

Omneon User Data in QuickTime Clips

Introduction

This document describes the format of the user data information stored by Omneon in QuickTime clips.

It is assumed that the reader is familiar with the general structure of user data in QuickTime clips, as this is discussed in Apple's QuickTime file format documentation. Only Omneon specific information will be discussed here.

Omneon user data is stored in the 'Omud' atom, which is always inside an 'udta' atom. Several 'Omud' atoms may exist in a movie, but only one per 'udta'. Normally there is one at the movie level and one for each track.

Unless specifically noted, numeric values are stored in big-endian form, and string values include a terminating NULL character.

The 'Omud' atom

The following diagram shows the general structure of the 'Omud' atom. Byte sizes are included in parenthesis where appropriate:

Atom Size (4)	The size of the atom, including this field
'Omud' (4)	The atom ID
'UdvMark\0' (8)	Omneon's user data signature
Size (4)	The size of the property list, including this field
Property 1	First property
Property 2	Second property
...	
Property n	Last property

Properties

The following diagram shows the format of a property:

Size (4)	The size of the property, including this field.
Key	The key of the property. See next four sections.
Value	The value of the property. See Values section.

An optional size of 0 with no key and value data indicates the end of the property list. If this 0 isn't included then the end of the list is reached when the number of bytes specified in the Size field of the 'Omud' atom were processed.

There are three types of keys, each using a different format:

- string keys (custom keys, identified by a variable length string)
- binary keys (custom keys, identified by variable length binary data)
- known keys (predefined keys, identified by an index number)

String keys

For string keys the key part of the property data is encoded as follows:

'StrngKy\0' (8)	The signature of the key
Size (2)	The size of the key, including this and the previous field
Value Type (2)	The type of the value of the property, see Value Types section
Key (Size-12)	The string that represents the key

Binary keys

For binary keys the key part of the property data is encoded as follows:

'BinryKy\0' (8)	The signature of the key
Size (2)	The size of the key, including this and the previous field
Value Type (2)	The type of the value of the property, see Value Types section
Key (Size-12)	The binary data that represents the key

Known keys

For a known key the key part of the property is encoded as:

'KnownKy\0' (8)	The signature of the key
Size (1)	The size of the key, including this and the previous field. This should always be 13
Value Type (2)	The type of the value of the property, see Value Types section
Known Key (2)	The index of the known key, see below

The known keys currently in use (Spectrum 4.6 release) are:

- 0: Unknown key
- 1: Expiry key
- 2: First frame
- 3: VBI mask
- 4: Black frame count
- 5: Precharge count
- 6: B-picture count
- 7: P-picture count
- 8: Software version
- 9: Code page
- 10: Clip properties

Value types

The supported value types are:

- 0x11: int8
- 0x12: int16
- 0x14: int32
- 0x18: int64
- 0x21: uint8
- 0x22: uint16
- 0x24: uint32
- 0x28: uint64
- 0x34: float32
- 0x38: float64
- 0x41: string
- 0x51: binary
- 0x60: expiry

Values

If the value of the property is of a numeric type, it is encoded as follows:

Size (1)	The size of the data, not including this field
Data (Size)	The value, in binary form

For string and binary values the encoding is:

Size (4)	The size of the data, not including this field.
Data (Size)	The data

For expiry values the encoding is:

Size (1)	The size of the data, not including this field.
Year (2)	The year
Month (1)	The month
Day (1)	The day
Hour (1)	The hour.
Minute (1)	The minute



US Headquarters:

965 Stewart Drive
Sunnyvale, CA 94085
ph +1 866.861.5690
ph +1 408.585.5000
fx +1 408.585.5099

Europe:

5 Lindenwood
Chineham, Basingstoke
RG24 8QY United Kingdom
ph +44 1256.347.400
fx +44 1256.347.410

Omneon Video Networks, K.K.:

Ginza San-Chome Bldg. 8F
3-14-1 Ginza, Chuo-ku
Tokyo 104-0061 Japan
ph +81 03.5565.6735
fx +81 03.5565.6736

Asia/Pacific:

20 Loyang Crescent
Singapore 508984
ph +65 6548.0500
fx +65 6548.0504

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