# Two-way system protocol

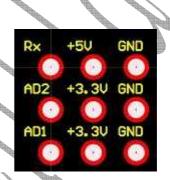
### 1. Aims

To help user develop his or her own program to fully make use of FrSky's dual-way system.

#### 2. Hardware defination

#### 2.1. remote end

Port 1: 0~3.3V voltage, value: 0x00~0xff. Port 2: 0~3.3V voltage, value: 0x00~0xff. Port 3: RS232 RX pin. Serial COM setting: 4800bps, 8bit, No parity, 1 stop bit.



Rx

Tx

+5V

GND

# 2.2. host end

Serial COM setting: 4800bps, 8bit, No parity, 1 stop bit. Build in error free protocol, there is no need for error correction by user.

# 3. Frame protocol

Ten bytes frame headed with 0xff.

#### 3.1. Host end

Input for setting alarm threshold

-	-							
HEAD1	HEAD2	Threshold	Greater	Alarm level	5 bytes	Answerred with		
		value	1:greater than	0: greatest	00			
			0: less than	1: middle				
				2: lowest				
0xFF	0xFC	Analog 1	1/0			The same frame		
0xFF	0xFB	Analog 1	1/0			The same frame		
0xFF	0xFA	Analog 2	1/0			The same frame		
0xFF	0xF9	Analog 2	1/0			The same frame		
Input for request all available threshold setting								

0xFF	0xF8	00	00	00	5bytes	All	threshold
					00	setting	frame

#### Output for reply to alarm threshold and user data

1	1 2					
HEAD1	HEAD2	Threshold	Greater	Alarm level	5 bytes	
		Value for	1:greater than	0: greatest	00	
			0: less than	1: middle		
				2: lowest		
0xFF	0xFC	Analog 1	1/0			
0xFF	0xFB	Analog 1	1/0	4		
0xFF	0xFA	Analog 2	1/0			
0xFF	0xF9	Analog 2	1/0			
0	. 1.	1.1. 1	1. V		ATTINA	

Output for remote voltage and link quality

						1921 19101215	- ARED-	_
HEAD1	HEAD2	Analoge	Analog	value	Link quality	5 bytes	notes	
		value for	for	•		00		
0xFF	0xFE	port 1	port 2	TO REAL PROPERTY.	Link quality	A A	Value from	
				4			Remote end	

User data

				The second se		
HEAD1	HEAD2	Length of	Not used	User bytes	User	notes
		valid bytes			bytes	
		in frame				
0xFF	0xFD	Length of	Not used	byte1	byte2 to	User data
	, v	valid bytes			byte6	
		- All			T T	

# 3.2. Remote end

Just pure user bytes.