

P1394b PMD Task Group - 10th June 1997 - Agenda

1. Welcome and Introductions
2. Approval of Agenda
3. Approval of Minutes of last meeting
4. Report from S100 PMD Task Group
5. Review of requirements
6. Media and Transceiver technologies
 - Contributions identifying suitable technologies

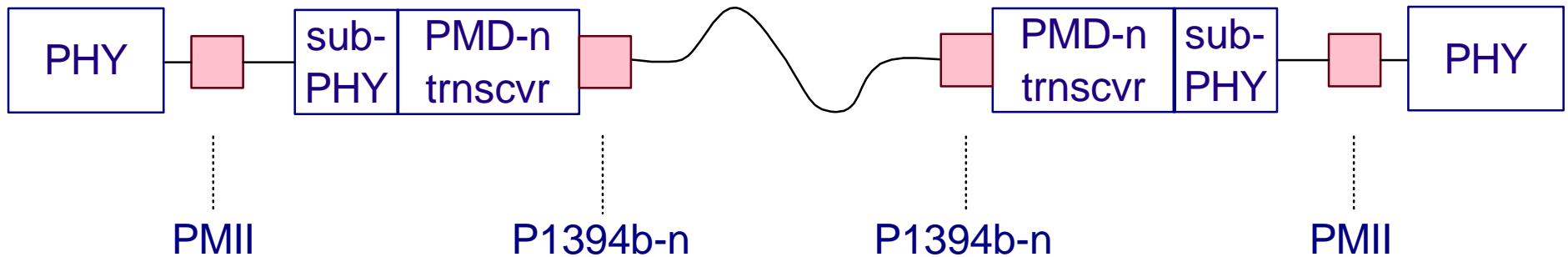
 - Contributions on cost saving opportunities

 - Identification of issues for further study
7. Future plans and schedule
8. AOB
9. Adjourn

S800/1600/3200 Requirements

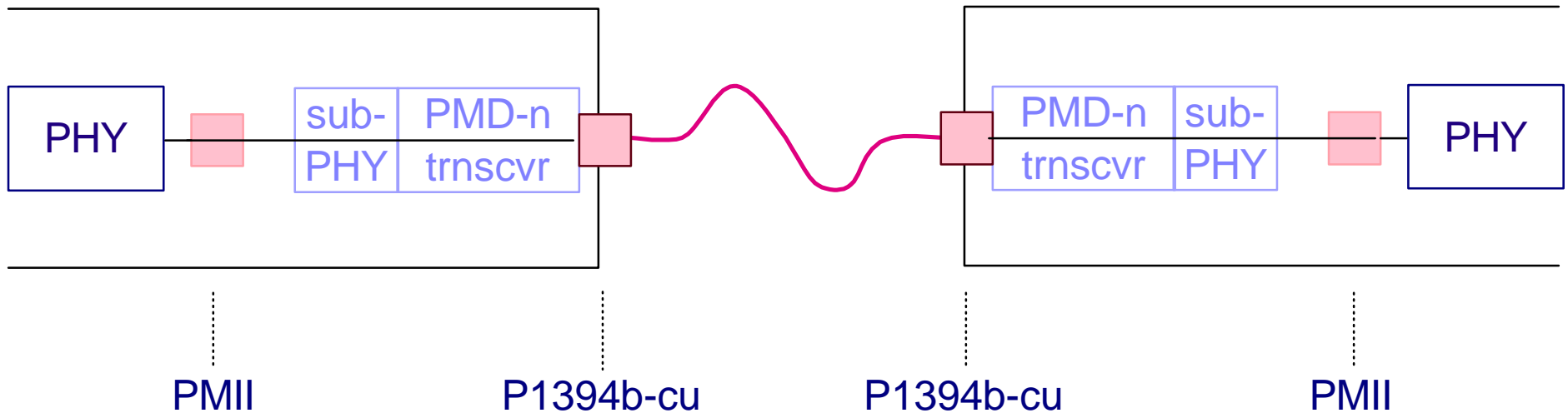
1. 50m reach per hop
 - Need P1394a phy pinging to determine worst-case delay
2. Optical fibre support for S800, S1600, S3200 speeds
 - minimise cost of S800 first (cost is king)
 - then common media where possible
 - no need for dynamic speed determination (no "modem-style" signal integrity testing)
 - ✓ PMDs must be able to identify their maximum speeds
 - ✓ PHYs must negotiate speeds
 - possibly use PMD intelligence to reduce PMD cost further
3. P1394a and P1394b above the PMD layers
 - agreed last meeting to use a common encoding for all P1394b PHYs/PMDs
 - same tree-ID algorithms, self-ID algorithms
 - fully interoperable with current 1394 - no bus bridging required
4. Amateur installable
 - Installation guidelines, installation test, ...
5. Facilitate FCC Class B emissions compliance
6. Lasers must be class 1 EYE-SAFE (IEC 825-1 and CDRM (r-DA)) for regulatory purposes
 - in order to be amateur installable.

Model



- A new reference point is defined, called PMII (Physical Media Independent Interface). The current P1394b work defines everything towards the PHY from this interface, the new PMD subgroup defines everything towards the medium from this interface.
- There is one specification for PMII, but several specifications for P1394b-n (depending on speed and medium)

Model - cu implementation example

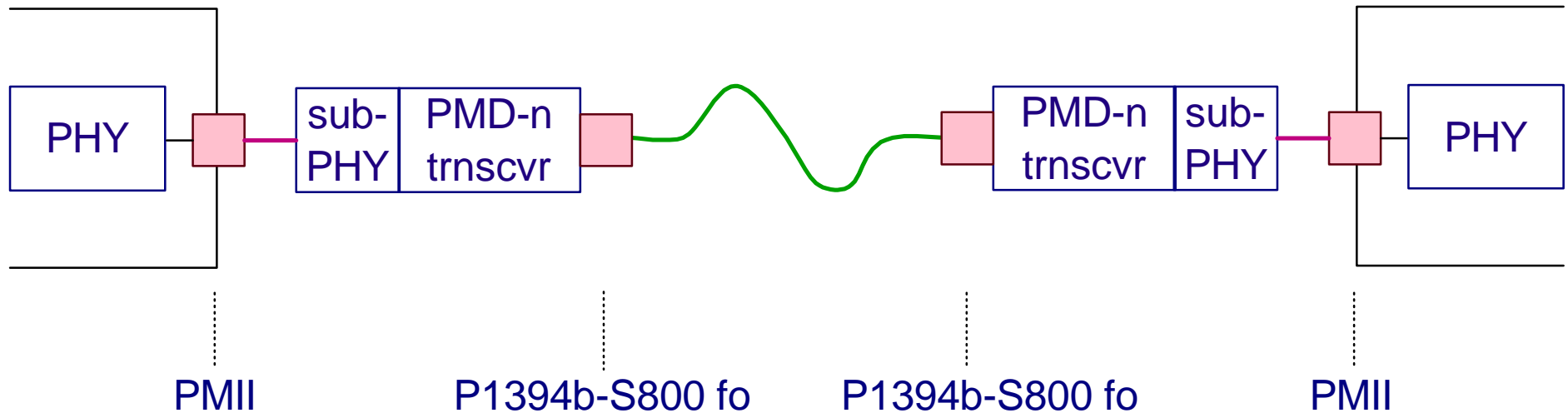


□ P1394b-cu = PMII

□ no subPHY or separate PMD transceiver

- possibly a small passive network (resistor, capacitor)

Model - fibre optic implementation example

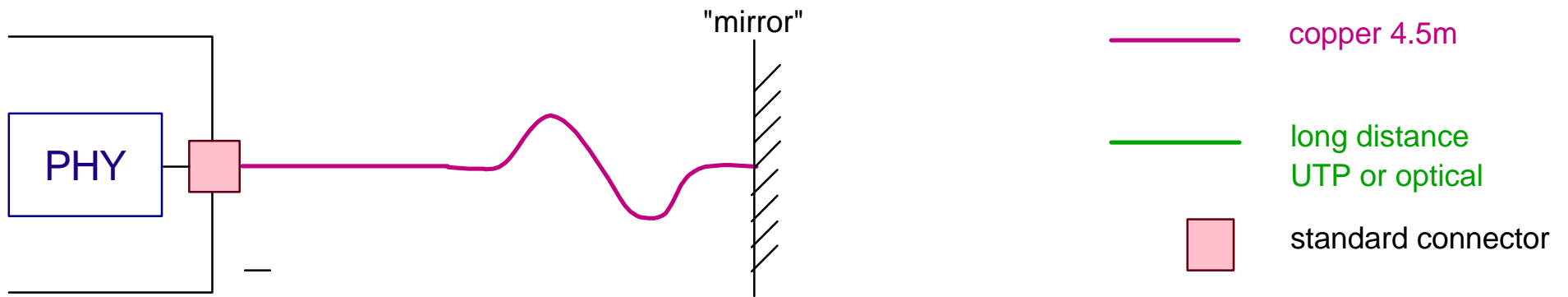


- PMII is P1394b-cu
- cable-powered dongle provides EO/OE conversion
- subPHY communicates PMD speed to PHY
 - properties of subPHY to be determined

Connection scenarios

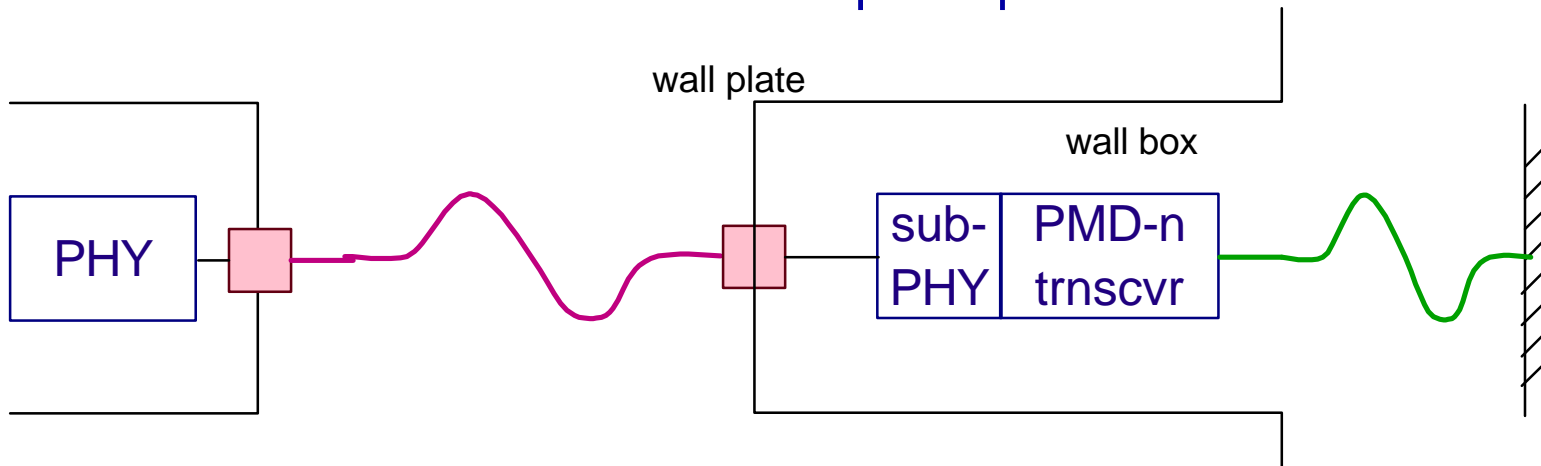
1. P1394b cu standard

- standardise the connector, cable and electrical performance



2. Wall plate

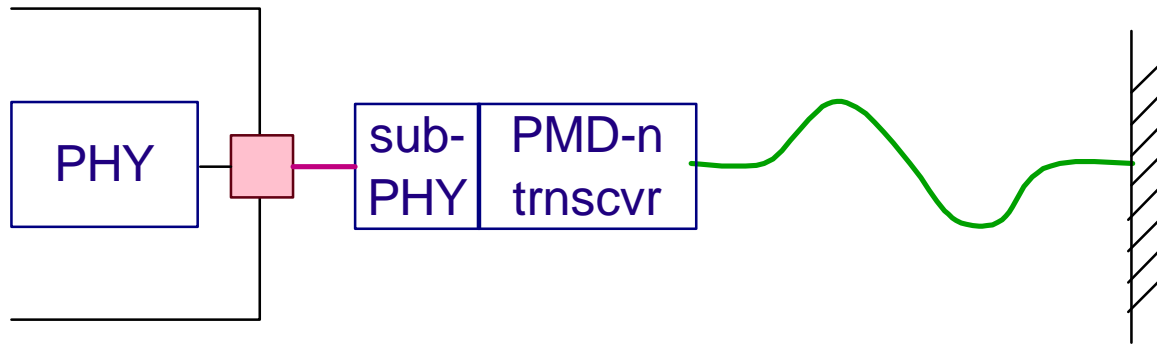
- standardise the fibre and optical performance



Connection scenarios - 2

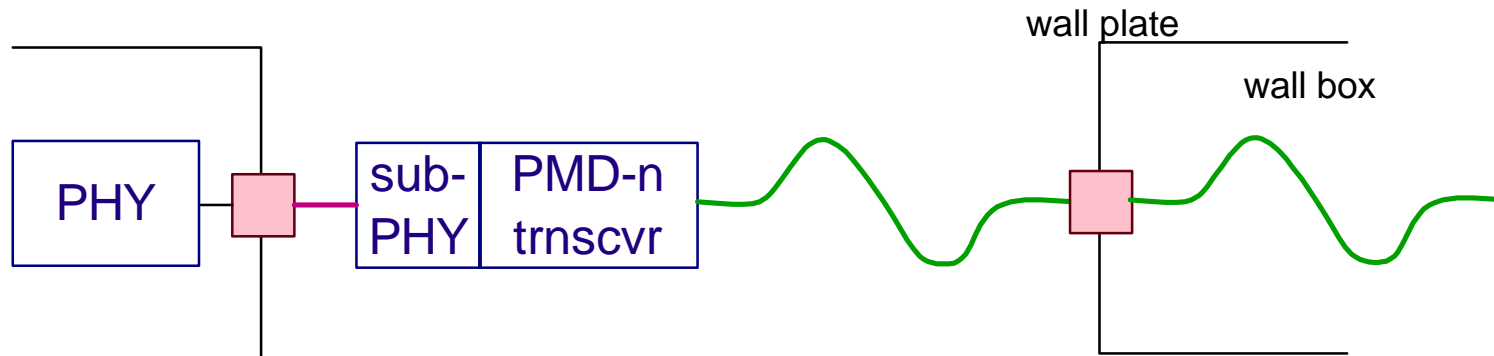
3. Long-distance cable incorporating a dongle

- standardise the medium and the optical parameters

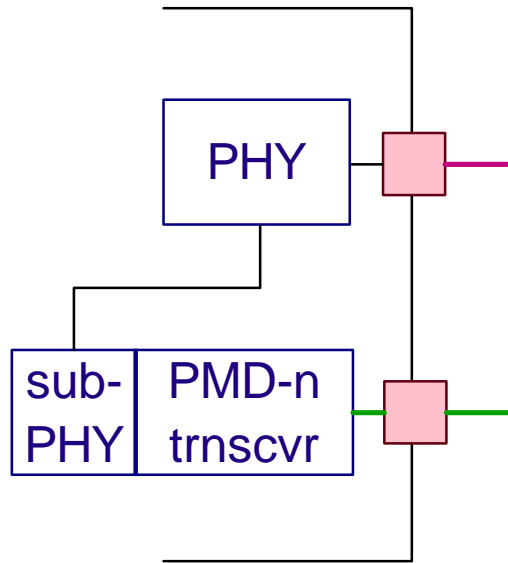


4. Long-distance cable incorporating a dongle, with passive wall plate

- standardise the medium, the optical parameters and the wall plate connector

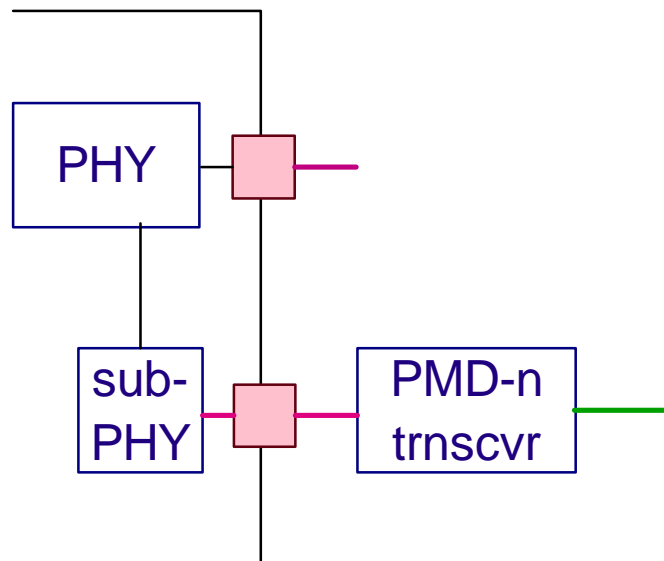


Connection Scenarios - 3



5. Long-haul interface on the equipment

- standardise the medium, optical parameters and the connector



6. Sub-PHY on the equipment, transceiver in a dongle

- standardise the special subPHY to PMD interface, the medium, optical parameters and the connector

Media for S800/S1600/S3200

 S800 (1GBaud, 50m)

 S1600 (2GBaud, 50m)

 S3200 (4GBaud, 50m)

Transceiver for S800/S1600/S3200

 S800 (1GBaud, 50m)

 S1600 (2GBaud, 50m)

 S3200 (4GBaud, 50m)

P1394b startup

Modifications from previous proposal

- addition of an optional local PHY-PMD speed negotiation
- removal of "test until it fails"
- maintain start with slowest speed, and negotiate up
- positive "reject" of proposal for higher speed