Data Packet Description

When raw mode is disabled all output data packets are in ASCII viewable format except for the F frame and prefix packets.

ACK

This is the standard acknowledge string that indicates that the command was received and fits a known format.

NCK

This is the failure string that is sent when an error occurred. The only time this should be sent when an error has not occurred is   during binary data packets.

Type **F** data packet format:

1 2 r g b r g b ... r g b r g b 2 r g b r g b ... r g b r g b 3

This packet does NOT begin with an "F" and it only contains raw data.

1 - new frame 2 - new row 3 - end of frame
RGB (CrYCb) ranges from 16 - 240
RGB (CrYCb) represents two pixels color values. Each pixel shares the red and blue.
176 cols of R G B (Cr Y Cb) packets (forms 352 pixels)
144 rows
To display the correct aspect ratio, double each column so that your final image is 352x144

Type **H** packet:

H bin0 bin1 bin2 bin3 ... bin26 bin27 \r

This is the return packet from calling get histogram (**GH**). Each bin is an 8 bit value that represents the number of pixels that fell within a set range of values on a user selected channel of the image.

Bin0 – number of pixels between 16 and 23
Bin1 – number of pixels between 24 and 31
.
.
.
Bin27 – number of pixels between 232 and 240

Type **T** packet:

> T mx my x1 y1 x2 y2 pixels confidence\r

This is the return packet from a color tracking or frame differencing command.

mx - The middle of mass x value
my - The middle of mass y value
x1 - The left most corner's x value
y1 - The left most corner's y value
x2 - The right most corner's x value
y2 -The right most corner's y value
pixels –Number of Pixels in the tracked region, scaled and capped at 255: (pixels+4)/8
confidence -The (# of pixels / area)*256 of the bounded rectangle and capped at 255

Type **S** data packet format:

S Rmean Gmean Bmean Rdeviation Gdeviation Bdeviation \r

This is a statistic packet that gives information about the camera's view

> *Rmean* - the mean Red or Cr (approximates r-g) value in the current window
>
> *Gmean* - the mean Green or Y (approximates intensity) value found in the current window
>
> *Bmean* - the mean Blue or Cb (approximates b-g) found in the current window
>
> R*deviation* - the *deviation of red or Cr found in the current window
>
> G*deviation*- the *deviation of green or Y found in the current window
>
> B*deviation*- the *deviation of blue or Cb found in the current window

*deviation: The mean of the absolute difference between the pixels and the region mean.