Message Details (Copter specific)

ATT (attitude information):

DesRoll	The pilot’s desired roll angle in degrees (roll left is negative, right is positive)
Roll	The vehicle’s actual roll in degrees (roll left is negative, right is positive)
DesPitch	The pilot’s desired pitch angle in degrees (pitch forward is negative, pitch back is positive)
Pitch	The vehicle’s actual pitch angle in degrees (pitch forward is negative, pitch back is positive)
DesYaw	The pilot’s desired heading in degrees with 0 = north
Yaw	The vehicle’s actual heading in degrees with 0 = north
ErrRP	The average size of the roll/pitch error estimate (values between 0 and 1)
ErrYaw	The average size of the yaw error estimate (values between 0 and 1)

ATUN (auto tune overview):

	Axis: 0 = Roll, 1 = Pitch
TuneStep	0 = Returning towards Level (before or after a test), 1 = Testing (i.e. performing a twitch to test response), 2 = Updating gains (twitch completed and gains adjusted)
RateMin	Minimum recorded rate during this test
RateMax	Maximum recorded rate during this test
RPGain	Rate P gain value being tested
RDGain	Rate D gain value being tested
SPGain	Stabilize P gain being tested

ATDE (auto tune step details):

Angle	Angle of the copter in centi-degrees for the axis being testedx
Rate	Rate of rotation of the copter for the axis being tested

CAM (time and position when camera shutter was activated):

GPSTime	The GPS reported time since epoch in milliseconds
Lat	The accelerometer + GPS latitude estimate
Lng	The accelerometer + GPS longitude estimate
Alt	The accelerometer + barometer estimated altitude in cm above ground
Roll	The vehicle roll angle in centi-degrees
Pitch	The vehicle pitch angle in centi-degrees
Yaw	The vehicle’s heading in centi-degrees

CMD (commands received from the ground station or executed as part of a mission):

CTot	The total number of commands in the mission
CNum	This command's number in the mission (0 is always home, 1 is the first command, etc)
CId	The MAVLink message id
Copt	The option parameter (used for many different purposes)
Prm1	The command's parameter (used for many different purposes)
Alt	The command's altitude in meters
Lat	The command's latitude position
Lng	The command's longitude position

COMPASS (raw compass, offset and compassmot compensation values):

Field	Description
MagX, MagY. MagZ	Raw magnetic field values for x, y and z axis
OfsX, OfsY, OfsZ	Raw magnetic offsets (will only change if COMPASS_LEARN parameter is 1)
MOfsX, MOfsY, MOfsZ	Compassmot compensation for throttle or current

CURRENT (battery voltage, current and board voltage information):

FIELD	DESCRIPTION
Thr	Pilot input throttle from 0 ~ 1000
ThrInt	Integrated throttle (i.e. sum of total throttle output for this flight)
Volt	Battery voltage in volts * 100

Curr	Current drawn from the battery in amps * 100
Vcc	Board voltage
CurrTot	Total current drawn from battery

CTUN (Control, Throttle and altitude information):

FIELD	DESCRIPTION
TimeUS	Time stamp for messages (can be ignored)
ThI	The pilot’s throttle in as a number from 0 to 1000
ABst	Angle Boost: throttle increase (from 0 ~ 1000) as a result of the copter leaning over (automatically added to all pilot and autopilot throttle to reduce altitude loss while leaning)
ThO	Final throttle output sent to the motors (from 0 ~ 1000). Normally equal to ThrI+ABst while in stabilize mode.

ThH	?
DAlt	The Desired Altitude while in AltHold, Loiter, RTL or Auto flight modes. It is influenced by EKF origin, which in 3.5.X is corrected by GPS altitude. This is behaviour is turned off in 3.6.X and can be turned on with EKF_OGN_HGT_MASK.
Alt	The current EKF Altitude
BAlt	Barometer Altitude: The altitude above ground according to the barometer
DSAlt	Not used? (Only visible of Sonar is available)
SAlt	Sonar Altitude: the altitude above ground according to the sonar (Only visible of Sonar is available)
TAlt	Not used?
CRate	Climb Rate: Accelerometer + baro estimate in cm/s

DCRate	Desired Climb Rate in cm/s
CRate	Climb Rate in cm/s

D32, DU32 (single data values which are either signed 32bit integers or unsigned 32bit integers):

FIELD	DESCRIPTION
id	Identification number for the variable. There are only two possible values: • 7 = bit mask of internal state (The meaning of individual bits can be found in the def'n of the ap structure • 9 = simple mode's initial heading in centi-degrees

EKF (Extended Kalman Filter):

Log information here (Dev Wiki). Overview here.

ERR (an error message):

SubSystem and Error codes listed below

Subsys	ECode and Description
2 = Radio	• 0 = Errors Resolved • 2 = Late Frame : no updates received from receiver for two seconds
3 = Compass	• 0 = Errors Resolved • 1 = Failed to initialise (probably a hardware issue) • 4 = Unhealthy : failed to read from the sensor
5 = Radio Failsafe	• 0 = Failsafe Resolved • 1 = Failsafe Triggered
6 = Battery Failsafe	• 0 = Failsafe Resolved

	• 1 = Failsafe Triggered
8 = GCS Failsafe	• 0 = Failsafe Resolved • 1 = Failsafe Triggered
9 = Fence Failsafe	• 0 = Failsafe Resolved • 1 = Altitude fence breach, Failsafe Triggered • 2 = Circular fence breach, Failsafe Triggered • 3 = Both Alt and Circular fence breached, Failsafe Triggered • 4 = Polygon fence breached, Failsafe Triggered
10 = Flight mode Change failure	Vehicle was unable to enter the desired flight mode normally because of a bad position estimate See flight mode numbers here

11 = GPS	• 0 = Glitch cleared • 2 = GPS Glitch occurred
12 = Crash Check	• 1 = Crash into ground detected. Normally vehicle is disarmed soon after • 2 = Loss of control detected. Normally parachute is released soon after
13 = Flip mode	2 = Flip abandoned (not armed, pilot input or timeout)
15 = Parachute	• 2 = Not Deployed, vehicle too low • 3 = Not Deployed, vehicle landed
16 = EKF Check	• 0 = Variance cleared (position estimate OK) • 2 = Bad Variance (position estimate bad)

17 = EKF Failsafe	• 0 = Failsafe Resolved • 1 = Failsafe Triggered
18 = Barometer	• 0 = Errors Resolved • 4 = Unhealthy : failed to read from the sensor
19 = CPU Load Watchdog	• 0 = Failsafe Resolved • 1 = Failsafe Triggered (normally vehicle disarms)
20 = ADSB Failsafe	• 0 = Failsafe Resolved • 1 = No action just report to Pilot • 2 = Vehicle avoids by climbing or descending • 3 = Vehicle avoids by moving horizontally • 4 = Vehicle avoids by moving perpendicular to other vehicle • 5 = RTL invoked

21 = Terrain Data	2 = missing terrain data
22 = Navigation	• 2 = Failed to set destination • 3 = RTL restarted • 4 = Circle initialisation failed • 5 = Destination outside fence
23 = Terrain Failsafe	• 0 = Failsafe Resolved • 1 = Failsafe Triggered (normally vehicle RTLs)
24 = EKF Primary changed	• 0 = 1st EKF has become primary • 1 = 2nd EKF has become primary
25 = Thrust Loss Check	• 0 = Thrust Restored • 1 = Thrust Loss Detected (altitude may be prioritised over yaw control)

EV: (an event number). The full list of possible events can be found in defines.h but the most common are:

Event No	DESCRIPTION
10	Armed
11	Disarmed
15	Auto Armed (pilot has raised throttle above zero and autopilot is free to take control of throttle)
18	Land Complete
25	Set Home (home location coordinates have been capture)
28	Not Landed (aka Takeoff complete)

GPA: (Global Position Accuracy)

FIELD	DESCRIPTION

VDop	Vertical dilution of precision, a unitless measure of precisionhttps://en.wikipedia.org/wiki/Dilution_of_precision
HAcc	Horizontal Accuracy as reported by the GPS module, in meters
VAcc	Vertical Accuracy as reported by the GPS module, in meters
SAcc	Speed accuracy as reported by the GPS, in m/s/s
VV	**Flag to indicate if the GPS is reporting vertical velocity** 0 No vertical velocity data 1 GPS has vertical velocity data
SMS	The autopilot time in milliseconds that the accuracy/GPS position data is associated with.
Delta	The time between when the previous GPS message and the current GPS message was parsed by the autopilot, in milliseconds

GPS:

FIELD	DESCRIPTION
Status	0 = no GPS, 1 = GPS but no fix, 2 = GPS with 2D fix, 3 = GPS with 3D fix
Time	The GPS reported time since epoch in milliseconds
NSats	The number of satellites current being used
HDop	A measure of gps precision (1.5 is good, >2.0 is not so good)https://en.wikipedia.org/wiki/Dilution_of_precision
Lat	Lattitude according to the GPS
Lng	Longitude according to the GPS
RelAlt	Accelerometer + Baro altitude in meters
Alt	GPS reported altitude (not used by the flight controller)

SPD	Horizontal ground speed in m/s
GCrs	Ground course in degrees (0 = north)

IMU (accelerometer and gyro information):

FIELD	DESCRIPTION
GyrX, GyrY, GyrZ	The raw gyro rotation rates in degrees/second
AccX, AccY, AccZ	The raw accelerometer values in m/s/s

Mode (flight mode):

FIELD	DESCRIPTION
Mode	The flight mode displayed as a string (i.e. STABILIZE, LOITER, etc)

ThrCrs	Throttle cruise (from 0 ~ 1000) which is the autopilot's best guess as to what throttle is required to maintain a stable hover

NTUN (navigation information):

FIELD	DESCRIPTION
WPDst	Distance to the next waypoint (or loiter target) in cm. Only updated while in Loiter, RTL, Auto.
WPBrg	Bearing to the next waypoint in degrees
PErX	Distance to intermediate target between copter and the next waypoint in the latitude direction
PErY	Distance to intermediate target between copter and the next waypoint in the longitude direction
DVelX	Desired velocity in cm/s in the latitude direction
DVelY	Desired velocity in cm/s in the longitude direction

VelX	Actual accelerometer + gps velocity estimate in the latitude direction
VelY	Actual accelerometer + gps velocity estimate in the longitude direction
DAcX	Desired acceleration in cm/s/s in the latitude direction
DAcY	Desired acceleration in cm/s/s in the longitude direction
DRol	Desired roll angle in centi-degrees
DPit	Desired pitch angle in centi-degrees

PM (performance monitoring):

FIELD	DESCRIPTION
NLon	Number of long running main loops (i.e. loops that take more than 20% longer than they should according to SCHED_LOOP_RATE - ex. 3ms for 400Hz rate)
NLoop	The total number of loops since the last PM message was displayed. This allows you to calculate the percentage of slow running loops (which

	should never be higher than 15%). Note that the value will depend on the autopilot clock speed
MaxT	The maximum time that any loop took since the last PM message. This shouldn’t exceed 120% of scheduler loop period, but will be much higher during the interval where the motors are armed
Mem	Available memory, in bytes
Load	Percentage (times 10) of the scheduler loop period when CPU is used

RCOUT (pwm output to individual RC outputs):

RC1, RC2, etc : pwm command sent from flight controller to the esc/motor/RC output

collected from:
http://ardupilot.org/copter/docs/common-downloading-and-analyzing-data-logs-in-mission-planner.html#message-details-copter-specific