## **APPENDIX B - MOUNT SPECIFIC DATA**

## For

# Vertex-RSI 1.8m SF-LT

## Motorized Flyaway Antenna

Revision: 24 October 2013

This appendix describes RC4000 operations unique for the 1.8m SF-LT antenna. This mount is denoted as KA. Differences between this version and the operation described in the "baseline" RC4000 User's Manual are noted on a paragraph by paragraph basis.

### 1.1 Manual Organization

This appendix is provided as a supplement to the baseline RC4000 manual.

#### RC4000 Features

The following mount-specific features have been provided:

- No elevation STOW limit switch is utilized.
- No azimuth STOW limit switch is utilized.
- No polarization STOW limit switch is utilized.

The antenna has a rectangular range of movement in the elevation and azimuth axes. The elevation axis stows at the UP limit.

#### 2.2.1 Electronic Clinometer

The inclinometer should be rigged with the face of the reflector vertical, the displayed Elevation angle at this position should be 18.8°.

#### 3.2.2.1 Deploy

The default deploy position is at the following antenna position:

Azimuth: 0.0° Elevation: 10.0° Polarization: 0.0°

#### 3.2.2.2 Stow

The default stow position is at the following antenna position:

Azimuth: 0.0°

Elevation: Stows at Elevation UP limit

Polarizatino: 0.0°

#### 3.3.1.3.1 Reset Defaults

Table B-1 supplies the default configuration item values for this model of the RC4000.

Space has also been provided to record installation specific changes to the configuration items.

NOTE: Recording of installation specific changes to defaults may prove valuable when trying to restore system configuration.

## 4.1.2 Elevation Calibration

#### **STEP 2. Initial Movement**

The Elevation LOOK configuration should remain unchanged from the default value "1".

## STEP 3a. Inclinometer Reference Voltage

The elevation reference voltage should be set when the reflector is at the face-vertical position. The elevation angle indicated should be 18.8 degrees.

The elevation voltage shown on the AD VOLTAGES screen should be near 1.20V.

### 4.1.3 Azimuth Calibration

#### STEP 5. Azimuth Scale Factor

The Azimuth axis scale factor should be calculated according to the User's Manual chapter 4.1.3 in order to verify or make corrections to the default value.

#### 4.1.4 Polarization Calibration

#### STEP 5. Polarization Scale Factor

The Polarization axis scale factor should be calculated according to the User's Manual chapter 4.1.4 in order to verify or make corrections to the default value.

#### 4.1.6 Pulse Sensor Checkout

The antenna should be in the Deploy position when resetting the pulse count at the beginning of the pulse sensor checkout procedure.

Table B-1

SYSTEM DEFINITION	CONFIGURATION ITEM	KA					INSTALL
Compass Present							
Compass Present	SYSTEM DEFINITION		<u>.</u>				
Initial Mode	GPS Present						
Serial Number	Compass Present	2					
Antenna Size		2					
Waveguide Switch Present	Serial Number	0					
AZIMUTH CALIBRATION   Reference Voltage   2.50	Antenna Size	180					
Reference Voltage	Waveguide Switch Present	0					
Offset         -90.0           CCW Limit         -120.0           CW Limit         120.0           Scale Factor         114.50           Initial Display         1           ELEVATION CALIBRATION         Reference Voltage           Offset         0.0           Up Limit         90.0           Down Limit         5.0           Scale Factor         50.00           Look Configuration         1           POLARIZATION CALIBRATION           Reference Voltage         2.50           Offset         0.0           CW Limit         95.0           Scale Factor         115.90           Type         1           H/V Reference         1           Band         1           LNB LO Frequency         10750           Locate Automove         1           RF SIG FACTORS           Lock Type         0           Delay Time         1.0           Threshold         100           Polarity         1           1         1           1         1           2         1           3         1           1 <t< td=""><td>AZIMUTH CALIBRATION</td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	AZIMUTH CALIBRATION						
CCW Limit -120.0 CW Limit 120.0 Scale Factor 114.50 Initial Display 1 ELEVATION CALIBRATION Reference Voltage 0.0 Up Limit 90.0 Down Limit 5.0 Scale Factor 50.00 Look Configuration 1 POLARIZATION CALIBRATION Reference Voltage 0.0 CW Limit 9.0 CCW Limit 95.0 Scale Factor 115.90 Type 1 HV Reference 1 Band 1 LIB LO Frequency 10750 Locate Automove 1 RF SIG FACTORS Lock Type 0 Delay Time 1.0 SS2 SIG FACTORS Lock Type 0 Delay Time 1.0 SS2 SIG FACTORS Lock Type 0 Delay Time 1.0 Threshold 100 Polarity 1 Delarity 1 SS2 SIG FACTORS Lock Type 0 Delay Time 1.0 Threshold 100 Polarity 1 Delarity 1 SS2 SIG FACTORS Lock Type 0 Delay Time 1.0 Threshold 100 Polarity 1 Delarity 1 Delari	Reference Voltage	2.50					
CW Limit 120.0	Offset	-90.0					
Scale Factor	CCW Limit	-120.0					
Initial Display	CW Limit	120.0					
ELEVATION CALIBRATION   Reference Voltage	Scale Factor	114.50					
ELEVATION CALIBRATION   Reference Voltage	Initial Display	1					
Reference Voltage	ELEVATION CALIBRATION		•		•	•	
Offset         0.0         Up Limit         90.0 <t< td=""><td>Reference Voltage</td><td>1.20</td><td></td><td></td><td></td><td></td><td></td></t<>	Reference Voltage	1.20					
Down Limit   5.0	Offset	0.0					
Scale Factor   50.00	Up Limit	90.0					
Look Configuration	Down Limit	5.0					
POLARIZATION CALIBRATION	Scale Factor	50.00					
POLARIZATION CALIBRATION	Look Configuration	1					
Reference Voltage				•			•
Offset         0.0           CW Limit         95.0           Scale Factor         115.90           Type         1           H/V Reference         1           Band         1           LNB LO Frequency         10750           Locate Automove         1           RF SIG FACTORS           Lock Type         0           Delay Time         1.0           SS1 SIG FACTORS           Lock Type         0           Delay Time         1.0           Threshold         100           Polarity         1           SS2 SIG FACTORS           Lock Type         0           Delay Time         1.0           Threshold         100           Polarity         1           AUTOPEAK           Autopeak Enabled         1           Signal Source         4           Spiral Search AZ Limit         3							
CCW Limit       -95.0         Scale Factor       115.90         Type       1         H/V Reference       1         Band       1         LNB LO Frequency       10750         Locate Automove       1         RF SIG FACTORS         Lock Type       0         Delay Time       1.0         SS1 SIG FACTORS         Lock Type       0         Delay Time       1.0         Threshold       100         Polarity       1         SS2 SIG FACTORS         Lock Type       0         Delay Time       1.0         Threshold       100         Polarity       1         AUTOPEAK         Autopeak Enabled       1         Signal Source       4         Spiral Search AZ Limit       3	Offset	0.0					
Scale Factor	CW Limit	95.0					
Type	CCW Limit	-95.0					
Type	Scale Factor	115.90					
H/V Reference	Туре	1					
Band	H/V Reference	1					
Cocate Automove	Band	1					
Cocate Automove	LNB LO Frequency	10750					
RF SIG FACTORS		1					
Delay Time         1.0   <t< td=""><td>RF SIG FACTORS</td><td>1</td><td>1</td><td>l I</td><td><b>'</b></td><td></td><td>u .</td></t<>	RF SIG FACTORS	1	1	l I	<b>'</b>		u .
Delay Time         1.0   <t< td=""><td>Lock Type</td><td>0</td><td></td><td></td><td></td><td></td><td></td></t<>	Lock Type	0					
SS1 SIG FACTORS		1.0					
Delay Time         1.0   <t< td=""><td>SS1 SIG FACTORS</td><td></td><td></td><td>•</td><td></td><td>•</td><td></td></t<>	SS1 SIG FACTORS			•		•	
Delay Time         1.0   <t< td=""><td>Lock Type</td><td>0</td><td></td><td></td><td></td><td></td><td></td></t<>	Lock Type	0					
Threshold         100   <td< td=""><td></td><td>1.0</td><td></td><td></td><td></td><td></td><td></td></td<>		1.0					
Polarity	Threshold	100					
SS2 SIG FACTORS           Lock Type         0							
Lock Type         0           Delay Time         1.0           Threshold         100           Polarity         1           AUTOPEAK           Autopeak Enabled         1           Signal Source         4           Spiral Search AZ Limit         3	SS2 SÍG FACTORS	1	1	l l	•		II.
Delay Time         1.0   <t< td=""><td></td><td>0</td><td></td><td></td><td></td><td></td><td></td></t<>		0					
Threshold         100   <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>							
Polarity         1							
AUTOPEAK Autopeak Enabled 1 Signal Source 4 Spiral Search AZ Limit 3							
Autopeak Enabled 1 Signal Source 4 Spiral Search AZ Limit 3		-1	L	1	1	II.	1
Signal Source 4 Spiral Search AZ Limit 3		1					
Spiral Search AZ Limit 3							
	Spiral Search EL Limit	3					

Cniral Coarab Cianal Throubald	200				1		
Spiral Search Signal Threshold	200						
Scan Range Limit	8						
Scan Signal Threshold	400						
Pol Tilt Compensation	1						
AZIMUTH POT DRIVE			1	1	I	1	
Fast/Slow Threshold	2.5						
Maximum Position Error	0.20						
Coast Threshold	0.2						
Maximum Try Count	3						
AZIMUTH PULSE DRIVE			T	T		T	
Pulse Scale Factor	3056						
Divide Ratio	8						
CW Pulse Limit	64000						
CCW Pulse Limit	100						
Fast/Slow Threshold	50						
Maximum Position Error	1						
Coast Threshold	6						
Maximum Try Count	3						
AZIMUTH DRIVE PARAMETERS			•	•	•	•	
Fast Voltage	60						
Slow Voltage	30						
Current Limit	100						
Acceleration	50						
Deceleration	50						
IR Compensation	0						
Jam Slop	4						
Runaway Slop	400						
Fast Deadband	1000						
Slow Deadband	500						
ELEVATION POT DRIVE	000		l	<u>I</u>		l	
Fast/Slow Threshold	2.5						
Maximum Position Error	0.20						
Coast Threshold	0.20						
Maximum Try Count	3						
ELEVATION PULSE DRIVE	3						
Pulse Scale Factor	8726						
Divide Ratio	8						
Up Pulse Limit	64000						
Down Pulse Limit							
	100 50						
Fast/Slow Threshold	50						
Maximum Position Error	1						
Coast Threshold	0						
Maximum Try Count	3						
ELEVATION DRIVE							
PARAMETERS			ı	ı	ı	ı	
Fast Voltage	65						
Slow Voltage	30						
Current Limit	100						
Acceleration	50						
Deceleration	50						
IR Compensation	0						
Jam Slop	4						
Runaway Slop	200						

Fast Deadband	1000					
Slow Deadband	500					
POLARIZATION POT DRIVE	000					
Fast/Slow Threshold	1.0					
Maximum Position Error	0.3					
Coast Threshold	0.2					
Maximum Try Count	3					
POLARIZATION PULSE DRIVE		I.			I	
Pulse Scale Factor	1000					
Divide Ratio	10					
CW Pulse Limit	64000					
CCW Pulse Limit	100					
Fast/Slow Threshold	50					
Maximum Position Error	0					
Coast Threshold	3					
Maximum Try Count	3					
POLARIZATION DRIVE						
PARAMETERS					T	
Fast Voltage	100					
Slow Voltage	50					
Current Limit	100					
Acceleration	50					
Deceleration	0					
IR Compensation	5					
Jam Slop	4					
Runaway Slop	200					
Fast Deadband	1000					
Slow Deadband	500					
STOW / DEPLOY		1			ı	
Az Stow	0.0					
El Stow	95.0					
Pol Stow	0.0					
Az Deploy	0.0					
El Deploy	10.0					
Pol Deploy	0.0					
Pol Move	3					
Stow Timer	0					