

INSTRUCTIONS FOR PROGRAMMING SIGNAL ASPECTS

There should be enough function headers (look like this)

```
void nX() { // SIGNAL_ASPECT - X-HEAD
    aspect = "X";
    MODE(X, X, X, X);
}
```

to accommodate all signal aspects given in the packet.

Lines 63 – 118 are responsible for interpreting the number and redirecting it to the proper aspect, however it only goes to 80. All that needs to be done here is to add the rest of the numbers. For example, if I need to add the call to number 93, you'll type in:

```
else if (Num == 93) { n93(); }
```

For programming in the actual aspect into the program, you'll see a blank function that looks similar to this:

```
void n102() { // ASPECT 102

}
```

What needs to be done here is to add the proper command to light up the signal.

On the spreadsheet is a list of aspects that correspond with the numbers in the packet you handed me. These functions will be used to light up the signal heads:

```
light(int hiHead, int mdHead, int loHead) // Lights up the signal
blink(int hiHead, int mdHead, int loHead, int pos) // Lights up the signal
and flashes the corresponding head (pos)
mblink(int hiHead, int mdHead, int loHead, int hdOne, int hdTwo)
// Lights up the signal and flashes a pair of heads (hdOne & hdTwo)
```

With the pin out:

```
-HEAD 1- | -HEAD 2- | ---HEAD 3---  
G Y R L | G Y R L | GG YY RR LL  
2 3 4 5 | 6 7 8 9 | 10 11 12 13  
--TOP--- | --MIDDLE- | ---BOTTOM---
```

If there's any aspects that call for a dark aspect, use 0, if the head doesn't exist in that indication, use -1.

Examples:

1. PROGRAMMING A SOLID LIT ASPECT

Say we want to program in aspect 102, which is a green, over red, over green. You'll want to change the comment from "ASPECT 102," to "GREEN_RED_GREEN - 3-HEAD," then set aspect to be "GRG", then use the light function to light up the signal with the 1st head green (2), 2nd head red (8), and the 3rd head red (12).

```
void n102() { // GREEN_RED_GREEN - 3-HEAD  
    aspect = "GRG";  
    light(2, 8, 12);  
}
```

2. PROGRAMMING AN ASPECT WITH ONE BLINKING HEAD

Now let's say we want to program in aspect 83, which is a yellow, over flashing red, over dark. Follow the same procedure from the previous example, except use the blink command and add the position of the light you want to flash. In this case, the middle head (2).

```
void n83() { // YELLOW_FRED_DARK - 3-HEAD  
    aspect = "YFRD";  
    blink(3, 8, 0, 2);  
}
```

3. PROGRAMMING AN ASPECT WITH TWO BLINKING HEADS

Now let's say we want to program in aspect 96, which is a flashing yellow, over flashing green. Follow the same procedure from example 1, except use the mblink command and add the positions of the lights you want to flash. In this case, the top (1), and middle (2) heads.

```
void n97() { // FYELLOW_FGREEN - 2-HEAD  
    aspect = "FYFG";  
    mblink(3, 6, -1, 1, 2);  
}
```

NOTES:

The mblink command is only setup to flash with the top and middle (1 & 2) or the middle and bottom (2 & 3) heads paired. If a different pairing needs to be programmed in, please let me know.

If you were e-mailed a new version of the Arduino file (.ino), you **MUST** copy and paste the new code from Notepad into a new Arduino project. Arduino flips shit if you don't.