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.

# Message format

All messages start with a “<” character and end with a “>” character.

The content of the message is a series of elements separated by a “;” character.

Each element is a tag-value pair separated by an “=” 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** |
| Version | v | 1.0 | Indicates the messaging version being used. This element is mandatory and should be the first element in the message. |
| 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

**<v=1.0;A=90;G=1;T=255>**

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

**<v=1.0;A=90;T=0>**

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

**<v=1.0;A=0>**

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

**<v=1.0;A=100;G=0;T=25>**

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