

Pentair-Pool – Zodiac

Thanks to *tagyoureit* for his help and the project **nodejs-Pentair** (see [GitHub](#))

Report written by *midi30*.

1 Wiring

Connect USB-RS485 adaptor to the ZODIAC controller interface (see ZODIAC manual)

- ◆ A -> Yellow
- ◆ B -> Green
- ◆ OV -> Black
- ◆ POS -> Red = 5v to 15v

2 Zodiac management

2.1.1 Set Up

- ◆ Install nodejs-Pentair-1.0.3 (see 3 nodejs-Pentair-1.0.3 installation page 1)
- ◆ Select on Zodiac Menu -> Controller -> EOS/Pentair -> return to main menu
- ◆ Run **node index.js**
- ◆ Results are on <http://localhost:3000>
- ◆ Get Version/name on <http://localhost:3000/sendthispacket/16-2-80-20-2>
(the returned name could be "BOOST" !!)
- ◆ Get Status on <http://localhost:3000/sendthispacket/16-2-80-0-0>

2.1.2 Run chlorinator

To set salt level : <http://localhost:3000/chlorinator/LEVEL>

where LEVEL is one of

- ◆ 0 : off (Chlorinator will be queried every 30 mins for PPM).
- ◆ 1-100 : set to xx %.
- ◆ 101 : super chlorinate (Boost Zodiac function).

3 nodejs-Pentair-1.0.3 installation

(ref. <https://github.com/tagyoureit/nodejs-Pentair>)

If you don't know anything about NodeJS, these directions might be helpful.

1. Install Nodejs. (<https://nodejs.org/en/download/>)
2. Update NPM (<https://docs.npmjs.com/getting-started/installing-node>).
3. Download the latest [code release](#)
4. Unzip into nodejs-Pentair.

5. Run 'npm install' in the new folder (where package.json exists).
This will automatically install all the dependencies (serial-port, express, sockets.io, etc).
6. Set config.js :
 - ➔ intellitouch = 0
 - ➔ pumpOnly = 0 (1 for now)
 - ➔ numberOfPumps = 0
 - ➔ chlorinator = 1
 - ➔ logType = "verbose"
 - ➔ "expressDir": "/public"
7. Run the app by calling 'node index.js' (again, in the root directory).
It should now run properly.

4 Tests with nodejs-Pentair-1.0.3

Thanks to tagyoureit.

Messages according to <https://github.com/tagyoureit/nodejs-Pentair/wiki/Chlorinator>

4.1 GET VERSION/NAME

http://localhost:3000/sendthispacket/16-2-80-20-2

```
12:21:17.033 INFO User request (REST API) to send packet: 16-2-80-20-2
12:21:17.039 SILLY packet (chlorinator) detected:
    [16,2,80,20,2]
12:21:17.042 SILLY chlrorinator packet configured as:
    [16,2,80,20,2,120,16,3]
12:21:17.090 VERBOSE Data received on Serial Port
12:21:17.095 SILLY pBTA: bufferToProcess length=0; bufferArrayOfArrays>0. Shifting AoA to
BTP
12:21:17.096 DEBUG iOAOA: Packet being analyzed:
0,16,2,0,3,2,66,79,79,83,84,0,0,0,0,0,0,0,0,0,0,158,16,3
12:21:17.098 SILLY iOAOA: No more packets in bufferArrayOfArrays
```

```
-----
0,16,2,0,3,2,66,79,79,83,84,0,0,0,0,0,0,0,0,0,0,158,16,3
0          ==> ?
  16,2     ==> Preamble 1 & 2
    0      ==> Destination=controller
      3    ==> Command = return name
        2  ==> salt (it is 50% on the screen)
          66,79,79,83,84 ==> name = BOOST (??? curious, i was attending ZODIAC)
            158,16,3 ==> trailers OK
```

4.2 GET STATUS

http://localhost:3000/sendthispacket/16-2-80-0-0

```
13:07:30.962 INFO User request (REST API) to send packet: 16-2-80-0-0
13:07:30.965 SILLY packet (chlorinator) detected:
```

```

[16,2,80,0,0]
13:07:30.968 SILLY chlrorinator packet configured as:
[16,2,80,0,0,98,16,3]
13:07:30.999 VERBOSE Data received on Serial Port
13:07:31.004 SILLY pBTA: bufferToProcess length=0; bufferArrayOfArrays>0. Shifting AoA to
BTP
13:07:31.005 DEBUG iOAOA: Packet being analyzed: 0,16,2,0,1,0,0,19,16,3
13:07:31.006 SILLY iOAOA: No more packets in bufferArrayOfArrays

```

```

-----
0,16,2,0,1,0,0,19,16,3
0          ==> ?
  16,2,0   ==> Header OK
    1      ==> status OK
      0,0   ==> ???
        19,16,3 ==> Trailer ok

```

4.3 SET SALT

4.3.1 Set 35%

http://localhost:3000/sendthispacket/16-2-80-17-35

```

13:21:07.133 INFO User request (REST API) to send packet: 16-2-80-17-35
13:21:07.140 SILLY packet (chlorinator) detected:
[16,2,80,17,35]
13:21:07.145 SILLY chlrorinator packet configured as:
[16,2,80,17,35,150,16,3]
13:21:07.179 VERBOSE Data received on Serial Port
13:21:07.184 SILLY pBTA: bufferToProcess length=0; bufferArrayOfArrays>0. Shifting AoA to
BTP
13:21:07.185 DEBUG iOAOA: Packet being analyzed: 0,16,2,0,18,0,1,37,16,3
13:21:07.186 SILLY iOAOA: No more packets in bufferArrayOfArrays

```

```

-----
0,16,2,0,18,0,1,37,16,3
0          ==> ?
  16,2,0   ==> Header OK
    18     ==> status salt PPM command
      0     ==> salt PPM = 0
        1   ==> Error bit ==> (no flow) ==> (chlorinator on my desk)
          37,16,3 ==> Trailer OK

```

4.3.2 Set 100%

http://localhost:3000/sendthispacket/ 16-2-80-17-100

```

14:37:32.966 INFO User request (REST API) to send packet: 16-2-80-17-100
14:37:32.970 SILLY packet (chlorinator) detected:
[16,2,80,17,100]
14:37:32.973 SILLY chlrorinator packet configured as:
[16,2,80,17,100,215,16,3]
14:37:33.003 VERBOSE Data received on Serial Port
14:37:33.008 SILLY pBTA: bufferToProcess length=0; bufferArrayOfArrays>0. Shifting AoA to
BTP
14:37:33.009 DEBUG iOAOA: Packet being analyzed: 0,16,2,0,18,0,1,37,16,3

```

14:37:33.010 SILLY iOAOA: No more packets in bufferArrayOfArrays

Chlorinator not installed, but correctly updated.

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