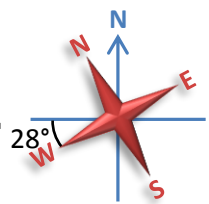


# Hobart – HBT

University of Tasmania

Relation between  
DETECTOR and GEOGRAPHIC  
Coordinates



Surface Observatory

Location: 43.00° S, 147.29° E

Altitude: 0.065 km

Effective Geomagnetic Cutoff Rigidity: 1.8 GV

Standard Pressure: 1000 hPa

Detector Type: Scintillation

Telescope Size:

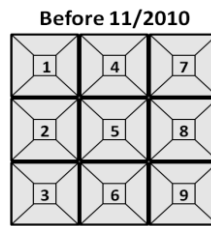
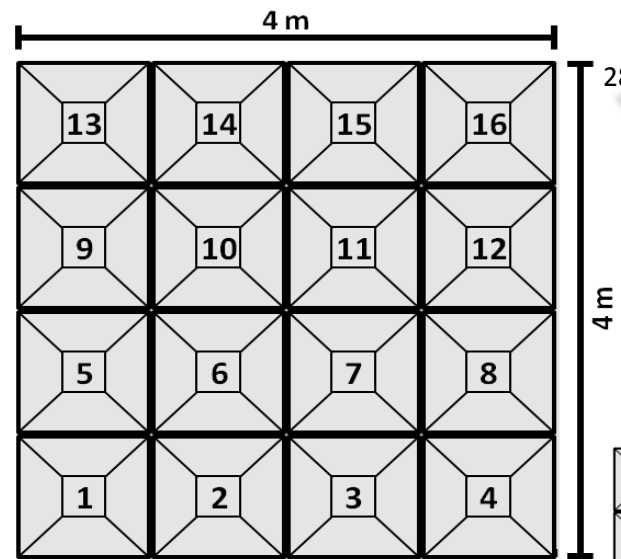
09 m<sup>2</sup> (00/1992 – 11/2010)

16 m<sup>2</sup> (12/2010 – )

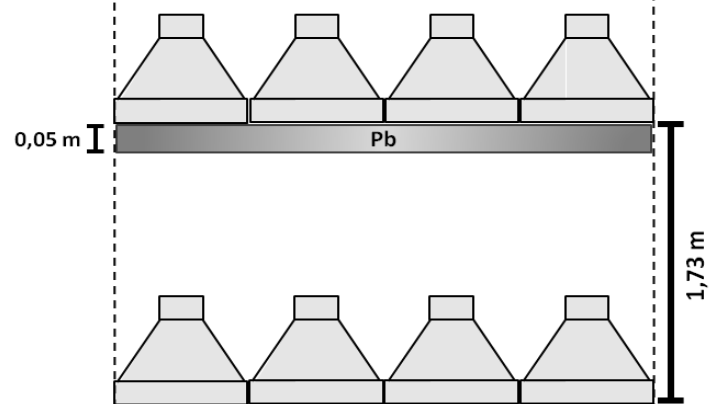
Operation Period: 1992 –

- 00/2002: It was moved from Hobart to Kingston (very close location)
- 08/2006: New recording system using FPGA was introduced
- 08/2006: the individual blocks numbering changed from (N→S, W→E) to (W→E, S→N).
- 12/2010: The East-West direction of the detector was inclined 28° from the real East-West direction

## Top View



## Side View



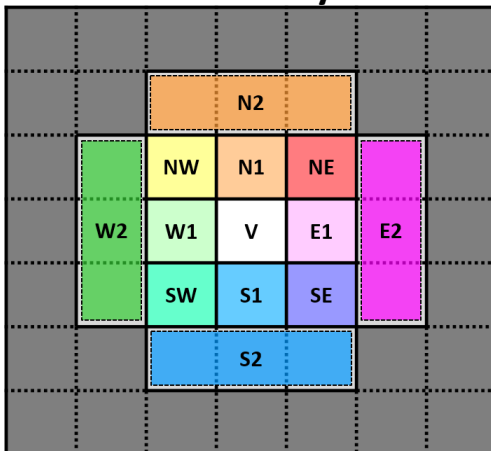
New Correlation System: 25 used directions  
(7x7 = 49 possible directions)

-3,3	-2,3	-1,3	0,3	1,3	2,3	3,3
-3,2	-2,2	-1,2	0,2	1,2	2,2	3,2
-3,1	-2,1	-1,1	0,1	1,1	2,1	3,1
-3,0	-2,0	-1,0	0,0	1,0	2,0	3,0
-3,-1	-2,-1	-1,-1	0,-1	1,-1	2,-1	3,-1
-3,-2	-2,-2	-1,-2	0,-2	1,-2	2,-2	3,-2
-3,-3	-2,-3	-1,-3	0,-3	1,-3	2,-3	3,-3

Pictures:



Conventional Correlation System: 13 directions



## mYYYYMMDDHH.txt and tYYYYMMDD.txt - Data Table Format Generated by Detector's Software

Horizontal Digits	Columns	Format (Number of Column/Digit per column)	Description
0001 – 0019	1 – 6	1/4, 5/3	End of the time period (year, month, day, hour, minute, second)
0020 – 0023	7	1/4	Number of 1-pps
0024 – 0053	8 – 10	3/10	Total Upper Counts, Total Lower Counts, Total Upper-Lower Coincidence Counts
0054 – 0183	11 – 23	13/10	Convencional Direcional Data (V, N, S, E, W, NE, NW, SE, SW, N2, S2, E2, W2)
0184 – 0193	24	1/10	Bartol High-Voltage Unit
0194 – 0213	25 – 26	2/10	Digiquartz Pressure Sensor (pressure, temperature)
0214 – 0233	27 – 28	2/10	1-MHz clock (during the time period, gated time period)
0234 – 0263	29 – 31	3/10	Busy Event, Reject Event, Error Event
0264 – 0273	32	1/10	Total count of the 7x7 Directional Data
0274 – 0385	33 – 48	16/7	Single Upper Data (U1 – U16): counting up from W→E to S→N
0386 – 0497	49 – 64	16/7	Single Lower Data (L1 – L16): counting up from W→E to S→N
0498 – 0840	65 – 113	49/7	New Correlation Directional Data 7x7 (1 - 49): counting up from W→E to N→S