|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| All Operations on ALU- for DIP Switch | | | | |
| 1 | 2 | 3 | 4 | Operation |
|  | 1 | 1 |  | ADD |
|  | 1 | 0 |  | AND |
|  | 0 | 1 |  | OR |
|  | 0 | 0 |  | Choose (0) |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Chosen Program | | | | |
| Order | OP CODE | Dip switch translation (2, 3) | Data Input | Result (assuming start of 0000) |
| 1 | ADD | 11 | 0001 | 0001 |
| 2 | ADD | 11 | 0100 | 0101 |
| 3 | AND | 10 | 0100 | 0100 |
| 4 | OR | 01 | 1111 | 1111 |
| 5 | ADD | 11 | 0001 | 0000\* |

\* Carry out = 1

|  |  |  |
| --- | --- | --- |
| Port Connections | Output | Specification |
| Port 1.4 | Square Wave |  |
| Port 0.0 | OP code | 2 |
| Port 0.2 | OP code | 3 |
| Port 0.3 | Data input | 0 |
| Port 0.4 | Data input | 1 |
| Port 0.5 | Data input | 2 |
| Port 06 | Data input | 3 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Binary to Hex Translation | | | | | | |
| Name | Data Input | Data Input | Data Input | Data Input | Op Code | Op Code | Hex |
|  | 0 | 0 | 0 | 1 | 1 | 1 | 0x07 |
|  | 0 | 1 | 0 | 0 | 1 | 1 | 0x13 |
|  | 0 | 1 | 0 | 0 | 1 | 0 | 0x12 |
|  | 1 | 1 | 1 | 1 | 0 | 1 | 0x3D |
|  | 0 | 0 | 0 | 1 | 1 | 1 | 0x07 |

Notes in Modification to Frequency Output Mode:

Change initial setting of HIGH to LOW

Change OPEN\_DRAIN to PUCH\_PULL

Change DIV\_1 to DIV\_128 (For Timer Manipulation)

Change 3E to FD (For Frequency Manipulation)