```
#     Example of Reduction of Arecibo A3338

Observed lines:

B1  3248.7070 H127a
-------------------
Hα    Hydrogen Recombination Line   3172.86300 (0), 3172.86300          H ( 127 ) α
      0.00000          0.00000      Recomb


B2  3100.90800 C128a
---------------------
    Cα              Carbon Recombination Line    3100.90800 (0), 3100.90800
      C ( 128 ) α 0.00000           0.00000 Recomb


B3  3139.40500    H2CS
---------------------
H2CS       Thioformaldehyde  3139.40500 (0.003), 3139.40500          2(1,1)-
2(1,2)      0.00000      -0.33 0.00000     Lovas


B4  3195.16090    CH3CHO
-----------------------
CH3CHO v = 0, 1 & 2    Acetaldehyde     3195.16090 (0.0006), 3195.16090
      2( 1, 1)- 2( 1, 2) A, vt=0    -8.09090   3.45100 JPL


B5  3263.7940    CH
-------------------
CH 2Π1/2    Methylidyne 3263.79400 (0.003), 3263.79400          2P1/2 J=1/2 F=0-1
      0.00000    0.24  0.00000     Lovas


B6 3029.25740 13CH
-------------------
13CH        Methylidyne     3029.25740 (0.046), 3029.25740          0     -
6.57830          14.10760    JPL


B7  3335.4810    CH
-------------------
CH 2Π1/2    Methylidyne 3335.48100 (0.002), 3335.48100          2P1/2 J=1/2 F=1-1
      0.00000    0.25 0.00000 Lovas


B8  3349.1930    CH
----------------
CH 2Π1/2    Methylidyne 3349.19300 (0.003), 3349.19300          2P1/2 J=1/2 F=1-0
      0.00000    0.18  0.00000     Lovas
```

```
Date: Sunday, Sept 15, 2019, 19:00 AST, 18h LST
Observations from: Arecibo
Observers: Kovacevic, Lambert, Araya


-------------------------------------------------------------------------------
Source            LST   AZ    ZA    SCAN  FILE   NOTES
-------------------------------------------------------------------------------
********** load: a3338_conf_SBH_CH_8boards_3MHz_2019-09-13.conf

B1857+129    18:08 291.0 13.4  925800688 0000     calibration
                                                    3300 MHz
                                            Eaz="11, Eza:2"
                                            Tsys =28 K
                                            Gain =7.15 K/Jy
G35.79-0.17 18:32 336.9 17.1  925800188 0002     5min onoff
                                wapp.20190915.a3338.0002.fits
     SOURCE        SCAN       RA        DEC    C GRPS NIF NLAG    PatNm TopFrq RCV
 G35.79-0.17 925800188 185716.7    22756 ?   300   2 2048    ONOFF 3172.3  8
 G35.79-0.17 925800189 185716.7    22756 ?   300   2 2048    ONOFF 3172.3  8
 G35.79-0.17 925800190 185716.7    22756 ?     1   2 2048      CAL 3172.3  8
 G35.79-0.17 925800191 185716.7    22756 ?     1   2 2048      CAL 3172.3  8
 scan:925800188 ra:18:57:17 dec:02:27:56 rcv: 8 azErr:  0.0 zaE:  0.0Asec
 yymmdd: 190915 dayno:258 astTm:00:00:00 az,gr,ch: 338.775  16.881   8.835
 recNum: 300  sec/Rec: 0
 brd cfr     bw    nchn lvl npol lagCf CorDb     lag0
 1 3172.3   3.12 2048  3   2     9   12 13    1.08 1.03
 2 3100.3   3.12 2048  3   2     9   14 15    0.92 1.41
 3 3138.8   3.12 2048  3   2     9    6 14    1.10 1.07
 4 3194.5   3.12 2048  3   2     9   15 15    1.10 1.28
 5 3263.2   3.12 2048  3   2     9   10 12    0.99 1.11
 6 3028.7   3.12 2048  3   2     9   15 13    1.19 1.03
 7 3334.8   3.12 2048  3   2     9   10 10    0.97 0.94
 8 3348.6   3.12 2048  3   2     9   12 15    0.90 1.02
 src:G35.79-0.17 pattern:onoff
 on nrecs:  0  cal:1 movTmSec:  0




G35.83-0.20 18:44 347.3 16.2  925800192 0003     5min onoff
                                wapp.20190915.a3338.0003.fits
     SOURCE        SCAN       RA        DEC    C GRPS NIF NLAG    PatNm TopFrq RCV
 G35.83-0.20 925800192 185726.9    22900 ?   300   2 2048    ONOFF 3172.3  8
 G35.83-0.20 925800193 185726.9    22900 ?   300   2 2048    ONOFF 3172.3  8
 G35.83-0.20 925800194 185726.9    22900 ?     1   2 2048      CAL 3172.3  8
 G35.83-0.20 925800195 185726.9    22900 ?     1   2 2048      CAL 3172.3  8
 scan:925800192 ra:18:57:27 dec:02:29:00 rcv: 8 azErr:  0.0 zaE:  0.0Asec
 yymmdd: 190915 dayno:258 astTm:00:00:00 az,gr,ch: 348.974  16.082   8.835
 recNum: 300  sec/Rec: 0
 brd cfr     bw    nchn lvl npol lagCf CorDb     lag0
 1 3172.3   3.12 2048  3   2     9   12 13    1.06 1.01
 2 3100.3   3.12 2048  3   2     9   14 15    0.90 1.39
 3 3138.8   3.12 2048  3   2     9    6 14    1.09 1.05
 4 3194.5   3.12 2048  3   2     9   15 15    1.08 1.27
 5 3263.2   3.12 2048  3   2     9   10 12    0.97 1.10
 6 3028.7   3.12 2048  3   2     9   15 13    1.16 1.01
 7 3334.8   3.12 2048  3   2     9   10 10    0.95 0.93
 8 3348.6   3.12 2048  3   2     9   11 15    1.12 1.01
 src:G35.83-0.20 pattern:onoff
 on nrecs:  0  cal:1 movTmSec:  0
```

B2128+048   21:11   338.5 14.1 925879164 0016   calibration
                                    3300 MHz
                                    Eaz="-21.5, Eza:-2.04"
                                    Tsys =29 K
                                    Gain =6.6 K/Jy

Tcal values, hcorcal was used: 10.80K 11.15K for each pol.
http://www.naic.edu/~phil/tsys/tsysmon/logfiles/2019/tsys.log8
 Sun Sep 15 22:13:13 2019 az/za lst: 285.0188 10.9998 21:25:11
rcv 8 3500.0 2 3 0 if1 -33.23 -32.85 if2 -37.79 -38.46 cor 1.02 0.99 9 7
 8   hcal 10.80 11.68   27.0   28.9   27.0   28.9   27.2   29.0   27.0   28.8
 8   hxcal 10.93 11.15   28.2   27.4   28.2   27.3   28.3   27.4   28.1   27.3
 8 hcorcal 10.80 11.15   27.1   27.4   27.1   27.3   27.3   27.4   27.1   27.3
 8   h90cal 10.93 11.68   28.2   28.4   28.2   28.4   28.4   28.5   28.2   28.4
 8   lcal 1.43 1.48   27.0   28.4   27.2   28.4   27.2   28.5   27.1   28.5
 8   lxcal 1.38 1.47   27.8   27.4   27.8   27.4   28.2   27.4   28.2   27.5
 8 lcorcal 1.43 1.47   27.0   27.6   27.0   27.6   27.1   27.7   27.0   27.7
 8   l90cal 1.38 1.48   28.1   28.2   27.9   28.2   28.1   28.2   28.0   28.2