

# Help Listing

```
[user9@DE601C StationConfigs]$ rspctl --help
rspctl usage:
```

```
--- RCU control -----
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rspctl --rcu                [--select=<set>]  # show current rcu
control setting
rspctl --rcu=0x00000000    [--select=<set>]  # set the rcu
control registers

mask      value
0x0000007F INPUT_DELAY  Sample delay for the data from the RCU.
0x00000080 INPUT_ENABLE Enable RCU input.

0x00000100 LBL-EN        supply LBL antenna on (1) or off (0)
0x00000200 LBH-EN        sypply LBH antenna on (1) or off (0)
0x00000400 HB-EN         supply HB on (1) or off (0)
0x00000800 BANDSEL       low band (1) or high band (0)
0x00001000 HB-SEL-0      HBA filter selection
0x00002000 HB-SEL-1      HBA filter selection

Options : HBA-SEL-0 HBA-SEL-1 Function
          0          0      210-270 MHz
          0          1      170-230 MHz
          1          0      110-190 MHz
          1          1      all off

0x00004000 VL-EN         low band supply on (1) or off (0)
0x00008000 VH-EN         high band supply on (1) or off (0)

0x00010000 VDIG-EN       ADC supply on (1) or off (0)
0x00020000 LBL-LBH-SEL   LB input selection 0=LBL, 1=LBH
0x00040000 LB-FILTER      LB filter selection
                   0      10-90 MHz
                   1      30-80 MHz

0x00080000 ATT-CNT-4     on (1) is 1dB attenuation
0x00100000 ATT-CNT-3     on (1) is 2dB attenuation
0x00200000 ATT-CNT-2     on (1) is 4dB attenuation
0x00300000 ATT-CNT-1     on (1) is 8dB attenuation
0x00800000 ATT-CNT-0     on (1) is 16dB attenuation

0x01000000 PRSG          pseudo random sequence generator on (1), off (0)
0x02000000 RESET         on (1) hold board in reset
0x04000000 SPEC_INV      Enable spectral inversion (1) if needed. see --
```

```

specinv
    0x08000000 TBD          reserved
    0xF0000000 RCU VERSION  RCU version, read-only

rspctl [ --rcumode          |
        --rcuprsg          |
        --rcureset         |
        --rcuattenuation   |
        --rcudelay         |
        --rcuenable        |
        ]+ [--select=<set>] # control RCU by combining one or more of these
options with RCU selection

        --rcumode=[0..7] # set the RCU in a specific mode
            Possible values: 0 = OFF
                            1 = LBL 10MHz HPF 0x00017900
                            2 = LBL 30MHz HPF 0x00057900
                            3 = LBH 10MHz HPF 0x00037A00
                            4 = LBH 30MHz HPF 0x00077A00
                            5 = HB 110-190MHz 0x0007A400
                            6 = HB 170-230MHz 0x00079400
                            7 = HB 210-270MHz 0x00078400
        --rcuprsg[=0]      # turn psrg on (or off)
        --rcureset[=0]     # hold rcu in reset (or take out of
reset)
        --rcuattenuation=[0..31] # set the RCU attenuation (steps of
0.25dB)
        --rcudelay=[0..127]     # set the delay for rcu's (steps of 5ns
or 6.25ns)
        --rcuenable[=0]        # enable (or disable) input from RCU's

rspctl --specinv[=0] [--select=<set>] # enable (or disable) spectral
inversion

--- Signalprocessing -----
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rspctl --weights              [--select=<set>] # get weights as
complex values
    Example --weights --select=1,2,4:7 or --select=1:3,5:7
rspctl --weights=value.re[,value.im] [--select=<set>] [--beamlets=<set>] #
set weights as complex value
rspctl --aweights             [--select=<set>] # get weights as
power and angle (in degrees)
rspctl --aweights=amplitude[,angle] [--select=<set>] # set weights as

```

amplitude and angle (in degrees)

```
rspctl --subbands                [--select=<set>]  # get subband
selection
```

```
rspctl --subbands=<set>          [--select=<set>]  # set subband
selection
```

Example --subbands sets: --subbands=0:39 or --select=0:19,40:59

```
rspctl --xcsubband                # get the subband
selection for cross correlation
```

```
rspctl --xcsubband=<int>          # set the subband to
cross correlate
```

```
rspctl --wg                [--select=<set>]  # get waveform
generator settings
```

```
rspctl --wg=freq [--phase=..] [--amplitude=..] [--select=<set>] # set
waveform generator settings
```

```
--- Status info -----
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```

```
rspctl --version                [--select=<set>]  # get version information
```

```
rspctl --status                 [--select=<set>]  # get status of RSP boards
```

```
rspctl --tdstatus               [--select=<set>]  # get status of TDS boards
```

```
rspctl --spustatus              [--select=<set>]  # get status of SPU board
```

```
rspctl --realdelays[=<list>]    [--select=<set>]  # get the installed 16
delays of one or more HBA's
```

```
rspctl --regstate                # show update status of all
registers once every second
```

```
rspctl --latency                # show latency of ring and
all lanes
```

```
--- Statistics -----
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```

```
rspctl --statistics[=(subband|beamlet)]          # get subband (default) or
beamlet statistics
```

```
    [--select=<set>]                               #
```

```
    [--duration=<seconds>]                         #
```

```
    [--integration=<seconds>]                     #
```

```
    [--directory=<directory>]                    #
```

```
rspctl [--xcangle] --xcstatistics [--select=first,second] # get
crosscorrelation statistics (of pair of RSP boards)
```

```
    [--duration=<seconds>]                         #
```

```
    [--integration=<seconds>]                     #
```

```
    [--directory=<directory>]                    #
```

```
--- Miscellaneous -----
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```

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rspctl --clock[=<int>]                                # get or set the clock
frequency of clocks in MHz
rspctl --rspclear          [--select=<set>]            # clear FPGA registers on
RSPboard
rspctl --hbadelays[=<list>] [--select=<set>]          # set or get the 16 delays
of one or more HBA's
rspctl --tbbmode[=transient | =subbands,<set>]        # set or get TBB mode,
'transient' or 'subbands', if subbands then specify subband set
rspctl --splitter[=0|1]                               # set or get the status of
the Serdes splitter
rspctl --datastream[=0|1|2|3]                         # set or get the status of
data stream to cep
rspctl --swapxy[=0|1] [--select=<set>]                # set or get the status of
xy swap, 0=normal, 1=swapped
rspctl --bitmode[=4|8|16]                             # set or get the number of
bits per sample

```