APPENDIX B - MOUNT SPECIFIC DATA
For
Andrew 2.4 m. Rugged Quick Deploy ESA

This appendix describes RC3000 functions unique for the Andrew 2.4m. Rugged Quick Deploy ESA mount.

Revision History. Date: 1 June 2006 - Software Version: 1.56

1.1 Manual Organization

This appendix is provided as a supplement to the baseline RC3000 manual. Differences between this version and the operation described in the baseline RC3000 manual are noted on a paragraph by paragraph basis.

1.2 RC3000 Features

All RC3000 features described in the baseline manual are present with this version. The unique features of this version of the RC3000 are:

1) Azimuth, elevation and polarization position is sensed via resolvers rather than potentiometers.

2) Final elevation stow position will be determined by elevation resolver position.

3) Multiple feed types are automatically sensed via inputs from the feed devices.

4) The RC3000 drives brakes for the azimuth and elevation axis - ***Ability built in but not initially used.***

Hardware Configuration. This mount version will be mechanized using the RC3000**A** hardware configuration.

Software Configuration. The model number for this version is **N7**.

1.3.1 Controller Description

RESOLVER BOARD. In addition to the standard RC3000 components described in the baseline manual, the N7 version includes the optional resolver to digital conversion board.

1.3.2 System Interface Requirements

The following unique interface requirements are present for the N7 version:

1) Resolver inputs for azimuth, elevation and polarization position sensing.

2) Relays to energize the azimuth and elevation brakes.

3) No elevation Stow Switch

4) Emergency Stop Switch

5) Feed Type inputs

6) azimuth stow limit temporarily mechanized by software

1.3.3 Operational Overview

Operation of the N7 version is almost identical to that described in the baseline manual. Differences will be noted in the appropriate paragraphs.

1.3.7 Drive System

Position Sensing and Limits.

The azimuth stow limit is implemented via software (no limit switches exist).

The N7 mount does not have a "stow tail" region of movement typical for vehicle mounted antennas. The N7's range of movement is rectangular with the elevation movement bound by the UP and DOWN limit switches. No elevation stow switch is present.

Jam and Runaway Sensing. Jammed and runaway sensing is based on resolver counts.

2.0 INSTALLATION

2.1.4 Electronic Clinometer

The inclinometer should be rigged with the backstructure vertical. With the backstructure vertical, the inclinometer should be mounted so that it is 17.3 (35.0 – 17.7) degrees from vertical. This orientation will allow linear output from the inclinometer to a RF angle of 90 degrees.

2.2 Electrical Connections.

The N7 interface follows the baseline RC3000 interface with a few modifications. Three pages of cable diagrams follow this section to detail the interface. The following paragraphs highlight differences between the N7 interface and the RC3000 electrical connections described in the baseline manual.

NOTE: the cable diagrams apply to both the 2.4 NOMAD ESA (N6) and the 2.4 Rugged Quick Deploy ESA (N7) mounts. For the N7, the CREEP switch signal shown on the drawing will not be applicable.

2.2.2 Motor Drive

There is a single motor common line vs. separate commons for azimuth, elevation and polarization.

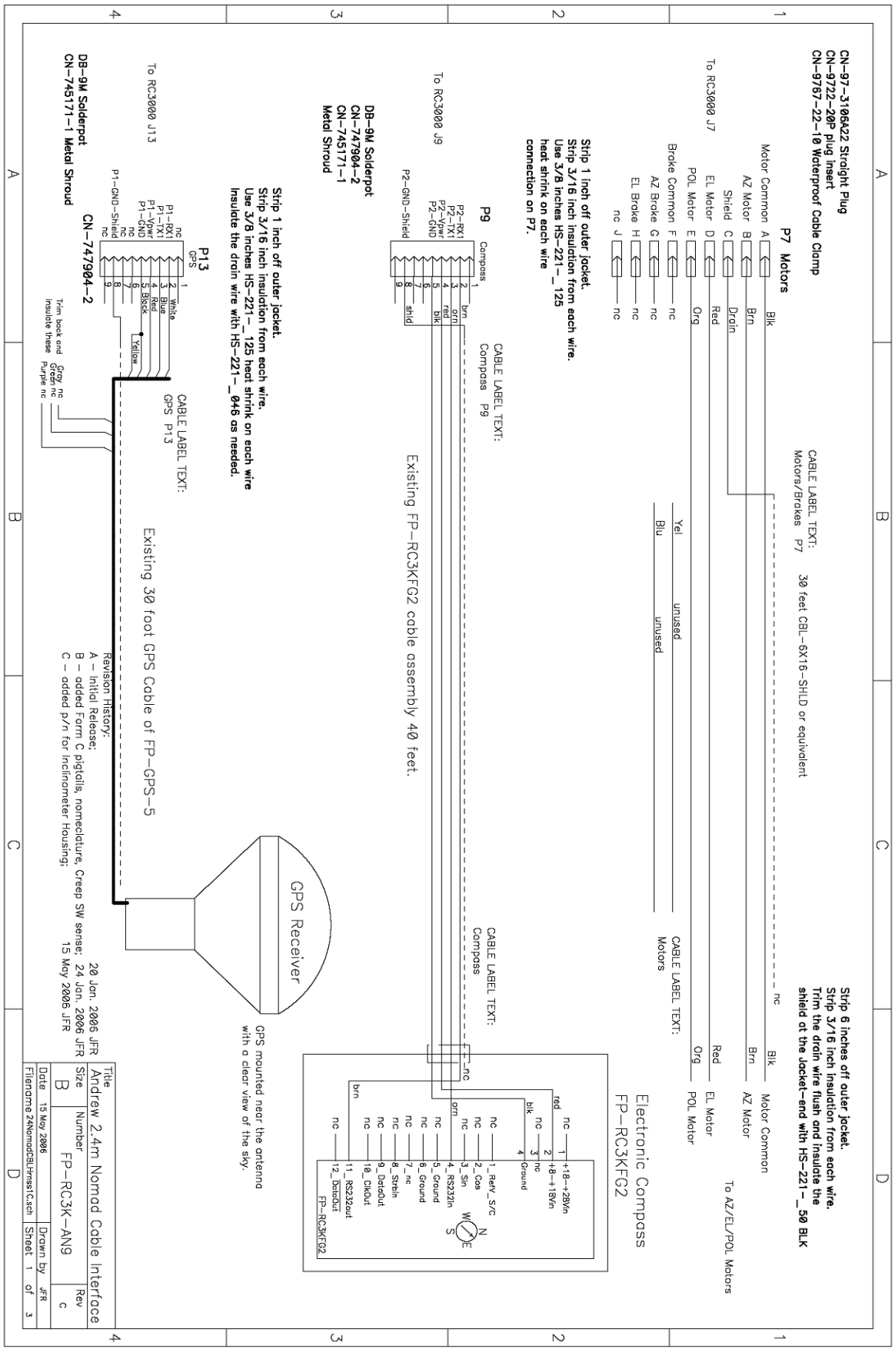
2.2.4 Limit Switches

The Emergency Stop switch input is mechanized via the J3 Limit Switch connector.

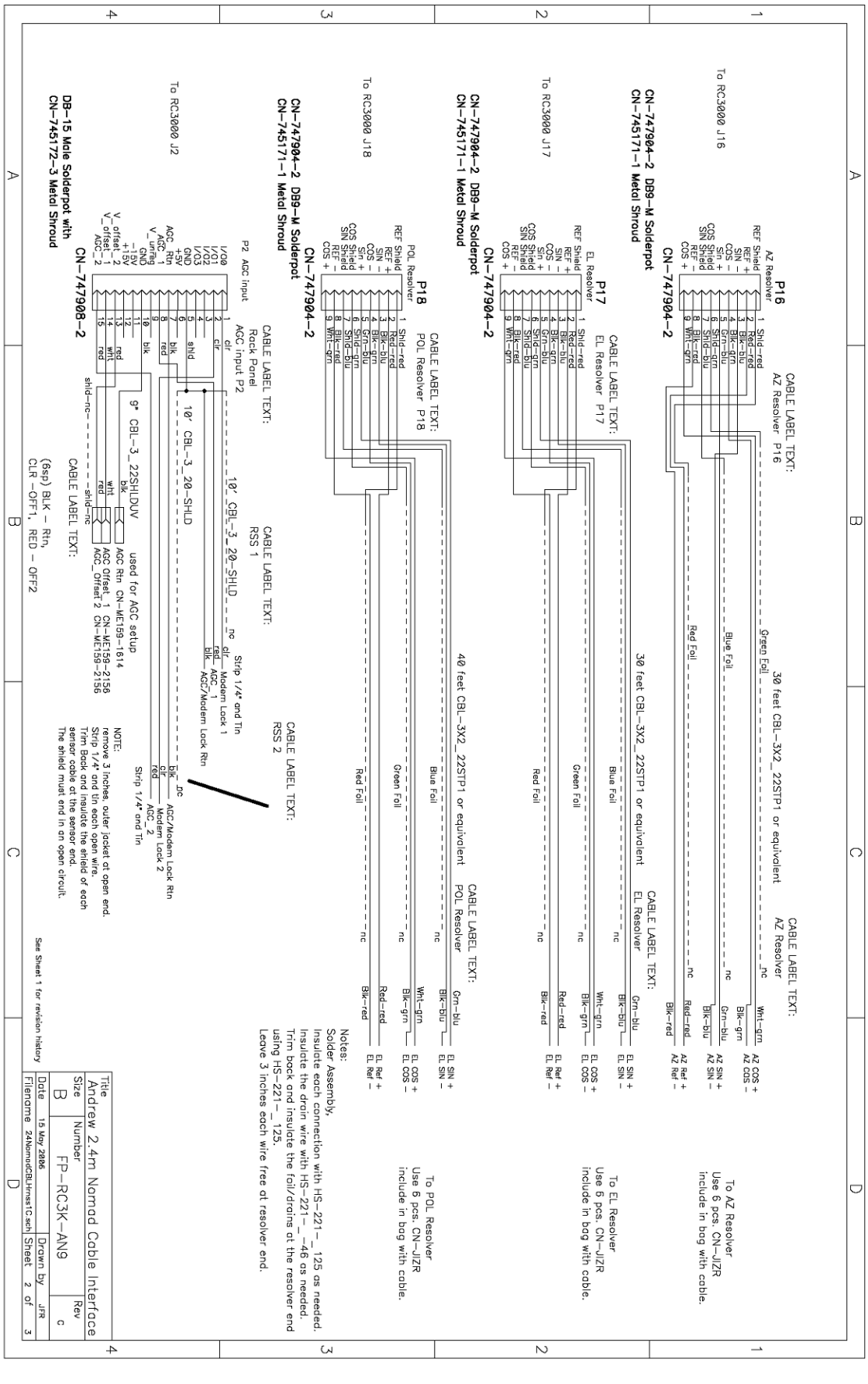
2.2.7 Accessories

Azimuth clockwise/counterclockwise limit switches, polarization clockwise/counterclockwise limit switches and feed type identification bits are interfaced through the J8 (DB-25) Accessories connector.

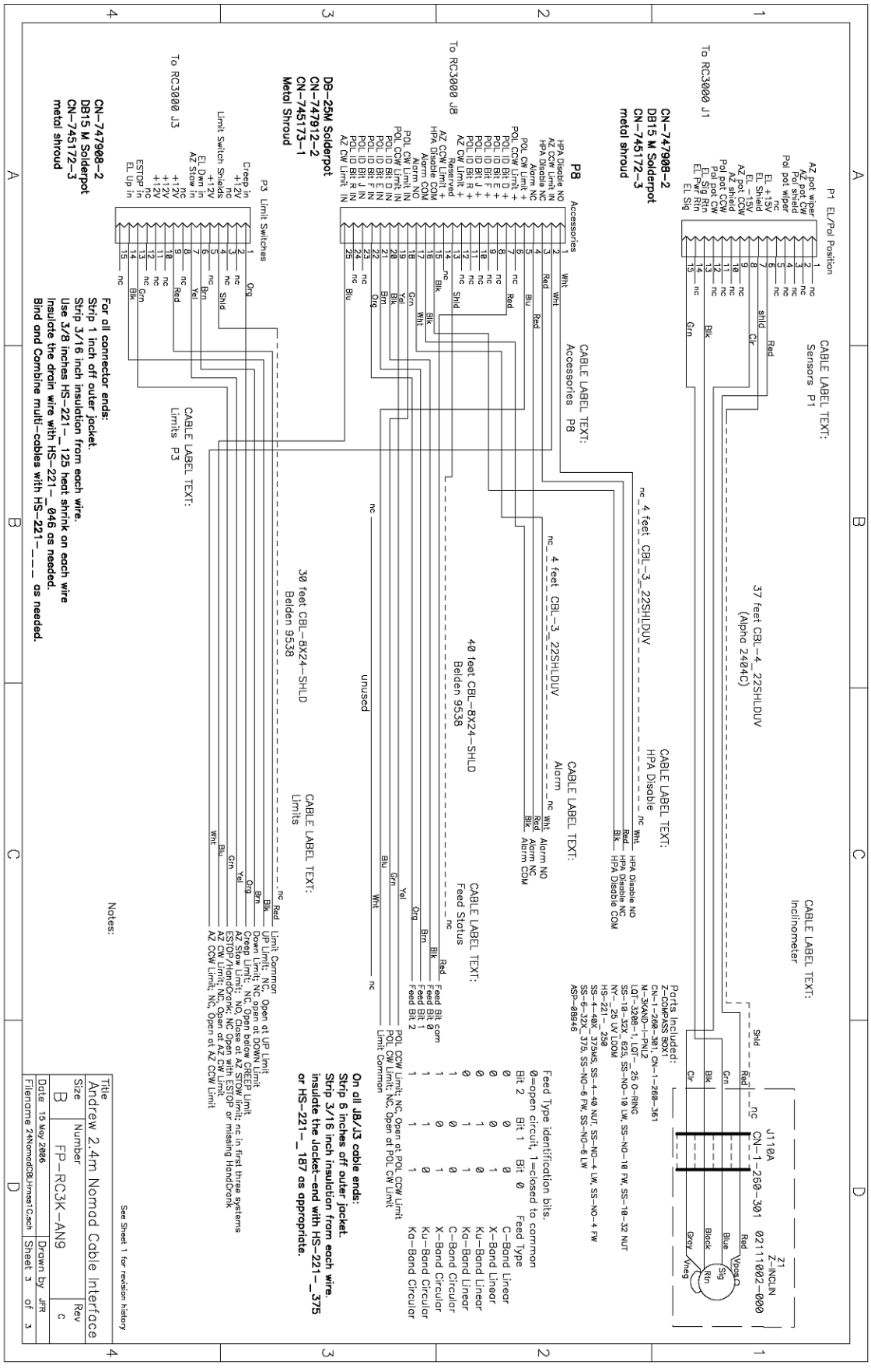
Motor Drive and Navigation Interfaces



Resolver and AGC Interfaces



Inclinometer, Limits and Feed Sensing



2.3 Calibration

While similar in scope, the calibration steps for the N7 are somewhat different from the procedure described in the baseline manual. These differences arise mainly due to the fact that the N6 elevation stow position is determined by monitoring current rather than an elevation stow limit switch.

Various unique calibration steps are defined in the following paragraphs.

2.3.2 Elevation Calibration

The N7 elevation interface is unique in that the elevation stow position will be determined by monitoring the elevation resolver count rather than by sensing an elevation stow limit switch.

#	STEP	ACTION
1	Define Elevation Inclinometer Reference Position Raise reflector to the "face vertical" position NOTES: - this step should be accomplished with the mount's platform level so that the elevation angle derived from the inclinometer and the resolver are the same.	MAINTENANCE MENU - VOLTS Record elevation input voltage _____ NOTE: a correctly oriented inclinometer should yield a voltage of 1.69 +/- 0.2 VDC. Reorient the inclinometer if the voltage falls out of this range. **ELEVATION CALIBRATION** Configuration Screen REF_V: Enter recorded voltage **MANUAL** mode: Confirm that ELEV: value is 17.7 +/- 0.2
2	Define Elevation Resolver Reference Position Performed from same position as in the last step - at this position the elevation resolver should be rigged to approximately 180 degrees	MAINTENANCE MENU - VOLTS Record raw elevation resolver angle _____ **ELEVATION CALIBRATION** Configuration Screen: RES: enter angle required to obtain 17.7 from raw elevation resolver angle. MAINTENANCE MENU - VOLTS Confirm that resultant elevation angle is approximately 17.7.
3	Determine Electronic Inclinometer Scale Factor After recording values at the elevation reference position, the mount will be raised approximately 40 degrees in elevation to characterize the scale factor for the installed elevation inclinometer	Before moving from reference position place accurate level on backstructure and record angle _____ **MAINTENANCE MENU - VOLTS** Record elevation input voltage _____ **MANUAL:** Move UP approximately 40 degrees and place accurate level on backstructure and record angle _____ **MAINTENANCE MENU - VOLTS** Record elevation input voltage _____ Calculate elevation scale factor

		as discussed in section 2.3.2 of the RC3000 User's Manual **ELEVATION CALIBRATION** Configuration Screen: Enter calculated scale factor (mV/deg.) in SF: field **MANUAL** mode: Confirm that ELEV reads 17.7 + number of degrees physically_rotated
4	Confirm Elevation UP Limit Switch Carefully move elevation axis to the physical UP limit (> 90 degree look angle)	**MANUAL** MODE: Confirm ELEV: "UP" limit is displayed
5	Define Elevation Stow Position Move Elevation axis to desired STOW position (approximately 90 degree look angle) Note elevation resolver count at this position.	**ELEVATION PULSE** Configuration Screen Store elevation resolver count into STW: field.
6	Confirm Elevation DOWN Limit Switch Move elevation axis to DOWN limit Typically set around 5.0 degrees or required position for boom to avoid obstacles while moving in azimuth.	**MANUAL** MODE: Confirm ELEV: "DOWN" limit is displayed

2.3.3 Azimuth Calibration

#	STEP	ACTION
1	Carefully move the mount to STOW position	**MANUAL** mode Use EL UP/DOWN, AZ CW/CCW to jog mount
2	Define Azimuth Reference Position Verify that mount is in exact center of azimuth travel (STOW position) NOTE: azimuth resolver should be rigged to approximately the 180 degree position	MAINTENANCE MENU - VOLTS Record raw azimuth resolver angle _____ **AZIMUTH CALIBRATION** Configuration Screen RES: enter angle required to obtain 0.0 from raw azimuth resolver angle. **MANUAL**: Confirm that AZIM: value is 0.0
3	Define Software Azimuth Stow Position **NOTE: eventually N7 may mechanize a azimuth stow switch**	**MANUAL** mode Press SCR UP to display azimuth resolver count value _____ **AZIMUTH PULSE DRIVE** Configuration Screen Enter recorded resolver count value in STOW: field
4	Confirm Azimuth Clockwise Limit Switch, Set Software Limit Move azimuth axis to clockwise limit	**MANUAL** MODE: Confirm that "CW" limit is triggered via limit switch SCR UP to display and record AZIM: resolver count _____ **AZIMUTH PULSE** Configuration Screen: Enter recorded resolver count in CW: field
5	Confirm Azimuth Counter-Clockwise Limit Switch, Set Software Limit Move azimuth axis to counter-clockwise limit	**MANUAL** MODE: Confirm that "CCW" limit is triggered via limit switch SCR UP to display and record AZIM: resolver count _

2.3.4 Polarization Calibration

1	Define Polarization Reference Position Move polarization axis to the position where the feed is horizontal/vertical (nearest to center of travel) - at this position the polarization resolver should be rigged to approximately 180 degrees	MAINTENANCE MENU - VOLTS Record raw polarization resolver angle _____ **POLARIZATION CALIBRATION** Configuration Screen RES: enter angle required to obtain 0.0 from raw polarization resolver angle. **MANUAL** Confirm that POL: value is 0.0
13	Confirm Polarization CW, CCW limits Move to CW and CCW limits	**MANUAL** MODE: Confirm that pol "CW" and "CCW" limits are displayed

3.0 Detailed Operation

3.2.1 Manual Mode.

```
AZIM:    0.0 STOW    CH4: 50
MANUAL
ELEV. -42.5 DOWN     SAT:TELSTAR 402
P-Ku:  30.0 V        SPD:FAST
CST
<0-9>JOG ANTENNA <MODE>MENU
14:25:47
```

ELEV: STOW

The elevation STOW limit indication will be displayed while the elevation resolver count is within 0.5 degrees of the elevation stow value defined in the ELEVATION PULSE calibration screen. The mount will be able to be moved up beyond this point until it encounters the UP limit.

P-Ku:

Instead of "POL:", linear feeds will show "P-" plus the band designation (P- C, P- X, P-Ku, P-Ka). Circular types will have a blank field as before.

NOTE: in situations where the default polarization positions will be used as predefined targets (H or V key pressed - no stored or located satellites), the controller will attempt to position polarization to either the 0 or 90 degree position.

3.2.2.2 Stow

After moving to the azimuth stow position, the elevation axis will move to the elevation stow resolver count defined in the ELEVATION PULSE configuration screen.

3.3.1.2.2 Elevation Calibration

In addition to the normal inclinometer calibration items, two elevation resolver calibration items are included.

```
REF_V:1.69 OFF:  0.0         CONFIG-ELEV
 DOWN:  0   UP: 90.0   SF:50.00
 LOOK:1    RES: 0.0    REV:0
SET REFERENCE VOLTAGE <0.50 - 3.50>
```

RES: ELEV RESOLVER OFFSET<+/-300.00 DEGREES>

The elev_resolver_offset configuration item defines the offset to be applied to the angle read directly from the elevation resolver for the purpose of displaying elevation angle. Example: If when at the elevation reference (stow) position the raw elevation resolver angle reads 122.3, a elev_resolver_offset of -100.0 will result in a resolver based elevation angle of 22.3.

NOTE: the resolver-based angle is displayed in MANUAL mode when the elevation DOWN limit is active.

REV: ELEV RESOLVER<0-NORMAL 1-REVERSED>

The elev_resolver_reversed configuration item defines whether the polarity of the elevation resolver matches that of the RC3000 resolver circuitry. If the raw elevation resolver angle decreases as the mount moves up, the elev_resolver_reversed item must be described as reversed.

3.3.1.2.3 Azimuth Calibration

In addition to the normal azimuth calibration items, two azimuth resolver calibration items are included. No azimuth reference_voltage item is displayed since no azimuth potentiometer is present.

```
           OFF: 0.0          CONFIG-AZIM
  CCW:180   CW:180
  RES: 0.0 REV:0
SET REFERENCE VOLTAGE <2.00 - 3.00>
```

RES: AZIM RESOLVER OFFSET<+/-300.00 DEGREES>

The azim_resolver_offset configuration item defines the offset to be applied to the angle read directly from the azimuth resolver for the purpose of displaying azimuth angle. Example: If when at the azimuth stow position the raw azimuth resolver angle reads 181.3, a azim_resolver_offset of –181.3 will result in a resolver based azimuth angle of 0.0.

REV: AZIM RESOLVER<0-NORMAL 1-REVERSED>

The azim_resolver_reversed configuration item defines whether the polarity of the elevation resolver matches that of the RC3000 resolver circuitry. If the raw elevation resolver angle decreases as the mount moves up, the elev_resolver_reversed item must be described as reversed.

3.3.1.2.4 Polarization Calibration

The multi-feed ("quad band") scheme allows for separate calibration of four linear and four circular feeds. Feed Type is sensed via bits 2, 1 & 0 as shown in the following table:

FEED #	Bit 2*	Bit 1*	Bit 0*	Sensed Feed Type
1	0	0	0	C-Band Linear
2	0	0	1	X-Band Linear
3	0	1	0	Ku-Band Linear
4	0	1	1	Ka-Band Linear
5	1	0	0	C-Band Circular
6	1	0	1	X-Band Circular
7	1	1	0	Ku-Band Circular
8	1	1	1	Ka-Band Circular

* 0 = open circuit, 1 = closed to common

Feeds 1 - 4 may be linear feeds. Each of these feeds will have a separate calibration screen to define the many parameters associated with a moveable feed.

Feeds 5 - 8 are defined as circular (non-moving) feeds. There is only one configuration screen that allows the band and LNB LO frequency for each circular feed to be defined.

LINEAR FEED CALIBATION SCREENS

Feeds 1-4 have individual screens to define parameters associated with a moveable feed. In order to fit all these parameters on one screen, each item's identification field is only one letter. Follow the line 4 prompt for each field.

```
B:0 Z:2.50  L: 5150 E:0    T:2 V:*
FEED1
O:0 S:36.00 C:- 90  S:   0     P:*****
A:1 F:  0.0 W:  90  D:  20
R:*******
BAND <0-C 1-Ku 2-CK 3-L 4-X 5-Ka 6-S>
```

B: BAND <0-C 1-Ku 2-CK 3-L 4-X 5-Ka 6-S>

Define the RF band of the feed. This value will be used by automatic scans, etc. to determine how far to step the antenna for a certain amount of theoretical signal change (example- a 3 db step when operating at C-band will be larger than when operating at Ku-band).

Z: REFERENCE VOLTAGE <1.00 - 4.00>

The pol_zero_voltage defines the voltage present when the polarization axis is in its center of motion. See the zero voltage installation section 2.3.4.

NOTE: for resolver-based feed systems, this potentiometer related value is not applicable. Typically the default value in this situation will be set so as to show "****" in this field.

L: LO FREQUENCY <1000 - 30000>MHz

This item defines the Local Oscillator frequency of the feed's LNB. This frequency will be used when automatically tuning optional integrated receivers such as a DVB or beacon receiver.

NOTE: the value associated with the currently sensed feed type will be reflected in the DVB ID configuration screen.

E: STW/DPLY<0-NONE 1-STOW 2-DEPLOY 3-BOTH>

This item defines if automatic movements of the feed are to be performed during STOW and DEPLOY operations.

NOTE: the value associated with the currently sensed feed type will be reflected in the STOW/DEPLOY configuration screen.

S: STOW POSITION <-180 / 180>
D: DEPLOY POSITION <-180 / 180>

This field defines the desired STOW and DEPLOY positions of the feed.

NOTE: the value associated with the currently sensed feed type will be reflected in the STOW/DEPLOY configuration screen.

F: OFFSET <-90.0/90.0> DEGREES

The pol_offset item corrects for discrepancies between the polarization axis' electrical and mechanical alignment.

T: TYPE <1>CIRCULAR <2>SINGLE <3>DUAL

The polarization_type configuration item specifies the configuration of the feed drive. This item will be used by the controller to determine the appropriate automatic movement of the polarization axis.

Circular type specifies that no movement will be needed to align the polarization axis.

Single type specifies that the installation has a feed in just one orientation and therefore separate movements must be made to achieve horizontal and vertical polarization positions.

Dual type specifies that separate feeds exist 90 degrees apart. For this configuration just one movement to achieve both horizontal and vertical positions is required. If this is not the case the system should be described as a single feed type so that separate movements will be made.

NOTE: Feed Types 1-4 are capable of specifying linear (moving) feeds but one of these feeds may be set to circular (non-moving) type as well by this item. In this case, all other items in this screen except LO frequency will not be applicable.

S: SCALE FACTOR <1.00 –180.00 deg/volt>

This value specifies the scale factor applicable to the potentiometer-based polarization feedback. NOTE: The default value for this item will typically be correct.

NOTE: for resolver-based feed systems, this potentiometer related value is not applicable. Typically the default value in this situation will be set so as to show "******" in this field.

C: CCW LIMIT <-180 / 180>
W: CW LIMIT <-180 / 180>

The cw_pol_limit and ccw_pol_limit configuration items specify the range of polarization axis movement.

NOTE: as opposed to software versions < 1.56, these limits now must be entered with the correct polarity sign.

The values are used to check validity of stored satellite data and for calculating horizontal and vertical polarization positions. Actual polarization limits are typically set by potentiometers as described in the installation section.

A: LOCATE AUTOMOVE <0>DISABLE <1>ENABLE

This item lets the user specify whether or not the LOCATE mode should attempt to automatically orient the polarization axis

O: REFERENCE ORIENTATION<0>HORIZONTAL <1>VERTICAL

The orientation achieved by placing the polarization axis in the reference position.

NOTE: this orientation must be specified for the receive channel not the transmit channel. Automatic functions of the controller attempt to orient the receive feed in the correct position.

V: RESOLVER ROTATION <0-NORMAL 1-REVERSED>

The elev_resolver_reversed configuration item defines whether the polarity of the elevation resolver matches that of the RC3000 resolver circuitry. If the raw elevation resolver angle decreases as the mount moves up, the elev_resolver_reversed item must be described as reversed.

NOTE: for potentiometer based feed systems, this resolver related value is not applicable. Typically the default value in this situation will be set so as to show "*" in this field.

P: SCALE FACTOR <1-32767 COUNTS/RADIAN>

This item defines the number of counts per radian.

NOTE: for potentiometer based feed systems, this resolver related value is not applicable. Typically the default value in this situation will be set so as to show "*****" in this field.

R: RESOLVER OFFSET<+/- 300.00 DEGREES>

The azim_resolver_offset configuration item defines the offset to be applied to the angle read directly from the azimuth resolver for the purpose of displaying azimuth angle. Example: If when at the azimuth stow position the raw azimuth resolver angle reads 181.3, a azim_resolver_offset of –181.3 will result in a resolver based azimuth angle of 0.0.

NOTE: for potentiometer based feed systems, this resolver related value is not applicable. Typically the default value in this situation will be set so as to show "*******" in this field.

CIRCULAR FEED CALIBRATION

By definition, feed types 5-8 are considered circular (non-moving) feeds. A single screen allows the band and LO frequency of each feed to be specified.

```
                                    FEEDS 5-
8
5B:0 5L: 5150 6B:1 6L: 8000
7B:2 7L:10750 8B:3 8L:19200
FEED5 <0-C 1-Ku 2-CK 3-L 4-X 5-Ka 6-S>
```

5B: FEED5 <0-C 1-Ku 2-CK 3-L 4-X 5-Ka 6-S>

5L: FEED5 LO FREQUENCY <1000 - 30000>MHz

3.3.1.3.2 Azimuth Pot Drive

NOTE: Since no potentiometer exists on the azimuth axis, these items actually are used to tune azimuth movements based on angles derived from the resolver feedback.

3.3.1.3.3 Azimuth Pulse Drive

This screen has been modified to include definition of the azimuth stow position.

```
SCALE:10431              CONFIG-AZ
PULSE
   CW:65000 STOW:32768 F/S:80  COAST:
3
  CCW:  100            MAX: 2  TRIES: 3
AZIM STOW PULSE LIMIT <0 -65535>
```

STOW: 32768

AZIM STOW PULSE LIMIT <0 -65535>

This fields allows the user to state (in azimuth resolver counts) the azimuth stow position.

Note that the RC3000F will display “STOW” when the azimuth axis is within +/- 1.0 degrees of this position.

3.3.1.3.4 Azimuth Drive Monitoring

3.3.1.3.7 Elevation Drive Monitoring

The items on the Drive Monitoring screens are actually used to tune drive movements based on resolver "counts". The resolver counts are used in the same fashion as pulse counts are used for making precise movements of the mount.

3.3.1.3.6 Elevation Pulse Drive

This screen has been modified to include definition of the elevation stow and sync positions.

```
SCALE:10431                CONFIG-AZ
PULSE
   UP:40500              F/S:100 COAST:
5
 DOWN:29600  STW:45492 MAX: 1  TRIES: 3
AZIM STOW PULSE LIMIT <0 -65535>
```

STW: 45492

ELEV STOW PULSE LIMIT <0 -65535>

This fields allows the user to state (in elevation resolver counts) the elevation stow position.

3.3.1.3.10 Stow & Deploy Postions

NOTE: the elevation stow value entered in this screen will only be used to display a target angle during the STOW operation. The actual elevation stow target position will be defined in the ELEVATION PULSE configuration screen.

3.3.2.1 Analog to Digital Voltages

In addition to the normal voltages displayed this screen also shows "raw resolver" angles and counts.

```
AZ: 1.114   181.30 33004    AD VOLTAGES
EL: 1.143 1 122.30 22264   22.3
L1:0
POL:2.237
L2:1
SIG: 3.756(1) <1>RF <2>SS1 <3>SS2
<4>GND
```

The azimuth and elevation resolver angles and counts displayed are read directly from the resolvers without being biased by offset terms. NOTE: The displayed values will reflect if the azimuth or elevation resolver polarity has been reversed.

As an aid in calibrating the elevation resolver, the angle resulting from applying offset and reverse factors is also displayed.

3.3.2.5 Limits Maintenance

```
AZIM CW:0  CCW:1  STOW:0
LIMITS
ELEV UP:1   DN:1  STOW:1
ACTIVE
 POL CW:0  CCW:1  STOW:1     2:0 1:1
0:1
<BKSP>MAKE LIMITS INACTIVE
<MODE>EXIT
```

2: 1: 0:

The state of the feed type bits is also shown. The numbers correspond to corresponding pin in the connector. A 1 indicates that a switch closure is sensed at the pin. The following table shows how the feed input combinations are interpreted.

FEED #	Bit 2*	Bit 1*	Bit 0*	Sensed Feed Type
1	0	0	0	C-Band Linear
2	0	0	1	X-Band Linear
3	0	1	0	Ku-Band Linear
4	0	1	1	Ka-Band Linear
5	1	0	0	C-Band Circular
6	1	0	1	X-Band Circular
7	1	1	0	Ku-Band Circular
8	1	1	1	Ka-Band Circular

* 0 = open circuit, 1 = closed to common

3.3.1.2 Reset Defaults

The table at the end of this appendix supplies the default configuration item values for this mount. 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.

3.4 Alarm Displays

The following alarms are unique to operation of the N6 version.

EMERGENCY STOP ACTIVE

This alarm will display whenever the emergency stop switch is active. No antenna movement is allowed when this switch is sensed.

CONFIGURATION ITEM	**N7**							**INSTALL VALUE**
SYSTEM DEFINITION								
Antenna_size_cm	240							
GPS	1							
COMP	2							
MODE	2							
WAVE	0							
ELEVATION CALIBRATION								
Zero Voltage	1.69							
Elev_offset	0.0							
Up_elev_limit	92							
Down_elev_limit	0							
Elevation_Scale_Factor	50.00							
Elevation_look_configuration	1							
Res	-162.27							
Rev	0							
AZIMUTH CALIBRATION								
FG_offset	0.0							
ccw_azim_limit	180							
Cw_azim_limit	180							
Res	-180.0							
Rev	0							
SIGNAL PARAMETERS								
RF_Lock	0							
RF_Time	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	0							

FEED 1	**N7**							
Band	0							
Reference Orientation	1							
Locate Automove_Enable	1							
Reference Voltage	N/A							
Scale_Factor	N/A							
Offset	0.0							
LO Frequency	5150							
CCW Limit	-90							
CW Limit	90							
Stow/Deploy Enable	0							
Stow Position	0							
Deploy Position	0							
Polarization_type	2							
Resolver Rotation	0							
Pulse Scale Factor	10431							
Resolver Offset	-180.0							
FEED 2								
Band	4							
Reference Orientation	1							
Locate Automove_Enable	1							
Reference Voltage	N/A							
Scale_Factor	N/A							
Offset	0.0							
LO Frequency	5150							
CCW Limit	-90							
CW Limit	90							
Stow/Deploy Enable	0							
Stow Position	0							
Deploy Position	0							
Polarization_type	2							
Resolver Rotation	0							
Pulse Scale Factor	10431							
Resolver Offset	-180.0							
FEED 3								
Band	1							
Reference Orientation	0							
Locate Automove_Enable	1							
Reference Voltage	N/A							
Scale_Factor	N/A							
Offset	0.0							
LO Frequency	10750							
CCW Limit	-90							
CW Limit	90							
Stow/Deploy Enable	0							
Stow Position	0							
Deploy Position	0							
Polarization_type	2							
Resolver Rotation	0							
Pulse Scale Factor	10431							
Resolver Offset	-180.0							

FEED 4	**N7**							
Band	0							
Reference Orientation	1							
Locate Automove_Enable	1							
Reference Voltage	N/A							
Scale_Factor	N/A							
Offset	0.0							
LO Frequency	19200							
CCW Limit	-90							
CW Limit	90							
Stow/Deploy Enable	0							
Stow Position	0							
Deploy Position	0							
Polarization_type	2							
Resolver Rotation	0							
Pulse Scale Factor	10431							
Resolver Offset	-180.0							
FEEDS 5-8								
5 Band	0							
5 LO	5150							
6 Band	4							
6 LO	8000							
7 Band	1							
7 LO	10750							
8 Band	3							
8 LO	19200							

CONFIGURATION ITEM	**N7**							**INSTALL VALUE**
AZIMUTH POT DRIVE								
Fast/Slow Threshold	0.5							
Maximum Position Error	0.05							
Coast Threshold	0.0							
Maximum Retry Count	3							
AZIMUTH PULSE DRIVE								
Pulse Scale Factor	10431							
CW Pulse Limit	65000							
CCW Pulse Limit	100							
Stow Position	32768							
Fast/Slow Threshold	80							
Maximum Position Error	2							
Coast Threshold	3							
Maximum Retry Count	3							
AZIM DRIVE MONITORING								
Jam Slop	5							
Runaway Slop	200							
Fast Deadband	1000							
Slow Deadband	500							
ELEV POT DRIVE								
Fast/Slow Threshold	1.0							
Maximum Position Error	0.2							
Coast Threshold	0.3							
Maximum Retry Count	3							
ELEV PULSE DRIVE								
Pulse Scale Factor	10431							
UP Pulse Limit	40500							
Down Pulse Limit	29600							
Stow	45924							
Fast/Slow Threshold	100							
Maximum Position Error	1							
Coast Threshold	5							
Maximum Retry Count	3							
ELEV DRIVE MONITORING								
Jam Slop	5							
Runaway Slop	200							
Fast Deadband	1000							
Slow Deadband	500							

CONFIGURATION ITEM	**N7**							**INSTALL VALUE**
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	5							
Runaway Slop	200							
Fast Deadband	1000							
Slow Deadband	500							
TRACK								
Search Enable	0							
Max Track Error	3							
Search Width	4							
Peakup Holdoff Time	120							
Track Signal Source	2							
Signal Sample Time	2							
Log	0							
Mode	0							
AZDP	1.0							
REMOTE CONTROL								
Remote Enabled	1							
Bus Address	50							
Baud Rate	6							
Jog	20							
STOW / DEPLOY								
AZ STOW	0.0							
EL STOW	90.0							
PL STOW	0.0							
AZ DEPLOY	0.0							
EL DEPLOY	17.7							
PL DEPLOY	0.0							
PL ENABLED	0							
STW_AMP	0.0							