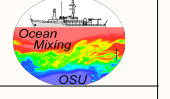
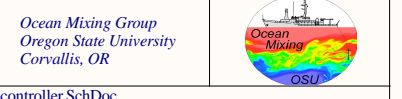


NOTE: This document uses OLD molex pinouts

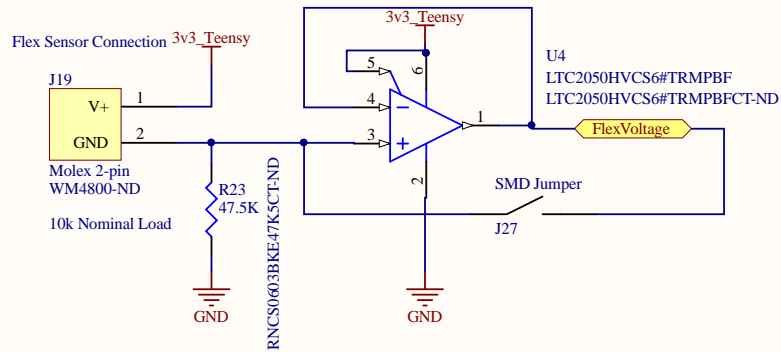
| | | | |
|---|------------------|-----------------------|-------------|
| Title: Microcontroller.SchDoc | | | |
| Size: A4 | Number: 1 | Engineer: Nick McComb | |
| Date: 12/30/2014 | Time: 9:47:24 AM | Sheet 1 of 6 | Revision: 3 |
| File: H:\Google Drive\Projects\PCB Designs\ROSSEBoxAuxillary\Microcontroller.SchDoc | | | |



Flex Sensor Interpreting

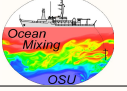
Resistor Divider into voltage follower

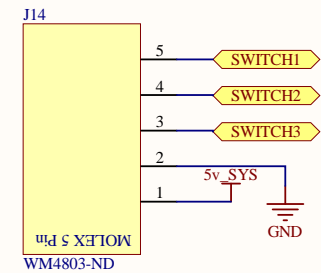
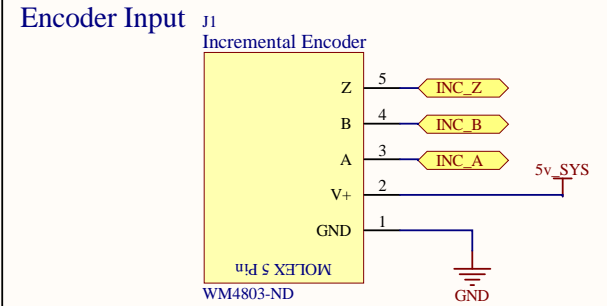
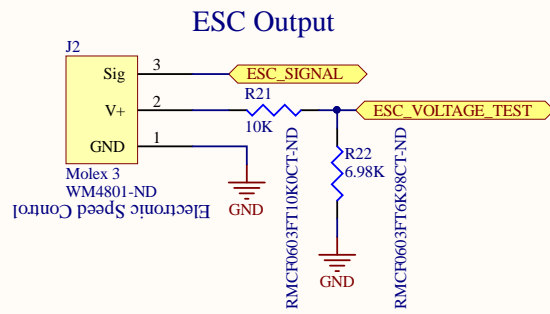
Note: Shutdown pin should be left floating (or tied high)



Note: R23 should be a .1% resistor

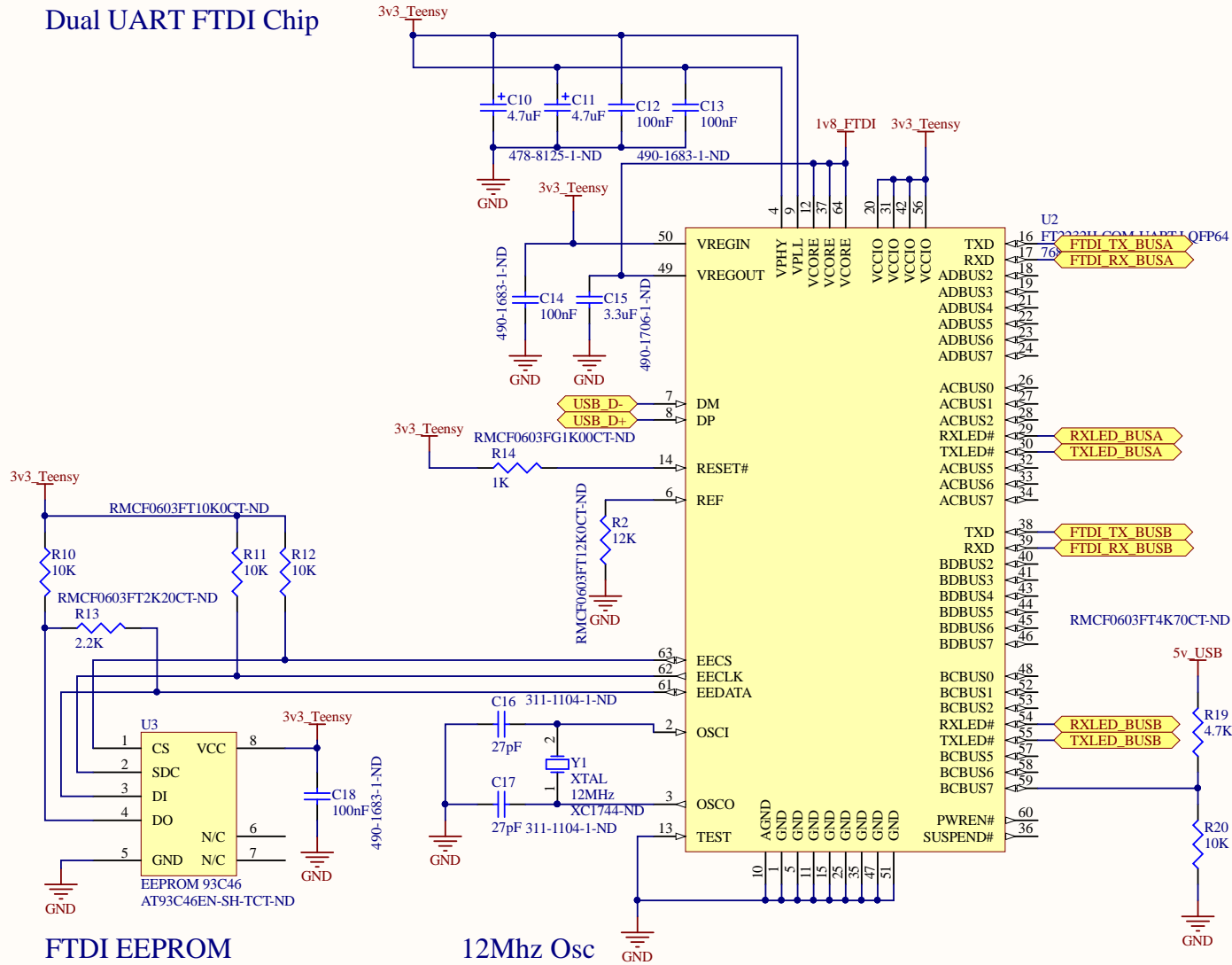
Note: Designed for Sparkfun P/N 8606: <https://www.sparkfun.com/products/8606>

| | | | |
|---|------------------|----------------------------|---|
| Title: Microcontroller 2.SchDoc | | |  Ocean Mixing Group Oregon State University Corvallis, OR |
| Size: A4 | Number: 2 | Engineer: Nick McComb | |
| Date: 12/30/2014 | Time: 9:47:24 AM | Sheet 2 of 6 Revision: 3 | |
| File: H:\Google Drive\Projects\PCB Designs\ROSSEBoxAuxillary\Microcontroller 2.SchDoc | | | |



NOTE: This document uses OLD molex pinouts

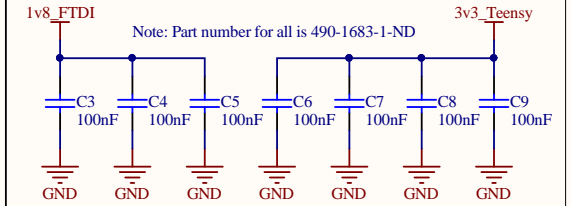
Dual UART FTDI Chip



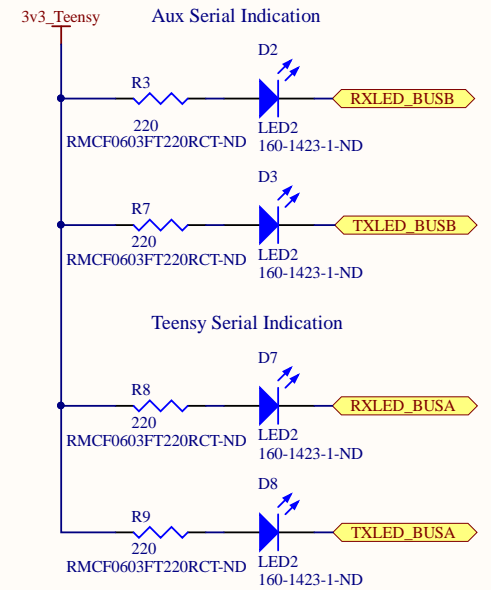
FTDI EEPROM

12Mhz Osc

Filtering Caps



Status LEDs



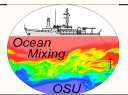
Title FTDI.SchDoc

Size: A4 Number: 4 Engineer: Nick McComb

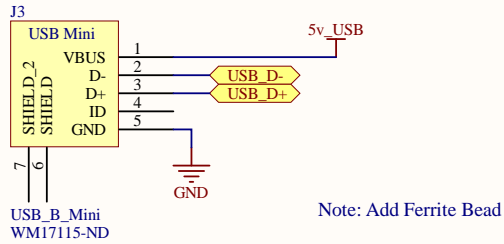
Date: 12/30/2014 Time: 9:47:24 AM Sheet 4 of 6 Revision: 3

File: H:\Google Drive\Projects\PCB Designs\ROSSEBoxAuxiliary\FTDI.SchDoc

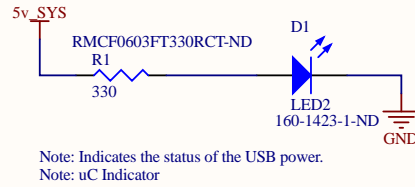
Ocean Mixing Group
Oregon State University
Corvallis, OR



Microcontroller USB Connection

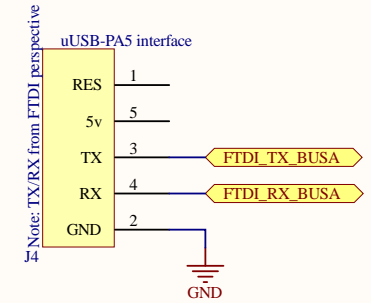


FTDI Status Indicators

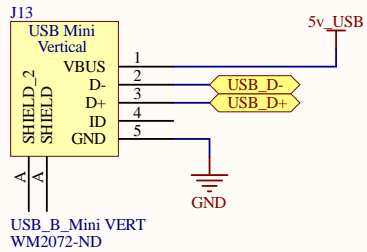


USB To Serial Backup

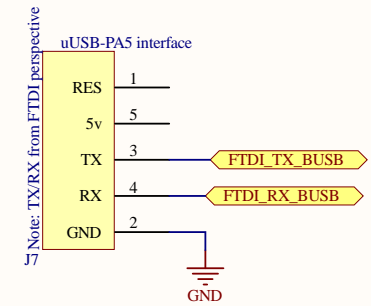
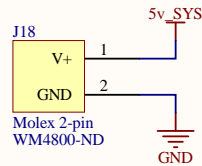
Note: Backup, do not populate unless onboard FTDI chips do not work



Vertical USB Port



Main Power Input



1

2

3

4

J8

Mounting Hole

MountingHole

J9

Mounting Hole

MountingHole

J10

Mounting Hole

MountingHole

J11

Mounting Hole

MountingHole

A

A

B

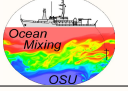
B

C

C

D

D

| | | | | |
|--|------------------|------------------------------|---|---|
| Title Hardware.SchDoc | | | <i>Ocean Mixing Group</i> <i>Oregon State University</i> <i>Corvallis, OR</i> |  |
| Size: A4 | Number: 6 | Engineer: Nick McComb | | |
| Date: 12/30/2014 Time: 9:47:25 AM Sheet 6 of 6 Revision: 3 | | | | |
| File: H:\Google Drive\Projects\PCB Designs\ROSSEBoxAuxillary\Hardware.SchDoc | | | | |

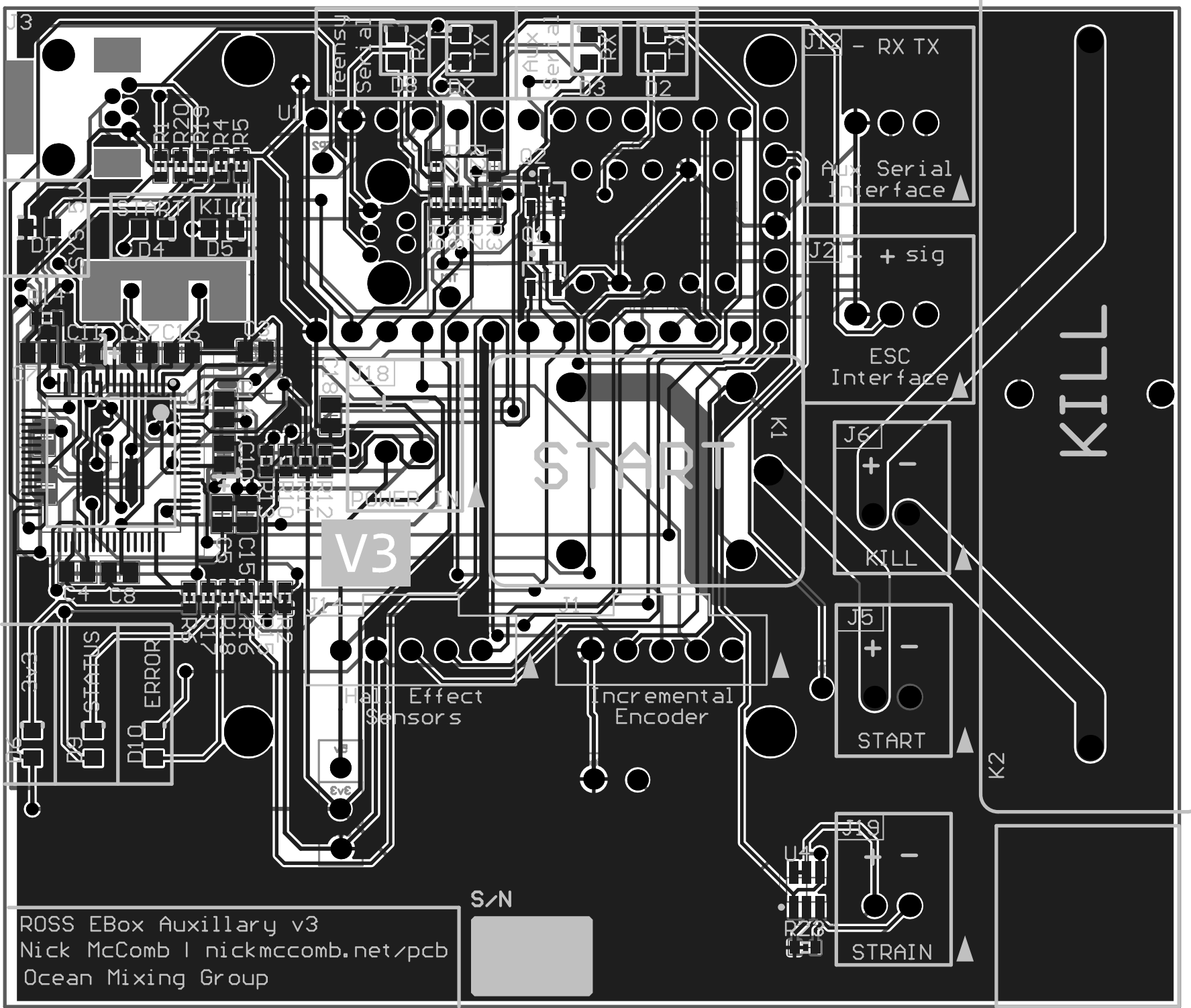
1

2

3

4

8.43



7.15

ROSS EBox Auxillary v3
 Nick McComb | nickmccomb.net/pcb
 Ocean Mixing Group

S/N

D10 STATUS
 D10 ERROR

V3

START

KILL

J18 - RX TX

Aux Serial Interface

J21 + sig

ESC Interface

J6
 + -
 KILL

J5
 + -
 START

J19
 + -
 STRAIN

Hall Effect Sensors

Incremental Encoder

POWER IN

Teensy

Aux Serial

3

D19
 D20
 D18
 D4
 D5
 D3
 D2
 D1

C1
 C2
 C3
 C4
 C5
 C6
 C7
 C8
 C9
 C10
 C11
 C12
 C13
 C14
 C15
 C16
 C17
 C18

J1
 J2
 J3
 J4
 J5
 J6
 J7
 J8
 J9
 J10
 J11
 J12
 J13
 J14
 J15
 J16
 J17
 J18
 J19
 J20
 J21
 J22
 J23
 J24
 J25
 J26
 J27
 J28
 J29
 J30
 J31
 J32
 J33
 J34
 J35
 J36
 J37
 J38
 J39
 J40
 J41
 J42
 J43
 J44
 J45
 J46
 J47
 J48
 J49
 J50
 J51
 J52
 J53
 J54
 J55
 J56
 J57
 J58
 J59
 J60
 J61
 J62
 J63
 J64
 J65
 J66
 J67
 J68
 J69
 J70
 J71
 J72
 J73
 J74
 J75
 J76
 J77
 J78
 J79
 J80
 J81
 J82
 J83
 J84
 J85
 J86
 J87
 J88
 J89
 J90
 J91
 J92
 J93
 J94
 J95
 J96
 J97
 J98
 J99
 J100

C

8

12

10

Ev6

Ev6

8

8

12

10

Ev6

Ev6

8

8

12

10

Ev6

Ev6

8

8

12

10

Ev6

Ev6

8

8

12

10

Ev6

Ev6

8

8

12

10

Ev6

Ev6

8

8

12

10

Ev6

Ev6

8

8

12

10

Ev6

Ev6

8

8

12

10

Ev6

Ev6

8

8

12

10

Ev6

Ev6

8

8

12

10

Ev6

Ev6

8

8

12

10

Ev6

Ev6

8

8

12

10

Ev6

Ev6

8

8

12

10

Ev6

Ev6

8

8

12

10

Ev6

Ev6

8

8

12

10

Ev6

Ev6

8

8

12

10

Ev6

Ev6

8

8

12

10

Ev6

Ev6

8

8

12

10

Ev6

Ev6

8

8

12

10

Ev6

Ev6

8

8

12

10

Ev6

Ev6

8

8

12

10

Ev6

Ev6

8

8

12

10

Ev6

Ev6

8

8

12

10

Ev6

Ev6

8

8

12

10

Ev6

Ev6

8

8

12

10

Ev6

Ev6

8

8

12

10

Ev6

Ev6

8

8

12

10

Ev6

Ev6

8

8

12

10

Ev6

Ev6

8

8

12

10

Ev6

Ev6

8

8

12

10

Ev6

Ev6

8

8

12

10

Ev6

Ev6

8

8

12

10

Ev6

Ev6

8

8

12

10

Ev6

Ev6

8

8

12

10

Ev6

Ev6

8

8

12

10

Ev6

Ev6