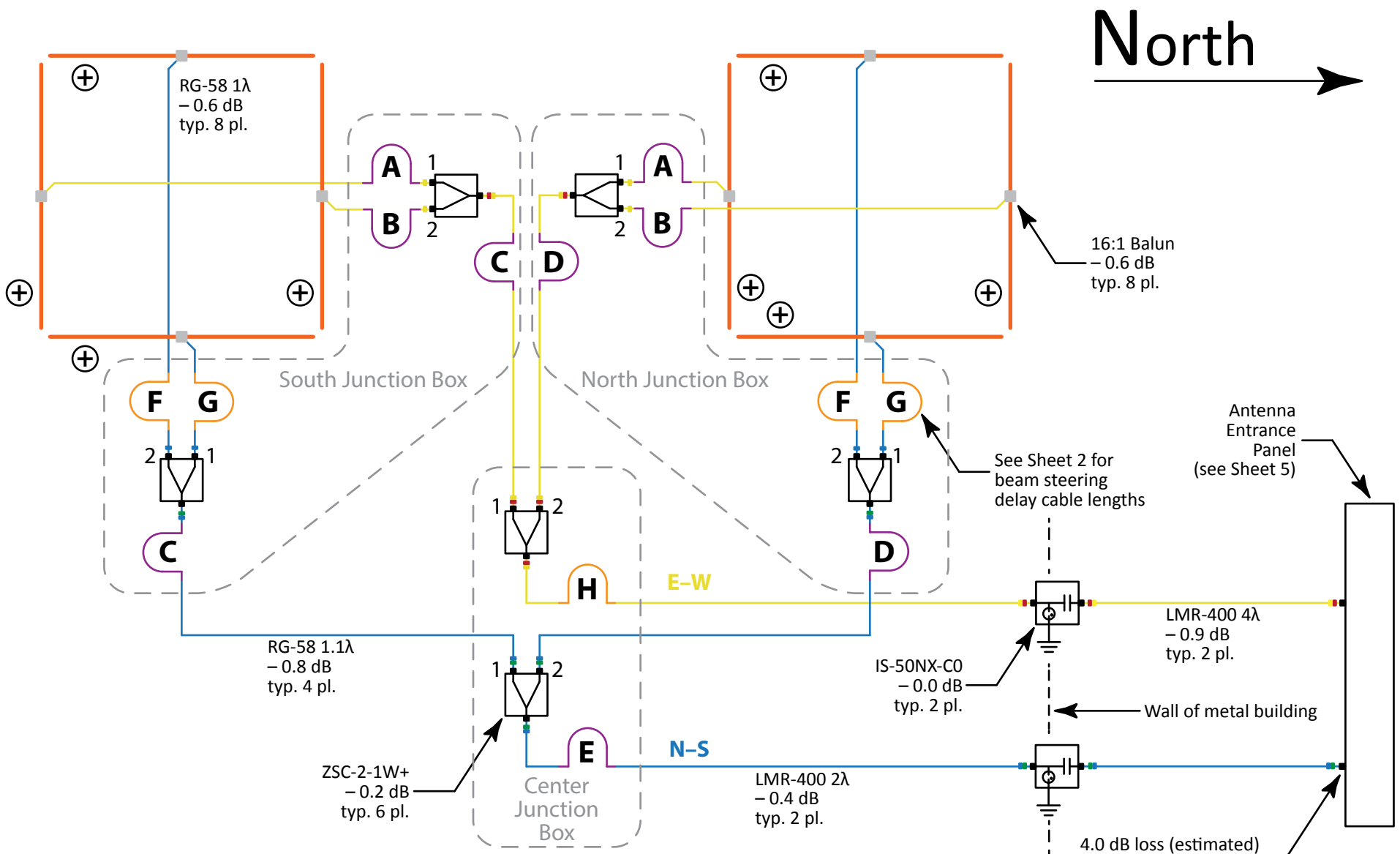



# TFD ARRAY CONFIGURATION C CP MODE

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

## AJ4CO Observatory Diagram

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

# TFD Array Beam Steering

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

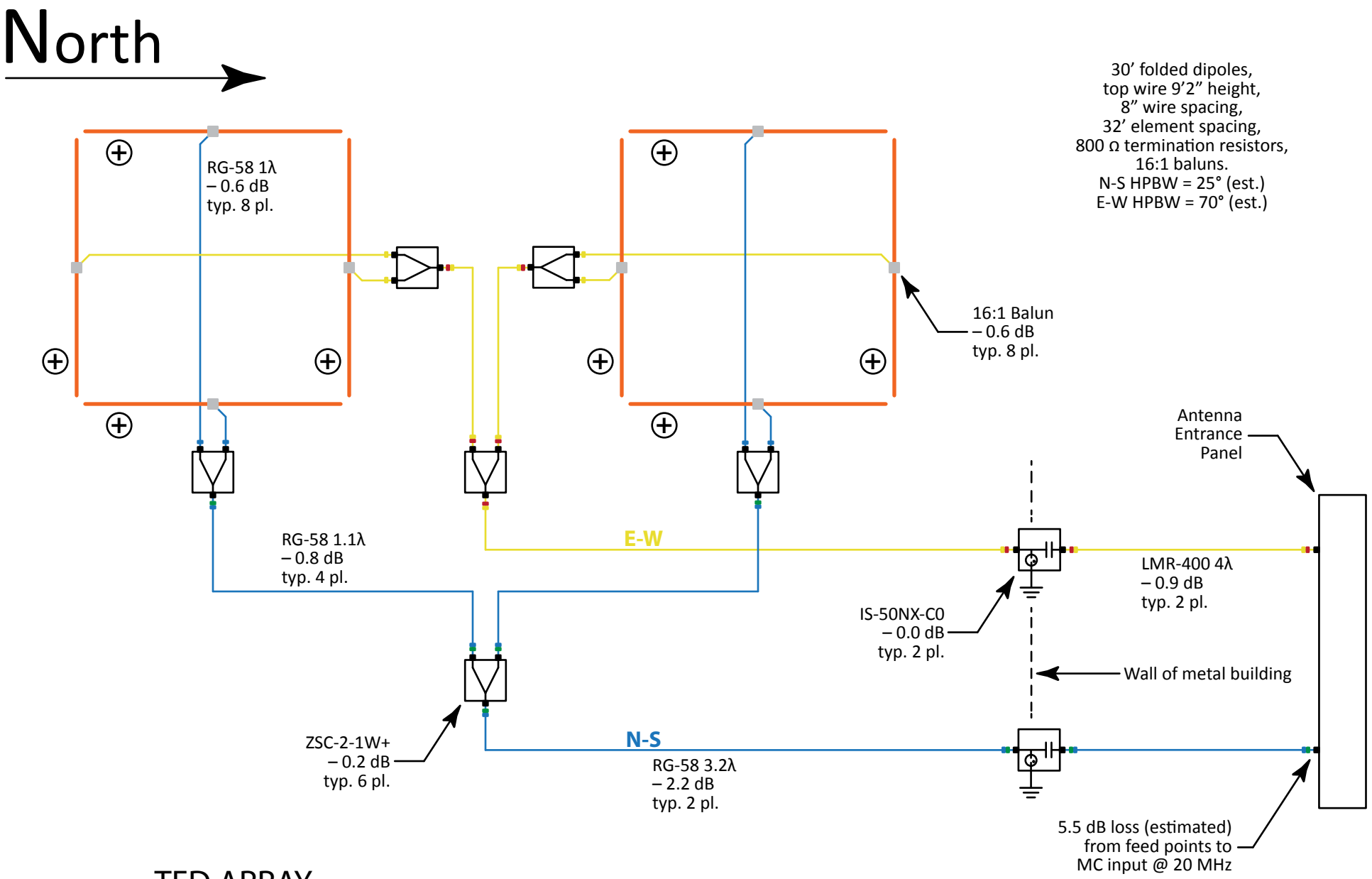
| N-S Offset (degrees) | E-W Offset (degrees) | Delay Cable Lengths (feet & inches) A (S) / B (N) | C (S) / D (N) | E | F (W) / G (E) | H | ALT (degrees) | AZ (degrees) |
|---|---|---|---|---|---|---|---|---|
| 0 | 60 E | 0" | 0" | 0" | 18' 3-1/2" | 9' 1-3/4" | 30 | 90 |
| 0 | 45 E | 0" | 0" | 0" | 14' 11-1/4" | 7' 5-1/2" | 45 | 90 |
| 0 | 30 E | 0" | 0" | 0" | 10' 6-3/4" | 5' 3-1/4" | 60 | 90 |
| 0 | 15 E | 0" | 0" | 0" | 5' 5-1/2" | 2' 8-3/4" | 75 | 90 |
| 0 | 0 | 0" | 0" | 0" | 0" | 0" | 90 | 180 |
| 0 | 15 W | 0" | 0" | 0" | 5' 5-1/2" | 2' 8-3/4" | 75 | 270 |
| 0 | 30 W | 0" | 0" | 0" | 10' 6-3/4" | 5' 3-1/4" | 60 | 270 |
| 0 | 45 W | 0" | 0" | 0" | 14' 11-1/4" | 7' 5-1/2" | 45 | 270 |
| 0 | 60 W | 0" | 0" | 0" | 18' 3-1/2" | 9' 1-3/4" | 30 | 270 |
| 5 S | 60 E | 1' 10" | 3' 8-1/4" | 11" | 18' 3-1/2" | 9' 1-3/4" | 30 | 93 |
| 5 S | 45 E | 1' 10" | 3' 8-1/4" | 11" | 14' 11-1/4" | 7' 5-1/2" | 45 | 95 |
| 5 S | 30 E | 1' 10" | 3' 8-1/4" | 11" | 10' 6-3/4" | 5' 3-1/4" | 60 | 99 |
| 5 S | 15 E | 1' 10" | 3' 8-1/4" | 11" | 5' 5-1/2" | 2' 8-3/4" | 74 | 108 |
| 5 S | 0 | 1' 10" | 3' 8-1/4" | 11" | 0" | 0" | 85 | 180 |
| 5 S | 15 W | 1' 10" | 3' 8-1/4" | 11" | 5' 5-1/2" | 2' 8-3/4" | 74 | 252 |
| 5 S | 30 W | 1' 10" | 3' 8-1/4" | 11" | 10' 6-3/4" | 5' 3-1/4" | 60 | 261 |
| 5 S | 45 W | 1' 10" | 3' 8-1/4" | 11" | 14' 11-1/4" | 7' 5-1/2" | 45 | 265 |
| 5 S | 60 W | 1' 10" | 3' 8-1/4" | 11" | 18' 3-1/2" | 9' 1-3/4" | 30 | 267 |

AJ4CO OBSERVATORY

AJ4CO Observatory Diagram

| SIZE | DATE | PART NUMBER | REV |
|---|---|---|---|
| A | 15 JAN 2014 | N/A | |

| SCALE | DRAWN BY | SHEET |
|---|---|---|
| NONE | DAVE TYPINSKI | 2 OF 5 |




# TFD ARRAY CONFIGURATION A X-Y MODE

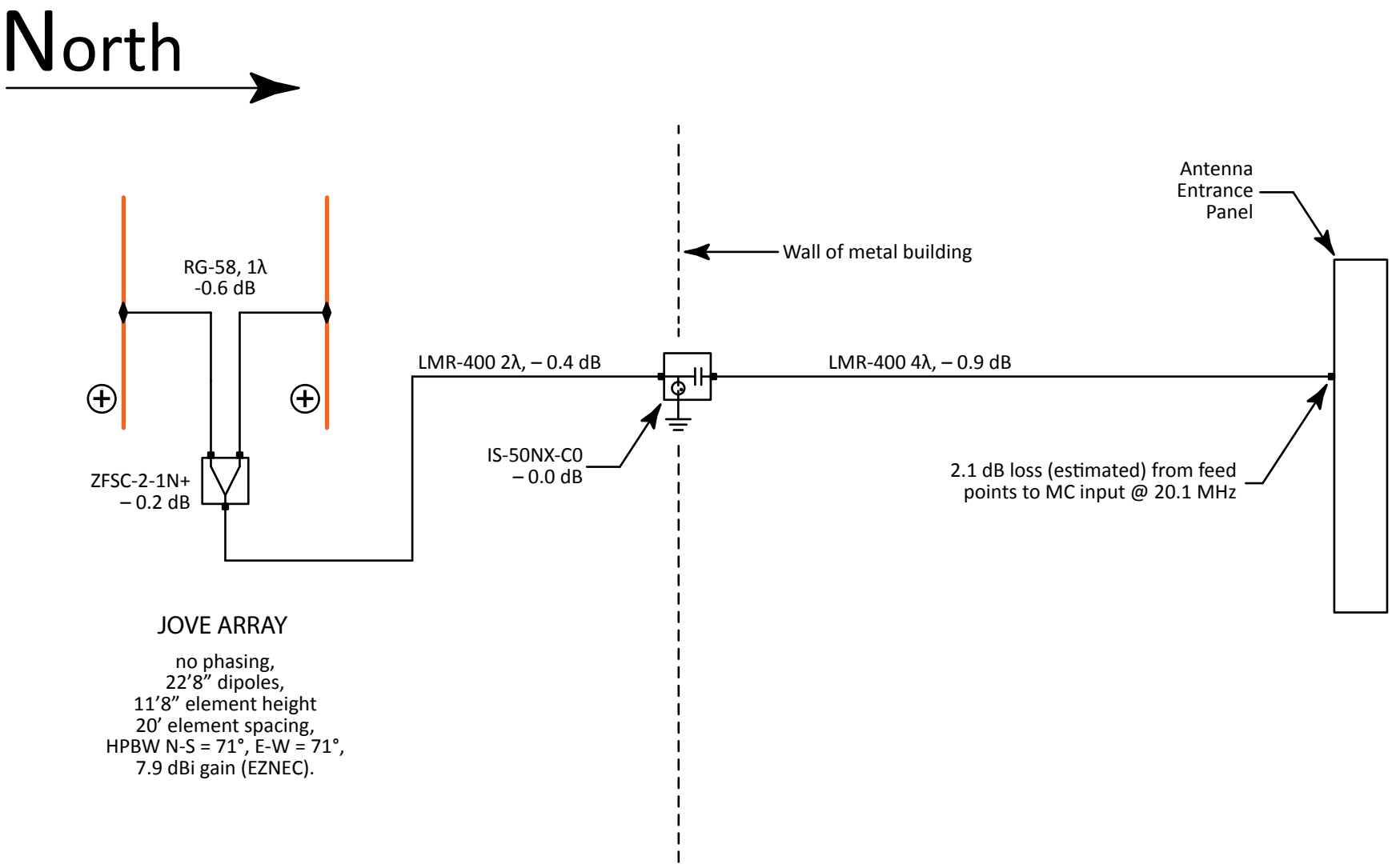
NOTE: All coax lengths given in terms of wavelength at 20.1 MHz.

AJ4CO OBSERVATORY

## AJ4CO Observatory Diagram

| SIZE | DATE | PART NUMBER | REV |
|---|---|---|---|
| A | 10 DEC 2013 | N/A | |

| SCALE | NONE | DRAWN BY | DAVE TYPINSKI | SHEET | 3 OF 5 |
|---|---|---|---|---|---|




JOVE ARRAY

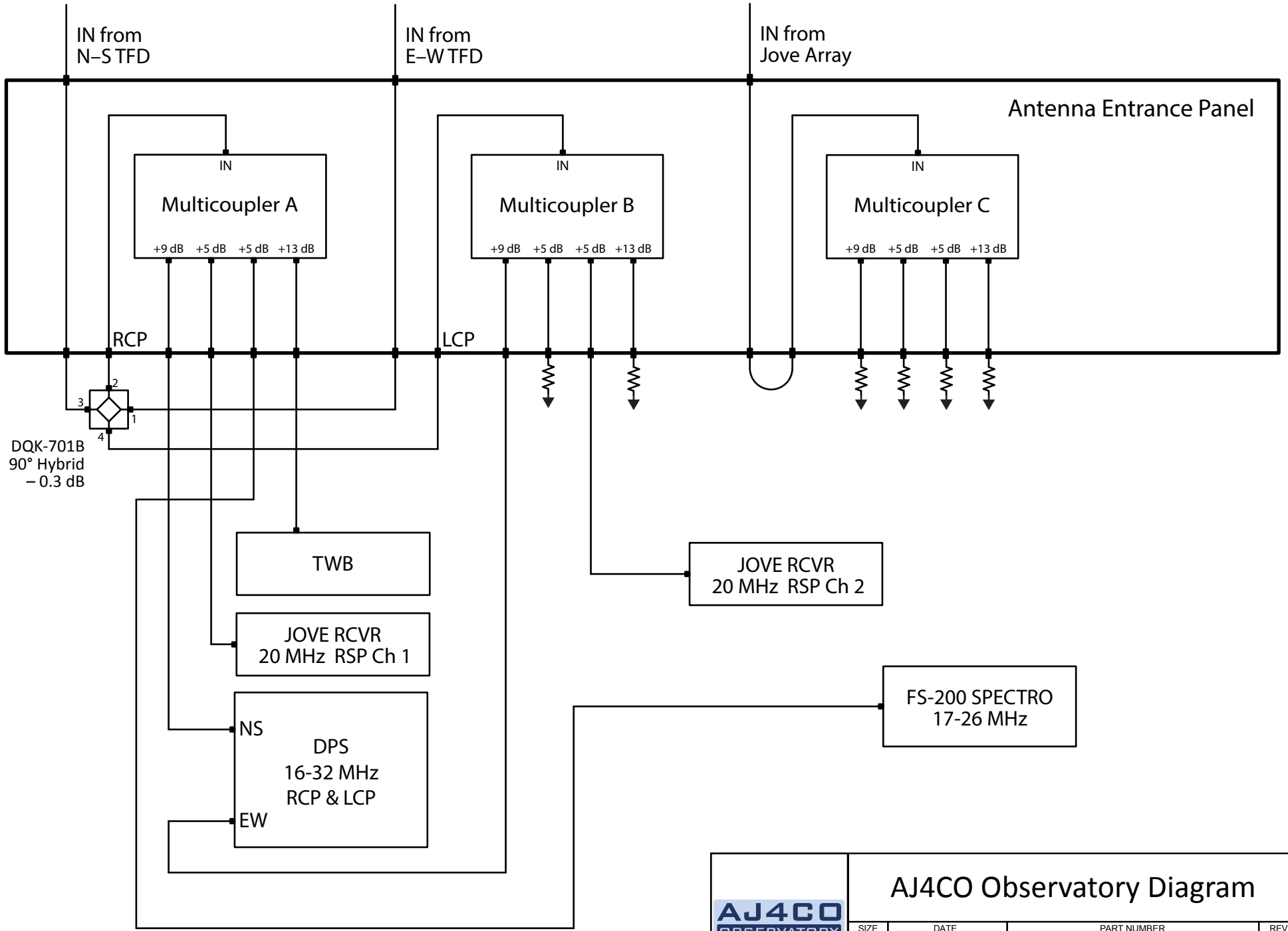
no phasing,
22’8” dipoles,
11’8” element height
20’ element spacing,
HPBW N-S = 71°, E-W = 71°,
7.9 dBi gain (EZNEC).

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

# AJ4CO Observatory Diagram

| SIZE | DATE | PART NUMBER | REV |
|---|---|---|---|
| A | 10 DEC 2013 | N/A | |

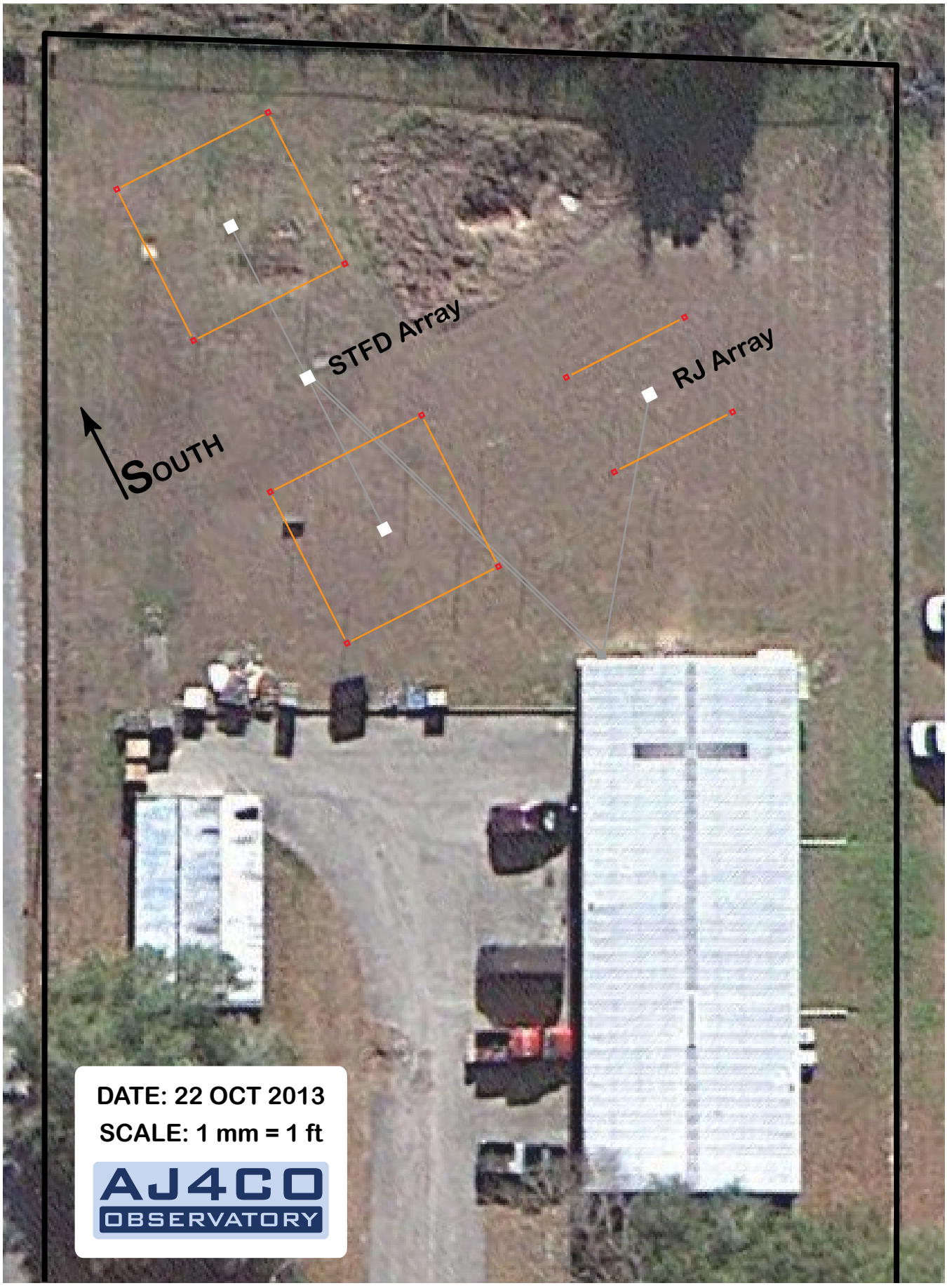
| SCALE | DRAWN BY | SHEET |
|---|---|---|
| NONE | DAVE TYPINSKI | 4 OF 5 |

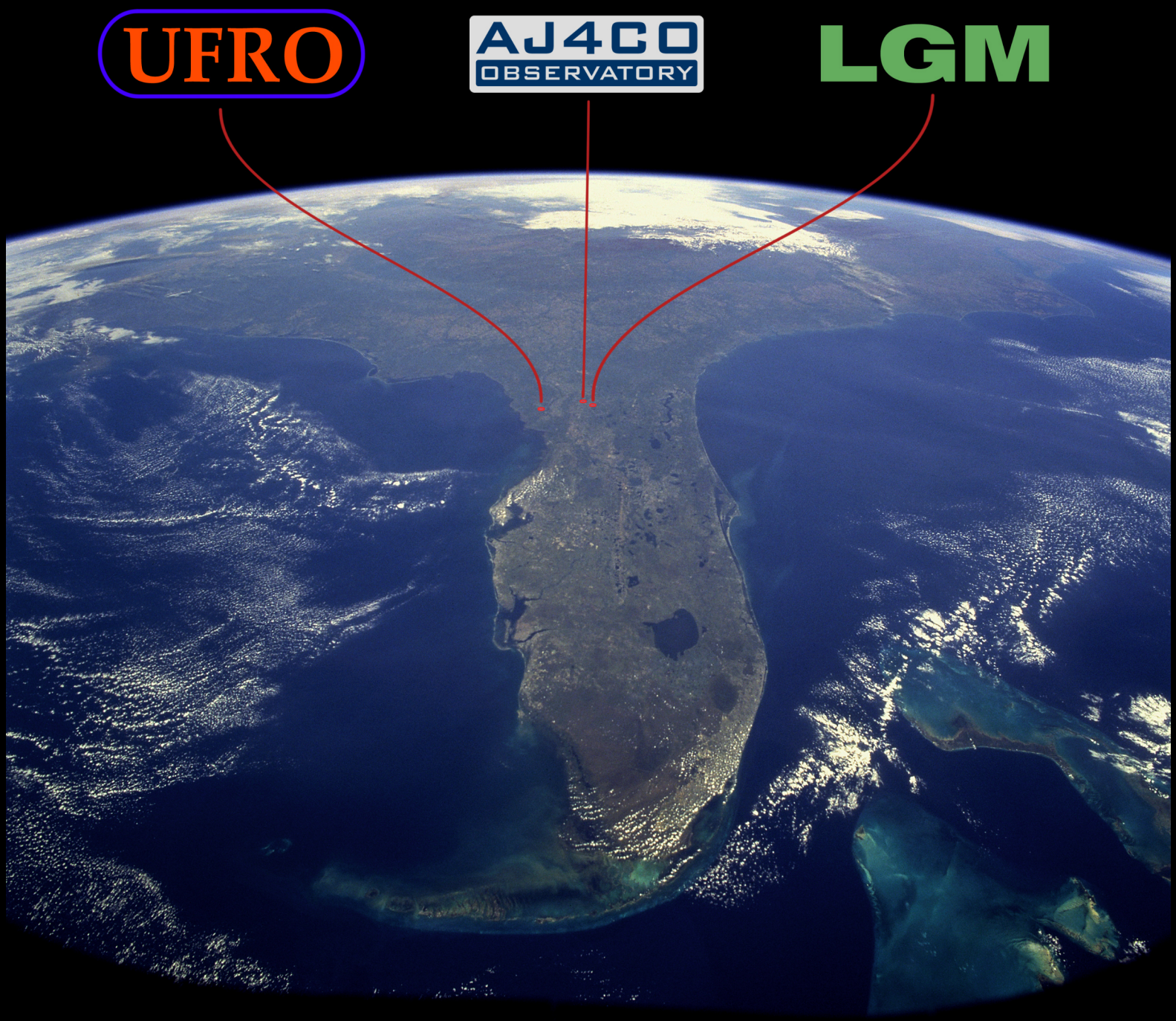



# AJ4CO Observatory Diagram

| SIZE | DATE | PART NUMBER | REV |
|---|---|---|---|
| A | 15 JAN 2014 | **N/A** | |

| SCALE | DRAWN BY | SHEET |
|---|---|---|
| NONE | DAVE TYPINSKI | 5 OF 5 |


STFD Array
RJ Array
SOUTH
DATE: 22 OCT 2013
SCALE: 1 mm = 1 ft
AJ4CO
OBSERVATORY


UFRO
AJ4CO
OBSERVATORY
LGM