

Exhibit 5: Antenna Data Sheet

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SYSTEMS WITH RELIABILITY, LLP
BROADCAST ANTENNAS AND TRANSMISSION LINE

SYSTEM DATA SHEET

Customer	KRBS
Contact	Erv Knorzer
Location	Oroville, CA
Antenna Model	FMEC/1 DA
Channel / Frequency	216A / 91.1 MHz

ELECTRICAL SPECIFICATIONS

Antenna Specifications:

	H-POL			V. Pol.	
		dB			dB
License ERP (KW)	0.225	-6.478 dB		0.225	-6.478 dB
FCC Limit Pattern Directivity	1.938	2.874 dB		1.938	2.874 dB
Elevation Directivity	0.883	-0.540 dB		0.883	-0.540 dB
Azimuth Directivity	2.576	4.110 dB		2.425	3.847 dB
Composite Pattern	2.345	3.702 dB		2.345	3.702 dB
Polarization Ratio	0.485	-3.144 dB		0.515	-2.881 dB
RMS Comp./RMS Limit	90.90 %				
Antenna Efficiency %	100	0		100	0
Power Ratio (Pol. Ratio X Efficiency)	0.4849	0		0.5151	0
Antenna Gain	1.103	0.425 dB		1.103	0.425 dB

Antenna Input Power (KW)	0.204 kW	-6.904 (dBK)
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Feed Line Specifications:

Line Type	1/2" foam 50 Ω LDF4-50A	
Attenuation Per 100 ft (dB)	0.630 dB	
Line Length (ft) AGL + Horizontal Run	90.00 ft.	
Total Line Attenuation (dB)	0.5670 dB	
Line Efficiency	87.76 %	
Power Input to the Line (KW)	0.232 kW	-6.337 (dBK)

MECHANICAL SPECIFICATIONS

No. Of Bays	1		
Antenna Aperture	2.00 ft.	0.61 meter	
Center of Radiation AGL	75.46 ft.	23.00 meter	
Antenna Weight	35.00 lbs.	15.91 kg	
Windload (50/33)	65.00 lbs.	Windload CaAc	1.90 ft^2

Prepared by:

David K. Edmiston Jr.

David K. Edmiston Jr.
SWR, LLP

Exhibit 6: KRBS RMS Calculations



SYSTEMS WITH RELIABILITY, INC.
Broadcast Antennas and Transmission Systems

KRBS Antenna RMS Comparison

PROPOSED ANTENNA

Azimuth
Heading Relative
Field

0	1.000
10	1.000
20	1.000
30	1.000
40	1.000
50	0.867
60	0.708
70	0.868
80	0.695
90	0.554
100	0.441
110	0.393
120	0.379
130	0.417
140	0.514
150	0.467
160	0.372
170	0.296
180	0.235
190	0.201
200	0.180
210	0.204
220	0.246
230	0.296
240	0.373
250	0.469
260	0.591
270	0.743
280	0.936
290	1.000
300	1.000
310	1.000
320	1.000
330	1.000
340	1.000
350	1.000

Sum of Relative Field Squared : 18.625
Sum Divided by 36 (Readings) : 0.517
Square Root : 0.719

DESIGNED ANTENNA

Azimuth
Heading Relative
Field

0	1.000
10	0.956
20	0.910
30	0.867
40	0.819
50	0.820
60	0.652
70	0.585
80	0.570
90	0.478
100	0.441
110	0.372
120	0.296
130	0.256
140	0.265
150	0.321
160	0.363
170	0.296
180	0.235
190	0.201
200	0.180
210	0.204
220	0.246
230	0.296
240	0.373
250	0.469
260	0.591
270	0.743
280	0.829
290	0.808
300	0.839
310	0.892
320	0.964
330	0.996
340	1.000
350	1.000

Sum of Relative Field Squared : 15.375
Sum Divided by 36 (Readings) : 0.427
Square Root : 0.654

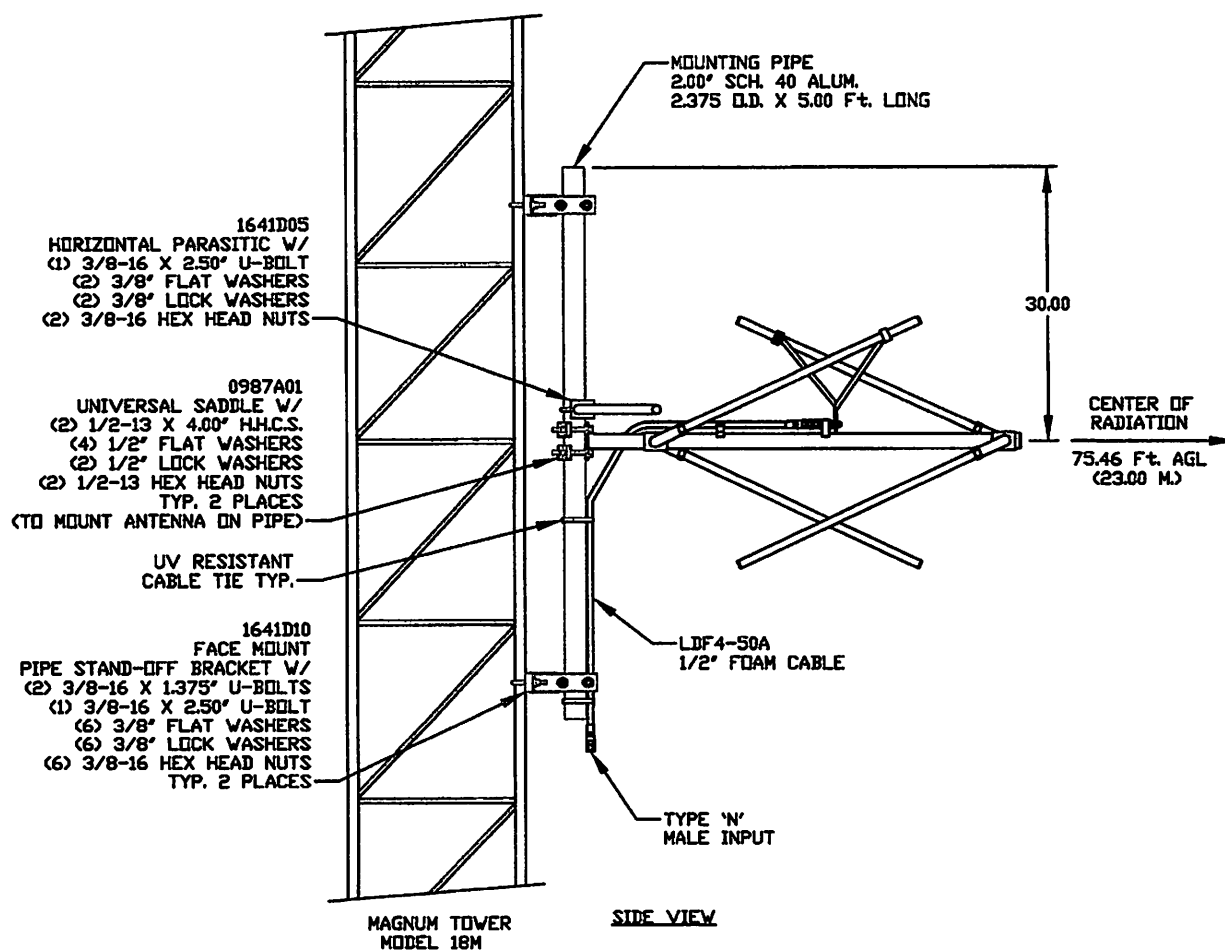
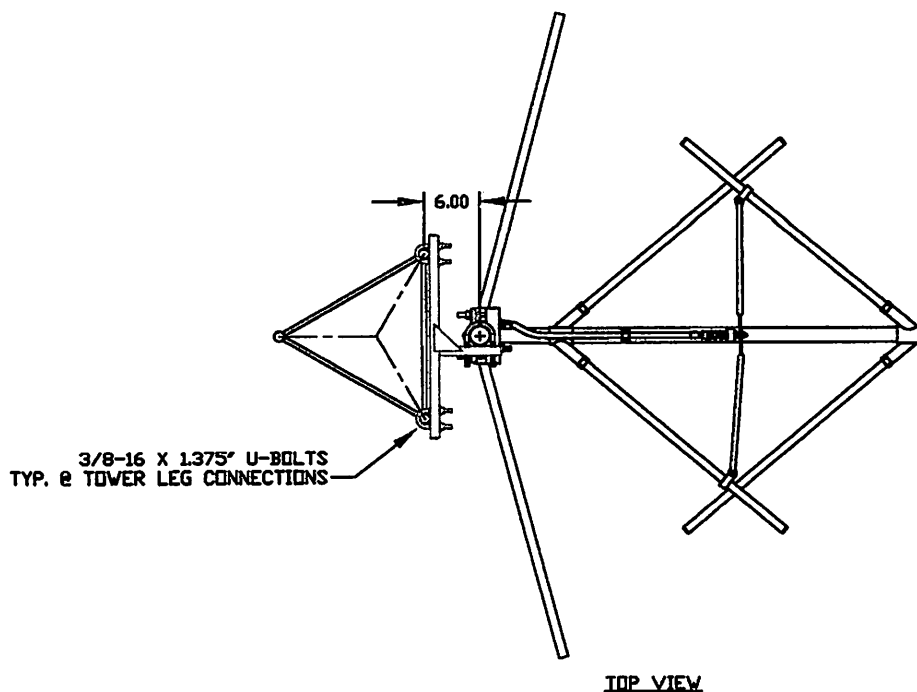
Percentage of Construction Permit Antenna Filled :

90.9%

- NOTES:**
1. REFERENCE DWG. 1641D01 FOR ANTENNA ORIENTATION.
2. REFERENCE DWG. 1641D02 FOR PARASITIC PLACEMENT.

Exhibit 7: Drawings

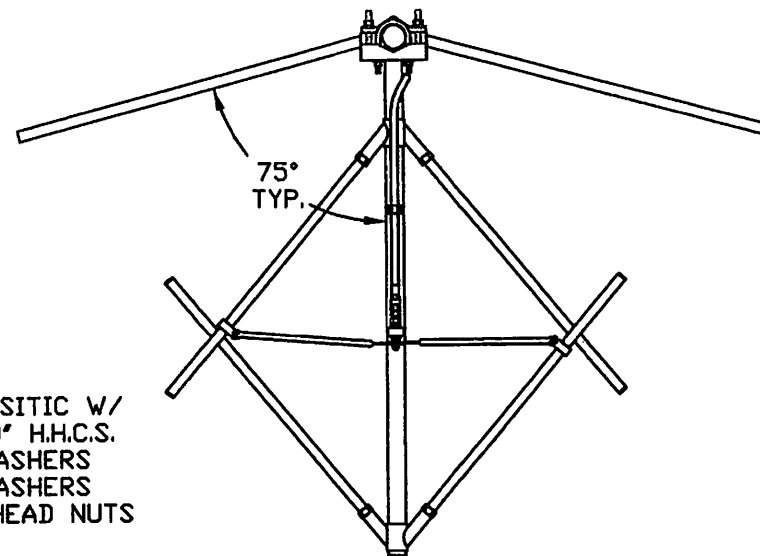
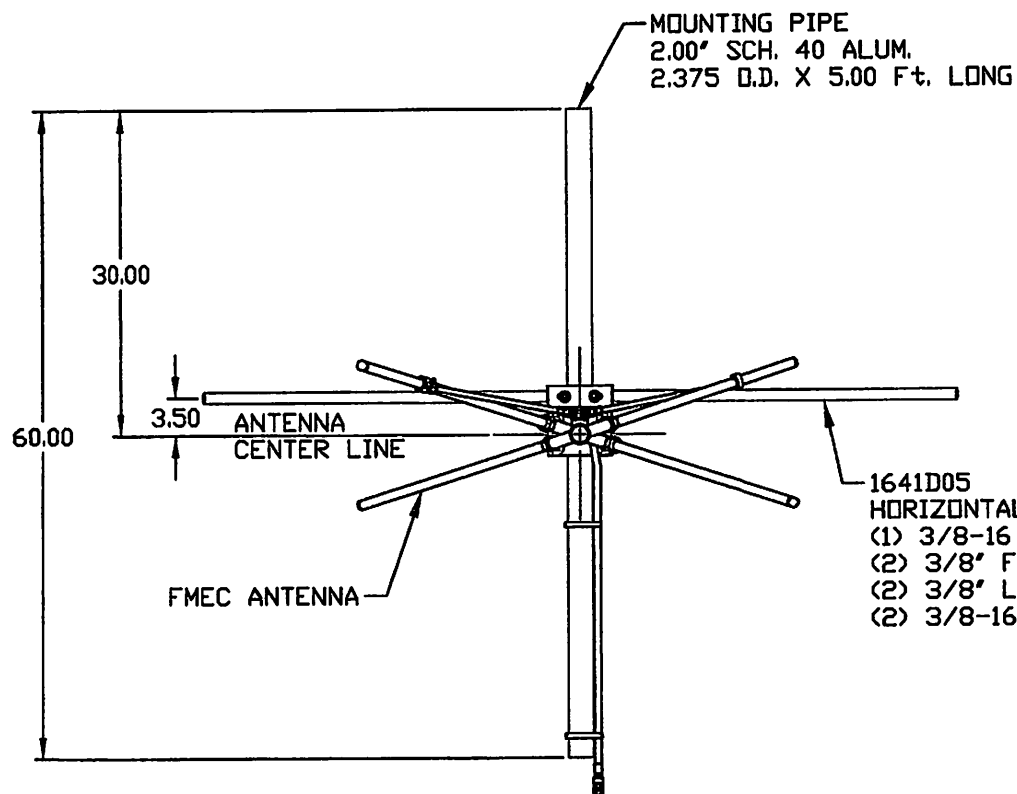
DRAWING NUMBER: 1641D00



NOTE:

DRAWING NUMBER: 1641D02

Exhibit 7 (cont'd): Drawings



TOP VIEW

TOLERANCES		REVISION RECORD		
		REV	APPROVAL	DATE
.X	± .015			
.XX	± .005			
.XXX	± .002			
X/X	± 1/32			
DEG.	± 1/2			
UNLESS OTHERWISE SPECIFIED				
PARTS MADE BY THIS DRAWING		DRAWING NUMBER: 1641D02		
		SCALE: NTS	NAME: RAC	DATE: 3/1/12
SIZE: A		SHEET 1 OF 1		



SYSTEMS WITH RELIABILITY, INC
619 INDUSTRIAL PARK ROAD
EBensburg, PENNSYLVANIA 15931

TITLE:

FMEC/1-DA, FREQ. 91.1
KRBS, OROVILLE, CA

MATERIAL:

PARASITIC
PLACEMENT

SIZE

A

PARTS MADE BY THIS DRAWING

SCALE: NTS

NAME: RAC

DATE: 3/1/12

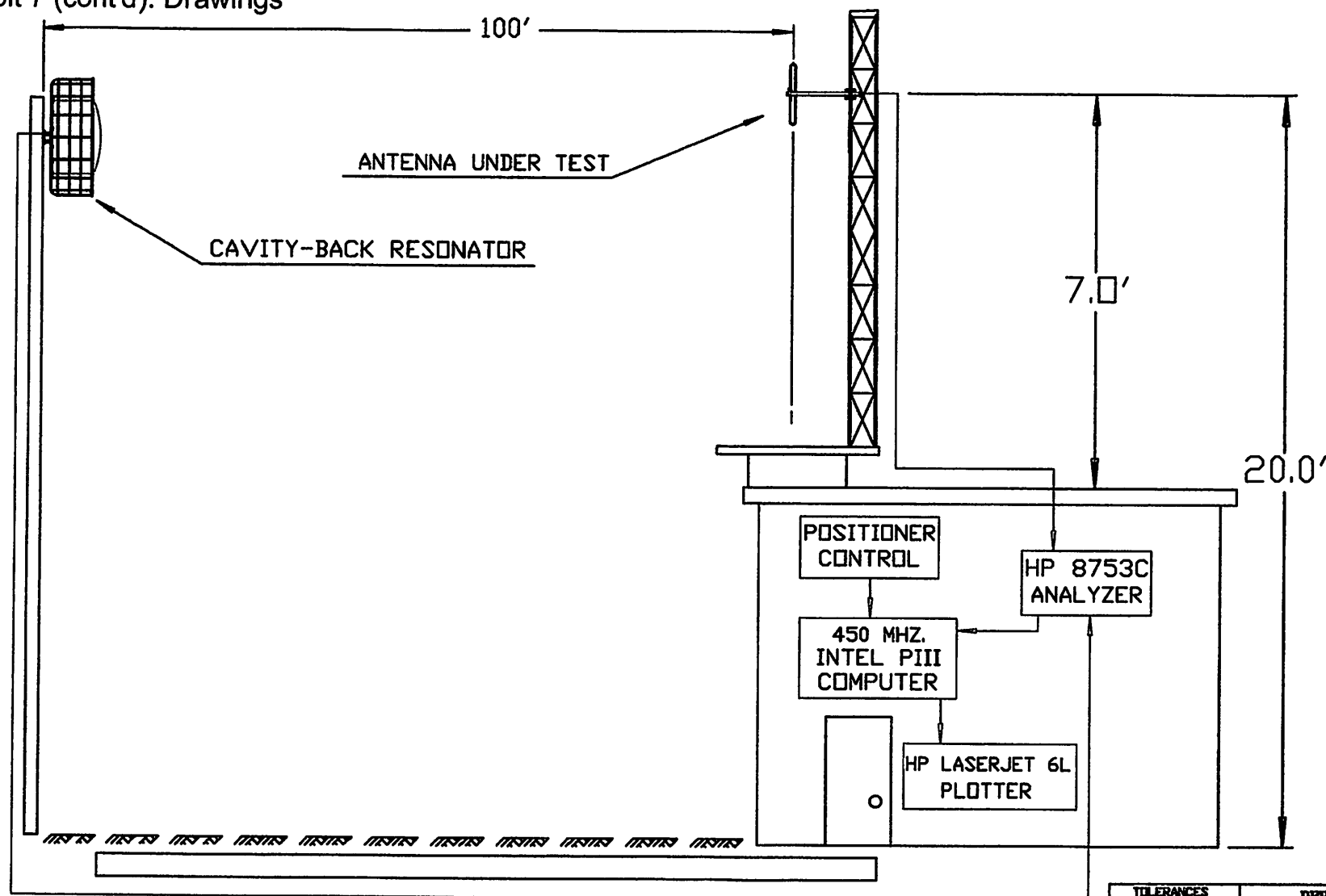
SHEET 1 OF 1

NOTE:

Exhibit 7 (cont'd): Drawings

DRAWING
NUMBER:

21C A10



TOLERANCES	
.X	± .015
.XX	± .005
.XXX	± .002
X/X	± 1/32
DEG.	± 1/2
UNLESS OTHERWISE SPECIFIED	

REVISION RECORD		
REV	APPROVAL	DATE
2		10/7/05
1		4/30/02



SYSTEMS WITH RELIABILITY, INC
619 INDUSTRIAL PARK ROAD
EBENSBURG, PENNSYLVANIA 15931

TITLE:

TEST RANGE SCHEMATIC

MATERIAL:

SIZE

A

PARTS MADE BY THIS DRAWING

SCALE: NTS

NAME: JRM

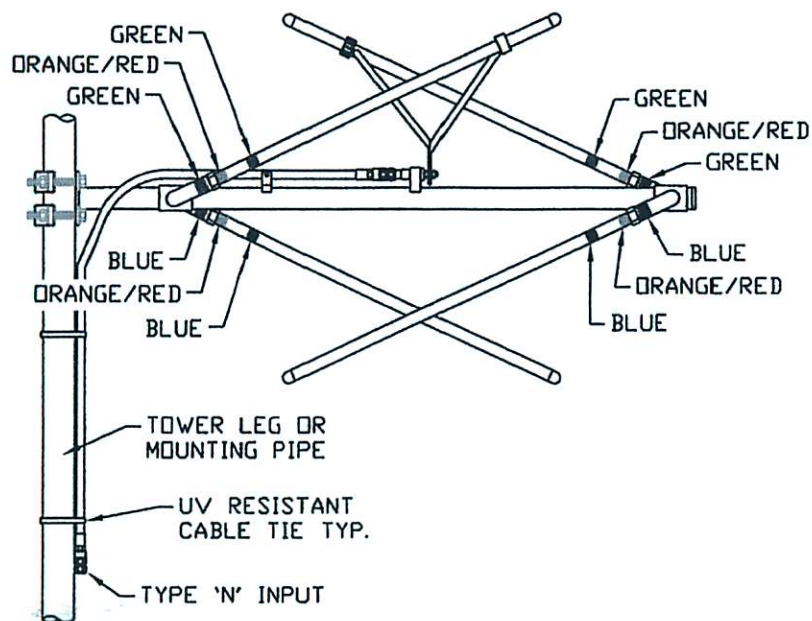
DATE: 11/1/98

SHEET 1 OF 1

DRAWING
NUMBER: 2105A10

NOTE:

DRAWING NUMBER: 0887D17



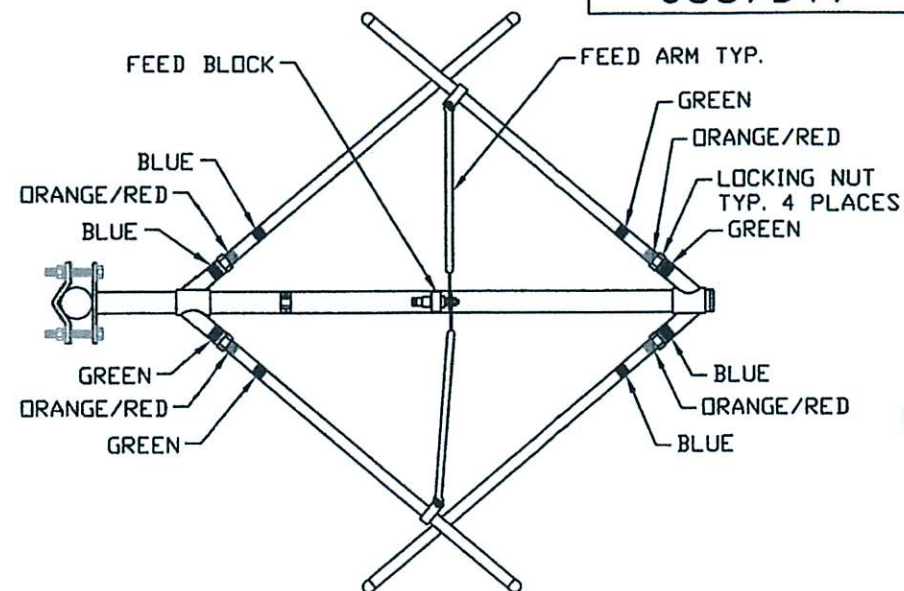
SIDE VIEW

BAY ASSEMBLY PROCESS

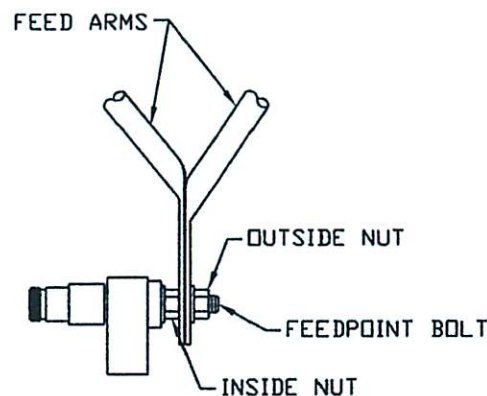
1. INSERT THE COLOR CODED DIPOLES INTO THE CORRESPONDING DIPOLE SUPPORTS.
2. THE EDGE OF THE ORANGE/RED TAPE MUST BE ALIGNED WITH THE EDGE OF THE LOCKING NUTS WHEN TIGHTENED.
3. ATTACH THE FEED ARMS ON THE GREEN COLOR CODED DIPOLES TO THE FEEDPOINT BOLT. CAREFULLY SNUG THE OUTSIDE NUT WHILE HOLDING THE INSIDE NUT.
(SEE FEED BLOCK SIDE VIEW)

NOTES:

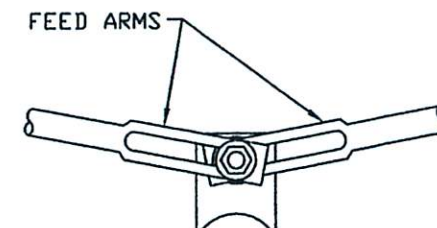
DO NOT TWIST OR OVER-TIGHTEN THE FEEDPOINT BOLT. TWISTING OR OVER-TIGHTENING CAN CAUSE INTERNAL DAMAGE TO THE FEEDPOINT.



TOP VIEW



FEED BLOCK
SIDE VIEW



FEED BLOCK
FRONT VIEW

TOLERANCES		REVISION RECORD		
		REV	APPROVAL	DATE
.X	± .015			
.XX	± .005			
.XXX	± .002			
X/X	± 1/32			
DEG.	± 1/2			
UNLESS OTHERWISE SPECIFIED				
PARTS MADE BY THIS DRAWING		DRAWING NUMBER: 0887D17		
SCALE: NTS	NAME: RAC	DATE: 7/28/11	SHEET 1 OF 1	



SYSTEMS WITH RELIABILITY, INC
619 INDUSTRIAL PARK ROAD
EBensburg, PENNSYLVANIA 15931

TITLE:

FMEC ASSEMBLY
(BREAKDOWN VERSION)

MATERIAL:

SIZE

A

DRAWING NUMBER: 0887D16

- FEEDPOINT BLOCK

-1/2" WRENCH
ON OUTSIDE NUT

FEED ARM TYP.

FEEDPOINT BOLT

1. INSTALL THE FEED ARMS ON THE FEEDPOINT BOLT AS SHOWN.
2. USE (1) 1/2" WRENCH TO HOLD THE INSIDE NUT IN PLACE WHILE SNUGGING THE OUTSIDE NUT WITH ANOTHER 1/2" WRENCH.

**DO NOT TWIST OR OVER-TIGHTEN THE FEEDPOINT BOLT.
OVER-TIGHTENING CAN CAUSE INTERNAL DAMAGE.**

TOLERANCES		REVISION RECORD	
.X ±	.015	REV	DATE
.XX ±	.005		
.XXX ±	.002		
X/X ±	1/32		
DEG. ±	1/2		
UNLESS OTHERWISE SPECIFIED			
BY THIS DRAWING		DRAWING NUMBER: 0887D16	
NAME: RAC	DATE: 7/27/11	SHEET 1 OF 1	