EZMQC General Message Format:

The general message format is depicted below. The numbers in square brackets are the length of the field in characters. For each record type, there will be a header and checksum block, and a variable parameters field.

HEADER			PARAMETERS		CHECKSUM
class	count	msgno	type	data	check
[1]	[3]	[1]	[1]	[?]	[4]

HEADER block field definitions

class: message type, can have the following two values

SOH (ASCII 01H) Meaning: Data or Control message

ENQ (ASCII 05H) Meaning: Acknowledgement or Negative Acknowledgement

count:

(class = SOH) : Length of parameters block

(class = ENQ) : Error code

msgno: message number ('1' thru '7')

The message number of the reply message must equal the message number of the received message

PARAMETERS block field definitions

type: message indentifier

data: message data

Note: only SOH-type messages have a PARAMETERS block

CHECKSUM block field definition

check: sum modulo 16-bit of characters in header and parameters blocks

The various Parameter types are as follows:

Colorimetric Scales:

'A'	TYPE	ILL/OBS	SCALE1	VALUE1	SCALE2	VALUE2	SCALE3	VALUE3
[1]	[1]	[?]	[?]	[?]	[?]	[?]	[?]	[?]

TYPE: '0' = Standard, '1' = Sample.

ILL/OBS: The label representing the illuminant/observer

SCALE1, 2, 3: The label of the scale portion for the value

VALUE1, 2, 3: The data value as a string.

All [?] items are returned as strings, which have the following format

###Variable length string

where: ### is the number of characters following

As an example, sending CIELAB in D65/10, with 3 decimal digits, would produce an output similar to this (plus the header and checksum added):

A1006D65/10002L*00692.543002a*006-3.589002b*007-10.333

Where:

'A' indicates that this is a color scale

'1' indicates that this is a sample.

'006' indicates the number of characters for the illuminant/observer string

'D65/10' are the 6 characters that make up the illuminant/observer string

'002' indicates the number of characters in the first scale label

'L*' is the 2 characters that make up the first scale label

'006' indicates the number of characters for the first scale value

'92.543' are the 6 characters that make up the first scale value

'002' indicates the number of characters in the second scale label

'a*' is the 2 characters that make up the second scale label

'006' indicates the number of characters for the second scale value

'-3.589' are the 6 characters that make up the second scale value

‘002’ indicates the number of characters in the third scale label

‘b*’ is the 2 characters that make up the third scale label

‘007’ indicates the number of characters for the third scale value

’-10.333’ are the 7 characters that make up the third scale value

Color Difference Scales:

'B'	ILL/OBS	MI ILL/OBS	SCALE1	VALUE1
[1]	[?]	[?]	[?]	[?]

ILL/OBS: The label representing the illuminant/observer

MI ILL/OBS: The label representing the MI Illuminant/Observer (relevant to Metamerism Index only)

SCALE1: The label of the scale portion for the value

VALUE1: The data value as a string.

All [?] items are returned as strings, which have the following format

###Variable length string

where: ### is the number of characters following

Color Index Scales:

'C'	TYPE	ILL/OBS	SCALE1	VALUE1
[1]	[1]	[?]	[?]	[?]

TYPE: ‘0’ = Standard, ‘1’ = Sample.

ILL/OBS: The label representing the illuminant/observer

SCALE1: The label of the scale portion for the value

VALUE1: The data value as a string.

All [?] items are returned as strings, which have the following format

###Variable length string

where: ### is the number of characters following

Spectral Scales:

'D'	TYPE	LABEL	BEGIN	END	INTERVAL	SCALE1	VALUE1	…	SCALEN	VALUEN
[1]	[1]	[?]	[3]	[3]	[2]	[4]	[?]	[?]	[4]	[?]

TYPE: ‘0’ = Standard, ‘1’ = Sample, ‘2’ = Difference.

LABEL: The label of the data type, like “Reflectance/Transmittance” or “Absorbance(A).

SCALE[1] to [N]: The label of the scale portion for the value, with a leading zero as necessary (0410)

VALUE[1] to [N]: The data value as a string.

All [?] items are returned as strings, which have the following format

###Variable length string

where: ### is the number of characters following

Text Items:

'E'	TYPE	VALUE
[1]	[?]	[?]

TYPE: String ID of the selected Text field (“Measurement ID”, or “Date”).

VALUE: The selected field as a string.

All [?] items are returned as strings, which have the following format

###Variable length string

where: ### is the number of characters following

Procedure Scales:

'F'	TYPE	ILL/OBS	VALUE
[1]	[?]	[?]	[?]

TYPE: The Procedure type's ID ("Haze" or "Opacity").

ILL/OBS: The label representing the illuminant/observer

VALUE: The data value as a string.

All [?] items are returned as strings, which have the following format

###Variable length string

where: ### is the number of characters following

End of Transmission Record:

'G'
[1]