APPENDIX B - MOUNT SPECIFIC DATA
For
Patriot 3.8m Mobile Antenna

REVISION HISTORY
29 December 2006, Software Version 1.58
27 October 2009, Software Version 1.59
28 October 2009, Software Version 1.60

1.2 RC3000 Features
All basic features of the RC3000 are utilized to provide the operations for this mount.

Hardware Configuration. A RC3000B version of hardware is utilized for this mount.

Software Configuration. The mount model will be designated as PJ. Software will be designated as RC3K-PJ-xxx.

1.3.2 System Interface Requirements
The PJ mount follows the standard RC3000 interface requirements for mounts equipped with azimuth and elevation resolvers.

2.1.4 Inclinometer Orientation
The inclinometer should be rigged with the face of the reflector vertical. In order to achieve linear operation for RF look angles from 0 to 90 degrees, the inclinometer should be installed approximately 25 degrees from vertical.

2.3.2 Elevation Calibration
Elevation Reference Position
From the face vertical reflector position, the elevation reference voltage should be close to 0.8 V. The elevation displayed at this voltage will be 25.0 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 mount level. With the face of the reflector horizontal, adjust the elevation resolver offset to yield a resolver derived angle of 25.0 shown on the Analog to Digital Voltage maintenance screen (3.2.2.1).

3.3.1.2 Reset Defaults
The following pages list the default configuration item values for this model of the RC3000.

NOTE: the list of default values is a convenient place 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.
SYSTEM DEFINITION

SN: 0 SERIAL NUMBER<1-9999> (0=NOT ENTERED)
GPS: 1 <1>GPS PRESENT <0>NOT PRESENT
COMPASS: 2 <0>NONE <1>TRUCK MOUNT <2>ANTENNA MOUNT
MODE: 2 <1-LOCATE 2-MENU 3-MANUAL 4-VSAT 5-POS>
ANT_SIZE: 380 ANTENNA SIZE <1-9999 CM>
WAVEGUIDE: 0 WAVEGUIDE SWITCH <1>PRESENT <0>NONE

ELEVATION CALIBRATION

REF_V: 0.80 SET ZERO VOLTAGE <0.50 - 4.50>
OFF: 0.0 ELEVATION OFFSET <-25.0/+25.0 DEGREES>
UP: 90 SET UP LIMIT <0-90 DEGREES>
DOWN: 0 SET DOWN LIMIT <0-90 DEGREES>
SF: 50.0 SCALE FACTOR <30.00 - 60.00 mV/deg>
LOOK: 1 ELEV LOOK CONFIGURATION <1>HIGH <0>LOW
RES: -155.00 ELEV RESOLVER OFFSET <+/-300.00 DEGREES>
REV: 0 ELEV RESOLVER <0-NORMAL 1-REVERSED>
EL_TIME: 0 ELEV STOW TIMER <0-DISABLE, 1-99 SECONDS>

AZIMUTH CALIBRATION

PG: 0.0 FLUXGATE OFFSET <-180.0/+180.0 DEGREES>
CCW: 180 SET CCW LIMIT <0 TO 360 DEGREES>
CW: 180 SET CW LIMIT <0 TO 360 DEGREES>
RES: -180.00 AZIM RESOLVER OFFSET <+/-300.00 DEGREES>
REV: 0 AZIM RESOLVER <0-NORMAL 1-REVERSED>

POLARIZATION CALIBRATION

REF_V: 2.50 SET REFERENCE VOLTAGE <1.00 - 4.00>
SF: 55.31 SCALE FACTOR <1.00 - 180.00 deg/volt>
OFF: 0.0 POL OFFSET <-90.0/+90.0 DEGREES>
CW: 90.0 POL CW LIMIT <0.0 - 179.9 DEGREES>
CCW: 90.0 POL CCW LIMIT <0.0 - 179.9 DEGREES>
TYPE: 2 <1>CIRCULAR <2>SINGLE <3>DUAL
REF: 0 <0>HORIZONTAL <1>VERTICAL
H: 0.0 DEFAULT HORIZONTAL POS. <-180/+180 DEG.>
V: 90.0 DEFAULT VERTICAL POS. <-180/+180 DEG.>
AUTO: 1 LOCATE AUTOMOVE <0>DISABLE <1>ENABLE

SIG FACTORS

RF LOCK: 0 RF LOCK <0-NONE 1-HI 2-LO 3-HI 4-LO>
TIME: 0.1 RF DELAY TIME <0.1 - 9.9> SECONDS
SS1 LOCK: 0 SS1 LOCK TYPE <0>NONE <1>HI <2>LO
TIME: 0.1 SS1 DELAY TIME <0.1 - 9.9> SECONDS
TH: 100 SS1 MINIMUM SIGNAL THRESHOLD <0-999>
POL: 1 SS1 <0>NEGATIVE <1>POSITIVE INPUT SENSE
SS2 LOCK: 0 SS2 LOCK TYPE <0>NONE <1>HI <2>LO
TIME: 0.1 SS2 DELAY TIME <0.1 - 9.9> SECONDS
TH: 100 SS2 MINIMUM SIGNAL THRESHOLD <0-999>
POL: 1 SS2 <0>NEGATIVE <1>POSITIVE INPUT SENSE

AUTOPEAK

ON: 0 AUTOPEAK <0>DISABLED <1>ENABLED <2>+PEAK
SIG: 1 SIGNAL SOURCE <1>RF <2>SS1 <3>SS2
BAND: 1 BAND <0-C 1-Ku 2-CK 3-L 4-X 5-Ka 6-S>
SRCH_AZ: 3 SPIRAL SEARCH AZIM LIMIT <1-20 DEGREES>
SRCH_EL: 3 SPIRAL SEARCH ELEV LIMIT <1-15 DEGREES>
SRCH_TH: 200 SPIRAL SEARCH THRESHOLD <0-999>
SCAN_RG: 8 SCAN RANGE <1-20 DEGREES>
SCAN_TH: 200 SCAN THRESHOLD <0-999>
TILT: 0 POL TILT COMPENSATION <0>OFF <1>ON

AZIMUTH POT DRIVE
FAST/SLOW: 2.5 SET THRESHOLD <0.0-10.0 DEGREES>
MAX ERROR: 0.20 SET MAXIMUM ERROR <0.01 - 1.00 DEGREES>
COAST: 0.1 SET COAST RANGE <0.0 - 2.0 DEGREES>
TRIES: 3 SET MAX NUMBER OF TRIES <0-10>

AZIMUTH PULSE DRIVE
SCALE: 10431 AZIM SCALE FACTOR<1-32767 PULSES/RADIAN>
CW: 64000 AZIM CW PULSE LIMIT <0 - 65535>
CCW: 100 AZIM CCW PULSE LIMIT <0 - 65535>
FAST/SLOW: 50 SET THRESHOLD <0 - 999 PULSES>
MAX ERROR: 1 SET MAXIMUM ERROR <0 - 10 PULSES>
COAST: 3 SET COAST RANGE <0 - 999 PULSES>
TRIES: 3 SET MAX NUMBER OF TRIES <0 - 10>

AZIMUTH DRIVE MONITORING
JAM SLOP: 1 SET JAM SLOP <0 - 1023>
RUN SLOP: 200 SET RUNAWAY SLOP <0-1023>
FAST DEADBAND: 1000 SET FAST DEADBAND <0 - 9999 MSEC>
SLOW DEADBAND: 500 SET SLOW DEADBAND <0 - 9999 MSEC>

ELEVATION POT DRIVE
FAST/SLOW: 3.0 SET THRESHOLD <0.0-10.0 DEGREES>
MAX ERROR: 0.20 SET MAXIMUM ERROR <0.01-1.00 DEGREES>
COAST: 0.4 SET COAST RANGE <0.0-2.0 DEGREES>
TRIES: 3 SET MAX NUMBER OF TRIES <0-10>

ELEVATION PULSE DRIVE
SCALE: 10431 ELEV SCALE FACTOR<1-32767 PULSES/RADIAN>
UP: 64000 ELEV UP PULSE LIMIT <100 - 65535>
DOWN: 100 ELEV DOWN PULSE LIMIT <100 - 65535>
FAST/SLOW: 50 SET THRESHOLD <0-999 PULSES>
MAX ERROR: 1 SET MAXIMUM ERROR <0-10 PULSES>
COAST: 3 SET COAST RANGE <0-999 PULSES>
TRIES: 3 SET MAX NUMBER OF TRIES <0-10>

ELEVATION DRIVE MONITORING
JAM SLOP: 1 SET JAM SLOP <0 - 1023>
RUN SLOP: 200 SET RUNAWAY SLOP <0-1023>
FAST DEADBAND: 1000 SET FAST DEADBAND <0 - 9999 MSEC>
SLOW DEADBAND: 500 SET SLOW DEADBAND <0 - 9999 MSEC

POLARIZATION DRIVE
FAST/SLOW: 2.0 SET THRESHOLD <0.0-10.0 DEGREES>
MAX ERROR: 0.50 SET MAXIMUM ERROR <0.01-1.00 DEGREES>
COAST: 0.3 SET COAST RANGE <0.0-2.0 DEGREES>
TRIES: 3 SET MAX NUMBER OF TRIES <0-10>

POL DRIVE MONITORING
JAM SLOP: 1 SET JAM SLOP <0-1023>
RUN SLOP: 200 SET RUNAWAY SLOP <0-1023>
FAST DEADBAND: 1000 SET FAST DEADBAND <0-9999 MSEC>
SLOW DEADBAND: 500 SET SLOW DEADBAND <0-9999 MSEC

STOW / DEPLOY
AZ_STW: 0.0 AZIMUTH STOW <-180.0/180.0>
AZ DEP: 0.0  AZIMUTH DEPLOY <-180.0/180.0>
EL STW: 25.0  ELEVATION STOW <-90.0/120.0>
EL DEP: 25.0  ELEVATION DEPLOY <-90.0/90.0>
EL TIME: 0  ELEV STOW TIMER<0-DISABLE,1-99 SECONDS>
PL STW: 0.0  POL STOW <-180.0/180.0>
PL DEP: 0.0  POL DEPLOY <-180.0/180.0>
PL_ENABLE: 2  POL MOVE<0-NONE 1-STOW 2-DEPLOY 3-BOTH>

**TRACK FACTORS**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEARCH</td>
<td>0</td>
<td>&lt;0&gt;MANUAL  &lt;1-NARROW,3-NOMINAL,10-WIDE&gt;</td>
</tr>
<tr>
<td>MAX ERROR</td>
<td>3</td>
<td>ENTER MAX ERROR IN TENTHS OF A dB&lt;1-30&gt;</td>
</tr>
<tr>
<td>HOLDOFF</td>
<td>120</td>
<td>SET PEAKUP HOLDOFF TIME&lt;1 - 999 SECONDS&gt;</td>
</tr>
<tr>
<td>SIG</td>
<td>2</td>
<td>SIGNAL SOURCE &lt;2&gt;SS1 &lt;3&gt;SS2</td>
</tr>
<tr>
<td>TIME</td>
<td>2</td>
<td>SIGNAL SAMPLE TIME &lt;2-99 SECONDS&gt;</td>
</tr>
<tr>
<td>LOG</td>
<td>0</td>
<td>&lt;0&gt;DISABLE &lt;1&gt;ENABLE TRACK DATA LOGGING</td>
</tr>
<tr>
<td>MODE</td>
<td>1</td>
<td>&lt;1&gt;STEP/MEMORY &lt;2&gt;STEP ONLY</td>
</tr>
<tr>
<td>AZDP</td>
<td>1.0</td>
<td>AZ/EL DELTA FACTOR &lt;0.5 - 1.5&gt;</td>
</tr>
</tbody>
</table>

**SHAKE**

<table>
<thead>
<tr>
<th>Shake</th>
<th>Move</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AZ 1</td>
<td>-10.0</td>
<td>MOVE 1 AZIM &lt;-180.0/180.0&gt;</td>
</tr>
<tr>
<td>EL 1</td>
<td>85.0</td>
<td>MOVE 1 ELEV &lt;-90.0/90.0&gt;</td>
</tr>
<tr>
<td>PL 1</td>
<td>-10.0</td>
<td>MOVE 1 POL &lt;-180.0/180.0&gt;</td>
</tr>
<tr>
<td>2</td>
<td>10.0</td>
<td>MOVE 2 AZIM &lt;-180.0/180.0&gt;</td>
</tr>
<tr>
<td>2</td>
<td>45.0</td>
<td>MOVE 2 ELEV &lt;-90.0/90.0&gt;</td>
</tr>
<tr>
<td>2</td>
<td>10.0</td>
<td>MOVE 2 POL &lt;-180.0/180.0&gt;</td>
</tr>
<tr>
<td>3</td>
<td>0.0</td>
<td>MOVE 3 AZIM &lt;-180.0/180.0&gt;</td>
</tr>
<tr>
<td>3</td>
<td>5.0</td>
<td>MOVE 3 ELEV &lt;-90.0/90.0&gt;</td>
</tr>
<tr>
<td>3</td>
<td>0.0</td>
<td>MOVE 3 POL &lt;-180.0/180.0&gt;</td>
</tr>
<tr>
<td>CYCLE</td>
<td>5</td>
<td>NUMBER OF SHAKE CYCLES &lt;1-9999&gt;</td>
</tr>
<tr>
<td>DELAY</td>
<td>1</td>
<td>DELAY &lt;0-999 SECONDS&gt;</td>
</tr>
</tbody>
</table>

**REMOTE CONTROL**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENABLED</td>
<td>1</td>
<td>REMOTE CONTROL &lt;0-DISABLE &lt;1&gt;ENABLED</td>
</tr>
<tr>
<td>ADDRESS</td>
<td>50</td>
<td>BUS ADDRESS &lt;49-111&gt;</td>
</tr>
<tr>
<td>BAUD_RATE</td>
<td>6</td>
<td>BAUD&lt;1-3 2-6 3-12 4-24 5-48 6-96&gt;(*100)</td>
</tr>
<tr>
<td>JOG</td>
<td>20</td>
<td>REMOTE JOG HOLD &lt;1-40&gt;</td>
</tr>
</tbody>
</table>