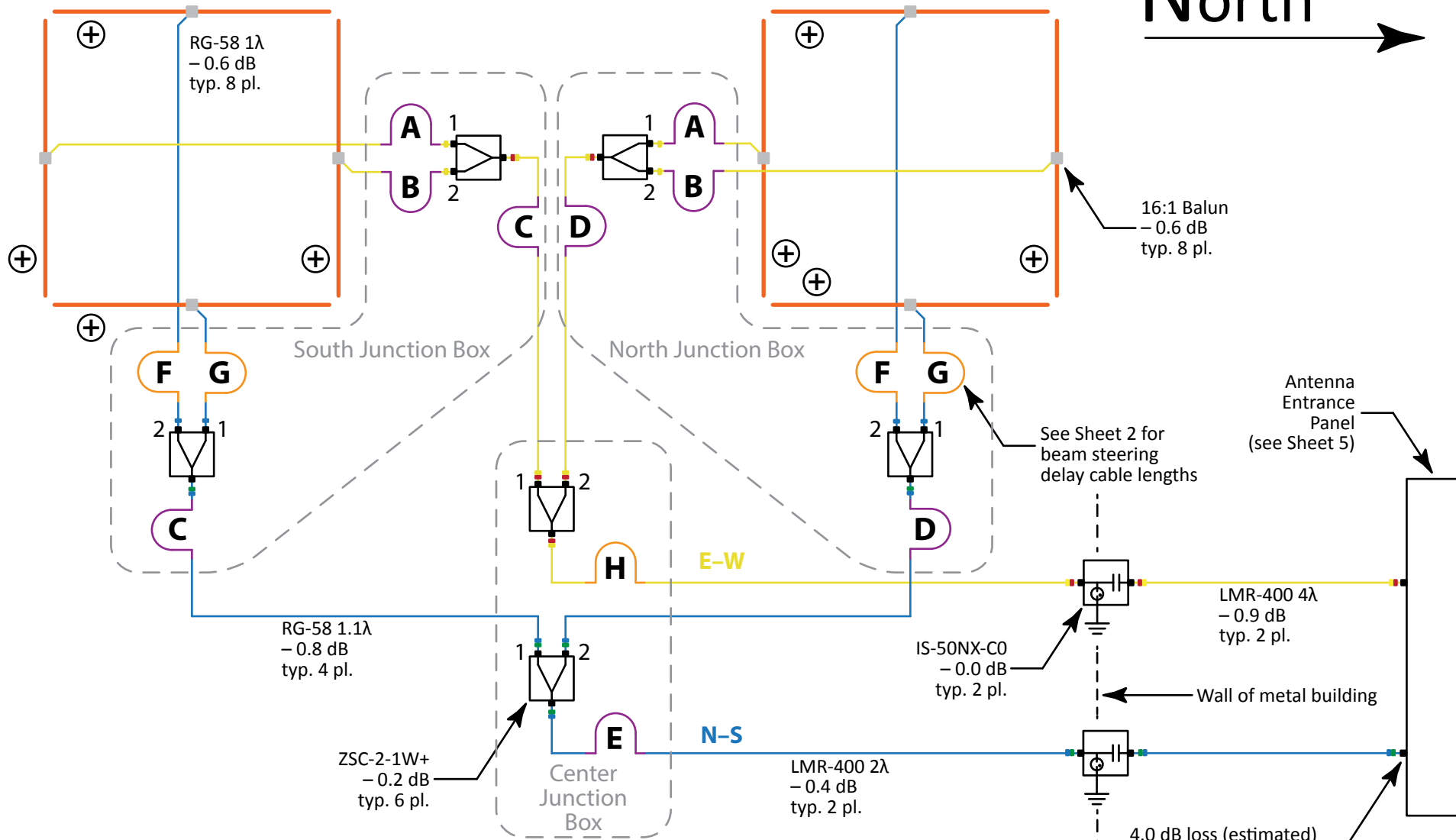


North →



# TFD ARRAY CONFIGURATION C CP MODE

See Sheet 5 for XY to CP 90° Hybrid

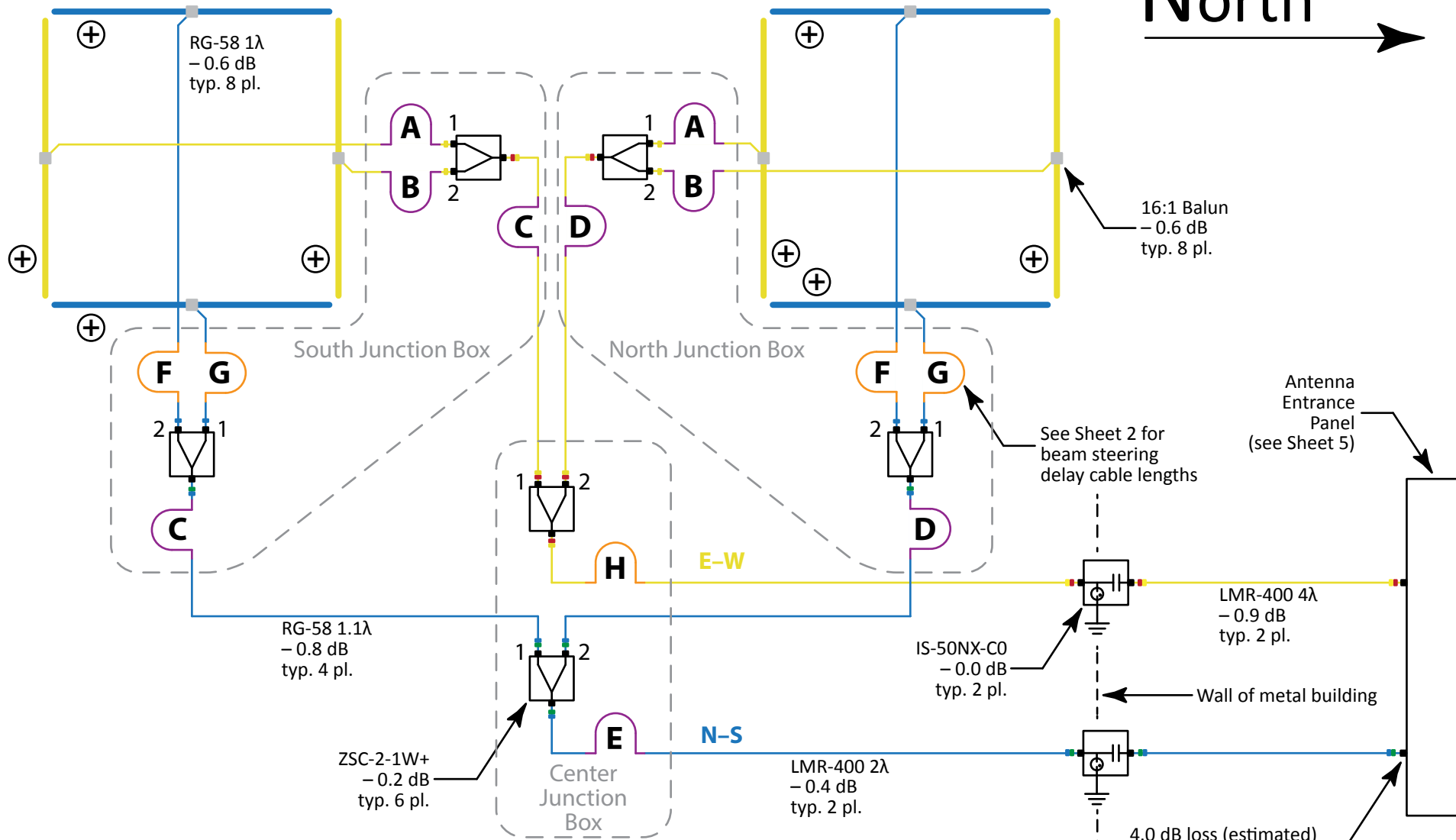
Noted coax lengths are in terms of wavelength at 20.1 MHz.

30' folded dipoles, top wire 9'2" height, 8" wire spacing, 32' element spacing, 800 Ω termination resistors, 16:1 baluns.

N-S BW ~10° E-W BW ~20°  
for < 3 dB response variance at 24 MHz

	<h2>AJ4CO Observatory Diagram</h2>			
	SIZE A	DATE 15 JAN 2014	PART NUMBER <b>N/A</b>	REV
	SCALE NONE	DRAWN BY DAVE TYPINSKI	SHEET 1 OF 5	

North →



# TFD ARRAY CONFIGURATION C CP MODE

See Sheet 5 for XY to CP 90° Hybrid

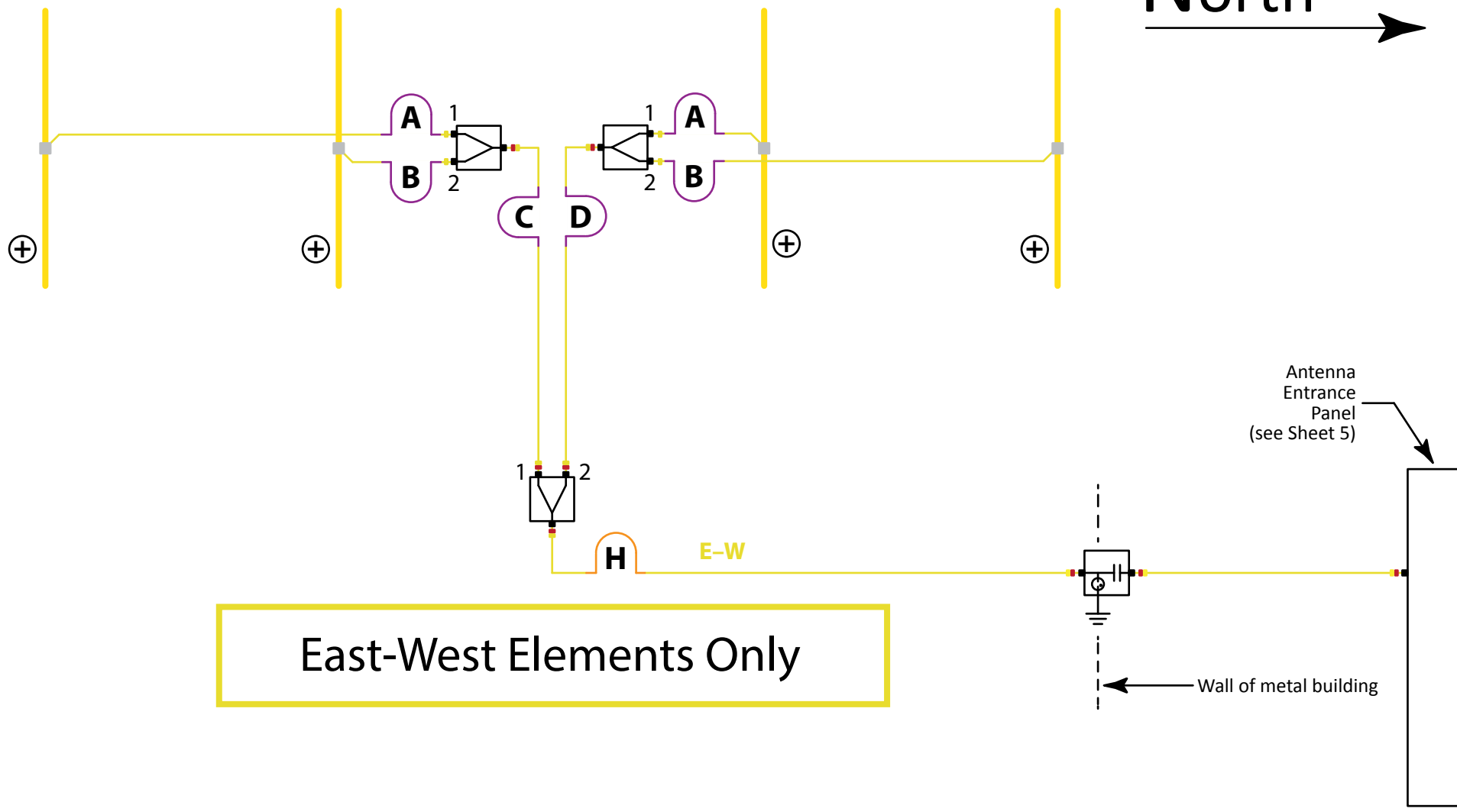
Noted coax lengths are in terms of wavelength at 20.1 MHz.

30' folded dipoles, top wire 9'2" height, 8" wire spacing, 32' element spacing, 800 Ω termination resistors, 16:1 baluns.

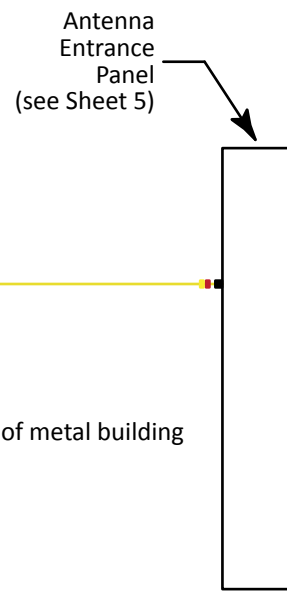
N-S BW ~10° E-W BW ~20°  
for < 3 dB response variance at 24 MHz

<b>AJ4CO</b> OBSERVATORY	<b>AJ4CO Observatory Diagram</b>			
	SIZE A	DATE 15 JAN 2014	PART NUMBER <b>N/A</b>	REV
	SCALE NONE	DRAWN BY DAVE TYPINSKI	SHEET 1 OF 5	

North 



East-West Elements Only

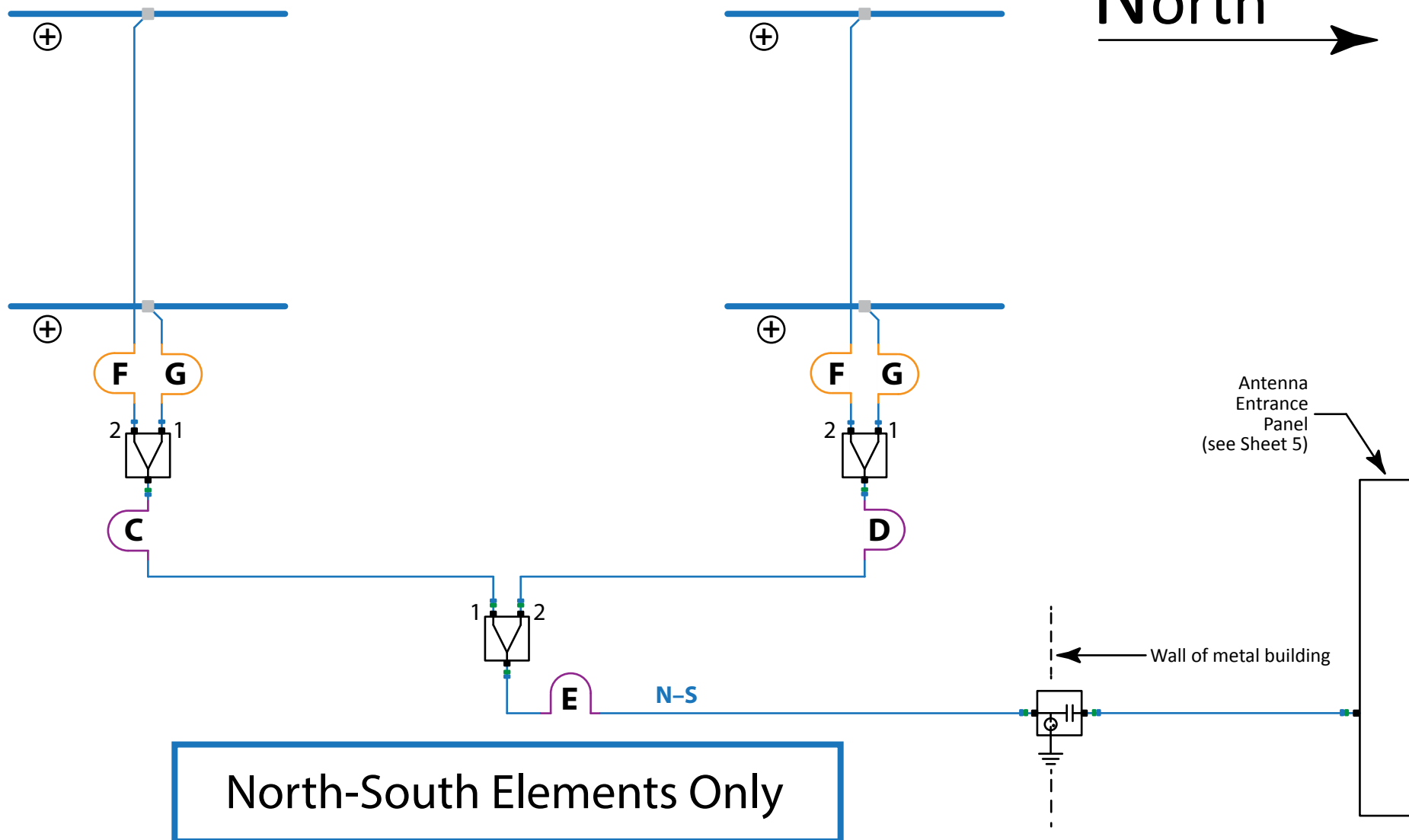


**TFD ARRAY  
CONFIGURATION C  
CP MODE**  
See Sheet 5 for XY to CP 90° Hybrid

Noted coax lengths are in terms of wavelength at 20.1 MHz.  
30' folded dipoles, top wire 9'2" height, 8" wire spacing, 32' element spacing, 800 Ω termination resistors, 16:1 baluns.  
N-S BW ~10° E-W BW ~20° for < 3 dB response variance at 24 MHz

<b>AJ4CO OBSERVATORY</b>	<b>AJ4CO Observatory Diagram</b>			
	SIZE A	DATE 15 JAN 2014	PART NUMBER <b>N/A</b>	REV
	SCALE NONE	DRAWN BY DAVE TYPINSKI	SHEET 1 OF 5	

North →



North-South Elements Only

**TFD ARRAY  
CONFIGURATION C  
CP MODE**

See Sheet 5 for XY to CP 90° Hybrid

Noted coax lengths are in terms of wavelength at 20.1 MHz.

30' folded dipoles, top wire 9'2" height,  
8" wire spacing, 32' element spacing,  
800 Ω termination resistors, 16:1 baluns.

N-S BW ~10° E-W BW ~20°  
for < 3 dB response variance at 24 MHz



**AJ4CO Observatory Diagram**

SIZE A	DATE 15 JAN 2014	PART NUMBER <b>N/A</b>	REV
SCALE NONE	DRAWN BY DAVE TYPINSKI	SHEET 1 OF 5	

## TFD Array Beam Steering

Time Delay Cable VoP: **66%**      ray elements N-S baseline spacing (feet): **32**  
 Array elements E-W baseline spacing (feet): **32**

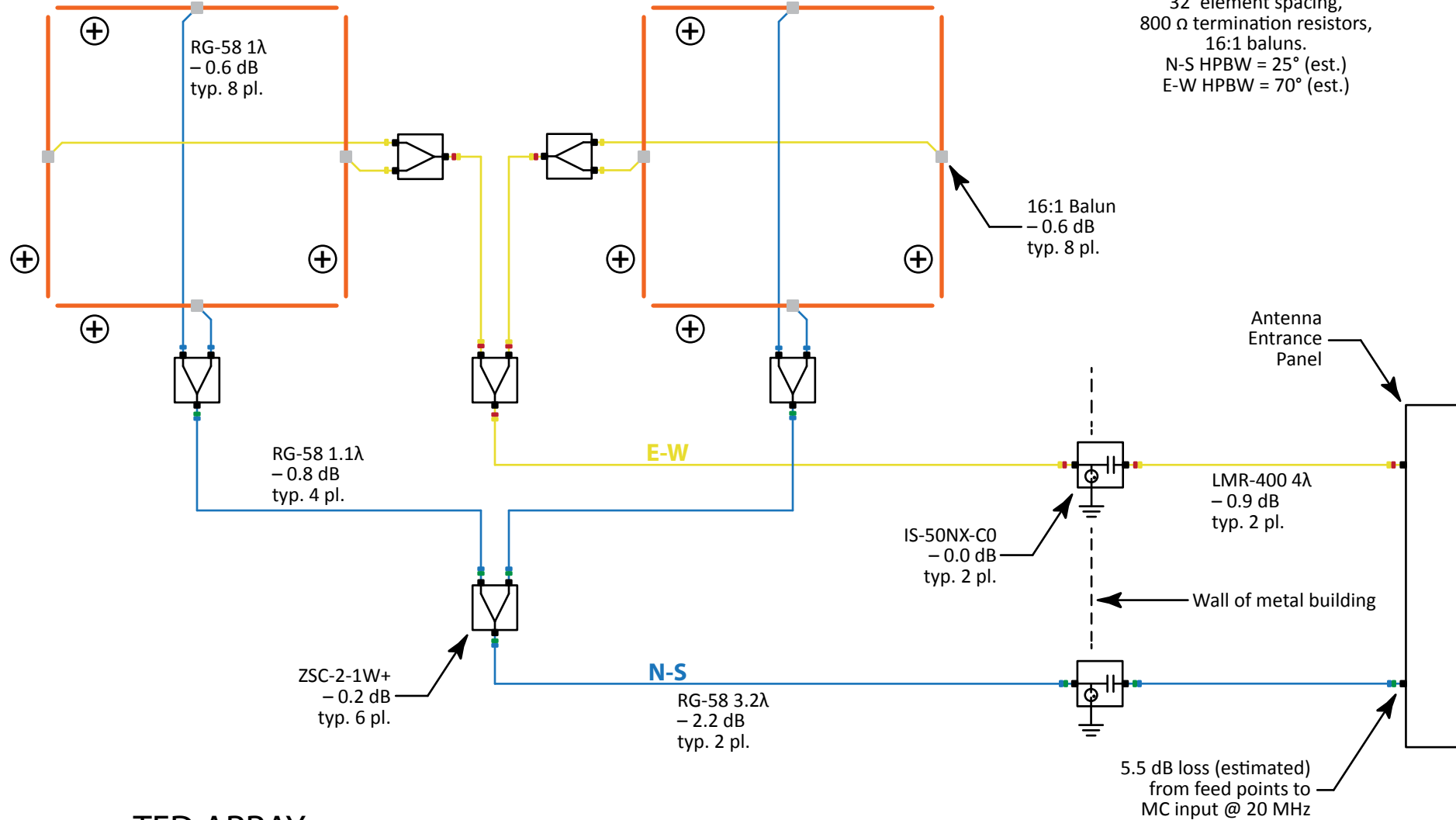
N-S Offset (degrees)	E-W Offset (degrees)	Delay Cable Lengths (feet & inches)					AZ (degrees)	EL (degrees)
		A (S) / B (N)	C (S) / D (N)	E	F (W) / G (E)	H		
5 S	60 E	1' 10"	3' 8-1/4"	11"	18' 3-1/2"	9' 1-3/4"	87	30
5 S	45 E	1' 10"	3' 8-1/4"	11"	14' 11-1/4"	7' 5-1/2"	85	45
5 S	30 E	1' 10"	3' 8-1/4"	11"	10' 6-3/4"	5' 3-1/4"	81	60
5 S	15 E	1' 10"	3' 8-1/4"	11"	5' 5-1/2"	2' 8-3/4"	72	74
5 S	0	1' 10"	3' 8-1/4"	11"	0"	0"	360	85
5 S	15 W	1' 10"	3' 8-1/4"	11"	5' 5-1/2"	2' 8-3/4"	288	74
5 S	30 W	1' 10"	3' 8-1/4"	11"	10' 6-3/4"	5' 3-1/4"	279	60
5 S	45 W	1' 10"	3' 8-1/4"	11"	14' 11-1/4"	7' 5-1/2"	275	45
5 S	60 W	1' 10"	3' 8-1/4"	11"	18' 3-1/2"	9' 1-3/4"	273	30
<hr/>								
10 S	60 E	3' 8"	7' 4"	1' 10"	18' 3-1/2"	9' 1-3/4"	96	30
10 S	45 E	3' 8"	7' 4"	1' 10"	14' 11-1/4"	7' 5-1/2"	100	45
10 S	30 E	3' 8"	7' 4"	1' 10"	10' 6-3/4"	5' 3-1/4"	107	59
10 S	15 E	3' 8"	7' 4"	1' 10"	5' 5-1/2"	2' 8-3/4"	123	72
10 S	0	3' 8"	7' 4"	1' 10"	0"	0"	180	80
10 S	15 W	3' 8"	7' 4"	1' 10"	5' 5-1/2"	2' 8-3/4"	237	72
10 S	30 W	3' 8"	7' 4"	1' 10"	10' 6-3/4"	5' 3-1/4"	253	59
10 S	45 W	3' 8"	7' 4"	1' 10"	14' 11-1/4"	7' 5-1/2"	260	45
10 S	60 W	3' 8"	7' 4"	1' 10"	18' 3-1/2"	9' 1-3/4"	264	30
<hr/>								
15 S	60 E	5' 5-1/2"	10' 11-1/4"	2' 8-3/4"	18' 3-1/2"	9' 1-3/4"	99	30
15 S	45 E	5' 5-1/2"	10' 11-1/4"	2' 8-3/4"	14' 11-1/4"	7' 5-1/2"	105	44
15 S	30 E	5' 5-1/2"	10' 11-1/4"	2' 8-3/4"	10' 6-3/4"	5' 3-1/4"	115	58
15 S	15 E	5' 5-1/2"	10' 11-1/4"	2' 8-3/4"	5' 5-1/2"	2' 8-3/4"	135	69
15 S	0	5' 5-1/2"	10' 11-1/4"	2' 8-3/4"	0"	0"	180	75
15 S	15 W	5' 5-1/2"	10' 11-1/4"	2' 8-3/4"	5' 5-1/2"	2' 8-3/4"	225	69
15 S	30 W	5' 5-1/2"	10' 11-1/4"	2' 8-3/4"	10' 6-3/4"	5' 3-1/4"	245	58
15 S	45 W	5' 5-1/2"	10' 11-1/4"	2' 8-3/4"	14' 11-1/4"	7' 5-1/2"	255	44
15 S	60 W	5' 5-1/2"	10' 11-1/4"	2' 8-3/4"	18' 3-1/2"	9' 1-3/4"	261	30

**AJ4CO**  
OBSERVATORY

### AJ4CO Observatory Diagram

SIZE A	DATE 25 JUN 2014	PART NUMBER <b>N/A</b>	REV
SCALE NONE	DRAWN BY DAVE TYPINSKI	SHEET 2 OF 5	

# North



## TFD ARRAY CONFIGURATION A X-Y MODE

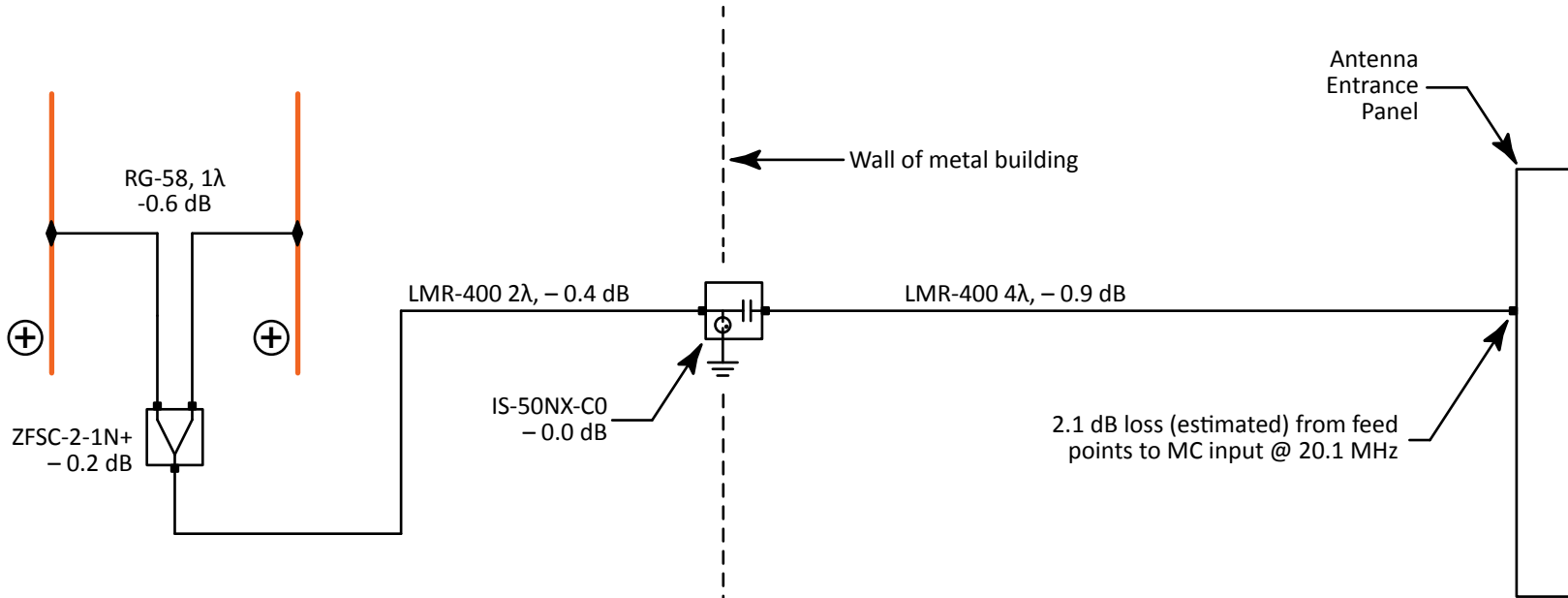
NOTE: All coax lengths given in terms  
of wavelength at 20.1 MHz.



## AJ4CO Observatory Diagram


SIZE	DATE	PART NUMBER	REV
A	10 DEC 2013	N/A	
SCALE	NONE	DRAWN BY	SHEET
		DAVE TYPINSKI	3 OF 5

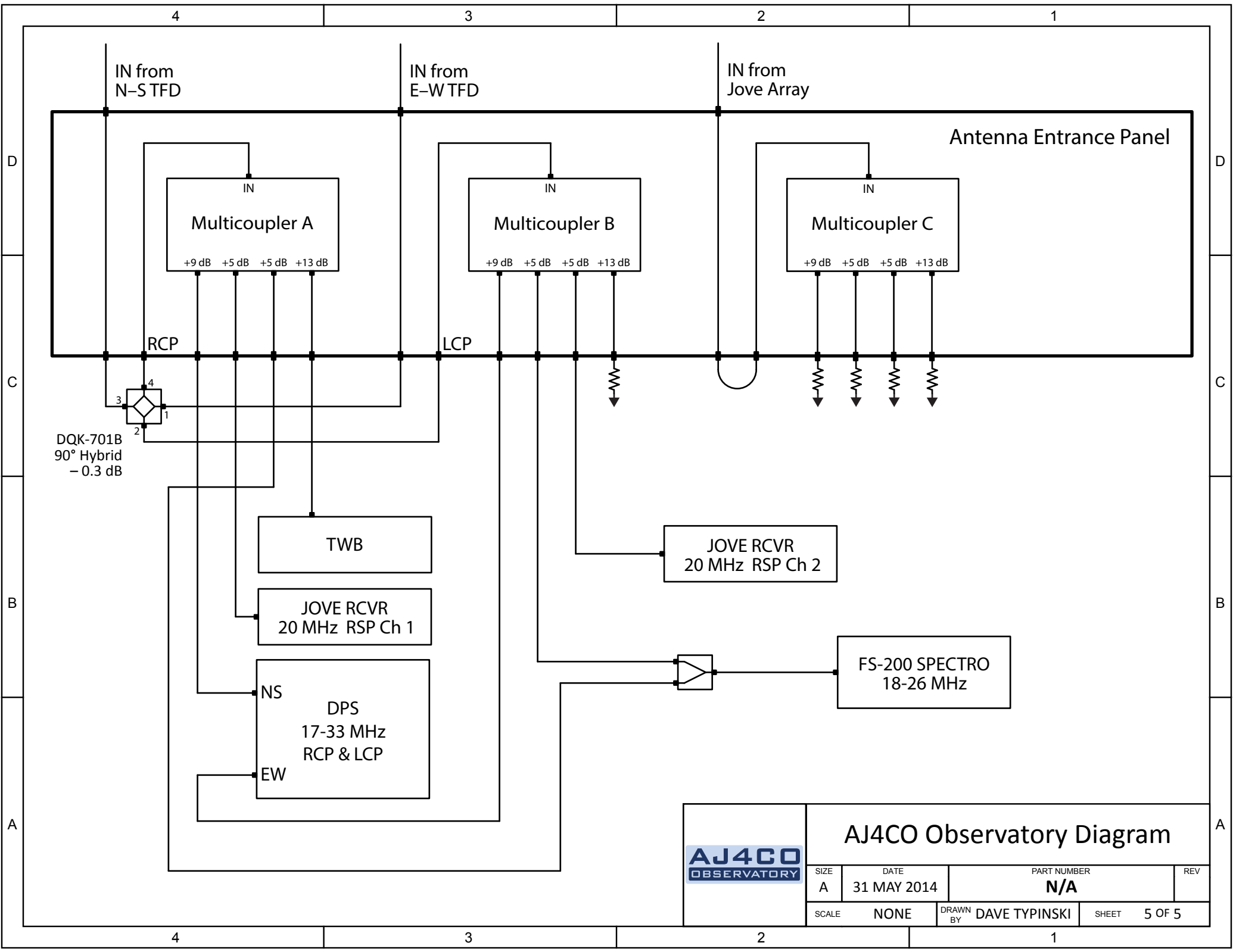
North 



**JOVE ARRAY**  
 no phasing,  
 22'8" dipoles,  
 11'8" element height  
 20' element spacing,  
 HPBW N-S = 71°, E-W = 71°,  
 7.9 dBi gain (EZNEC).

NOTE: All coax lengths given in terms of wavelength at 20.1 MHz.

	<h2>AJ4CO Observatory Diagram</h2>			
	SIZE A	DATE 10 DEC 2013	PART NUMBER <b>N/A</b>	REV
	SCALE NONE	DRAWN BY DAVE TYPINSKI	SHEET 4 OF 5	



	<b>AJ4CO Observatory Diagram</b>			
	SIZE A	DATE 31 MAY 2014	PART NUMBER <b>N/A</b>	REV
	SCALE NONE	DRAWN BY DAVE TYPINSKI	SHEET 5 OF 5	





**SOUTH**

**STFD Array**

**RJ Array**

**DATE: 22 OCT 2013**  
**SCALE: 1 mm = 1 ft**  
**AJ4CO**  
**OBSERVATORY**

**UFRO**

**AJ400**  
OBSERVATORY

**LGM**

