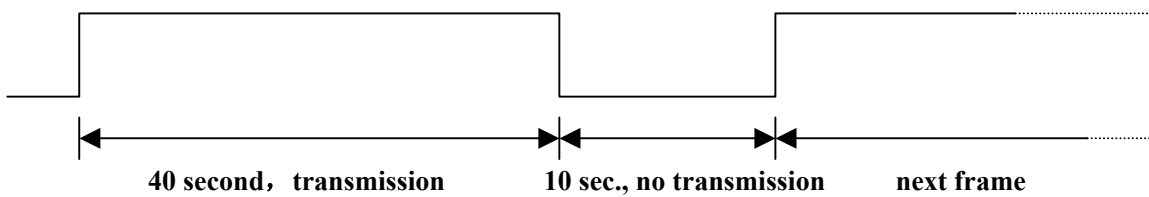


XW-1 Telemetry Format

BA1DU Alan Kung
2009-12-2

1、 XW-1 telemetry frame:



2、 XW-1 telemetry Modulation and Encode:

- (1) Modulation: CW;
- (2) Transmitting Speed: 15wps ;
- (3) Numeric telemetry data encode:

Numeric telemetry	Encode Character
0	T
1	A
2	U
3	V
4	4
5	E
6	6
7	B
8	D
9	N

2、 Content of a XW-1 telemetry frame:

Transmission Sequence	Content of Transmission	Note	Remark
1	BJ1SA	Satellite Callsign	Standard Morse Code
2	XW	Identifier	Standard Morse Code
3	XW	Identifier	Standard Morse Code
4	CH1	Telemetry Data Channel 1	Encoded Morse Code
5	CH2	Telemetry Data Channel 2	Encoded Morse Code
6	CH3	Telemetry Data Channel 3	Encoded Morse Code
7	CH4	Telemetry Data Channel 4	Encoded Morse Code
8	CH5	Telemetry Data Channel 5	Encoded Morse Code
9	CH6	Telemetry Data Channel 6	Encoded Morse Code
10	CH7	Telemetry Data Channel 7	Encoded Morse Code
11	CH8	Telemetry Data Channel 8	Encoded Morse Code
12	CH9	Telemetry Data Channel 9	Encoded Morse Code
13	CH10	Telemetry Data Channel 10	Encoded Morse Code
14	CH11	Telemetry Data Channel 11	Encoded Morse Code
15	CH12	Telemetry Data Channel 12	Encoded Morse Code
16	CH13	Telemetry Data Channel 13	Encoded Morse Code
21	XW	Identifier	Standard Morse Code
22	XW	Identifier	Standard Morse Code

4、 Content of XW-1 telemetry datas:

Channel	Parameter	Type	Data Format		Description and Equation	Unit
			N(min)	N(max)		
CH1	PA Output RF Switch Status	Status	000	111	111 =PA2 Works (Beacon only) 000 = PA1 Works (Transponder and Beacon)	
CH2	Transponder Working Status	Status	000	111	000= Beacon only 001= Beacon and FM Transponder 010= Beacon and Linear Transponder 100= Upload Software	
CH3	Transponder Temperature	Data	099	199	First character =0, T= -N First character=1, T= +Last Two character	°C
CH4	Beacon RF Output Power	Data	000	999	$P=N$	mW
CH5	Beacon Power Supply Voltage	Data	000	999	$V=N/100$	V
CH6	Receiver Power Supply Current	Data	000	999	$I=N$	mA
CH7	Linear Transponder AGC Voltage	Data	000	999	$V=N/100$	V
CH8	Transponder RF Output Power	Data	000	999	$P = N \times 3$	mW
CH9	Transponder PA Power Supply Current	Data	000	999	$I=N$	mA
CH10	Linear Transponder Up converter Power Supply Current	Data	000	999	$I=N$	mA
CH11	Linear Transponder Power Supply Voltage	Data	000	999	$V=N/100$	V
CH12	FM/Digital Store-forward Transponder Digital Power Supply Current	Data	000	999	$I=N$	mA
CH13	FM/Digital Store-forward Transponder Power Supply Voltage	Data	000	999	$V=N/100$	V