

Basic Metadata Protocol

Version 1.0

Description

This protocol provides basic metadata functionality. We plan to support this protocol in all future versions of our software. By default, metadata is streamed out of the port labeled "metadata" on the IO box. The serial port is configured for 38.4k baud, 8bits, no parity, and one stop bit. The IO box will emit metadata only when it decodes a valid timecode signal.

Data Packet Structure

All the data is sent as ASCII numbers and characters except for the carriage return and line feed. The data in a packet is made up of key and value data couplets separated by a comma. A packet may contain one or more data couplets. The first entry in a data packet gives the number of bytes following the first comma. Next follows the data couplets. The last items in the packet are the checksum followed by carriage return and line feed.

`numberOfBytesAfterComma, key1, val1, key2, val2, key3, val3, checksumCRLF`

The checksum is the ASCII representation of XOR of bytes from the *numberOfBytesAfterComma* to and including the trailing comma before the checksum.

Example metadata packets:

`112, IA, 0.000, CV, inf, HT, 0.000, TC, 00:00:02:10, FOL, 0x0000, IRL, 0x0000, ZML, 0x0000, FOR, 0x0000, IRR, 0x0000, ZMR, 0x0000, 0x4E`

The table to the right lists the currently supported keys. Not all keys will always be present, and your software may support keys that are not listed in this document.

Keys	Description	Data type	Unit
IA	Interaxial	Float	mm
CV	Convergence	Float	m
FOR	Right Focus	Integer	Normalized 16 bit encoder count
IRR	Right Iris	Integer	Normalized 16 bit encoder count
ZMR	Right Zoom	Integer	Normalized 16 bit encoder count
FOL	Left Focus	Integer	Normalized 16 bit encoder count
IRL	Left Iris	Integer	Normalized 16 bit encoder count
ZML	Left Zoom	Integer	Normalized 16 bit encoder count
TC	Timecode	String	HH:MM:SS:frame
TS	Timestamp (1)	String	HH:MM:SS:mm(tens of milliseconds)
HT	HIT Value	Float %	-5.0 % to +5.0%
cFOu	CMotion Focus Units (2)	String	"quarter-inch" or "meters"
cFO	CMotion Focus (2)	Float	Depends on cFOu value
cIR	CMotion Iris (2)	Integer	4 bit iris value from CMotion
cIRsub	CMotion Iris (2)	Integer	8 bit "sub stop" iris value
cZM	CMotion Zoom (2)	Float	
pFO	Preston Focus	Integer	16 bit value from Preston system
pIR	Preston Iris	Integer	16 bit value from Preston system
pZM	Preston Zoom	Integer	16 bit value from Preston system
mPJ	Project	String	Metadata field value
mDR	Director	String	Metadata field value
mCA	Camera	String	Metadata field value
mPR	Production	String	Metadata field value
mRL	Roll	String	Metadata field value
mSC	Scene	String	Metadata field value
mTK	Take	String	Metadata field value
mDT	Date	String	Metadata field value
mAC	1st AC	String	Metadata field value
mDP	DP	String	Metadata field value
mVFX	VFX	String	Metadata field value
mFR	Framerate	String	Metadata field value

(1) The timestamp is used in the absence of a timecode. It is based off the local clock of the system.
 (2) CMotion support requires Carmin Cvolution: Camin Basic 3.9.16 or higher.