

APPENDIX B - MOUNT SPECIFIC DATA For

ComSat Systems 1.8m. C/Ku

Revision: 7 June 2006 Software Version: 1.56

1.2 Mount Models

This appendix describes the RC3000 variation built for use by the ComSat Systems 1.8m. C/Ku mobile antenna. This model will be referred to as "B4".

1.3.2 System Interface Requirements

The B4 mount follows the standard RC3000 interface requirements with a few exceptions:
- resolvers present for azimuth and elevation

2.1.4 Inclinometer Orientation

The inclinometer should be rigged with the reflector's face vertical.

2.3.2 Elevation Calibration

Elevation Reference Position

From the reflector vertical position, the elevation reference voltage should be close to 1.69 V. The elevation displayed at this voltage should be 17.5 (Ku) or 22.5 (C-band) reflecting the RF offset of the antenna.

Elevation Resolver Reference

In order to characterize platform tilt, it is critical that the elevation resolver be calibrated with the platform level. From the reference elevation position, adjust the raw elevation resolver angle (shown on the Analog to Digital Voltage maintenance screen (3.2.2.1)) to as close to 180.00 degrees as possible.

3.2.2.8 Settings

An additional SETTINGS parameter is added to allow the user to define if the mount is operating at C or Ku bands.

1-AUTOPEAK: OFF	SETTINGS
2- AP SIG: SS1	
3- FEED: Ku	<0>RESET DRIVE
FEED BAND: <0>C <1>Ku	<MODE>MENU

When Ku band operation is specified an offset of -5.0 degrees will be applied to the elevation angles generated by the inclinometer and resolver.

3.3.1.2 Reset Defaults

The following table supplies the default configuration item values for this model of the RC3000.

NOTE: the default values assume C-band operation. The second column of the table shows the values that change when Ku operation is selected via the SETTINGS screen.

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.

CONFIGURATION ITEM	B4	Ku				INSTALL VALUE
SYSTEM DEFINITION						
GPS	1					
COMPASS MOUNT	1					
COMPASS TYPE	1					
MODE	2					
antenna_size_cm	180					
Waveguide	0					
ELEVATION CALIBRATION						
Zero Voltage	1.69					
Elev_offset	0.0	-5.0				
Up_elev_limit	90					
Down_elev_limit	0					
Elevation_Scale_Factor	50.00					
Elevation_look_configuration	1					
Resolver offset	-157.50	-162.50				
Resolver direction	0					
AZIMUTH CALIBRATION						
Fluxgate_offset	0.0					
ccw_azim_limit	180					
Cw_azim_limit	180					
Resolver offset	-180.00					
Resolver direction	0					
POLARIZATION CAL						
Zero Voltage	2.50					
Polarization_Offset	0.0					
CW Polarization Limit	90.0					
CCW Polarization Limit	90.0					
PoI_Scale_Factor	37.50					
Polarization_type	2					
H/V_Reference	1					
Default Horizontal Position	90.0					
Default Vertical Position	0.0					
PoI_Automove_Enable	3					

CONFIGURATION ITEM	B4					INSTALL VALUE
SIGNAL PARAMETERS						
RF Lock Type	0					
RF Delay	0.1					
Channel 1 Polarity	1					
Channel 1 Threshold	100					
Channel 1 Delay	0.1					
Channel 1 Lock Type	0					
Channel 2 Polarity	1					
Channel 2 Threshold	100					
Channel 2 Delay	0.1					
Channel 2 Lock Type	0					
AUTOPEAK						
Autopeak Enabled	0					
Signal Source	1					
RF Band	1					
Spiral Search AZ Limit	3					
Spiral Search EL Limit	3					
Spiral Signal Threshold	200					
Scan Range Limit	8					
Scan Signal Threshold	200					
Tilt Compensation	0					

CONFIGURATION ITEM	B4				INSTALL VALUE
AZIMUTH POT DRIVE					
Fast/Slow Threshold	2.5				
Maximum Position Error	0.20				
Coast Threshold	0.1				
Maximum Retry Count	3				
AZIMUTH PULSE DRIVE					
Pulse Scale Factor	10431				
CW Pulse Limit	64000				
CCW Pulse Limit	100				
Fast/Slow Threshold	50				
Maximum Position Error	1				
Coast Threshold	3				
Maximum Retry Count	3				
AZIM DRIVE MONITORING					
Jam Slop	1				
Runaway Slop	200				
Fast Deadband	1000				
Slow Deadband	500				
ELEV POT DRIVE					
Fast/Slow Threshold	3.0				
Maximum Position Error	0.2				
Coast Threshold	0.4				
Maximum Retry Count	3				
ELEV PULSE DRIVE					
Pulse Scale Factor	10431				
UP Pulse Limit	64000				
Down Pulse Limit	100				
Fast/Slow Threshold	50				
Maximum Position Error	1				
Coast Threshold	3				
Maximum Retry Count	3				
ELEV DRIVE MONITORING					
Jam Slop	1				
Runaway Slop	200				
Fast Deadband	1000				
Slow Deadband	500				
POL POT DRIVE					
Fast/Slow Threshold	2.0				
Maximum Position Error	0.5				
Coast Threshold	0.3				
Maximum Retry Count	3				
POL DRIVE MONITORING					
Jam Slop	1				
Runaway Slop	200				
Fast Deadband	1000				
Slow Deadband	500				

CONFIGURATION ITEM	B4					INSTALL VALUE
TRACK						
Search Enable	0					
Max Track Error	3					
Search Width	4					
Peakup Holdoff Time	120					
Track Signal Source	2					
Signal Sample Time	2					
REMOTE CONTROL						
Remote Enabled	1					
Bus Address	50					
Baud Rate	6					
Jog Duration	20					
STOW / DEPLOY						
AZ STOW	0.0					
EL STOW	-67.5					
PL STOW	0.0					
AZ DEPLOY	0.0					
EL DEPLOY	22.5	17.5				
PL DEPLOY	0.0					
PL ENABLED	3					
EL_TIME	0					
SHAKE						
AZ1	-40.0					
EL1	30.0					
PL1	-10.0					
AZ2	50.0					
EL2	40.0					
PL2	10.0					
AZ3	0.0					
EL3	-67.5					
PL3	0.0					
CYCLES	5					
DELAY	1					