

ISO/IEC 9314-3:1990-10 (E)

Information processing systems; fibre distributed data interface (FDDI); part 3: physical layer medium de pendent (PMD)

Contents	Page
Foreword	VI
Introduction	VII
1 Scope.....	1
2 Normative references.....	2
3 Definitions	2
4 Conventions and abbreviations.....	5
4.1 Conventions.....	5
4.2 Abbreviations.....	5
5 General description.....	6
5.1 Ring Overview.....	6
5.2 Environment.....	9
6 Services.....	9
6.1 PMD-to-PHY services.....	10
6.2 PMD-to-SMT services.....	13
7 Media attachment	14
7.1 Media Interface Connector (MIC)	15
7.2 MIC Intermateability detail.....	20
8 Media Signal Interface	20
8.1 Active Output Interface	20
8.2 Active input Interface	22
8.3 Station bypass Interface	23
8.4 Station bypass timing definitions.....	23
9 Interface signals	26
9.1 Optical Receiver	26
9.2 Optical Transmitter.....	28
10 Cable Plant Interface Specification	28
10.1 Cable plant specification	28
10.2 Bypassing	29
10.3 Connectors and splices.....	30
Tables	
Table 1 Characteristics of active Output Interface	21
Table 2 Characteristics of active input Interface	24
Table 3 Characteristics of Station bypass Interface	24

Table 4 Summary of assertion and deassertion requirements	28
Table 5 Suggested fibre for a cable plant.....	29
Table 6 Bandwidth and attenuation values	29
Figures	
Figure 1 FDDI links and connections.....	7
Figure 2 FDDI topology example.....	8
Figure 3 Dual attachment PMD services	11
Figure 4 Example of Media Interface Connector (MIC) plug.....	15
Figure 5 MIC receptacle - fibre/device	16
Figure 6 MIC receptacle - fibre/fibre.....	17
Figure 7 MIC ferrule geometry.....	18
Figure 8 Receptacle keying detail	19
Figure 9 Source spectral width and centre wavelength requirements	21
Figure 10 Pulse envelope.....	22
Figure 11 Expanded pulse envelope.....	23
Figure 12 Station bypass timing characteristics.....	25
Figure© 13 Signal detect thresholds and timing	27
Figure 14 Minimum dispersion wavelength and slope limits.....	30
Figure 15 Cable plant example	31
Annexes	
Annex A Test methods	32
A.1 Active Output Interface.....	32
A.2 Active Input Interface.....	33
A.3 Distortion and jitter contributions	33
A.4 Distortion and jitter measurements.....	34
A.5 DDJ test pattern for jitter measurements	35
Annex B Optical test procedures	37
Annex C Alternative cable plant usage	38
C.1 Alternative fibre sizes	38
C.2 Theoretical connection losses.....	38
C.3 Optical bypass switches	39
Table C.1 Alternative fibre types	38
Table C.2 Theoretical connection losses for mixed fibre types	38
Table C.3 Summary of loss budget remaining	39
Annex D Electrical Interface considerations	40
Figure D.1 Test configuration for dc-coupled components	40
Figure D.2 Test configuration for ac-coupled components	41

Annex E Example of system jitter allocation	42
E.1 Jitter sources	42
E.2 Jitter calculation example	42
Table E.1 System jitter budget example	43
Annex F Keying considerations	44
F.1 Receptacle keying	44
F.2 Plug keying	44
F.3 Cabling systems	45
Annex G Reference non-precision MIC test plug	46
Figure G.1 Reference non-precision MIC plug	47

