天空端->地面站(BAUDRATE:115200):

Start code	Control byte	Msg.ID	Data	Check Sum	End Code
4 bytes	1 byte	1 byte	m bytes	1 byte	1 byte

1. Start code: $DAT(ASCII code)
2. Control byte: Msg.ID加Data長度
3. Msg.ID: 0x02
4. Data: 如下資料結構
5. CheckSum: 除Start code與end code外的數值總和並取最低位元組
6. End code: LF(ASCII code)

註: 2 byte以上的資料定義先傳low byte, 再傳High byte

```
typedef struct
{
    uint8_t   video_Resolution;                // 0:1280x720p, 2:1920x1080p, default:0:1280x720p
    uint8_t   gimbal_Mode;                     // 0:FrontView, 1:joystick(angleSet), 2:manual(angleSet), 3:auto(nodeControl), default:0:FrontView
    int16_t  curr_angular_Motor_Pan;     // unit: scale 0.01 to deg/s, range:(-4500, 4500), default:0
    int16_t  curr_angular_Motor_Tilt;    // unit: scale 0.01 to deg/s, range:(-4500, 4500), default:0
    int16_t   curr_angle_Motor_Pan;       // unit: scale 0.01 to deg, range:(-11000{left}, 11000{right}), default:0
    int16_t   curr_angle_Motor_Tilt;      // unit: scale 0.01 to deg, range:(-9000{down}, 3000{up}), default:0
    int16_t  set_angular_Motor_Pan;    // unit: scale 0.01 to deg/s, range:(-4500, 4500), default:0
    int16_t  set_angular_Motor_Tilt;    // unit: scale 0.01 to deg/s, range:(-4500, 4500), default:0
    int16_t   set_angle_Motor_Pan;       // unit: scale 0.01 to deg, range:(-11000{left}, 11000{right}), default:0
    int16_t   set_angle_Motor_Tilt;      // unit: scale 0.01 to deg, range:(-9000{down}, 3000{up}), default:0
    uint16_t  EO_Zoom;                    // unit: scale 0.1 to ratio, range:(10, 250), default:1.0(10)
    uint8_t   curr_Mavlink_State;        // 0:disconnected, 1:connected, default:0
    uint8_t   curr_Armed_State;    // 0:disarmed, 1:armed, default:0
    uint8_t   curr_Flight_Mode;     // 0:Loiter, 1:Offboard, 2:Mission, 3:Acro, 4.Altitude, 5.Other, range:(0, 255), default:0
    uint8_t   curr_Nav_Point;               // 0:standby, range:(0, 255), default:0
    int32_t   curr_Nav_Point_X;     // unit: scale 1E-04 to meter, range:(-1800000000, 1800000000), WGS84
    int32_t   curr_Nav_Point_Y;     // unit: scale 1E-04 to meter, range:(-1800000000, 1800000000), WGS84
    int32_t   curr_Nav_Point_Z;     // unit: scale 1E-04 to meter, range:(-1800000000, 1800000000), WGS84
    unit8_t   curr_uav_state;                // 0:Standyby, 1:OffboardNavgate, default:0
    unit8_t   curr_algo_state;               // 0:Track(p3d), 1:Yolo+UKF, 2:Yolo+QP, default:0
    unit8_t   curr_depth_state;            // 0:GT, 1:Calculation, default:0
} __attribute__((packed)) Info_t;
```

地面站->天空端(BAUDRATE:115200):

Start code	Control byte	Msg.ID	Data	Check Sum	End Code
4 bytes	1 byte	1 byte	m bytes	1 byte	1 byte

1. START CODE: $DAT(ASCII CODE)
2. CONTROL BYTE: MSG.ID加DATA長度
3. MSG.ID: 0X82
4. DATA: 如下資料結構
5. CHECKSUM: 除START CODE與END CODE外的數值總和並取最低位元組
6. END CODE: LF(ASCII CODE)

註: 2 BYTE以上的資料定義先傳LOW BYTE, 再傳HIGH BYTE

```
typedef struct
{
    uint8_t   set_gimbal_mode;            // 0:FrontView, 1:joystick(angleSet), 2:manual(angleSet), 3:auto(nodeControl), default:0:FrontView
    int8_t   set_move_dir_Pan;        // 0:Stop, 1:RightMove, -1:LeftMove, default:0:Stop
    int8_t   set_move_dir_Tilt;       // 0:Stop, 1:RightMove, -1:LeftMove, default:0:Stop
    int16_t   set_angle_Motor_Pan;      // unit: scale 0.01 to deg, range:(-11000{left}, 11000{right}), default:0
    int16_t   set_angle_Motor_Tilt;     // unit: scale 0.01 to deg, range:(-9000{down}, 3000{up}),     default:0
    uint16_t  set_EO_Zoom;              // unit: scale 0.1 to ratio, range:(10, 35), default:1.0(10)
    uint8_t   command_uav;              // 0:Standby, 1:OffboardNavgate, range:(0, 255), default:0
    unit8_t   command_algo;             // 0::Track(p3d), 1:Yolo+UKF, 2:Yolo+QP, default:0
    unit8_t   command_depth;            // 0:GT, 1:Calculation, default:0
} __attribute__((packed)) CMD_t;
```