



rspctl

Help Listing

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

```
--- RCU control -----
```

```
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 supply 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 -----
-----
```

```
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 -----
-----
```

```
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 -----
-----
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 -----
-----
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

```