BlueSun Communication Protocol

Version 1.0

# General

All messages are to be sent in plain text format (i.e. strings).

Messaging only happens in one direction. The Android application is the sender and the Arduino is the receiver.

There is no acknowledge message back to the sender.

A message must be sent at least every 2 seconds or the receiver will assume that the connection failed.

# Message format

The content of the message is a series of elements followed by “\r\n”.

Each element is a tag-value pair followed by a “;” character.

It is not necessary to send all elements all the time. If the Arduino does not receive one element, it will keep the last value received for it.

# Elements

|  |  |  |  |
| --- | --- | --- | --- |
| **Element** | **Tag** | **Valid Values** | **Description** |
| Angle | A | 0 to 180 | Controls the direction of the wheels of the car. The numeric value directly matches the angle of the servo.  90 is the center.  0 is full left.  180 is full right. |
| Gear | G | 0 or 1 | Indicates the direction of the motor rotation, in order to move forwards or backwards.  1 for forward.  0 for reverse. |
| Throttle | T | 0 to 255 | Sets the speed of the motor that drives the wheels.  0 means stopped.  255 means full throttle. |

# Sample Messages

**A90;G1;T255;**

* Sets the wheels in the center position and full speed forward.

**A90;T0;**

* Sets the wheels in the center position and zero speed.

**A0;**

* Maintain current speed and set the direction all to the left.

**A100;G0;T25;**

* Go backwards at 10% speed and turn slightly right.