SMART SHOT TIMER

BLE API VERSION 1

Table 1 – BLE Attribute Table

Name	Type	UUID	Properties
MAIN	Service	7520**FFFF**-14D2-4CDA-8B6B-697C554C9311	–
COMMAND	Characteristic	7520**0000**-14D2-4CDA-8B6B-697C554C9311	W, N
EVENT	Characteristic	7520**0001**-14D2-4CDA-8B6B-697C554C9311	N
API_VERSION	Characteristic	7520**FFFE**-14D2-4CDA-8B6B-697C554C9311	R

Notes:

R – Read

W – Write

N – Notify

I – Indicate

1. **MAIN**

   Main Service of the application

Back to attribute table

1.1 COMMAND

Characteristic is used to execute commands

The general format of any command is given below

Field size	1	1	n
Field name	len	cmd_id	cmd_data

len – number of bytes following the current byte
cmd_id – id of the command. See Command Table
cmd_data – command data. See Command Table

After command is received the response is sent by characteristic notification

The general format of any command response is given below

Field size	1	1	1
Field name	len	cmd_id	resp_code

len – number of bytes following the current byte
cmd_id – id of the command. See Command Table
resp_code – code of the response. See Response Codes

Commands can be send consecutively one by one without waiting for a response to every command. Responses (as well as commands) can be easily parsed in the byte stream due to the packet size in the first byte.

Table 2 – Command Table

Command Name	Command ID
SESSION_START	0x00
SESSION_STOP	0x01

Response Codes:

0x00 – Success

0x01 – Busy

0x02 – Internal Error

Back to attribute table

1.1.1 SESSION_START

Command is used for start the session of a particular type

Field size	1	1	1
Field name	len	cmd_id	sess_type

len – number of bytes following the current byte
cmd_id – id of the command. See Command Table
sess_type – type of the session to be started:

0x00 – Shooting Drill
0x01 – DryFire Drill
0x02 – Range Officer (RO) session
0x03 – Free Shooting

1.1.2 SESSION_STOP

Command is used for stop the session of a particular type

Field size	1	1	1
Field name	len	cmd_id	sess_type

len – number of bytes following the current byte
cmd_id – id of the command. See Command Table
sess_type – type of the session to be started:

0x00 – Shooting Drill
0x01 – DryFire Drill
0x02 – Range Officer (RO) session
0x03 – Free Shooting

1.2 EVENT

The characteristic is used to notifying of events that occur with the device.

The supported events are summarized in the table below

Table 3 – Events Table

Event Name	Event ID
SESSION_STARTED	0x00
SESSION_STOPPED	0x01
DRYFIRE_REPEAT_BEGIN	0x0A
DRY_TIME_BEGIN	0x0B
DRY_TIME_END	0x0C
SHOOTING_SET_BEGIN	0x14
SHOOTING_SET_END	0x15
SHOT_DETECTED	0x1E

Back to attribute table

1.2.1 SESSION_STARTED

Event is sent by timer when any session has been started

Field size	1	1	1	4	2
Field name	len	event_id	sess_type	sess_id	start_delay

len – number of bytes following the current byte
event_id – id of the event. See Events Table
sess_type – type of the session has been started:

0x00 – Shooting Drill
0x01 – DryFire Drill
0x02 – Range Officer (RO) session
0x03 – Free Shooting

sess_id – id of started session (unix time stamp)
start_delay – start delay of started session in units of 0.1 second

1.2.2 SESSION_STOPPED

Event is sent by timer when any session has been stopped

Field size	1	1	1
Field name	len	event_id	sess_type

len – number of bytes following the current byte
event_id – id of the event. See Events Table
sess_type – type of the session has been stopped:

0x00 – Shooting Drill
0x01 – DryFire Drill
0x02 – Range Officer (RO) session
0x03 – Free Shooting

1.2.3 DRYFIRE_REPEAT_BEGIN

Event is sent by timer when dryfire repeat has been started

Field size	1	1	2	2
Field name	len	event_id	repeat_num	start_delay

len – number of bytes following the current byte
event_id – id of the event. See Events Table
repeat_num – number of current repeat
start_delay – start delay of current repeat in units of 0.1 second

1.2.4 DRY_TIME_BEGIN

Event is sent by timer when dryfire time count has been started

Field size	1	1
Field name	len	event_id

len – number of bytes following the current byte
event_id – id of the event. See Events Table

1.2.5 DRY_TIME_END

Event is sent by timer when dryfire time is running out

Field size	1	1	4
Field name	len	event_id	dry_time

len – number of bytes following the current byte
event_id – id of the event. See Events Table
dry_time – dry time in units of 1 millisecond

1.2.6 SHOOTING_SET_BEGIN

Event is sent by timer when shooting set has been started

Field size	1	1	2
Field name	len	event_id	set_num

len – number of bytes following the current byte
event_id – id of the event. See Events Table
set_num – number of started set

1.2.7 SHOOTING_SET_END

Event is sent by timer when shooting set has been ended

Field size	1	1	2	4
Field name	len	event_id	set_num	set_time

len – number of bytes following the current byte
event_id – id of the event. See Events Table
set_num – number of ended set
set_time – set time in units of 1 millisecond

1.2.8 SHOT_DETECTED

Event is sent by timer when shot has been detected

Field size	1	1	2	4
Field name	len	event_id	shot_num	shot_time

len – number of bytes following the current byte
event_id – id of the event. See Events Table
shot_num – number of detected shot
shot_time – shot time in units of 1 millisecond

1.3 API_VERSION

Characteristic is used to read the current version of API implemented into the timer firmware. Format is the non-terminated ASCII string. For example version 1.0 will read as:

HEX	0x31	0x3E	0x30
ASCII	'1'	'.'	'0'

Back to attribute table