

ISO 15740:2008-05 (E)

Photography - Electronic still picture imaging - Picture transfer protocol (PTP) for digital still photography devices

Contents		Page
Foreword		v
Introduction		vi
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Digital still photography device model	5
4.1	Overview	5
4.2	Baseline requirements	6
5	Data format specification	7
5.1	General format	7
5.2	Data types	7
5.3	Simple types	9
5.4	Arrays	11
5.5	Datasets	12
6	Image and data object formats	21
6.1	Object usage	21
6.2	Thumbnail formats	23
6.3	ObjectFormatCodes	24
6.4	Object format version identification	24
6.5	Data object association	24
7	Transport requirements	27
7.1	Disconnection events	27
7.2	Reliable, error-free channel	27
7.3	Asynchronous event support	27
7.4	Device discovery and enumeration	27
7.5	Specific transports	27
8	Persistent storage	28
8.1	StorageID	28
8.2	Data object referencing	28
8.3	Receiver object placement	29
9	Communication protocol	30
9.1	Device roles	30
9.2	Sessions	30
9.3	Transactions	30
9.4	Operation flow	33
9.5	Vendor extensions	33
10	Operations	34
10.1	Operation overview	34
10.2	Operation parameters	34
10.3	OperationCode format	35

10.4	OperationCode summary	35
10.5	Operation descriptions	35
11	Responses	60
11.1	ResponseCode format	60
11.2	ResponseCode summary	61
11.3	Response descriptions	62
12	Events	66
12.1	Event usage	66
12.2	Event types	67
12.3	Event dataset	67
12.4	EventCode format	68
12.5	EventCode summary	68
12.6	Event descriptions	68
13	Device properties	72
13.1	Device property usage	72
13.2	Values of a device property	72
13.3	Device property management requirements	73
13.4	Device property identification	73
13.5	Device property descriptions	76
14	Streaming (PTP v1.1 only)	93
14.1	Streaming overview	93
14.2	Stream transfer	93
14.3	Multiplexing	94
14.4	Discovering and configuring stream capabilities	94
14.5	Data transfer mechanism	94
14.6	Packet layout	95
14.7	Frame layout	96
14.8	Enumerating supported streams	96
14.9	Retrieving stream information	96
15	Conformance section	96
Annex A (informative) Optional device features		99
Annex B (normative) Object referencing and format codes		101
Annex C (informative) Operation flow example scenarios		103
Annex D (informative) Filesystem implementation examples		107
Annex E (informative) Reference to OSI model		110
Annex F (informative) SendObject implementation example		113
Bibliography		116