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:   50.00   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
               FG:     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 1-1HI 2-1LO 3-2HI 4-2LO>
              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>
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```
           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
             SEARCH:        0   <0>MANUAL  <1-NARROW,3-NOMINAL,10-WIDE>
          MAX ERROR:        3   ENTER MAX ERROR IN TENTHS OF A dB<1-30>
            HOLDOFF:      120   SET PEAKUP HOLDOFF TIME<1 - 999 SECONDS>
                SIG:        2   SIGNAL SOURCE <2>SS1 <3>SS2
               TIME:        2   SIGNAL SAMPLE TIME <2-99 SECONDS>
                LOG:        0   <0>DISABLE <1>ENABLE TRACK DATA LOGGING
               MODE:        1   <1>STEP/MEMORY <2>STEP ONLY
               AZDP:      1.0   AZ/EL DELTA FACTOR <0.5 - 1.5>

SHAKE
              AZ 1:    -10.0   MOVE 1 AZIM <-180.0/180.0>
              EL 1:     85.0   MOVE 1 ELEV <-90.0/90.0>
              PL 1:    -10.0   MOVE 1 POL <-180.0/180.0>
                 2:     10.0   MOVE 2 AZIM <-180.0/180.0>
                 2:     45.0   MOVE 2 ELEV <-90.0/90.0>
                 2:     10.0   MOVE 2 POL <-180.0/180.0>
                 3:      0.0   MOVE 3 AZIM <-180.0/180.0>
                 3:      5.0   MOVE 3 ELEV <-90.0/90.0>
                 3:      0.0   MOVE 3 POL <-180.0/180.0>
             CYCLE:        5   NUMBER OF SHAKE CYCLES <1-9999>
             DELAY:        1   DELAY <0-999 SECONDS>

REMOTE CONTROL
             ENABLED:        1   REMOTE CONTROL <0>DISABLED <1>ENABLED
             ADDRESS:       50   BUS ADDRESS <49-111>
           BAUD_RATE:        6   BAUD<1-3 2-6 3-12 4-24 5-48 6-96>(*100)
                 JOG:       20   REMOTE JOG HOLD <1-40>
```

CN-97-3106A22 Straight Plug
CN-9722-20P plug insert
CN-9767-22-10 Waterproof Cable Clamp

RCI PART# FP-P2_ADPTR2

CABLE TEXT: RC3K P7 MOTORS

P7 Motors

POL Drive	A	RED	CBL-2_16SHLDUV@30
POL Return	B	BLK	
Shield	C	SHLD	
Chassis Ground	D	SHLD	
Chassis Ground	E	SHLD	
AZ Return	F	BLK	
AZ Drive	G	RED	CBL-2_16SHLDUV@30
EL Drive	H	RED	
EL Return	J	BLK	CBL-2_16SHLDUV@30

CABLE TEXT: FP-P2_ADPTR2 P7 TO FP-P2_ICB2_100 P7

A	NC	
B	NC	
C	NC	
shld	D	Shield
shld	E	N/C
BLK	F	AZ Return
RED	G	AZ Drive
RED	H	EL Drive
BLK	J	EL Return

CN-97-3100A22
CN-9722-20S
CN-9767-22-10
CN-9760-22

CABLE TEXT: RC3K P3 LIMIT SWITCHES

LIMIT SWITCHES P3

POL STOW IN	1	
NC	2	
POL STOW + 12V	3	
LIMIT SWITCH SHIELDS	4	SHLD
EL DWN + 12	5	CLR
EL DWN IN	6	GRN
AZ STOW IN	7	CLR
NC	8	
AZ STOW + 12V	9	GRN
EL UP + 12V	10	BLK
EL STOW + 12V	11	RED
NC	12	
EL STOW IN	13	BLK
EL UP IN	14	RED
NC	15	CBL-4_22SHLDUV@30

CN-747908-2
CN-745172-3

NC

CABLE TEXT: FP-P2_ADPTR2 P15 TO FP-P2_ICB2_100 P15

RED	A	EL UP Limit –
BLK	B	EL UP Limit +
CLR	C	EL Down Limit +
GRN	D	EL Down Limit –
	E	spare 1
SHLD	F	AZ Shield
CLR	G	AZ Limit
BLK	H	AZ CW Limit
RED	J	AZ CCW Limit
CLR	K	Inclin Signal
RED	L	Inclin Supply +
RED	M	POL Pot –
CLR	N	POL Pot Wiper
BLK	P	POL Pot +
SHLD	R	Incl Shield
GRN	S	Inclin Rtn
BLK	T	Inclin Supply –
CLR	U	AZ Stow IN
GRN	V	AZ Stow +12v
RED	W	EL Stow +12v
BLK	X	EL Stow IN
SHLD	Z	POL Shld
RED	a	RX1
CLR	b	TX1
BLK	c	GND
SHLD	d	Shield
	e	
	f	
	g	
	h	
BLK	j	POL Rtn
RED	k	POL Drv
SHLD	m	Shield
CLR	n	Compass TXD
RED	p	Compass +Vcc
GRN	r	Compass RXD
BLK	s	Compass Gnd

CN-9728-21S
CN-97-3106A28
CN-9767-28-16
CN-9760-28

CABLE TEXT: RC3K P1 AZ/EL/POL POSITION

EL/POL POSITION P1

AZ POT WIPER	1	
AZ POT –	2	
POL SHIELD	3	
POL POT WIPER	4	CLR
NC	5	CBL-3_20SHLD@30'
EL + 15V	6	RED
EL SHIELD	7	SHLD
EL – 15V	8	BLK
AZ POT +	9	
AZ SHIELD	10	SHLD
POL POT +	11	BLK
POL POT –	12	RED
EL SIG RTN	13	GRN
EL PWR RTN	14	
EL SIG	15	CLR CBL-4_22SHLDUV@30

CN-747908-2
745172-3

CABLE TEXT: RC3K P13 GPS

P13 GPS

RX1	1	
TX1	2	RED
	3	CLR
GND	4	
	5	BLK
	6	
	7	
Shield	8	SHLD
	9	

CBL-3_20SHLD@30'

CN-747904-2
CN-745171-1

CABLE TEXT: RC3K P8 ACCESSORIES

P8

AZ_CCW LIMIT –	1	RED
AZ_CW LIMIT +	13	CLR
AZ_CCW LIMIT +	14	CLR
AZ_CW LIMIT –	25	BLK

CBL-3_20SHLD@30'

CN-747912-2
CN#745173-1

CABLE TEXT: RC3K P9 FLUXGATE COMPASS

P9 Compass

P2-RX1	1	
P2-TX1	2	CLR
P2-Vpwr	3	GRN
P2-GND	4	RED
	5	BLK
	6	
	7	
P2-GND-Shield	8	SHLD
	9	

NC
CBL-4_22SHLDUV@30'

CN-747904-2
CN-745171-1

VOLTAGE REFERENCE GUIDE
* ACU CHASSIS IS SIGNAL GROUND
** SAME AL EL STOW IN

RCI PART# FP-P2_ICB2_XXX
FB-P2_ICM2_XXX
(az/el motor interface cable)

CABLE TEXT: FP-P2_ICB2_100 P7 TO FP-P2_ADPTR2 P7

NC	A	
NC	B	
NC	C	
Shield	D	
N/C	E	
AZ Return	F	Red
AZ Drive	G	Orange
EL Drive	H	Blue
EL Return	J	Black

Shield
CBL-4_16SHLDDR@100'

CN-97-3106A22
CN-9722-20P
CN-9767-22-10
CN-9760-22P

CABLE TEXT: FP-P2_ICB2_100 P7 TO FP-P2_JBOX2 P7

A	NC	
B	NC	
C	NC	
D	Shield	
E	N/C	
Red	F	AZ Return
Orange	G	AZ Drive
Blue	H	EL Drive
Black	J	EL Return

CN-97-3106A22
CN-9722-20S
CN-9767-22-10
CN-9760-22P

RCI PART# FP-P2_ICA2_XXX
(antenna auxiliary cable)

CABLE TEXT: FP-P2_ADPTR2 P15 TO FP-P2_ICB2_100 P15

CBL-25_22@ 100'

BLK	A	EL UP Limit –
12 WHT	B	EL UP Limit +
** RED	C	EL Down Limit +
GRN	D	EL Down Limit –
	E	spare 1
	F	AZ Shield
ORG	G	AZ Limit
BLU	H	AZ CW Limit
0 WHT/blk	J	AZ CCW Limit
5.000 RED/blk	K	Inclin. Signal
+15 GRN/blk	L	Inclin. Supply +
0 ORG/blk	M	POL Pot. –
BLU/blk	N	POL Pot. Wiper
5.000 BLK/wht	P	POL Pot. +
	R	Incl Shield
0 RED/wht	S	Inclin. Rtn
–15v GRN/wht	T	Inclin. Supply –
BLU/wht	U	AZ Stow IN
12 BLK/red	V	AZ Stow +12v
12 WHT/red	W	EL Stow +12v
ORG/red	X	EL Stow IN
0* Shield (CBL-25_22) USE CABLE BRAID	Z	POL Shld
GRN/blk/wht	a	RX1
RED/blk/wht	b	TX1
WHT/blk/red	c	GND
	d	
	e	
	f	
	g	
	h	
BLK	j	POL Rtn
RED	k	POL Drv
0* Shield	m	Shield
BLU/red	n	Compass TXD
12 Red/grn	p	Compass +Vcc
ORG/grn	r	Compass RXD
0 BLK/wht/red	s	Compass Gnd

CBL-2_18SHLDUV

CN-9728-21P
CN-97-3106A28
CN-9767-28-12
CN-9760-28P

CABLE TEXT: FP-P2_ICB2_100 P15 TO FP-P2_JBOX2 P15

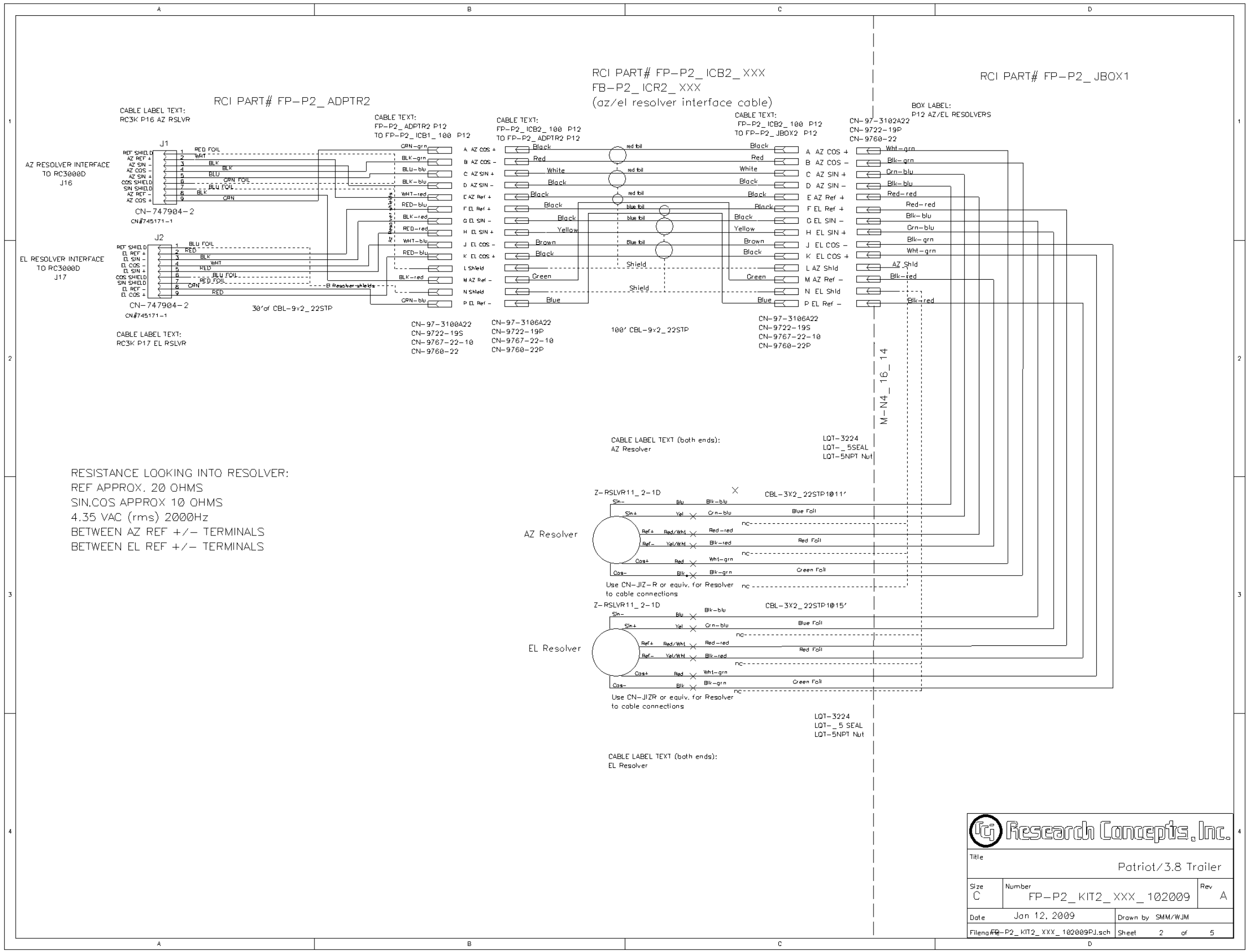
BLK	A	EL UP Limit –
WHT	B	EL UP Limit +
RED	C	EL Down Limit +
GRN	D	EL Down Limit –
	E	spare 1
	F	AZ Shield
ORG	G	AZ Limit
BLU	H	AZ CW Limit
WHT/blk	J	AZ CCW Limit
RED/blk	K	Inclin. Signal
GRN/blk	L	Inclin. Supply +
ORG/blk	M	POL Pot. –
BLU/blk	N	POL Pot. Wiper
BLK/wht	P	POL Pot. +
	R	Incl Shield
RED/wht	S	Inclin. Rtn
GRN/wht	T	Inclin. Supply –
BLU/wht	U	AZ Stow IN
BLK/red	V	AZ Stow +12v
WHT/red	W	EL Stow +12v
ORG/red	X	EL Stow IN
Shield	Z	POL Shld
GRN/blk/wht	a	RX1
RED/blk/wht	b	TX1
WHT/blk/red	c	GND
	d	
	e	
	f	
	g	
	h	
BLK	j	POL Rtn
RED	k	POL Drv
Shield	m	Shield
BLU/red	n	Compass TXD
Red/grn	p	Compass +Vcc
ORG/grn	r	Compass RXD
BLK/wht/red	s	Compass Gnd

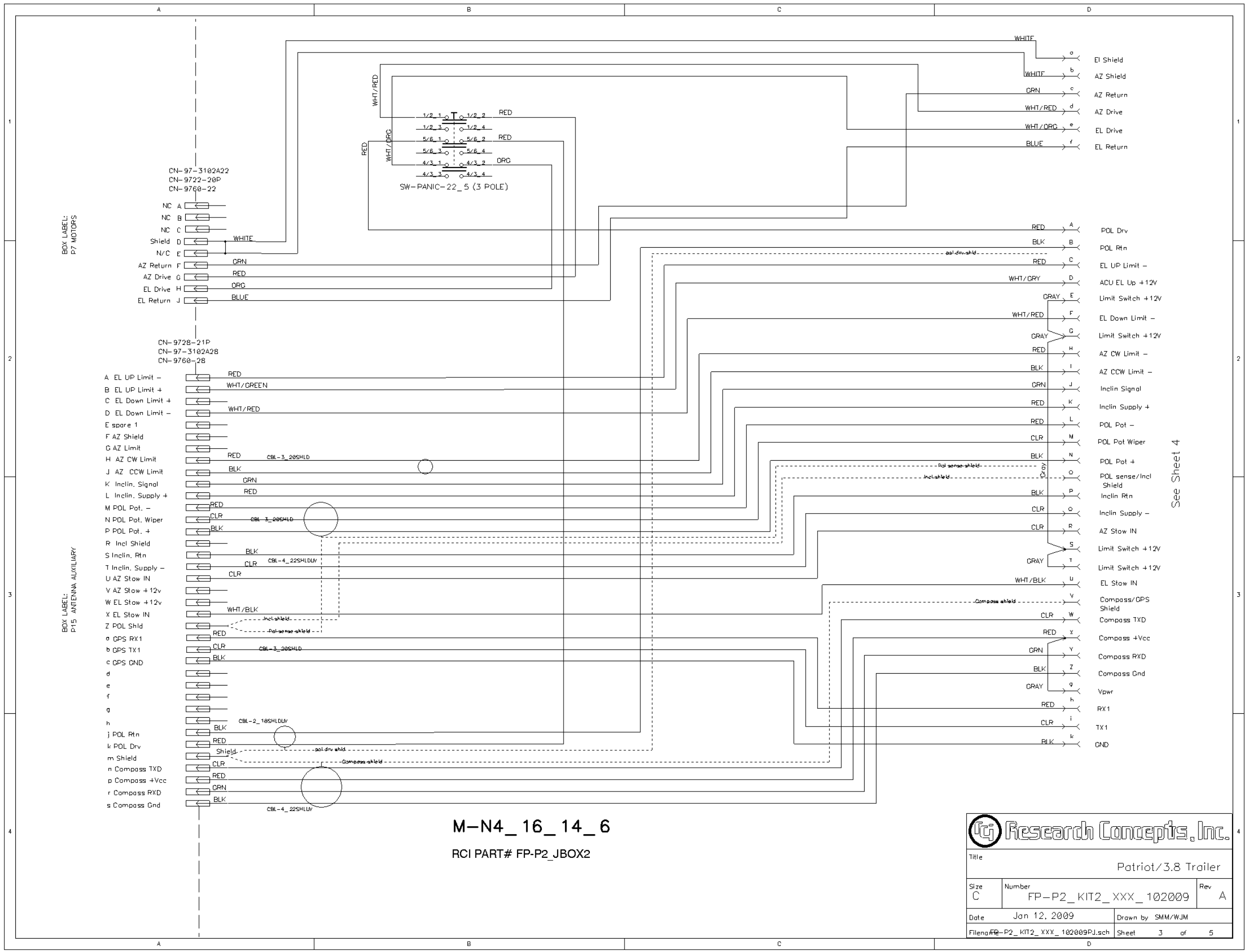
CN-9728-21S
CN-97-3106A28
CN-9767-28-12
CN-9760-28P

TO SHEET 4

Research Concepts, Inc.

Title	Patriot/3.8 Trailer	
Size C	Number FP-P2_KIT2_XXX_102009	Rev A
Date Jan 12, 2009	Drawn by SMM/WJM	
Filename FP-P2_KIT2_XXX_102009PJ.sch	Sheet 1 of 5	


RCI PART# FP-P2_ADPTR2
RCI PART# FP-P2_ICB2_XXX
FB-P2_ICR2_XXX
(az/el resolver interface cable)
RCI PART# FP-P2_JBOX1
CABLE LABEL TEXT:
RC3K P16 AZ RSLVR
AZ RESOLVER INTERFACE
TO RC3000D
J16
J1
CN-747904-2
CN#745171-1
EL RESOLVER INTERFACE
TO RC3000D
J17
J2
CN-747904-2
CN#745171-1
CABLE LABEL TEXT:
RC3K P17 EL RSLVR
30'of CBL-9x2_22STP
CABLE TEXT:
FP-P2_ADPTR2 P12
TO FP-P2_ICB1_100 P12
CABLE TEXT:
FP-P2_ICB2_100 P12
TO FP-P2_ADPTR2 P12
CN-97-3100A22
CN-9722-19S
CN-9767-22-10
CN-9760-22
CN-97-3106A22
CN-9722-19P
CN-9767-22-10
CN-9760-22P
100' CBL-9x2_22STP
CABLE TEXT:
FP-P2_ICB2_100 P12
TO FP-P2_JBOX2 P12
CN-97-3106A22
CN-9722-19S
CN-9767-22-10
CN-9760-22P
BOX LABEL:
P12 AZ/EL RESOLVERS
CN-97-3102A22
CN-9722-19P
CN-9760-22
M-N4_16_14
CABLE LABEL TEXT (both ends):
AZ Resolver
LQT-3224
LQT-_5SEAL
LQT-5NPT Nut
Z-RSLVR11_2-1D
CBL-3X2_22STP1@11'
AZ Resolver
Use CN-JIZ-R or equiv. for Resolver
to cable connections
Z-RSLVR11_2-1D
CBL-3X2_22STP1@15'
EL Resolver
Use CN-JIZR or equiv. for Resolver
to cable connections
LQT-3224
LQT-_5 SEAL
LQT-5NPT Nut
CABLE LABEL TEXT (both ends):
EL Resolver
RESISTANCE LOOKING INTO RESOLVER:
REF APPROX. 20 OHMS
SIN,COS APPROX 10 OHMS
4.35 VAC (rms) 2000Hz
BETWEEN AZ REF +/- TERMINALS
BETWEEN EL REF +/- TERMINALS
Research Concepts, Inc.
Title
Patriot/3.8 Trailer
Size C
Number FP-P2_KIT2_XXX_102009
Rev A
Date Jan 12, 2009
Drawn by SMM/WJM
Filename FP-P2_KIT2_XXX_102009PJ.sch
Sheet 2 of 5


CN-97-3102A22
CN-9722-20P
CN-9760-22
BOX LABEL:
P7 MOTORS
NC A
NC B
NC C
Shield D
N/C E
AZ Return F
AZ Drive G
EL Drive H
EL Return J
WHITE
GRN
RED
ORG
BLUE
WHT/RED
WHT/ORG
RED
1/2_1
1/2_2
1/2_3
1/2_4
5/6_1
5/6_2
5/6_3
5/6_4
4/3_1
4/3_2
4/3_3
4/3_4
SW-PANIC-22_5 (3 POLE)
CN-9728-21P
CN-97-3102A28
CN-9760-28
BOX LABEL:
P15 ANTENNA AUXILIARY
A EL UP Limit –
B EL UP Limit +
C EL Down Limit +
D EL Down Limit –
E spare 1
F AZ Shield
G AZ Limit
H AZ CW Limit
J AZ CCW Limit
K Inclin. Signal
L Inclin. Supply +
M POL Pot. –
N POL Pot. Wiper
P POL Pot. +
R Incl Shield
S Inclin. Rtn
T Inclin. Supply –
U AZ Stow IN
V AZ Stow +12v
W EL Stow +12v
X EL Stow IN
Z POL Shld
a GPS RX1
b GPS TX1
c GPS GND
d
e
f
g
h
j POL Rtn
k POL Drv
m Shield
n Compass TXD
p Compass +Vcc
r Compass RXD
s Compass Gnd
WHITE
RED
WHT/GREEN
WHT/RED
CBL-3_20SHLD
BLK
GRN
RED
CLR
BLK
CBL-3_20SHLD
BLK
CLR
CBL-4_22SHLDUV
CLR
WHT/BLK
Incl shield
Pol sense shield
RED
CLR
BLK
CBL-3_20SHLD
CBL-2_18SHLDUV
BLK
RED
Shield
pol drv shld
Compass shield
CLR
RED
GRN
BLK
CBL-4_22SHLDUV
WHITE
WHITE
GRN
WHT/RED
WHT/ORG
BLUE
a El Shield
b AZ Shield
c AZ Return
d AZ Drive
e EL Drive
f EL Return
RED
BLK
pol drv shld
RED
WHT/GRY
GRAY
WHT/RED
GRAY
RED
BLK
GRN
RED
RED
CLR
BLK
Pol sense shield
Incl shield
Gray
BLK
CLR
CLR
GRAY
WHT/BLK
Compass shield
CLR
RED
GRN
BLK
GRAY
RED
CLR
BLK
A POL Drv
B POL Rtn
C EL UP Limit –
D ACU EL Up +12V
E Limit Switch +12V
F EL Down Limit –
G Limit Switch +12V
H AZ CW Limit –
I AZ CCW Limit –
J Inclin Signal
K Inclin Supply +
L POL Pot –
M POL Pot Wiper
N POL Pot +
O POL sense/Incl Shield
P Inclin Rtn
Q Inclin Supply –
R AZ Stow IN
S Limit Switch +12V
T Limit Switch +12V
U EL Stow IN
V Compass/GPS Shield
W Compass TXD
X Compass +Vcc
Y Compass RXD
Z Compass Gnd
a Vpwr
h RX1
i TX1
k GND
See Sheet 4
M-N4_16_14_6
RCI PART# FP-P2_JBOX2
Research Concepts, Inc.
Title
Patriot/3.8 Trailer
Size C
Number FP-P2_KIT2_XXX_102009
Rev A
Date Jan 12, 2009
Drawn by SMM/WJM
Filename FP-P2_KIT2_XXX_102009PJ.sch
Sheet 3 of 5

M-N4_16_14_6

Z-MOT180V0.5HP

Azimuth Motor

Z-MOT180V1.5HP

Elevation Motor

CBL-2_16SHLD@3'

CBL-2_16SHLD@17'

RUN MOTOR LINES INSIDE CONDUIT
RUN LIMIT LINES INSIDE CONDUIT

MOTOR LABELS:
REMOVE DRAIN PLUG AT LOWEST POINT

EL Shield a
AZ Shield b
AZ Return c Black
AZ Drive d Red
EL Drive e Red
EL Return f Black

Interface box ground

(SWITCH CLOSED WHEN ANTENNA SAFE TO MOVE)

CBL-2_16SHLD@20'

INTERLOCK

INTERLOCK

All limit switches are RCI P# SW-ZCKJ1
Mfg P# TELEMENIQUE P/N ZCKJ1
Plunger style switch head P# Z-CKE67

CBL-2_16SHLD@9'

AZ CW

OPEN @ LIMIT

CBL-2_16SHLD@9'

AZ CCW

OPEN @ LIMIT

CBL-2_16SHLD@9'

UP LIMIT
OPEN @ LIMIT

CBL-2_16SHLD@9'

DWN LIMIT
OPEN @ LIMIT

Motorized Feed Optional

POL MOTOR/POL POT

RCI P/N FP-P2_PLK1_XXX consists of FP-P2_PCBL_XXX and FP-P2_PL_DNGL1

RCI P/N FP-P2_PCBL_XXX (XXX Cable Length in Feet)

CN-97-3100A16S
CN-9716-S1S
CN-9767-16-8
CN-9780-16

CN-97-3106A16S
CN-9716-S1P
CN-9767-16-8
CN-9780-16P

RCI P/N FP-P2_PL_DNGL1

CBL-2_16-3_22A @ 30'

CBL-2_16-3_22A @ 1'

Brown	F	Brown	
Yellow	E	Yellow	
Blue	D	Blue	
Red	A	Red	
Black	B	Black	
Shield	G	Shield	

NC

red

blk

CBL-4_22SHLDDR@17'

EL +15V Red
EL Sig Orange
EL Sig Rtn Brown
EL -15V Black
Shield

U1

Vneg
Sig
Rtn
Vneg

Z-INCLIN

RCI P/N Z-INCLIN (02111002-000 CLINOMETER)
MEASUREMENT SPECIALTIES # 02111002-000

FP-RC3K-INCLIN

CBL-2_16SHLD@15'

AZ STOW

CLOSE @ LIMIT

CBL-4_22SHLDDR@17'

Brown pnk
Red wht
Orange yel
Black blk
shld
nc

Compass

FP-RC3KFG12

See Sheet 3

Terminals E, G, S, and T are connected on Sheet 4

A	POL Drv	Red
B	POL Rtn	Black
C	EL UP Limit -	Black
D	Interlock +12V	White
E	Interlock -	Black
F	EL Down Limit -	Black
G	AZ CCW/CW Limit +	Red
H	AZ CW Limit -	Black
I	AZ CCW Limit -	Black
J	Inclin Signal	Orange
K	Inclin Supply +	Red
L	POL Pot -	Brown
M	POL Pot Wiper	Yellow
N	POL Pot +	Blue
O	POL Sense Shield	
	Inclin Shield	
P	Inclin Rtn	Brown
Q	Inclin Supply -	Black
R	AZ Stow -	Black
S	AZ/EL Stow Limit +	Red
T	EL Dwn/Up Limit +	Red
U	EL Stow -	Red
	Compass Shield	Black
V	GPS Shield	
W	Compass TXD	Brown
X	Compass +Vcc	Red
Y	Compass RXD	Orange
Z	Compass Gnd	Black
g	GPS Vcc	Red
h	GPS RX1	White
i	GPS TX1	Blue
k	GPS GND	Yellow
		Black

Terminals g and X are connected on Sheet 4

NC
Red
White
Blue
Yellow
Black

GPS

FP-GPS-16

Research Concepts, Inc.

Title	Patriot/3.8 Trailer	
Size C	Number FP-P2_KIT2_XXX_102009	Rev A
Date Jan 12, 2009	Drawn by SMM/WJM	
Filename FP-P2_KIT2_XXX_102009PJ.sch	Sheet 4 of 5	

Revision Note Table

File Name: Patriot3.8M.sch
Title Block: FP-P2_KIT1_XXX
Title Block Date: 29 Dec 2006
Description: Original Schematic. For use with original RC3000B. Az limit switches input to az pot input. Junction box label 0 create 3.8mINTPN11L.doc.
File Date: 23 Dec 2008
Folder: \\Guinan\Engineering\RC3K\Patriot_38_Ka

File Name: FP-P2_KIT2_XXX.sch
Title Block: FP-P2_KIT2_XXX
Title Block Date: 22 July 2008
Description: Derived from Patriot3.8M.sch. Drawing revised to 4 sheets from 3 sheets. Extra terminal strip added to junction box to support GPS interface (previously GPS interfaced directly to the RC3000B). Junction box label 0 Modify 3.8mINTPN11L.doc by adding text for the GPS terminal strip to create 3.8mINTPNL2.doc.
File Date: 27 Oct 2008
Folder: \\Guinan\Engineering\RC3K\Patriot_38_Ka\BEL_38m_Trailer

FP-P2_KIT2_XXX_AZLIM_MOD.sch
Title Block: FP-P2_KIT2_XXX
Title Block Date: 22 July 2008
Description: Derived from FP-P2_KIT2_XXX.sch. Corrects a problem with the az limit switches. In previous versions, the az limit switches were routed to the RC3000B az potentiometer inputs on P1. In this version az limits routed to az limit inputs on J8.
File Date: 15 Oct 2008
Folder: \\Guinan\Engineering\RC3K\Patriot_38_Ka\BEL_38m_Trailer

FP-P2_KIT2_XXX_AZLIM_MOD_NEWB.sch
Title Block: FP-P2_KIT2_XXX
Title Block Date: 22 July 2008
Description: Derived from FP-P2_KIT2_XXX_AZLIM_MOD.sch. Updated to include antenna mount cable lengths.
File Date: 17 Dec 2008
Folder: \\Guinan\Engineering\RC3K\Patriot_38_Ka\BEL_38m_Trailer

FP-P2_KIT2_XXX_011209.sch
Title Block: FP-P2_KIT2_XXX
Title Block Date: 22 July 2008
Description: Derived from FP-P2_KIT2_XXX_AZLIM_MOD.sch. Revise drawing to accommodate feed boom interlock switch. Add Revision History
File Date: 17 Dec 2008
Folder: \\Guinan\Engineering\RC3K\Patriot_38_Ka\BEL_38m_Trailer

FP-P2_KIT2_XXX102009PD.sch
Title Block: FP-P2_KIT2_XXX
Title Block Date: 22 July 2008
Description: Derived from FP-P2_KIT2_XXX_011209.sch Seperated AZ CW and CCW limit switchs/Removed Feed Boom from interlock text/Removed EL stow switch/Changed all limt switch wiring to 2-16shld cable
FP-P2_KIT2_XXX102009PJ.sch
Title Block: FP-P2_KIT2_XXX
Title Block Date: 22 July 2008
Description: Derived from FP-P2_KIT2_XXX102009.sch POL drive needs to be modified to output +24VDC.

Controller information:
RC3000B 'PJ' ACU

Research Concepts, Inc.

Title: Patriot/3.8 Trailer		
Size: C	Number: FP-P2_KIT2_XXX_102009	Rev: A
Date: Jan 12, 2009	Drawn by: SMM/WJM	
Filename: FP-P2_KIT2_XXX_102009PJ.sch	Sheet 5 of 5	