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.

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 value	Greater 1:greater than 0: less than	Alarm level 0: greatest 1: middle 2: lowest	5 bytes 00	Answerred with
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 00	All threshold setting frame

Output for reply to alarm threshold and user data

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

Output for remote voltage and link quality

HEAD1	HEAD2	Analoge value for	Analog value for	Link quality	5 bytes 00	notes
0xFF	0xFE	port 1	port 2	Link quality		Value from Remote end

User data

HEAD1	HEAD2	Length of valid bytes in frame	Not used	User bytes	User bytes	notes
0xFF	0xFD	Length of valid bytes	Not used	byte1	byte2 to byte6	User data

3.2. Remote end

Just pure user bytes.