

APPENDIX B - MOUNT SPECIFIC DATA

For the Cobham 3.8m Trailer Antenna System

Revision: 6 May 2011, Software Version 1.60

1.1 Appendix B Organization

This appendix is provided as a supplement to the baseline RC3000 User's Manual. The corresponding paragraphs in the baseline RC3000 manual are referred to when data specific to the referenced mount is described.

1.2 Mount Model

This appendix describes the RC3000 antenna controller unit variation built for use by the Cobham 3.8m trailer antenna. This mount model type is designated as "PK".

1.3.2 System Interface Requirements

The PL ACU follows the standard RC3000 interface requirements with the following modifications:

- Azimuth and elevation resolvers present

2.0 INSTALLATION

2.1.4 Inclinometer Orientation

The inclinometer should be rigged with the reflector in the 25 degree look angle position.

2.3.2 Elevation Calibration

Elevation Reference Position

From the reflector reference position, the elevation reference voltage should be close to 0.80 V. The elevation displayed at this voltage will be 25.0 reflecting the inclinometer's reference position.

3.0 Detailed Operation

The PK version of the RC3000 operates as described in the baseline RC3000 User's Manual with a few modifications as noted below.

3.4 Alarm Displays

INTERLOCK A - NO MOVEMENT ALLOWED

This alarm will be displayed when antenna interlocks indicate it is unsafe for any antenna movement. See schematics.

***INTERLOCK B - NO AZIMUTH ALLOWED ***

This alarm will be displayed when antenna interlocks indicate it is unsafe for any azimuth movement. See schematics.

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.

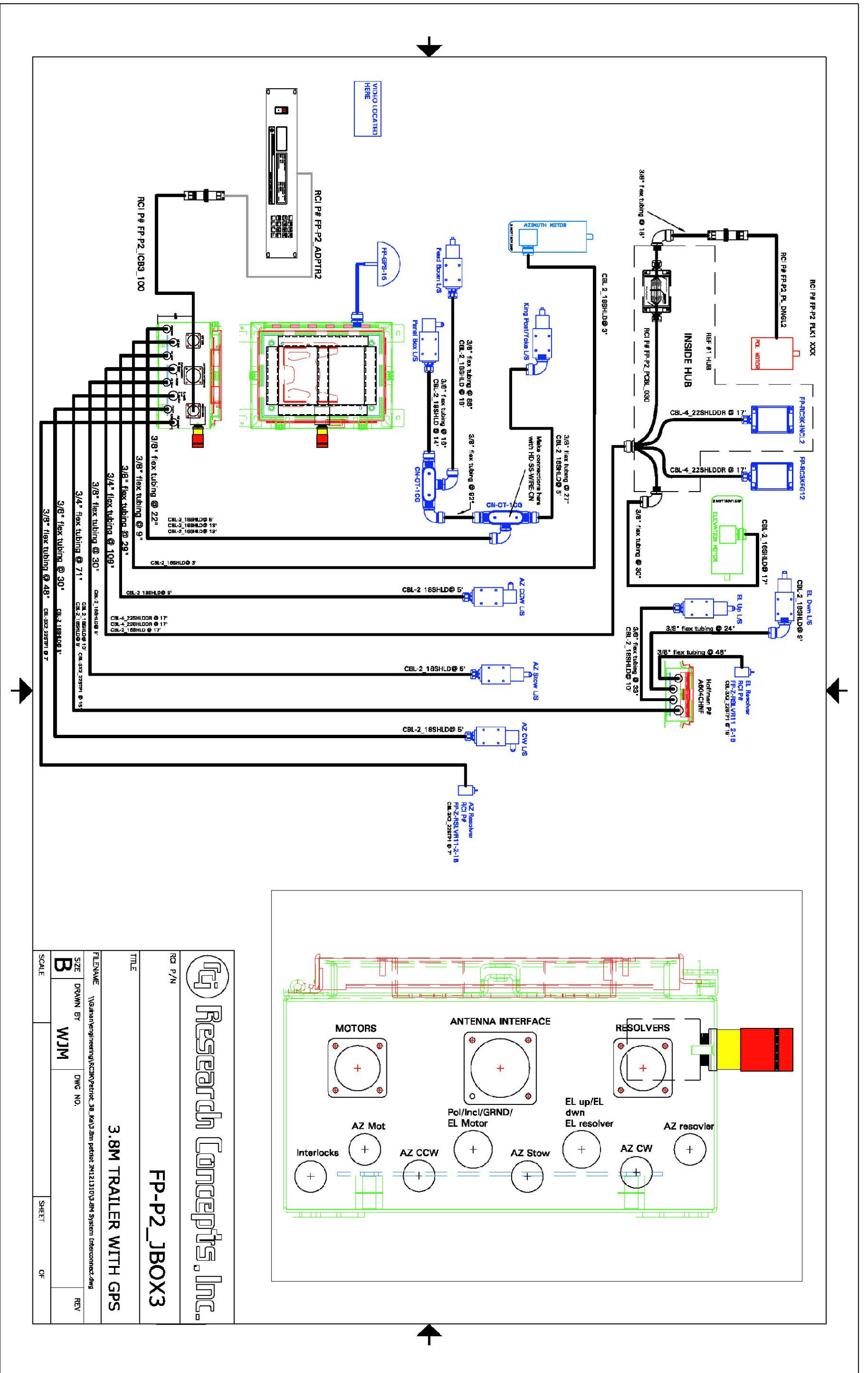
CONFIGURATION ITEM	PK Default					INSTALL VALUE
SYSTEM DEFINITION						
GPS	1					
COMPASS MOUNT	2					
MODE	2					
antenna_size_cm	380					
Waveguide	0					
ELEVATION CALIBRATION						
Zero Voltage	0.80					
Elev_offset	0.0					
Up_elev_limit	90					
Down_elev_limit	0					
Elevation_Scale_Factor	50.00					
Elevation_look_configuration	1					
Elevation_Resolver_Offset	-155.00					
Elevation_Resolver_Direction	0					
AZIMUTH CALIBRATION						
Fluxgate_offset	0.0					
ccw_azim_limit	165					
Cw_azim_limit	165					
Azim_Resolver_Offset	-180					
Azim_Resolver_Direction	0					
POLARIZATION CAL						
Zero Voltage	2.50					
Polarization_Offset	0.0					
CW Polarization Limit	90.0					
CCW Polarization Limit	90.0					
Pol_Scale_Factor	55.31					
Polarization_type	2					
H/V Reference	1					
Default Horizontal Position	0.0					
Default Vertical Position	90.0					
Pol_Automove_Enable	1					

CONFIGURATION ITEM	PK Default					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	PK Default					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	0					
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	0					
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	PK Default					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	-5.0					
PL STOW	0.0					
AZ DEPLOY	0.0					
EL DEPLOY	25.0					
PL DEPLOY	0.0					
PL ENABLED	2					
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					

4.0 Schematics

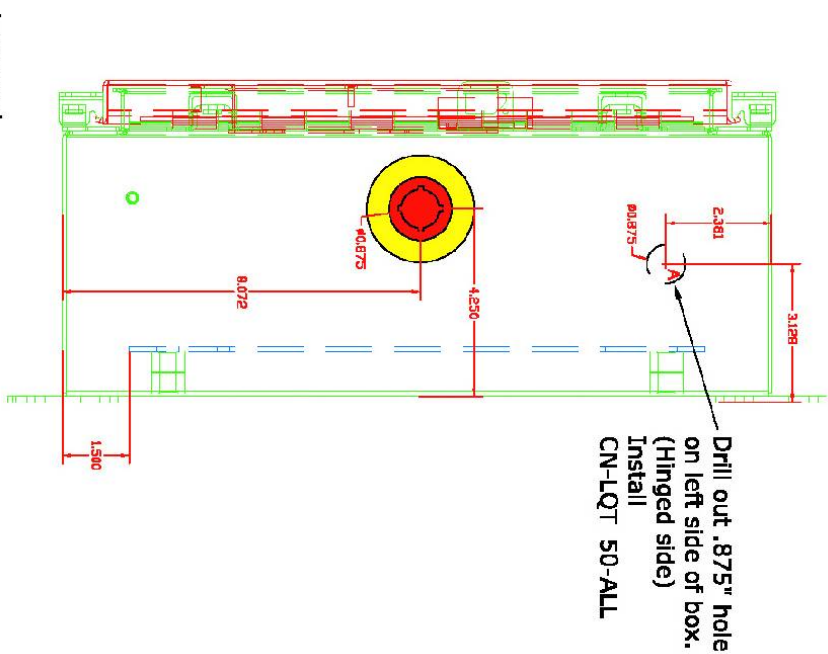
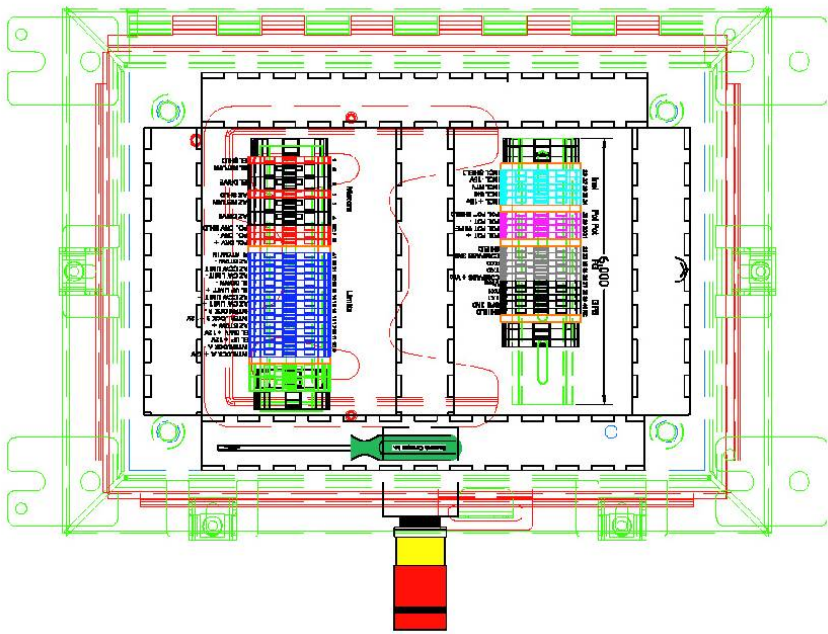
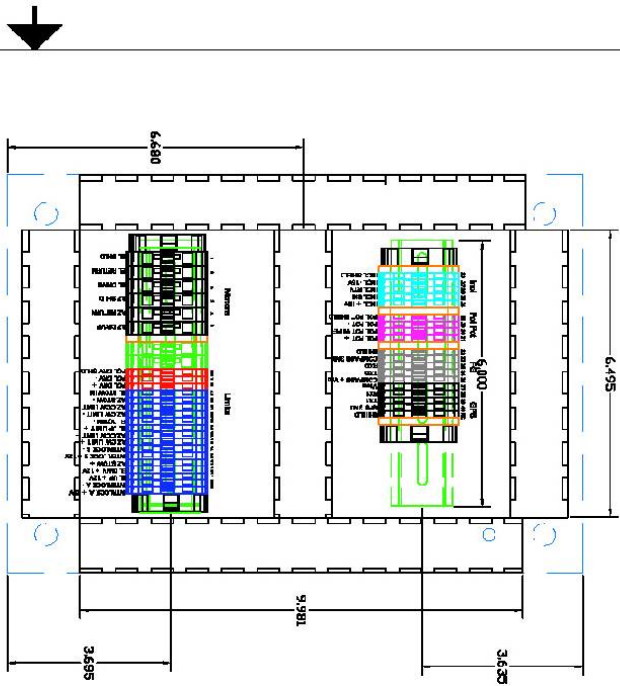


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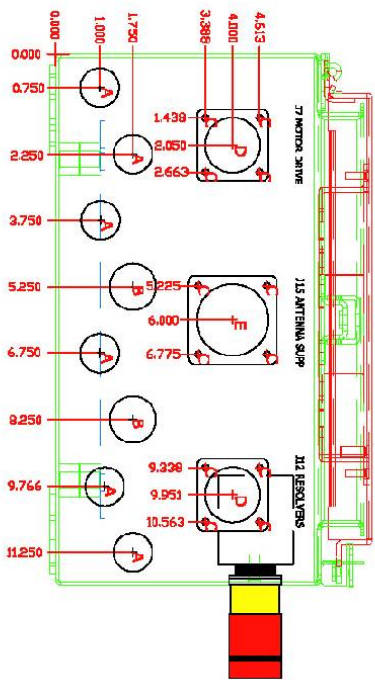
FP-P2_JBOX3

3.8M TRAILER WITH GPS

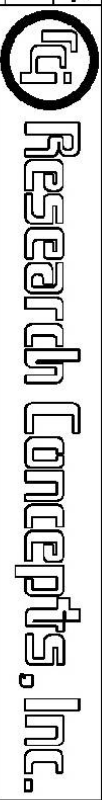
RCI P/N	
TITLE	
FILENAME	\\G:\an\engineering\RCM\patric_38_Mk3.dwg
SIZE	131K
DRAWN BY	WJM
DWG NO.	
SCALE	
SHEET	OF



Install CN-LQT-375STR
 "A" locations
 Install CN-LQT-_75STR
 "B" locations



- "A" .875" thru hole (8 places)
- "B" 1.05" thru hole (2 places)
- "C" .138" thru hole (12 places)
- "D" 1.25" thru hole (2 places)
- "E" 1.625" thru hole (1 place)



FP-P2_JBOX3

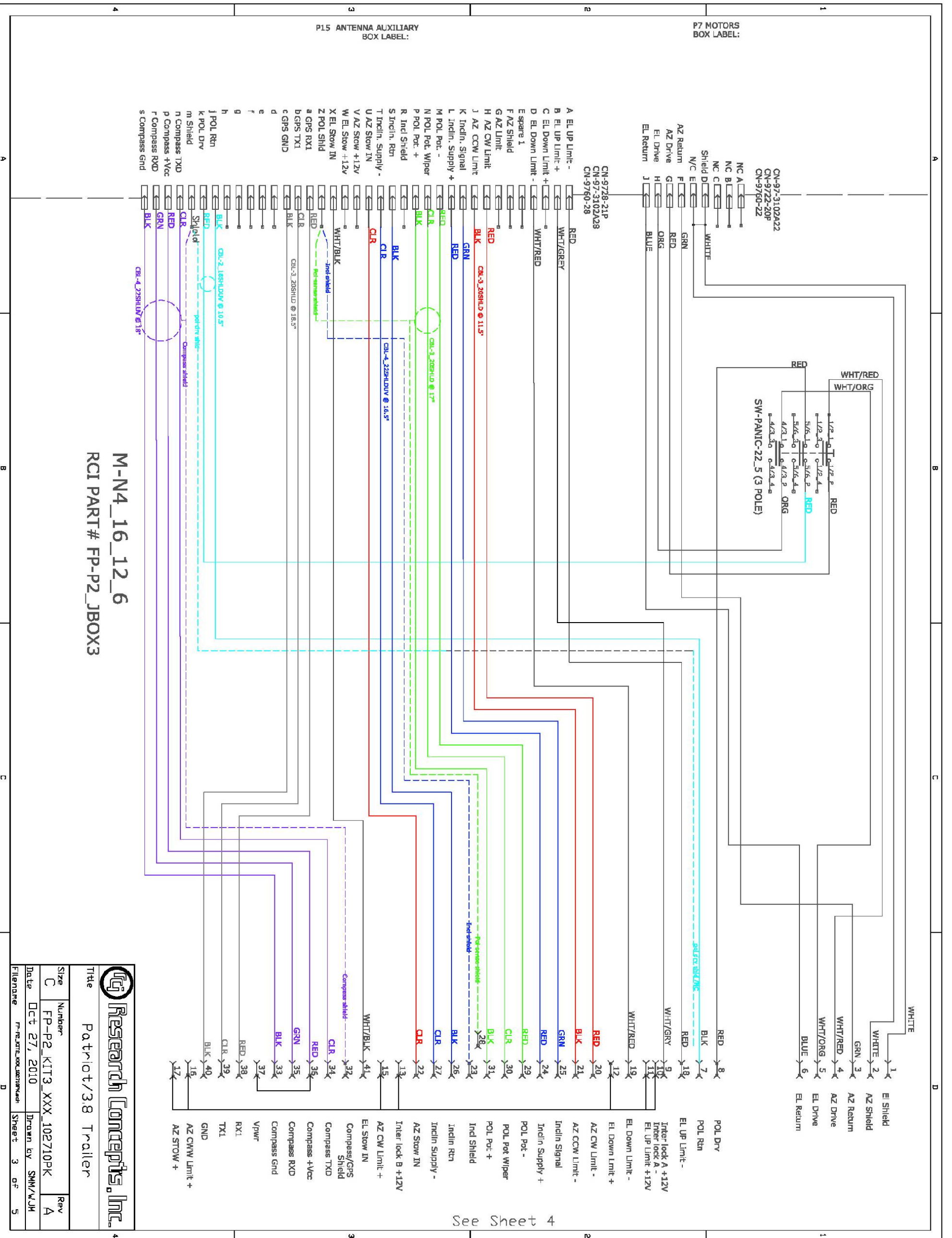
3.8M TRAILER ENCLOSURE WITH GPS

MATERIAL	M-N4_16_12_6NEMA4	ROI P/N	
TOLERANCE	0.X = +/- 0.1 0.XX = +/- 0.05 0.XXX = +/- 0.010 Fractions = +/- 1/64 Angular = +/- 1 deg Unit of Measure = Inches	TITLE	3.8M TRAILER ENCLOSURE WITH GPS
FINISH		SIZE	B
FILENAME		DRAWN BY	WJM
		DWG NO.	
		SCALE	
		SHEET	OF
		REV	

REVISIONS			
REV	DATE	DESCRIPTION	APPROVED BY

DRAWN BY

APPROVED BY

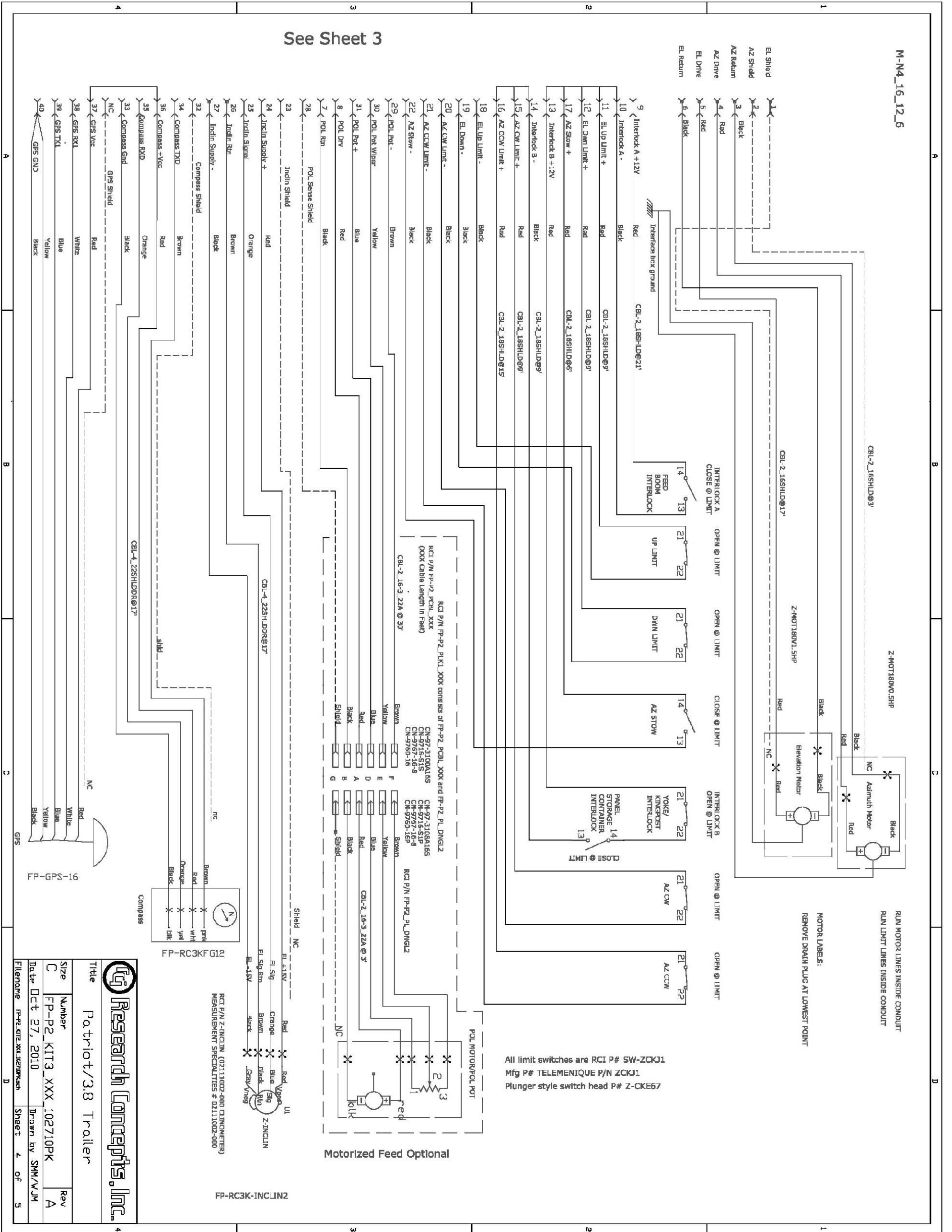


M-N4_16_12_6
RCI PART# FP-P2_JBOX3

Research Concepts, Inc.

Title: Patriot/3.8 Trailer

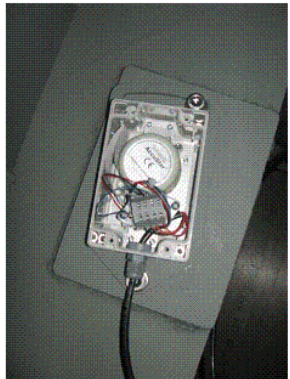
Size	Number	Rev
C	FP-P2_KIT3_XXX_102710PK	A
Date	Oct 27, 2010	Drawn by
Filename	FP-P2_KIT3_XXX_102710PK	Sheet
		3 of 5



Patrol/3.8 Trailer

Title	Patrol/3.8 Trailer	Rev	A
Number	FP-P2 KIT3_XXX_102710PK	Size	C
Date	Oct 27, 2010	Drawn by	SMM/WJM
Filename	FP-P2_KIT3_XXX_102710PK.dwg	Sheet	4 of 5

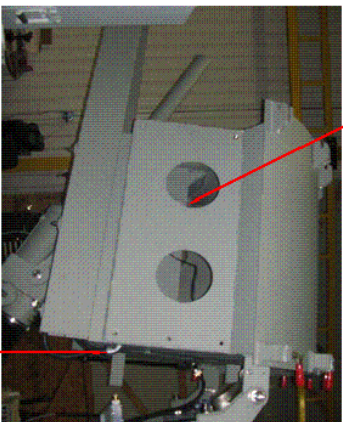
RCI p# FP-RC3K-INCLIN2



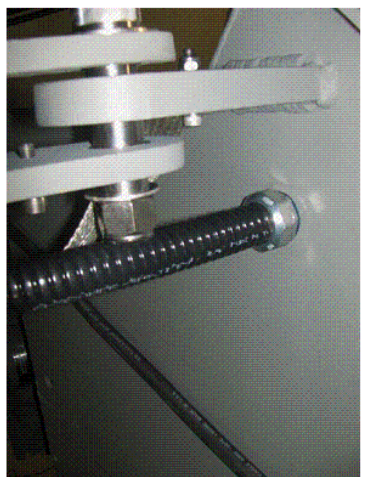
FP-RC3K-INCLIN2 shown installed inside hub on side with pol cable run



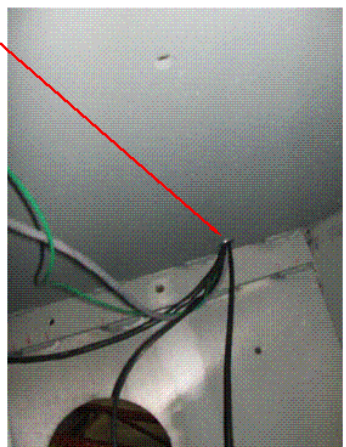
Pol Cable exiting hub
 3/8" POL CABLE @ 18" exiting hub 90 DEGREE CONNECTOR
 CBL-2_16-3_22A @ 30"
 (RCI P# FP-P2_PCBL_030)



REF #1 HUB



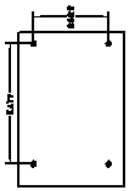
3/8" conduit entering hub @109"
 CONSISTS OF 4 SEPERATE CABLES
 CBL-4_22SHLDDR @ 17"x2 FG/INCL
 CBL-2_16-3_22A @ 30"(RCI P# FP-P2_PCBL_030)
 CBL-2_16SHLD @ 17'



3/8" conduit entering inside of hub
 CONSISTS OF 4 SEPERATE CABLES
 CBL-4_22SHLDDR @ 17"x2 FG/INCL
 CBL-2_16-3_22A @ 30"(RCI P# FP-P2_PCBL_030)
 CBL-2_16SHLD @ 17'

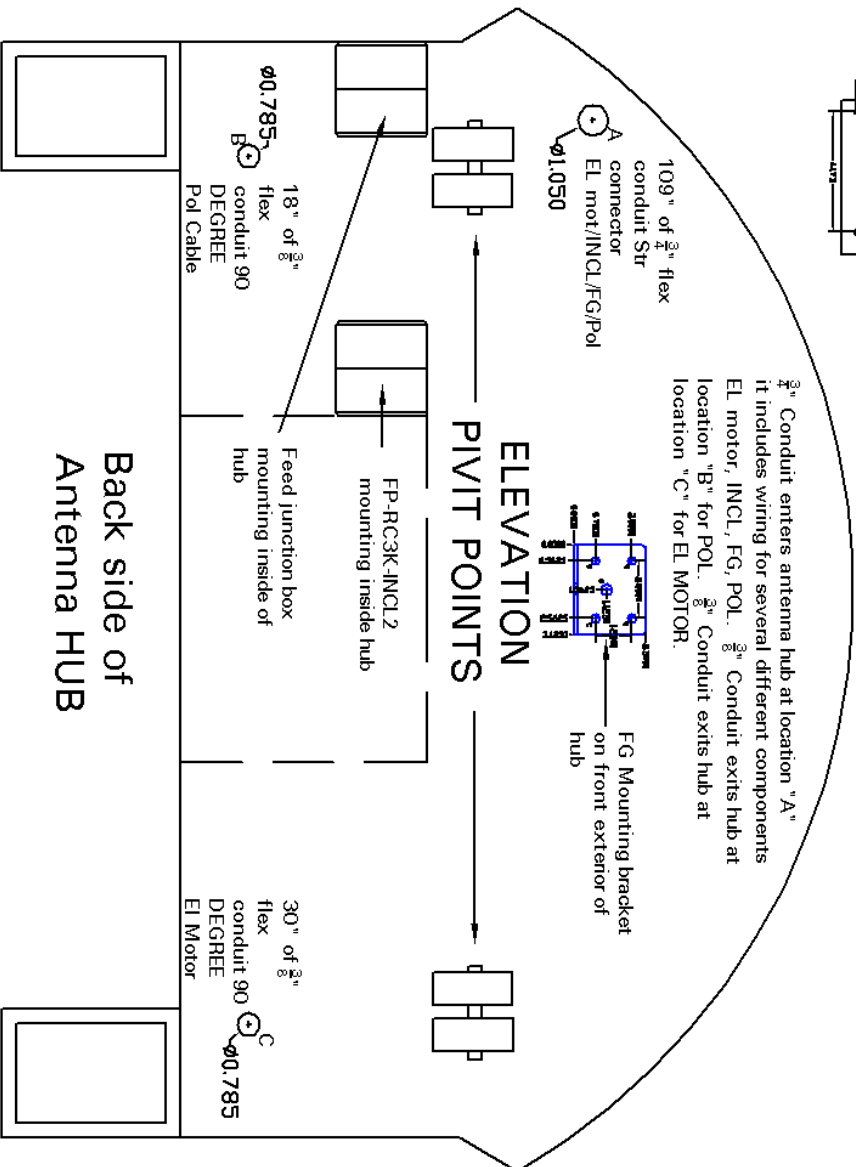
Hub KIT:
 CDT-M-375-LQT @ 18" Install
 CN-LQT-375_90

Mounting diagram for INCL box and Feed interface junction box

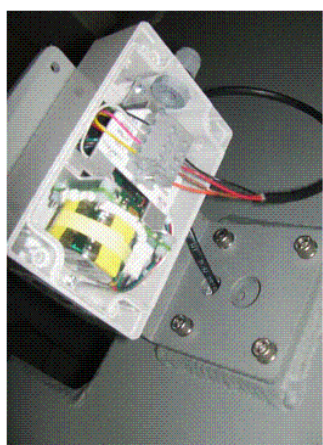


MOUNT WITH
 SS-10-32X_50 SHCS @ 4

3/8" Conduit enters antenna hub at location "A" it includes wiring for several different components EL motor, INCL, FG, POL. 3/8" Conduit exits hub at location "B" for POL. 3/8" Conduit exits hub at location "C" for EL MOTOR.



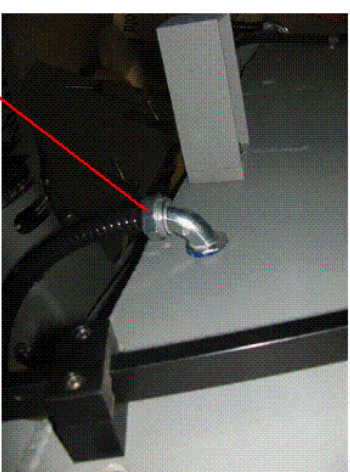
RCI p# FP-RC3KFG12



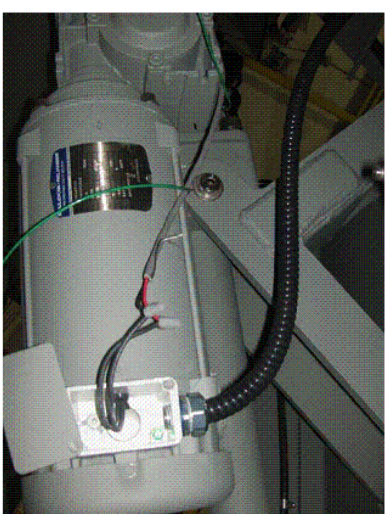
FP-RC3KFG12 shown installed on front side of hub on provided RCI bracket



3/8" EL MOTOR conduit @ 30" exiting hub 90 DEGREE CONNECTOR
 CBL-2_16SHLD @ 17'



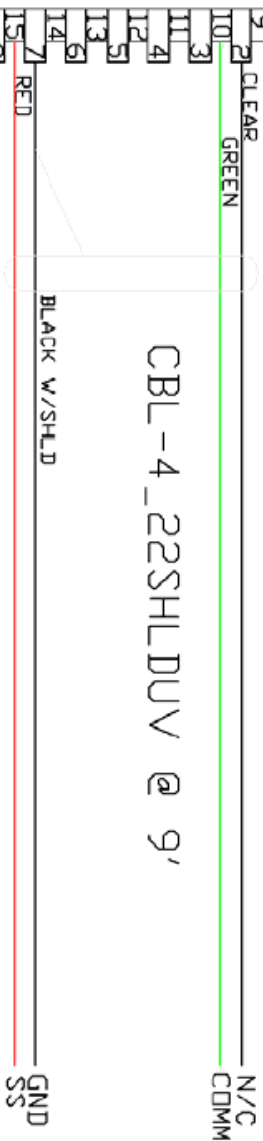
3/8" EL MOTOR conduit @ 30" entering motor STR CONNECTOR
 CBL-2_16SHLD @ 17'



Pol Dangle install
 RCI P# FP-P2_PL_DNGL2
 FP-P2_PCBL_030 BOX RECP installed on bottom of beam



CN#745172-3
 CN#747908-2



CABLE LABEL TEXT:
 TO RC3K J2 AGC

TO BEACON RECEIVER
 REAR MOUNTED
 TERMINAL PLUG

REV	DATE	REVISIONS DESCRIPTION	APPROVED

NOTES:
 STRIP 1" OF INSULATION OFF DB-15 END. STRIP WIRES @ 1/8" AND TIN. COVER INSULATION BREAK WITH HS-221-250 @ 3". INSULATE INDIVIDUAL CONNECTIONS WITH HS-221-093 @ 1/4". STRIP 2" OF INSULATION OFF BEACON RECEIVER END STRIP 1/4" OFF INDIVIDUAL WIRES STRIP AND TIN

MATERIAL			
TOLERANCE	TITLE	DATE	SCALE
FINISH	FP-3K AGC2_CBL	DRAWN BY	WJM
FILENAME	DWG NO.	110408	REV A
			SHEET 1 OF 1