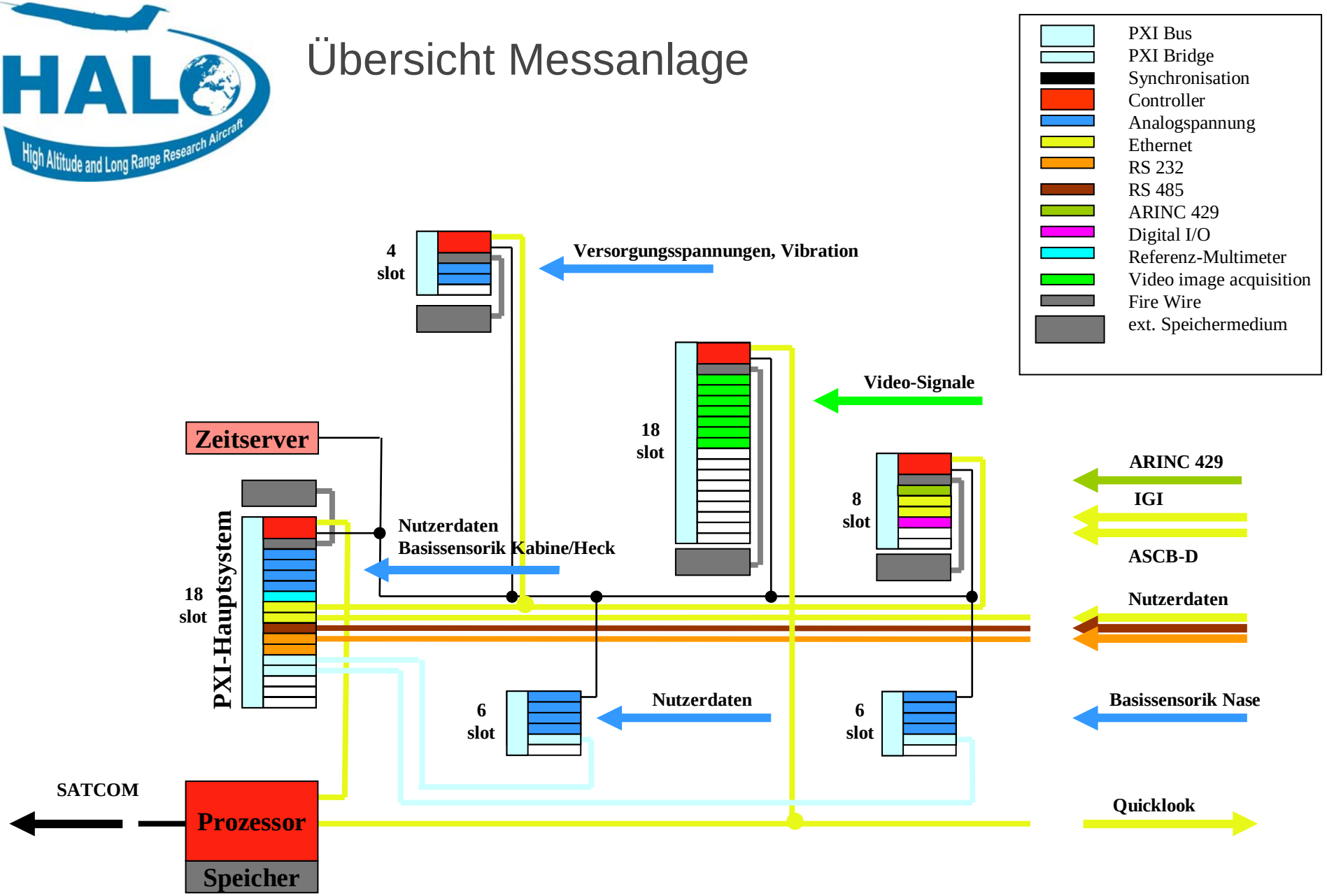
17 SPDBs:
- cabin (8)
- forward and aft bulkhead (2)
- baggage compartment (1)
- wing stations (6)

Standard SPDB power

- 2 x 115 VAC, 3 phase, 400Hz exp. power (20A)
- 115 VAC, 3 phase, 400Hz exp. de-ice (20A)
- 28 VDC (20A)
- 2 x 230 VAC, single phase, 50Hz (15A)

3 locations with 28 VDC 50A (instead of second 230 VAC connector)
28 VDC 80A at mission power rack

Übersicht Messanlage



Messanlage: Timing