Useful information about stereo_scan

CPID

Mode	Channel A	Channel B
Common Time, "normal scan" emulation	152	-26401
Common Time, "fast scan" emulation	153	-26401
Discretionary Time	-6401	-26401

For Common Time modes only channel A provides common data. Channel B operates as per the rules for discretionary time.
Normal Scan emulation runs channel A at 6 seconds/beam, 2 minutes/scan
Fast Scan emulation runs channel A at 3 second/beam, 1 minute/scan.

Default Settings

Unless overridden by command line arguments the following defaults apply:

Parameter	Description	Finland	Iceland
rsep	Range separation in km	45	45
frang	First range in km	180	180
intt	Integration time in seconds	6	6
Low beam A	Lowest beam no for chA	0	0
High beam A	Highest beam no for chA	15	15
Low beam B	Lowest beam no for chB	0	0
High beam B	Highest beam no for chB	15	15
Day band A	Daytime frequency band chA	5	27
Night band A	Nighttime frequency band chA	2	23
Day band B	Daytime frequency band chB	27	27
Night band B	Nighttime frequency band chB	23	23
Night start hour	UTC time for start of night band	18	18
Day start hour	UTC time for start of day band	6	8
Scan period	Scan sync boundary in seconds	0	0
Stereo offset	Delay in usec of chA from chB	400	400

Command Line Arguments

The following command line arguments may be used to modify the default behaviour of stereo_scan:

`-ns` sets channel A to normal scan emulation, 6 seconds/beam, 2 minutes/scan
`-fs` sets channel A to fast scan emulation, 3 seconds/beam, 1 minute/scan

Note: -intt, –sp, -frA –lbA, -hbA ,and -rgA command line arguments are ignored if either –ns 1 or –fs 1 is selected.

`-dfA n` day frequency band channel A. n is the band number
`-dfB n` day frequency band channel B. n is the band number
`-nfA n` night frequency band channel A. n is the band number
`-nfB n` night frequency band channel BA. n is the band number

`-offset nnn` stereo offset. nnn is the offset in microseconds, positive values indicate that A is later than B
`-intt n` integration period. n is in seconds

`-frA nnn` first range, channel A. nnn is range in km and must be an integer multiple of rsep_A
`-frB nnn` first range, channel B. nnn is range in km and must be an integer multiple of rsep_B

`-rgA nn` range separation, channel A. nn is in km and must be multiples of 15
`-rgB nn` range separation, channel B. nn is in km and must be multiples of 15

`-lbA n` low beam channel A. n is 0 to 15
`-lbB n` low beam channel B. n is 0 to 15
`-hbA n` high beam channel A. n is 0 to 15, but must be >= -lbA
`-hbB n` high beam channel B. n is 0 to 15, but must be >= -lbB

note: the Finland radar automatically takes account of being a backwards scanning radar. The high beam should always be numerically equal to or greater than the low beam.

`-sp n` scan period. n is in seconds and forces a pause at the end of scan until the boundary is passed. Setting n to 0 eliminates any pause.

`-cpidA n` overrides the default cpid. –cpidB is not specified cpidB will be set to cpidA -20000, where cpidA is multiplied by -1 if cpidA is positive.––`cpidB n` overrides the default cpid for channel B.

Modifying Scan Pattern.

Each channel has a set of beam number arrays, -bm*A `n` and `-bm*B n`, where * is 0-15. If lbA, hbA, lbB or hbB are specified these array values are correctly set up internally. These arguments can be used to set up a camp beam pattern, eg:

`-bm0A 3 -bm1A 7` will generate a two beam camp sequence on channel A. Similarly a three beam camp sequence would be specified as
`-bm0A 3 -bm1A 7 -bm2A 9`

If a –cts option, that defines a predetermined camp pattern on channel B , is selected the first two bm arguments, namely –bm0B and –bm1B are ignored. However speciying subsequent bm arguments will then modify the predetermined scan pattern. eg

-cts9 -bm0B 1 –bm1B 2 –bm2B 3 will cause beams 5, 9 and 3 to be scanned since cts9 predefines a two beam camp on beams 5 and 9.

The **length** of the scan is determined by the total number of beams to be scanned on **channel A.**

All bm*A and bm*B options can be changed via radar_shell.

Frequency Bands
The program will accept frequency band arguments to allow more than on frequency to be scanned. The frequency will change to the next band at the end of a scan. If one or more of the following arguments are specified the –dfA, -dfB, -nfA and –nfB arguments will be ignored.

`-b0A n`
`-b1A n`
`-b2A n`
.....
`-b9A n` Sets frequency bands 0 up to 9 to sound band number n on channel A.

`-b0B n`
`-b1B n`
`-b2B n`
.....
`-b9B n` Sets frequency bands 0 up to 9 to sound band number n on channel B.

eg –b0A 11 -b1A 13 –b2A 15 will sound a scan on band 11, then a scan on band 13 and then a scan on band 15 before returning to band 11, on channel A

The above variables can also be set interactively using the radar_shell command. When using `radar_shell` a frequency band can be deleted by setting it to –1
For example, if the above `-b0A 11 -b1A 13 -b2A 15` arguments on the command line were specified, and then, using radar_shell, the following command was issued:
`b1A -1`
The radar would then sound bands 11 and 15 only. Also, a sort is then performed to eliminate any bands set to –1, so b0A would have the value 11, but b1A would now have the value 15.

Command Line Argument File
The command line arguments, in the schedule file, can be replaced by the name of a file that contains the argument list. This is useful where the list of arguments becomes very long. The file name must include the **full path** to the file.