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1 Legacy file types

	File extension	*File version (application versions)*
Waypoint	.wpt	2 (OM 1.20→OM 3.6c / AQ 1.4.21→2.2.7c)
Set	.set	2 (OM 2.0→OM 3.6c / AQ 2.0→2.2.7c)
Route	.rte	2 (OM 2.0→OM 3.6c / AQ 2.0→2.2.7c)
Area	.are	2 (OM 2.0→OM 3.6c / AQ 2.0→2.2.7c)
Track	.trk	3 (OM 2.0→OM 3.6c / AQ 2.0→2.2.7c)

1.1 Waypoint file

Type	*Description*
int	file version
int	header size (size of data before {Waypoint})
{Waypoint}	see structures

1.2 Set file

Type	*Description*
int	file version
int	header size (size of data before {Metadata})
int	number of waypoints
coordinate	longitude of first waypoint
coordinate	latitude of first waypoint
{Metadata}	see structures
{Waypoints}	see structures

1.3 Route file

Type	*Description*
int	file version
int	header size (size of data before {Metadata})
int	number of waypoints
coordinate	longitude of first waypoint
coordinate	latitude of first waypoint
timestamp	time of first waypoint
double	total route length (in m)
double	total track length due to elevation changes (in m)
double	total route elevation gain (in m)
long	total route time (in s)
{Metadata}	see structures
{Waypoints}	see structures

1.4 Area file

Type	*Description*
int	file version
int	header size (size of data before {Metadata})
int	number of locations
coordinate	longitude of first location
coordinate	latitude of first location
double	total area length (in m)
double	total area area (in m²)
{Metadata}	see structures
{Locations}	see structures

1.5 Track file

Type	*Description*
int	file version
int	header size (size of data before {Metadata})
int	number of locations
int	number of segments
int	number of waypoints
coordinate	longitude of first location
coordinate	latitude of first location
timestamp	time of first location
double	total track length (in m)
double	total track length due to elevation changes (in m)
double	total track elevation gain (in m)
long	total track time (in s)
{Metadata}	see structures
{Waypoints}	see structures
{Segments}	see structures

1.6 Primitives

Type	*Size (byte)*	*Format*
int	4	big endian, signed
long	8	big endian, signed
double	8	IEE 754 encoding
string	variable	UTF8 encoding, starts with an int giving the string length in bytes
coordinate	4	WGS84, degrees*1e7
height	4	WGS84, meters*1e3, -999999999 means no value
timestamp	8	UTC time in millisecond
accuracy	4	meters, 0 means no value
pressure	4	hpa*1e3, 999999999 means no value

1.7 Structures

1.7.1 Structure {Location}

Type	*Description*
int	structure size (bytes)
coordinate	longitude
coordinate	latitude
height	elevation
timestamp	time
[accuracy]	accuracy (optional, depending on structure size)
[pressure]	pressure (optional, depending on structure size)

1.7.2 Structure {Locations}

Type	*Description*
int	number of locations
[{Location}^{n}]	locations

1.7.3 Structure {Waypoint}

Type	*Description*
{Metadata}	metadata
{Location}	location

1.7.4 Structure {Waypoints}

Type	*Description*
int	number of waypoints
[{Waypoint}^{n}]	waypoints

1.7.5 Structure {Segment}

Type	*Description*
{Metadata}	user metadata
int	number of locations
[{Location}^{n}]	locations

1.7.6 Structure {Segments}

Type	*Description*
int	number of segments
[{Segment}^{n}]	segments

1.7.7 Structure {Metadata}

Type	*Description*
{MetadataContent}	main metadata content
int	number of extended metadata contents (-1 for none)
[{MetadataContentExt}^{n}]	extended metadata contents

1.7.8 Structure {MetadataContent}

Type	*Description*
int	size of entries
[{MetadataContentEntry}]	entries

1.7.9 Structure {MetadataContentExt}

Type	*Description*
string	name of extension
{MetadataContent}	extension

1.7.10 Structure {MetadataContentEntry}

Type	*Description*
string	entry name
int	type of entry
[int]	size of data (optional, only if type of entry is -4)
[*]	data (size depends on the type of entry)

1.7.10.1 Types of data

Type of entry	*Type of data*	*Size of data (byte)*
-1	boolean	1
-2	long	8
-3	double	8
-4	raw data	[see size of data]
>=0	string	[see type of entry]