

## APPENDIX B - MOUNT SPECIFIC DATA For

### AVL 1.2 m. SNG TLE Antenna

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Software: 1.60

This appendix describes RC3000 operations unique for the AVL 1.2 SNG TLE mount. Differences between this version and the operation described in the “baseline” RC3000 manual are noted on a paragraph by paragraph basis.

#### **1.1 Manual Organization**

This appendix is provided as a supplement to the baseline RC3000 manual.

#### **1.2 Mount Model**

This appendix describes the RC3000 variation built for use by the AVL 1.2 m. SNG TLE antenna. This model is known as “GZ”.

#### **1.3.2 System Interface Requirements**

The GZ mount follows the standard RC3000 interface requirements with a few exceptions:

- Control of the circular polarization configuration is controlled via the J12 DB-15 connector
- Two TNC coax connectors are included for the primary and secondary GPS antennas (see appendix HGPS)

#### **2.1.4 Inclinometer Orientation**

The inclinometer should be rigged with the face of the reflector vertical.

#### **2.3.2 Elevation Calibration**

Elevation Reference Position

From the face vertical reflector position, the elevation reference voltage should be close to 1.69 V. The elevation displayed at this voltage will be 17.4 reflecting the RF offset of the antenna.

### 3.0 Detailed Operation

#### 3.2.1 Manual Mode

AZIM:	0.0	STOW	SS1:	50	MANUAL
ELEV:	-42.5	DOWN	SAT:	TELSTAR	402
<5>:	<b>RHCP</b>		SPD:	FAST	CST
<0-9>	JOG	ANTENNA	<MODE>	MENU	14:25:47

#### <5>: RHCP

Instead of "POL:", line 3 will display the current configuration of the circular feed. "RHCP" indicates the feed has been commanded to Right Hand Circular Polarization and "LHCP" indicates the feed has been commanded to Left Hand Circular Polarization. The state of the feed may be toggled by pressing the 5 key.

#### 3.2.2.3 Locate Mode

In order for the GPS compass system (see appendix HGPS) to accurately generate a heading estimate, the dish must be stowed. If the dish is not stowed when the heading is to be estimated, the indication STOW! will be displayed on the top line where normally the heading value is displayed. Exit Locate mode and stow the dish prior to reattempting the Locate mode.

#### 3.3.1.2 Reset Defaults

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

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	GZ Default					INSTALL VALUE
<b>SYSTEM DEFINITION</b>						
GPS	1					
COMPASS MOUNT	1					
COMPASS TYPE	1					
MODE	2					
antenna_size_cm	120					
Waveguide	0					
<b>ELEVATION CALIBRATION</b>						
Zero Voltage	1.69					
Elev_offset	0.0					
Up_elev_limit	90					
Down_elev_limit	0					
Elevation_Scale_Factor	50.00					
Elevation_look_configuration	1					
<b>AZIMUTH CALIBRATION</b>						
Reference Voltage	2.50					
Fluxgate_offset	0.0					
ccw_azim_limit	180					
Cw_azim_limit	180					
Azim_Scale_Factor	83.33					
<b>POLARIZATION CAL</b>						
Zero Voltage	2.50					
Polarization_Offset	0.0					
CW Polarization Limit	95.0					
CCW Polarization Limit	90.0					
Pol_Scale_Factor	11.48					
Polarization_type	1					
H/V_Reference	1					
Default Horizontal Position	90.0					
Default Vertical Position	0.0					
Pol_Automove_Enable	1					

<b>CONFIGURATION ITEM</b>	<b>GZ Default</b>					<b>INSTALL VALUE</b>
<b>SIGNAL PARAMETERS</b>						
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					
<b>AUTOPEAK</b>						
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	GZ Default					INSTALL VALUE
<b>AZIMUTH POT DRIVE</b>						
Fast/Slow Threshold	4.0					
Maximum Position Error	0.20					
Coast Threshold	0.4					
Maximum Retry Count	2					
<b>AZIMUTH PULSE DRIVE</b>						
Pulse Scale Factor	2675					
CW Pulse Limit	64000					
CCW Pulse Limit	100					
Fast/Slow Threshold	50					
Maximum Position Error	5					
Coast Threshold	1					
Maximum Retry Count	2					
<b>AZIM DRIVE MONITORING</b>						
Jam Slop	1					
Runaway Slop	200					
Fast Deadband	1000					
Slow Deadband	500					
<b>ELEV POT DRIVE</b>						
Fast/Slow Threshold	4.0					
Maximum Position Error	0.1					
Coast Threshold	0.2					
Maximum Retry Count	2					
<b>ELEV PULSE DRIVE</b>						
Pulse Scale Factor	4689					
UP Pulse Limit	64000					
Down Pulse Limit	100					
Fast/Slow Threshold	50					
Maximum Position Error	5					
Coast Threshold	1					
Maximum Retry Count	2					
<b>ELEV DRIVE MONITORING</b>						
Jam Slop	1					
Runaway Slop	200					
Fast Deadband	1000					
Slow Deadband	500					
<b>POL POT DRIVE</b>						
Fast/Slow Threshold	2.0					
Maximum Position Error	0.5					
Coast Threshold	0.3					
Maximum Retry Count	3					
<b>POL DRIVE MONITORING</b>						
Jam Slop	1					
Runaway Slop	200					
Fast Deadband	1000					
Slow Deadband	500					

CONFIGURATION ITEM	GZ Default					INSTALL VALUE
<b>TRACK</b>						
Search Enable	0					
Max Track Error	3					
Search Width	4					
Peakup Holdoff Time	120					
Track Signal Source	2					
Signal Sample Time	2					
<b>REMOTE CONTROL</b>						
Remote Enabled	1					
Bus Address	50					
Baud Rate	6					
Jog Duration	20					
<b>STOW / DEPLOY</b>						
AZ STOW	0.0					
EL STOW	-67.5					
PL STOW	0.0					
AZ DEPLOY	0.0					
EL DEPLOY	17.4					
PL DEPLOY	0.0					
PL ENABLED	2					
EL_TIME	0					
<b>SHAKE</b>						
AZ1	-170.0					
EL1	65.0					
PL1	-10.0					
AZ2	170.0					
EL2	45.0					
PL2	10.0					
AZ3	0.0					
EL3	5.0					
PL3	0.0					
CYCLES	5					
DELAY	1					