

LakeMaster AutoChart ACD

File Format

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Content

LakeMaster AutoChart ACD File Format 3

 Basic data types 3

 General File structure 3

 Data Record 4

References 5

 Used sources of information 5

 Standards and specifications 5

 Sources of sample files 5

LakeMaster AutoChart ACD File Format

Filename extension *.acd

This documentation is based on own research and the sources listed in the references section.

The format is used by the PC program LakeMaster AutoChart PC [2] from Johnson Outdoors Inc. (Humminbird [1] and other brands). It is a successor of the program DrDepth (see my other document DrDepth_Formats.pdf).

Basic data types

All values are serialized in little-endian byte order (least significant byte first).

Type	Length	Description
uint	4	32 bit unsigned integer (range 0 .. 4294967295)
float	4	32 bit floating point value according to [3].
double	8	64 bit floating point value according to [3].

General File structure

Offset	Type	Content
+0	uint	File type, =3 for AutoChart (Note that 1 was for DrDepth DDB format and 2 was for DrDepth DRD format.)
+4	uint	Unknown1=1
+8		Unknown2 Values seen 0F 46 2E 55 20 8A F5 B9 or 11 46 2E 55 20 8A F5 B9 or 97 4C 67 53 20 8A F5 B9 or D3 24 F7 54 20 8A F5 B9 or D7 24 F7 54 20 8A F5 B9 or 4D 51 1B 58 F0 1E 18 74 Neither related to length nor to date/time. Probably license data.
+16	uint	Unknown3=000000B2
+20	uint	Unknown4=0000C3DD or 0000C3F1
+24	uint	Unknown5 Seen values 11 or 14
+28		Unknown6 is same as Unknown2
+36	uint	Unknown7 is same as Unknown3
+40	uint	Unknown8 is same as Unknown4
+44	uint	Unknown9=0
+48	uint	Unknown10=1
+52	double	Max. Latitude
+60	double	Min. Latitude
+68	double	Max. Longitude
+76	double	Min. Longitude
+84	uint	Unknown11=0
+88	double	Same as Latitude1 in DRD format
+96	double	Same as Longitude1 in DRD format

Offset	Type	Content
+104	double	Same as Latitude2 in DRD format
+112	double	Same as Longitude2 in DRD format
+120		Unknown12=0
+128	uint	Unknown14 Seen values 0 or 50 (same as Unknown3 in DRD format)
+132		Unknown15= all 0
+156	uint	Unknown18 Seen values 0 or 1
+160	float	Unknown19 Seen values 0.0 or 1.0
+164	uint	Unknown20=2
+168	uint	Number of data records
+172	uint	Unknown21=0
+188		Repeat number of data records
		Data record, see below

Data Record

Offset	Type	Content
+0	double	Latitude in °
+8	double	Longitude in °
+16	float	Depth in meter
+20	uint	TimeOffset in millisecond
+24		Unknown22=0
+36	float	Unknown23 (-1000.0 means "not set")
+40	float	Water Temperature (-1000.0 means "not set") in Celsius
+44	float	Unknown24 Same as Unknown7b in DRD format (-1000.0 means "not set")
+48	float	Unknown25 (-1000.0 means "not set")
+52	float	Unknown26 (-1000.0 means "not set")
+56		

References

Used sources of information

- [1] Humminbird <https://www.humminbird.com/>
- [2] LakeMaster AutoChart update <https://www.humminbird.com/support/software-updates/AutoChart-Standard-v-2-300> and <https://www.humminbird.com/support/software-updates/autochart-pro-v-2-300>

Standards and specifications

- [3] ISO/IEC/IEEE 60559:2011 Information technology – Microprocessor Systems – Floating-Point arithmetic (which is the successor of IEEE Std 754-2008)

Sources of sample files

– none –