

## CANBUS PRELIM RESEARCH

DATE: SEPT 22, 2019

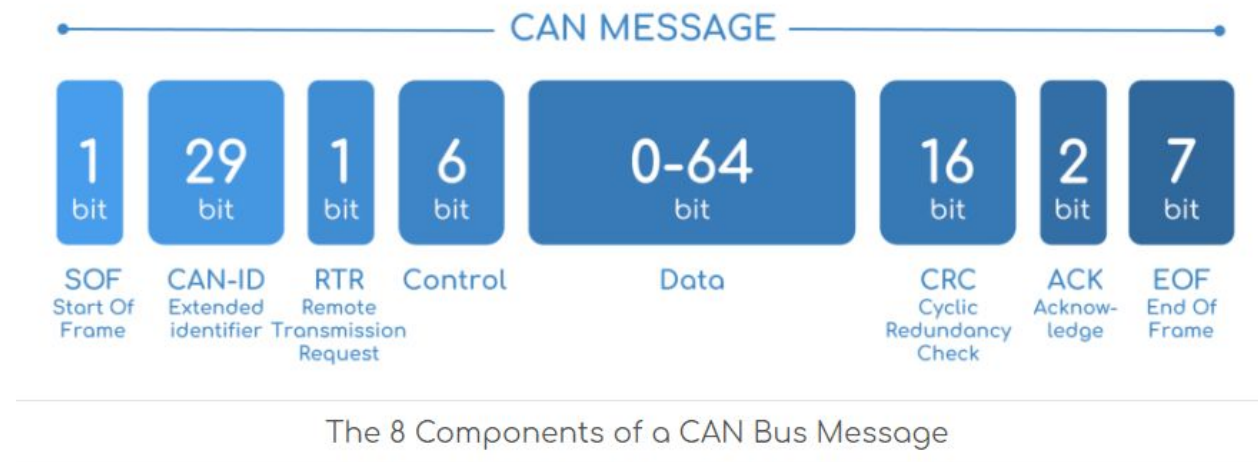
### CONTROLS TEAM MEMBERS

- Rija, Zach, Dazana - Hardware
  - Wiring Basics
  - Daisy Chain (How to create circuit, terminating resistor, which resistor, etc..)
  - Components needed
  - Transceiver/Receiver Research (Transceiver Selection guide, which one to buy, how to integrate this into motor drivers, etc...)
    - <https://tekeye.uk/automotive/can-bus-cable-wiring>
- Muhammad, Sanil - Software
  - Jetson Software - JetPack
  - Packet of bits, what are these packages of information composed of, how do they work?
  - How to program this?
  - How to prioritize different ECUs

## Basic Research

### How does CAN Work

#### The CANBUS Message Broken down



[Look into these steps to understand more about each step]

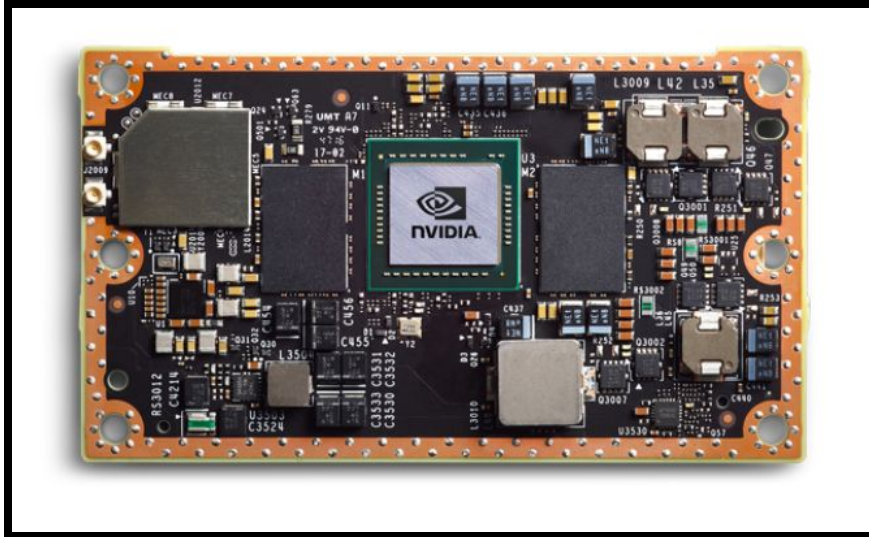
1. Step 1 - Start of Frame (SOF)
2. Step 2 - Extended Identifier (CAN-ID)
3. Step 3 - Remote Transmission Request (RTR)
4. Step 4 - Control
5. Step 5 - Data
6. Step 6 - Cyclic Redundancy Check (CRC)
7. Step 7 - Acknowledge (ACK)
8. Step 8 - End of Frame (EOF)

Equipment on Hand:

1. Jetson TX 2

<https://developer.nvidia.com/embedded/jetson-tx2>

### Jetson TX2 Module



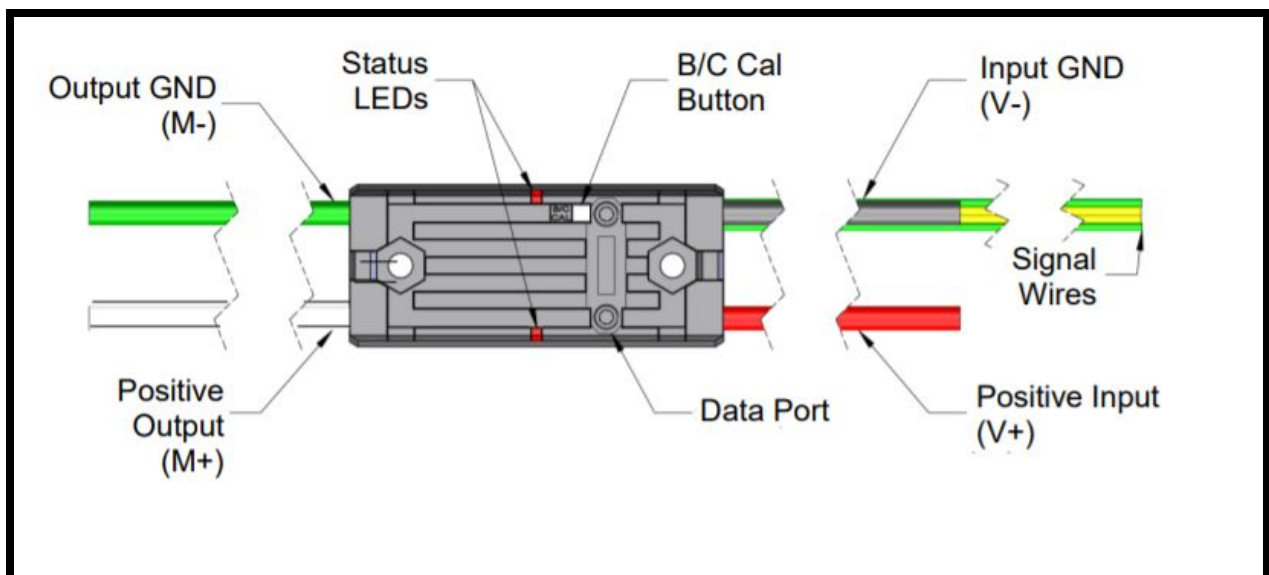
2. CANBus wires:

[http://www.ctr-electronics.com/can-connector-5-pack.html#product\\_tabs\\_technical\\_resources](http://www.ctr-electronics.com/can-connector-5-pack.html#product_tabs_technical_resources)

3. CANBus Connector - Talon SRX

[http://www.ctr-electronics.com/can-connector-5-pack.html#product\\_tabs\\_technical\\_resources](http://www.ctr-electronics.com/can-connector-5-pack.html#product_tabs_technical_resources)

## Overview of the Talon SRX



## USEFUL LINKS

### **Steps to set up CAN:**

- <https://devtalk.nvidia.com/default/topic/1025010/jetson-tx2/how-to-use-can-on-jetson-tx2-/post/5213792/#5213792>

### **Canbus NVIDIA Forum: Order of CAN communication:**

- <https://devtalk.nvidia.com/default/topic/1025630/jetson-tx2/what-is-the-order-of-communication-for-can-communication-/post/5216441/#5216441>

### **Controlling Can Bus**

<https://devtalk.nvidia.com/default/topic/1027805/jetson-tx2/how-can-i-control-can-bus-on-tx2-/>