Engineer: Bruce Page	Date: 2/9/04	Raytheon JPS Communications 5800 Departure Drive, Raleigh, NC 27616			
Drawn: Bruce Page	Date: 2/9/04				
Approved: CTS	Date: 2/24/04	Title: ACU RADIO APPLICATION NOTES			
Issued/ Revised	Date: 4/11/06	Size: A	Dwg. #: **5961-271262-APP**	Rev: **B3**	Sheet: 1 Of 2

APPLIES TO: Motorola XTL-1500 Mobile Radio (Accessory Connector)
Motorola XTL-2500 Mobile Radio (Accessory Connector)
Motorola XTL-5000 Mobile Radio (Accessory Connector)

RADIO MODIFICATIONS: None required.

RADIO PROGRAMMING:

1. Mobile radios should normally be programmed for low transmit power to prevent the problem of desensing which occurs when the antenna of a transmitting radio is too close to the antenna of a radio in the receive mode at a similar frequency or harmonic. If higher power is required proper antenna separation will help to prevent these problems.

2. It is essential that the Microphone Off-Hook PL Disable function be turned off to allow the radio to transmit and receive PL tones. Under the Conventional Configuration, set "Hub Defeats PL" to disable (no check mark in the feature selection block).

RADIO CONTROLS: None required.

CABLING:

Standard ACU-1000 and ACU-T Interface cables are made up of a 2 foot TRP Radio Tray Interface cable and the appropriate 13-foot Extension cable.

ACU-1000 Interface Cable	JPS P/N 5961-291262	(5961-271262 + 5961-261002-00)
ACU-T Interface Cable	JPS P/N 5961-281262	(5961-271262 + 5961-281013-00)
TRP-1000 Shelf Interface Cable	JPS P/N 5961-271262	
Radio RF Connector Type	Mini-UHF	

DSP JUMPERS:

JP1	Low Impedance*	(See notes)
JP2	Balanced*	(See notes)

DSP PROGRAMMING:

RX Level	6	-12dBm	(See notes)
TX Level	6*	0dBm*	
Squelch Type	VOX*	(See Notes)	
COR Polarity	Active Low*	(See Notes)	
High Frequency Equalizer	5	2dB Boost	
RX Audio Delay	2*	100 ms*	
TX Audio Delay (Radio Type)	0*	No Delay*	(See notes)
Noise Reduction Value	0*	Off*	
VOX/VMR Threshold	1*	Med1*	
VOX/VMR Hang Time	3*	775 ms*	
COR Inhibit After PTT	1*	100 ms*	
All Others	As needed		

(* Indicates Default Value)

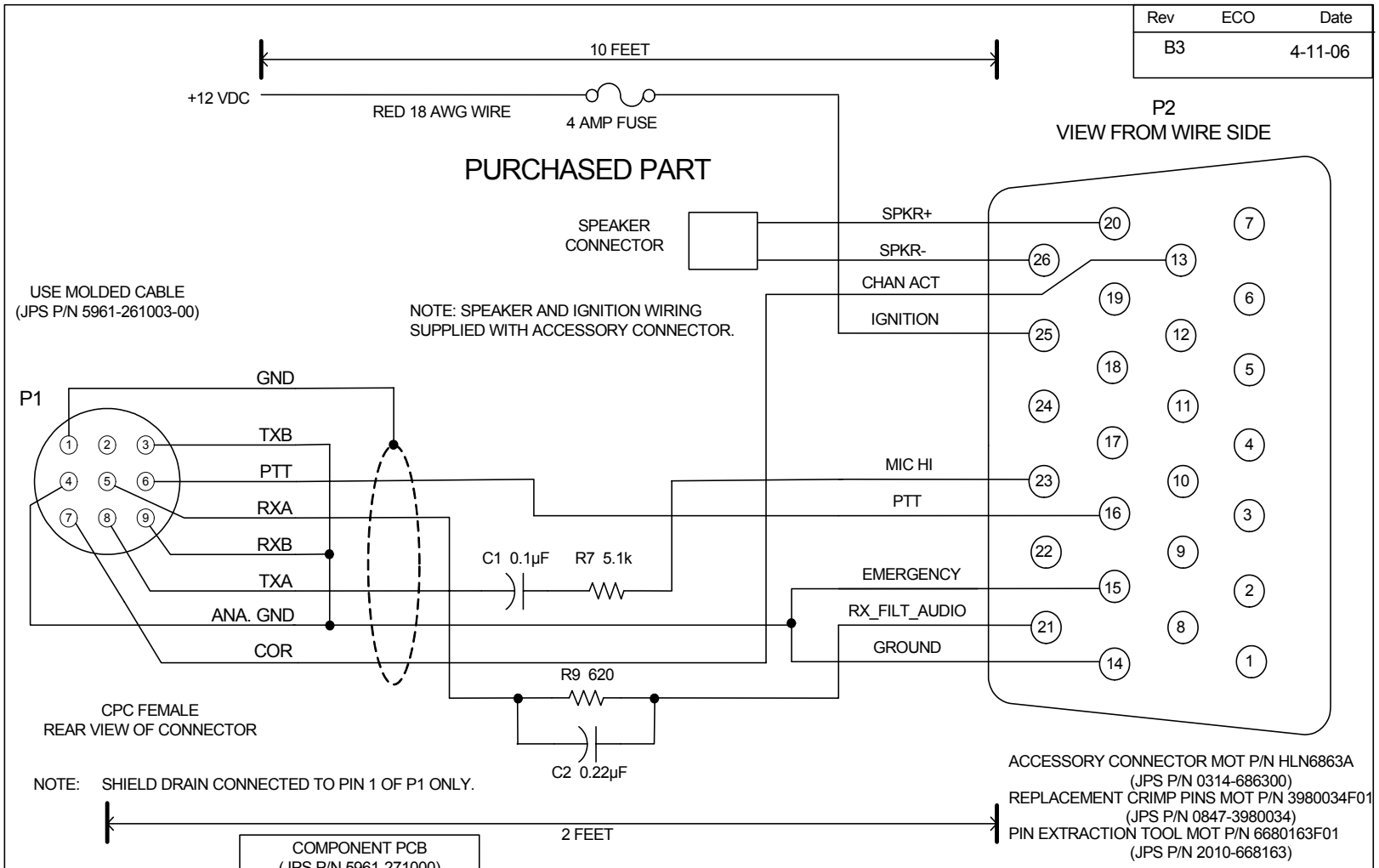
NOTES:

If the DSP Jumpers are moved to (High Impedance and Unbalanced) the RX Level is set at 4 (-4dBm).

The Squelch Type COR is supported by Rev B and higher 5961-271262 Interface Cables and is recommended for all XTL-5000 models other than Range 2 UHF (450-520 MHz). The COR Polarity for this model is Active Low and causes a problem when radio is turned off by asserting COR and keying any radios in an active NET with its module. All other models of XTL-5000 are Active High do not have this problem and should be programmed as COR – Active High.

If the radio is trunked, set the TX Audio Delay to 4 (800 ms).

Rev	ECO	Date
B3		4-11-06



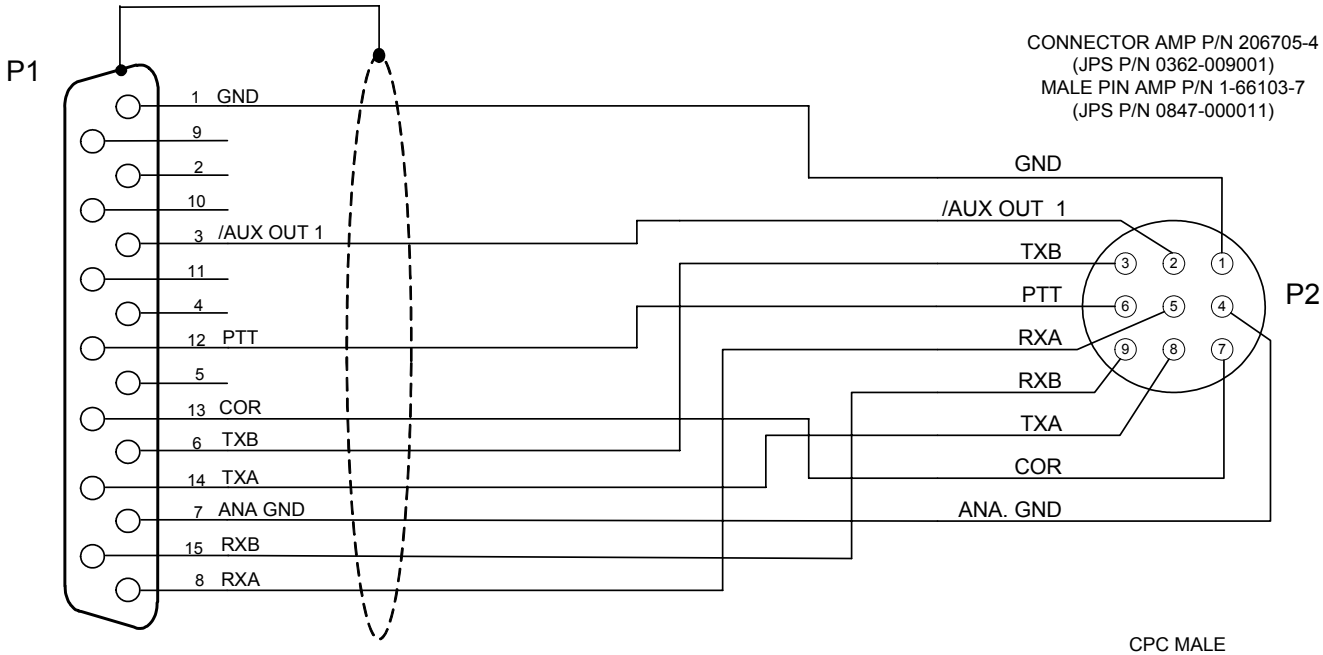
COMPONENT PCB (JPS P/N 5961-271000)	
C1	JPS P/N 0327-104101
C2	JPS P/N 0327-226500
R7	JPS P/N 1820-512000
R9	JPS P/N 1820-621000
JU5	
JU6	

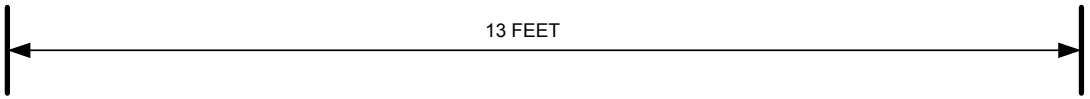
USED WITH:
MOTOROLA XTL-1500 MOBILE (ACCESSORY CONNECTOR)
MOTOROLA XTL-2500 MOBILE (ACCESSORY CONNECTOR)
MOTOROLA XTL-5000 MOBILE (ACCESSORY CONNECTOR)

Designed By:	JAC	Raytheon JPS Communications	
Drawn By:	JAC	Title	CABLE, CPC TO MOTOROLA XTL-5000
Checked By:	RBP	Size: A	Document Number: **5961-271262** / Rev: B3
		Issued Date: FEBRUARY 11, 2004	Sheet 1 of 1

Rev	ECO	Date
A		

PURCHASED PART





NOTES:
1) USE BELDEN 9934 SHIELDED CABLE.
2) CONNECT SHIELD DRAIN TO SHELL OF P1 ONLY.
3) CONNECTORS P1 AND P2 MUST BE MOLDED TO THE CABLE.
4) CABLE MUST BE LABELED WITH THE RAYTHEON/JPS P/N AND REV, VENDOR CODE AND DATE (MM/YY).

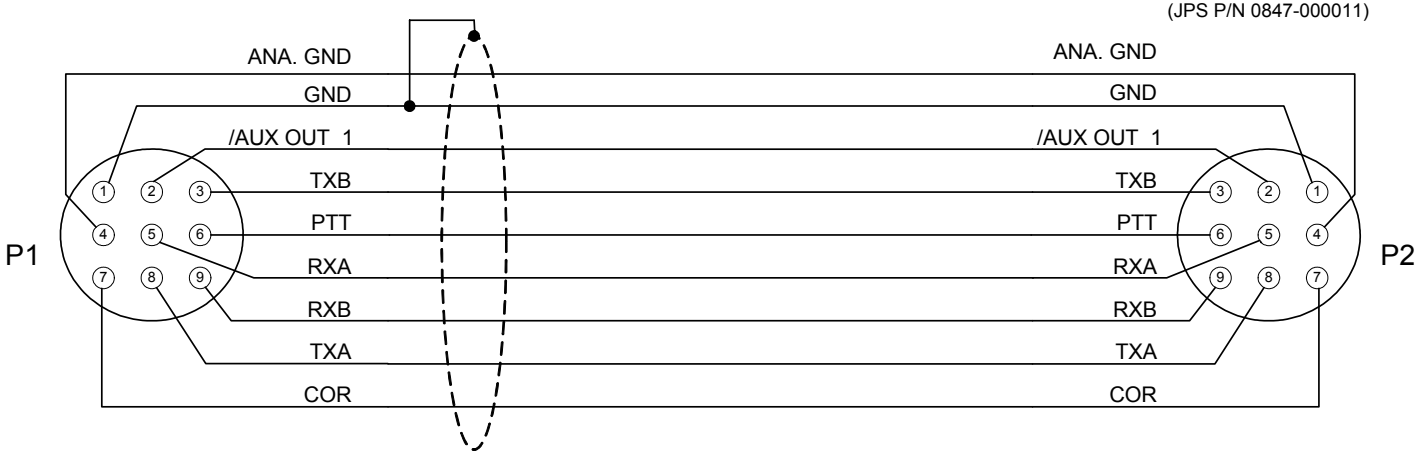
Designed By: JAC	Raytheon JPS Communications		
Drawn By: JAC	Title: CABLE, ACU-1000 RADIO EXTENSION - 13 FT		
Checked By: RBP	Size: A	Document Number: **5961-261002-00**	Rev: A
	Issued Date: JANUARY 5, 2004		Sheet 1 of 1

Rev	ECO	Date
A		

PURCHASED PART

CONNECTOR AMP P/N 206708-1
(JPS P/N 0362-005003)
FEMALE PIN AMP P/N 1-66105-8
(JPS P/N 0362-005002)

CONNECTOR AMP P/N 206705-4
(JPS P/N 0362-009001)
MALE PIN AMP P/N 1-66103-7
(JPS P/N 0847-000011)



CPC FEMALE

CPC MALE

NOTES: 1) USE BELDEN 9934 SHIELDED CABLE.
2) CONNECT SHIELD DRAIN TO PIN 1 OF P1 ONLY.
3) CONNECTORS P1 AND P2 MUST BE MOLDED TO THE CABLE.
4) CABLE MUST BE LABELED WITH THE RAYTHEON/JPS P/N AND REV, VENDOR CODE AND DATE (MM/YY).

Designed By: JAC	Raytheon JPS Communications Raleigh, NC USA		
Drawn By: JAC	Title: CABLE, ACU-T RADIO EXTENSION - 13 FT		
Checked By: RBP	Size: A	Document Number: **5961-281013-00**	Rev: A
	Issued Date: JANUARY 5, 2004		Sheet 1 of 1