



KTAG BEACON SPECIFICATION

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<https://ktag.clubk.club/Technology/BLE/>

	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 (future)	0x4B 'K'	0x53 'S'	0x68 'h'	0x68 'h'

KTag Packet Type	
0x00	<i>Reserved</i>
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
	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	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
	Manufacturer Specific Data							
0x10	Time Remaining until Countdown (milliseconds)							
	0XX	0XX						
	Manufacturer Specific Data							
0x18								



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							

Event ID	Event Name	Event Data	Description
0	No Event	<i>Unused</i>	This is a reserved value. Devices should take no action when receiving this event.
1	Configure	<i>Unused</i>	This event indicates configuration is needed for the target device(s).
2	Configured	<i>Unused</i>	This event indicates configuration is complete for the target device(s).
3	Wrapup Complete	Next State	This event indicates wrapup is complete for the target device(s), and it/they should proceed to the <i>Next State</i> .
4	Game Over	<i>Unused</i>	This event indicates the game is over.
5	Quiet	Duration (ms)	The target device(s) should cease BLE advertisements for the specified duration, until an "Unquiet" is received, or until a quieted device receives Parameters request addressed to it. A duration of 0 means remain quiet indefinitely. If a new Quiet is received when a Quiet is already in progress, the quiet timer is reset to the new duration.
6	Unquiet	<i>Unused</i>	The target device(s) is/are free to resume BLE advertisements.
7	Force State	Next State	The target device(s) should proceed immediately to the <i>Next State</i> . (This may ruin active games, or cause a device to reprogram itself! Use with care.)

Don't confuse *Event ID* with *Event Number*: Event IDs represent types of system-level events, and Event Numbers are used to differentiate logical instances of unique data per packet type, since the same BLE Advertisement is potentially sent multiple times.



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`

SystemK Top-Level States	
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 Parameters	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			

Subtype	
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

Parameter Key	Meaning	Value Format
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	0xFF	0xFF	0xFF	0XXXXX		0xFF	
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.

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