IRSAM Progress Report

1. Until now communication between the binocular and the launcher has been correctly transmitted and verified.
2. Movement of the actuators is controlled by the data coming from the compass
3. Now trying to resolve the problem of PI algorithm.

Dated: 20th September 2013

1. PI on Azimuthal motor is working now. Needs further tuning.. May be the error on the south side is due to the delay in communication between the two transceivers.

Dated 23th September 2013

1. Program burned on C1 is “EME bring UP” launcher End. PI is tuned and LCD is displaying correct data.
2. Everything working fine..

24th September 2013

**Work started again**

1. Demo at eme 26th January 2014 with DG an others

Need to work on wiring because of inconsistency of the system

Wiring started 30th January 2014

Wiring ended on 31st January 2014 results in no hanging up of the system at the initiation.

1. Now I have to work on tuning PI as the elevation motor is jerking a lot.

**Problem :** I have no idea which code Is programmed on uC after all im working on it after 4 months.

1. IRSAM\_C2 and C3

Th.c for third controller

Motors

Dated : September 3, 2014

Software Multiplexed Devices

U1

LCD

UART

**dsPIC33FJ64MCX02/X04**

M

Transceiver

U2

Compass

Status LEDS

ADC

Conditioning

DC Battery

PWM

Servo

Figure 1 : Block Diagram showing Main System

U1

Compass

UART

**dsPIC33FJ64MCX02/X04**

M

U2

Transceiver

Status LEDS

ADC

Conditioning

DC Battery

Input I/Os

Figure 2 : Block Diagram showing Binocular Side

**PIN DISTRIBUTION TABLE:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Pin Number | RPX | Port Pin | Purpose | Module No |
| 1 | RP9 | RB9 | Power LED | GP I/O |
| 2 | RP22 | RC6 | Servo2 | GP I/O |
| 3 | RP23 | RC7 | Servo1 | GP I/O |
| 4 | RP24 | RC8 | LIMIT Switch up | GP I/O |
| 5 | RP25 | RC9 | LIMIT Switch down | GP I/O |
| 6 |  |  |  |  |
| 7 |  |  |  |  |
| 8 | RP10 | RP10 | Line LED | GP I/O |
| 9 | RP11 | RB11 | Error LED | GP I/O |
| 10 |  |  |  |  |
| 11 |  |  |  |  |
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| 24 |  |  |  |  |
| 25 |  |  |  |  |
| 26 |  |  |  |  |
| 27 | RP18 | RC2 | UART for magnetometer (transmit) | UART2 |
| 28 |  |  |  |  |
| 29 |  |  |  |  |
| 30 |  |  |  |  |
| 31 |  |  |  |  |
| 32 |  |  |  |  |
| 33 | RP4 | RB4 | UART for magnetometer (receive) | UART2 |
| 34 |  |  |  |  |
| 35 |  |  |  |  |
| 36 | RP19 | RC3 | UART for transceiver (transmit) | UART2 |
| 37 | RP20 | RC4 | UART for transceiver (receive) | UART2 |
| 38 | RP21 | RC5 | GP UART(transmit) | Uart1 |
| 39 |  |  |  |  |
| 40 |  |  |  |  |
| 41 | RP5 | RB5 | UART for Sabertooth (transmit) | Uart1 |
| 42 |  |  |  |  |
| 43 | RP7 | RB7 | UART for OLED (receive) | UART1 |
| 44 | RP8 | RB8 | UART for OLED (transmit) | UART2 |