

12 METER MILLIMETER WAVE TELESCOPE  
 MEMO No. 153

National Radio Astronomy Observatory  
 Charlottesville, Virginia

April 26, 1982

Memorandum

To: J. Ralston  
 From: J. Findlay  
 Subj: The First Looks at the Reference Jig

1. You have measured the RJ using the NIII and machine-shop length measurers. I have stepped it 6 times. A first comparison shows adequate agreement for these tests. I have adjusted my stepping bar standards slightly to get the following results:

Dowel #	X from J. Ralston	$\Delta X$ (stepping - Ralston)	$\Delta Y$ (stepping - Ralston)
0	0	0*	0*
1	593.027 mm	0*	0*
2	1135.79 mm	-30 $\mu\text{m}$	-31 $\mu\text{m}$
3	1684.4 mm	- 3 $\mu\text{m}$	- 9 $\mu\text{m}$
4	2237.3 mm	+ 6 $\mu\text{m}$	-16 $\mu\text{m}$
5	2792.7 mm	+16 $\mu\text{m}$	+ 4 $\mu\text{m}$
6	3349.4 mm	+13 $\mu\text{m}$	-17 $\mu\text{m}$
7	3905.9 mm	+15 $\mu\text{m}$	+17 $\mu\text{m}$ †
8	3980.4 mm	+15 $\mu\text{m}$	+17 $\mu\text{m}$ †
9	4537.8 mm	+11 $\mu\text{m}$	-37 $\mu\text{m}$
10	5092.9 mm	-11 $\mu\text{m}$	-10 $\mu\text{m}$
11	5644.0 mm	- 9 $\mu\text{m}$	-56 $\mu\text{m}$
12	6192.97 mm	+ 9 $\mu\text{m}$	-44 $\mu\text{m}$

\* Points not stepped.  
 † I used JR's results to cross this gap.

2. The RMS of the 10  $\Delta X$  values is 15.0  $\mu\text{m}$  and for the 10  $\Delta Y$  values is 29.5  $\mu\text{m}$ . This looks OK for a first test.

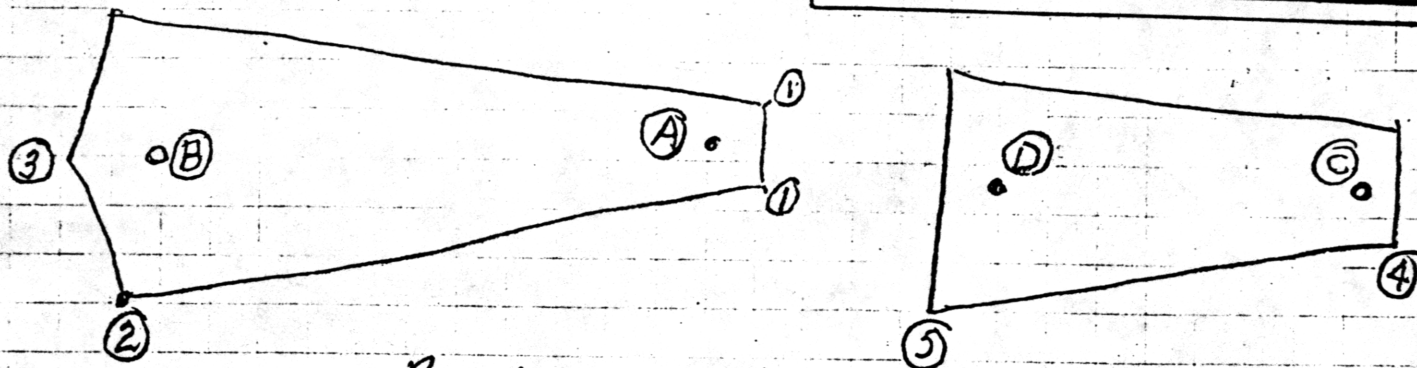
JWF/pj

The following information was received by telephone today from Mike Brenner of ESSCO relative to questions I had asked him on 3/30/82 on the coordinates of various points on panels. I had noticed discrepancies and disagreement between Document D81-15, letter from ESSCO dated Sept 29, 1981, and the recently furnished Drawings 793-373 and 793-317.

(1) Mike confirms that the "Coordinate Transformation Parameters" as shown on Table I page 7 of Document D81-15 (Memo 2) is correct.

(2) Corrected Panel Coord. are

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Pt. No.	Inner Panel Antenna Coord.*			CMM Coord.		Y <sub>2</sub> (same as Y)
	X	Y	Z	X <sub>2</sub>	Z <sub>2</sub>	
Inner Panel 1	23.782	3.082	0.719	135.525	6.873	
2	151.806	19.935	29.303	4.349	7.127	
3	153.109	0	29.303	3.077	6.846	
Outer 4	152.872	9.962	29.336	134.226	8.261	
" 5	236.088	15.424	69.969	41.659	5.587	
Tooling	Notes					
A	28.552	0	1.019	130.803	6.136	
B	145.817	0	26.578	10.785	5.760	
C	156.885	0	30.766	130.008	7.663	
	232.867	0	67.784	45.526	5.148	

Antenna Coordinates are from vertex, referred to R of panel

Telegraphed 4/20/82

W. G. H.