



KTAG BEACON SPECIFICATION

Version 0.11

February 24, 2025

	0/8	1/9	2/A	3/B	4/C	5/D	6/E	7/F
	Manufacturer Specific Data							
0x00	Length	Manufacturer Specific Data	Company: Other		KTag Packet Indicator			
	0x1E	0xFF	0xFF	0xFF	0x4B 'K'	0x54 'T'	0x61 'a'	0x67 'g'
	Manufacturer Specific Data							
0x08	KTag Packet Type	Event Number						
	(Varies—see below)	0xXX						
	Manufacturer Specific Data							
0x10								
	Manufacturer Specific Data							
0x18								

KTag Packet Format	4/C	5/D	6/E	7/F
Cleartext	0x4B 'K'	0x54 'T'	0x61 'a'	0x67 'g'
Encrypted	0x4B 'K'	0x53 'S'	0x68 'h'	0x68 'h'

Encrypted packets will use libsodium (<https://doc.libsodium.org/>).

KTag Packet Type	
0x00	Reserved
0x01	Instigate Game
0x02	Event
0x03	Tag
0x04	Console
0x05	Status
0x06	Parameters
0x07	Hello



OXOI INSTIGATE GAME

	0/8	1/9	2/A	3/B	4/C	5/D	6/E	7/F
0x00	Manufacturer Specific Data							
	Length	Manufacturer Specific Data	Company: Other		KTag Packet Indicator			
	0x1E	0xFF	0xFF	0xFF	0x4B 'K'	0x54 'T'	0x61 'a'	0x67 'g'
0x08	Manufacturer Specific Data							
	KTag Packet Type	Event Number	Game Length (milliseconds) A length of zero means an untimed game.				Time Remaining until Countdown (milliseconds)	
	0x01 Instigate	0XX	0XX	0XX	0XX	0XX	0XX	0XX
0x10	Manufacturer Specific Data							
	Time Remaining until Countdown (milliseconds)							
	0XX	0XX						
0x18	Manufacturer Specific Data							



0X02 EVENT

	0/8	1/9	2/A	3/B	4/C	5/D	6/E	7/F
0x00	Manufacturer Specific Data							
	Length	Manufacturer Specific Data	Company: Other		KTag Packet Indicator			
	0x1E	0xFF	0xFF	0xFF	0x4B 'K'	0x54 'T'	0x61 'a'	0x67 'g'
0x08	Manufacturer Specific Data							
	KTag Packet Type	Event Number	Target Bluetooth Device Address (BD_ADDR) FF:FF:FF:FF:FF:FF targets all devices					
	0x02 Event	0XX	0xFF	0xFF	0xFF	0xFF	0xFF	0xFF
0x10	Manufacturer Specific Data							
	Event ID UInt32				Event Data UInt32			
	0x00	0x00	0x00	0x00	0x00	0x00	0x00	0x00
0x18	Manufacturer Specific Data							

0 No Event	Unused	This is a reserved value. Devices should take no action when receiving this event.	
1 Configure	Unused	This event indicates configuration is needed for the target(s).	
2 Configured	Unused	This event indicates configuration is complete for the target(s).	
3 Wrapup Complete	Next State	This event indicates wrapup is complete for the target(s), and it/they should proceed to the <i>Next State</i> .	
4 Game Over	Unused	This event indicates the game is over.	



OX03 TAG

	0/8	1/9	2/A	3/B	4/C	5/D	6/E	7/F
0x00	Manufacturer Specific Data							
	Length	Manufacturer Specific Data	Company: Other		KTag Packet Indicator			
	0x1E	0xFF	0xFF	0xFF	0x4B 'K'	0x54 'T'	0x61 'a'	0x67 'g'
0x08	Manufacturer Specific Data							
	KTag Packet Type	Event Number	Tx Power Level (dBm) SInt8	Protocol	Team ID	Player ID	Damage (SInt16) 32767 = One-Shot Kill -32767 = Restore to Full Health	
	0x03 Tag	0XX	0XX	0XX	0XX	0XX	0XXXXX	
0x10	Manufacturer Specific Data							
	Color (Brightness-Red-Green-Blue)				Target Bluetooth Device Address (BD_ADDR) FF:FF:FF:FF:FF:FF targets all devices			
	0x00	0x00	0x00	0x00	0xFF	0xFF	0xFF	0xFF
0x18	Manufacturer Specific Data							
	Target Bluetooth Device Address (BD_ADDR)							
	0xFF	0xFF						

BlueZ command to simulate: `sudo btmgmt add-adv -c -d 1EFFFFFF4B54616703FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF 1`



OX04 CONSOLE

	0/8	1/9	2/A	3/B	4/C	5/D	6/E	7/F
0x00	Manufacturer Specific Data							
	Length	Manufacturer Specific Data	Company: Other		KTag Packet Indicator			
	0x1E	0xFF	0xFF	0xFF	0x4B 'K'	0x54 'T'	0x61 'a'	0x67 'g'
0x08	Manufacturer Specific Data							
	KTag Packet Type	Event Number	ASCIIZ Console String					
	0x04 Console	0XX						
0x10	Manufacturer Specific Data							
	ASCIIZ Console String							
0x18	Manufacturer Specific Data							
	ASCIIZ Console String							



OX05 STATUS

	0/8	1/9	2/A	3/B	4/C	5/D	6/E	7/F
0x00	Manufacturer Specific Data							
	Length	Manufacturer Specific Data	Company: Other		KTag Packet Indicator			
	0x1E	0xFF	0xFF	0xFF	0x4B 'K'	0x54 'T'	0x61 'a'	0x67 'g'
0x08	Manufacturer Specific Data							
	KTag Packet Type	Event Number	Tx Power Level (dBm) SInt8	Protocol	Team ID	Player ID	Health UInt16	
	0x05 Status	0XX	0XX	0XX	0XX	0XX	0XX	0XX
0x10	Manufacturer Specific Data							
	Maximum Health UInt16		Primary Color (Brightness-Red-Green-Blue) A brightness of 0xFF indicates a False Flag				Secondary Color (Brightness-Red-Green-Blue) A brightness of 0xFF indicates a False Flag	
	0XX	0XX	0x00	0x00	0x00	0x00	0x00	0x00
	Manufacturer Specific Data							
0x18	Secondary Color (Brightness-Red-Green-Blue) A brightness of 0xFF indicates a False Flag		SystemK Top-Level State					
	0x00	0x00	0x00					

BlueZ command to simulate: `sudo btmgmt add-adv -c -d 1EFFFFFF4B54616705FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF 1`

0	Initializing
1	Reprogramming
2	Configuring
3	Ready
4	Instigating
5	Responding
6	Counting Down
7	Interacting
8	Tagged Out
9	Wrapping Up



0X06 PARAMETERS

	0/8	1/9	2/A	3/B	4/C	5/D	6/E	7/F
0x00	Manufacturer Specific Data							
	Length	Manufacturer Specific Data	Company: Other		KTag Packet Indicator			
	0x1E	0xFF	0xFF	0xFF	0x4B 'K'	0x54 'T'	0x61 'a'	0x67 'g'
0x08	Manufacturer Specific Data							
	KTag Packet Type	Event Number	Target Bluetooth Device Address (BD_ADDR) FF:FF:FF:FF:FF:FF targets all devices					
	0x06 Configuration	0xFF	0xFF	0xFF	0xFF	0xFF	0xFF	0xFF
0x10	Manufacturer Specific Data							
	Subtype	Parameter Key 1 UInt16		Parameter Value 1				Parameter Key 2 UInt16
	0x00	0xFFFF		0x00	0x00	0x00	0x00	
0x18	Manufacturer Specific Data							
	Parameter Key 2 UInt16	Parameter Value 2						
	0xFFFF	0x00	0x00	0x00	0x00			

0x00	Request Current Parameter Information
0x01	Current Parameter Information
0x02	Request Parameter Change
0x03	Acknowledge Parameter Change
0x04	Error Changing Parameters
0x05-0xFE	Reserved
0xFF	Error Responding to Request

0	Reserved	
1	Team ID	UInt32
2	Player ID	UInt32
3	Game Length (milliseconds) – 0 is untimed	UInt32
4	Maximum Health	UInt32
5	Secondary Color	Bright-Red-Green-Blue
6	Special Weapons Received on Game Reentry	UInt32
...	<i>Reserved</i>	
10001	Shots Fired This Game	UInt32
10002	Tags Received This Game	UInt32
10003	Times Tagged Out This Game	UInt32
...	<i>Reserved</i>	
65535	Unused Key/Value Pair	



0X07 HELLO

	0/8	1/9	2/A	3/B	4/C	5/D	6/E	7/F
0x00	Manufacturer Specific Data							
	Length	Manufacturer Specific Data	Company: Other		KTag Packet Indicator			
	0x1E	0xFF	0xFF	0xFF	0x4B 'K'	0x54 'T'	0x61 'a'	0x67 'g'
0x08	Manufacturer Specific Data							
	KTag Packet Type	Event Number	SystemK Major Version	SystemK Minor Version	Device Type UInt16		Team ID	Device Name ASCIIZ
	0x07 Hello	0XX	0XX	0XX	0XXXXX		0XX	
0x10	Manufacturer Specific Data							
	Device Name (continued)							
0x18	Manufacturer Specific Data							
	Device Name (continued)							

Device Type is used by the mobile apps to display appropriate icons, etc.

0x0000	Little Boy Blue
0x0001	2020TPC
0x0002	Mobile App
0x0003	32ESpecial
...	
0xFFFF	Unknown