ADC SAMPLE PACKET (1472 Bytes)

31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0 0 0 0 0 0 0 0 0 UDP Packet Number (increments, 24 bits) packet types: Packet Type (8) 0 ADC Samples packet (can wrap) 1 End of Samples Status packet 2 Timed Status packet keep-alive 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 Seconds (6) Unique ID assigned to this detector (18) ADC Buffer Number (8) This secs is internally synced to real time (can wrap) 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 1 Pulse-per-Second Internal Timer snapshot value (32) (Timer approx 108MHz, reloads at 400000000) 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 DMA Complete timer snapshot of 728 ADC samples taken (Timer approx 108MHz, reloads at 4000000000) 728 Words of 16 bits ADC Sample (12 bits used) spare (4) Status Packet (140 Bytes) 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0 0 0 0 0 0 ? ? 1 0 = timed status 0 1 = end seg status UDP Packet Number (increments, 24 bits) same thing Packet Type (8) (can wrap) uint32_t udpcount; // udp packet sent index (24 bits, other 8 bits are packet type) struct UbxGpsNavPvt { // Type Name Unit Description (scaling) unsigned long iTOW; // ms GPS time of week of the navigation epoch. See the description of iTOW for details. unsigned short year; // y Year UTC unsigned char month; // month Month, range 1..12 UTC unsigned char day; // d Day of month, range 1..31 UTC 7 unsigned char hour; // h Hour of day, range 0..23 UTC 8 unsigned char min: // min Minute 9 unsigned char sec; // s Seconds of minute, range 0.. 10 NOTE This secs is not real time - it has latency. char valid; // - Validity Flags (see g 11 unsigned long tAcc; // ns Time accuracy estimate UTC 12 long nano; // ns Fraction of second, range -1e9..1e9 UTC 16 unsigned char fixType; // - GNSSfix Type, range 0..5

flags; // - Fix Status Flags (see graphic | 21

unsigned char reserved1; // - 22 unsigned char numSV 23

```
long
                                           lat; // deg Latitude (1e-7)
                                           height; // mm Height above Ellipsoid
                                                                                                 32
                                  long
                                           hMSL; // mm Height above mean sea level
                                                                                                        36
                                  unsigned long hAcc; // mm Horizontal Accuracy Estimate
                                                                                                             40
                                  unsigned long vAcc; // mm Vertical Accuracy Estimate
                                           velN; // mm/s NED north velocity
                                           velE; // mm/s NED east velocity
                                  long
                                                                                             52
                                           velD; // mm/s NED down velocity
                                                                                             56
                                  long
                                           gSpeed; // mm/s Ground Speed (2-D)
                                  long
                                           heading; // deg Heading of motion 2-D (: 64
                                  unsigned long sAcc; // mm/s Speed Accuracy Estimate 68
                                  unsigned long headingAcc; // deg Heading Accu 72
                                  unsigned short pDOP; // - Position DOP (0.01)
                                  short reserved2; // - Reserved
                                                                                                     78
                                  unsigned long reserved3; // - Reserved
                                                                                                     80
                                 } NavPvt;
                               31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0
                                              not used (14)
                                                                                                Unique ID assigned to this detector (18)
   same thing
                              uint32_t uid;
                                                     // only 18 bits used
                               31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1
                                                     ADC number of buffers sent in last capture sequence before status packet
   same thing
                                                             // Number of ADC pks sent in this trigger event
                              uint32_t adcpktssent;
                                                                                                                adc trigger offset (above the noise)
                                                  adctrigoff : uint16_t;
                                                  adcnoise : uint16_t;
                                                                                         16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0
                                                                                                                adc current noise level
                                                     uint32_t sysuptime;
                                                                            // number of seconds system up from boot uptime
                                                     uint32_t netuptime;
                                                                            // number of seconds network up
                                                                            // number of seconds gps locked
                                                     uint32_t gpsuptime;
                                                     uint8_t majorversion;
                                                                            // major ver
                                                     uint8_t minorversion;
                                                                            // minor ver
                                                     uint8_t reserved1;
                                                                             // spare
                                                     uint8_t reserved2;
                                                                            // spare
                                                     uint32_t reserved3;
                                                                            // spare
                                                     uint32_t reserved4;
                                                                            // spare
                                                     uint32_t reserved5;
                                                                            // spare
                                                     uint32_t reserved6;
                                                                            // spare
                              Any new fields to be added here ......
end sentinal marker (keep at the end)
                                                     uint32_t telltale1;
                                                                            // end of status packet marker
                                                                                                                    0xFEEDCODE
```

lon; // deg Longitude (1 24

long