


|                           |                  |   |                                   |           |                  |
|---------------------------|------------------|---|-----------------------------------|-----------|------------------|
| Engineer:<br>Chris Samios | Date:<br>4/15/03 | <br><b>Raytheon</b><br><b>JPS Communications</b><br>5800 Departure Drive, Raleigh, NC 27616 |                                   |           |                  |
| Drawn:<br>Jack Curtis     | Date:<br>4/15/03 |   |                                   |           |                  |
| Approved:<br>CTS          | Date:<br>4/15/03 | Title:<br>ACU RADIO APPLICATION NOTES   |                                   |           |                  |
| Issued/<br>Revised        | Date:<br>3/24/04 | Size:<br>A  | Dwg. #:<br><b>5961-271177-APP</b> | Rev:<br>A | Sheet:<br>1 Of 2 |

**APPLIES TO:** Vertex VX-3200 Mobile Radio

**RADIO MODIFICATIONS:**

1. Add jumper JP3 on the printed circuit board.

**RADIO PROGRAMMING:**

1. Use Vertex CE-52 Programming software.
2. Open the software and go to [RADIO].
3. [READ RADIO], then go to [FUNCTIONS] and select [COMMON 2].
4. Change "Data Mode" to Enable and click "OK".
5. Go to [RADIO].
6. Select [SEND TO RADIO].
7. When finished, turn off power to radio.
8. Note: Mobile radios should normally be programmed for low transmit power.

**RADIO CONTROLS:**

1. The Volume Control setting has no effect on the level of receive audio to the ACU-1000.

**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 5961-291177 | (5961-271177 + 5961-261002-00) |
| ACU-T Interface Cable          | JPS P/N 5961-281177 | (5961-271177 + 5961-281013-00) |
| TRP-1000 Shelf Interface Cable | JPS P/N 5961-271177 |                                |
| Radio RF Connector Type        | PL-259              |                                |

**DSP PROGRAMMING:**

|                             |             |           |
|-----------------------------|-------------|-----------|
| RX Level                    | 6           | -12dBm    |
| TX Level                    | 5           | -4dBm     |
| Squelch Type                | COR         |           |
| COR Polarity                | Active High |           |
| High Frequency Equalizer    | 4*          | Flat*     |
| RX Audio Delay              | 2*          | 100 ms*   |
| TX Audio Delay (Radio Type) | 0*          | No Delay* |
| 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:**

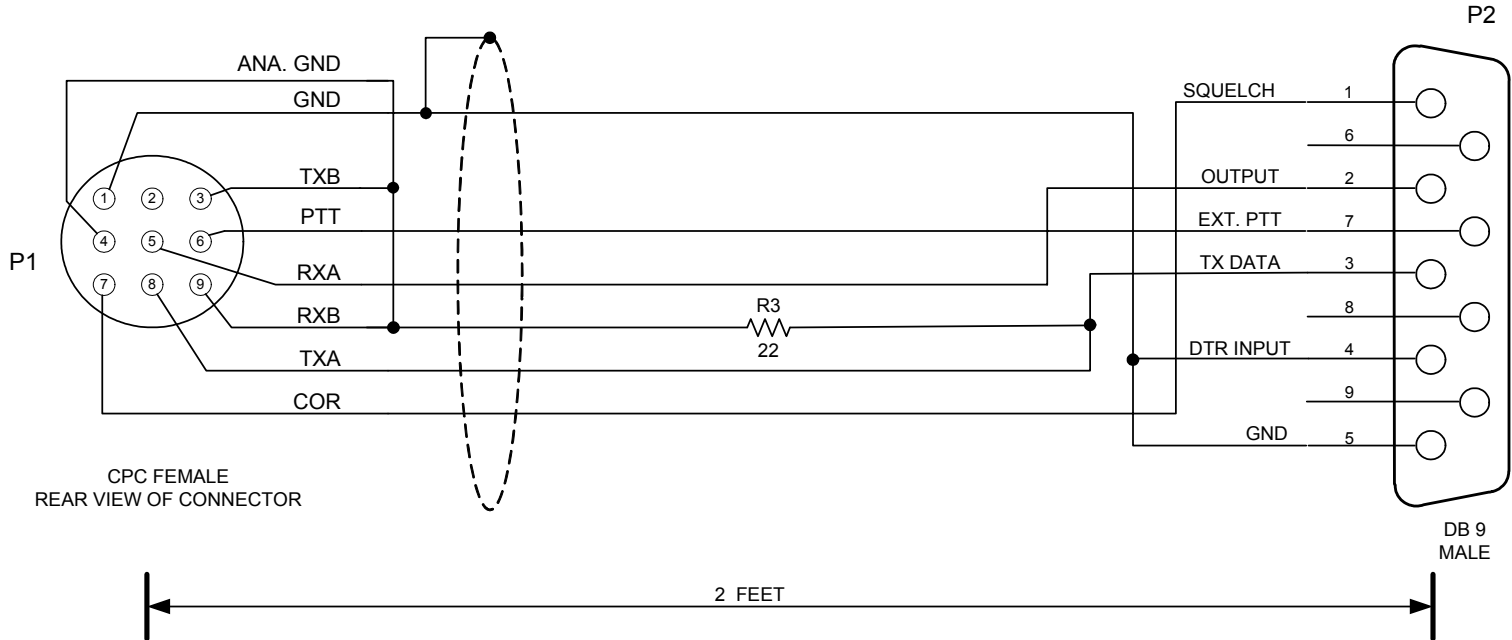
1. The radio display will indicate "DATA".

271177-APP.doc

|     |     |      |
|-----|-----|------|
| Rev | ECO | Date |
| A   |     |      |

PURCHASED PART

USE MOLDED CABLE  
(JPS P/N 5961-261003-00)



CPC FEMALE  
REAR VIEW OF CONNECTOR

DB 9  
MALE

2 FEET

COMPONENT PCB  
(JPS P/N 5961-271000)

R3 JPS P/N 1820-220000  
JU1  
JU2  
JU4  
JU5  
JU6

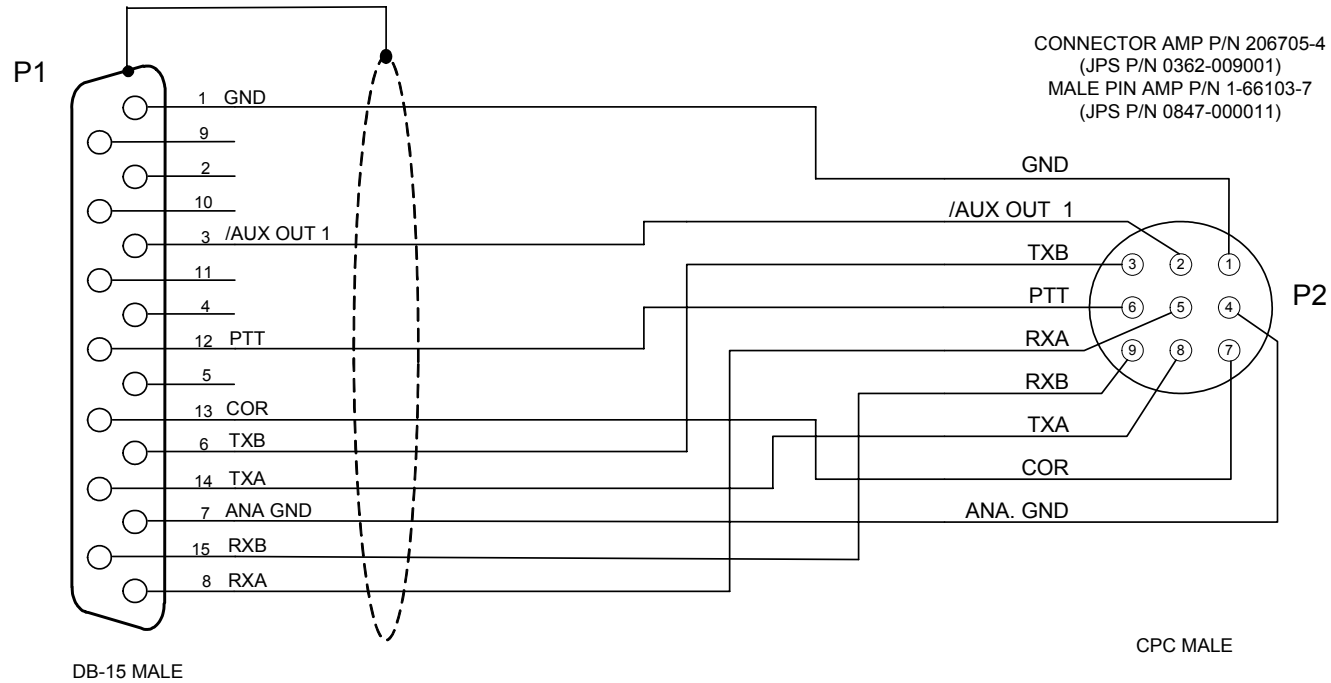
NOTE: SHIELD DRAIN CONNECTED TO PIN 1 OF P1 ONLY.

USED WITH:  
VERTEX VX-3200 MOBILE

|                                 |   |                                       |          |
|---------------------------------|---|---------------------------------------|----------|
| Designed By:<br>CTS             | <b>Raytheon JPS Communications</b><br>Raleigh, NC USA |                                       |          |
| Drawn By:<br>EDV                | Title<br>CABLE, CPC TO VERTEX VX-3200 MOBILE          |                                       |          |
| Checked By:<br>JAC              | Size<br>A   | Document Number<br><b>5961-271177</b> | Rev<br>A |
| Issued Date<br>NOVEMBER 5, 2003 |   | Sheet 1 of 1                          |          |

# PURCHASED PART

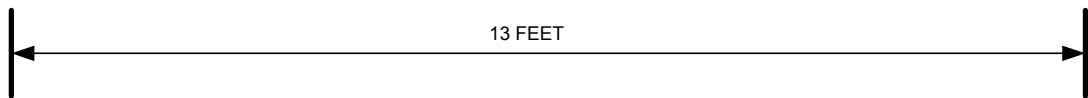
|     |     |      |
|-----|-----|------|
| Rev | ECO | Date |
| A   |     |      |



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

DB-15 MALE

CPC MALE



- 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).

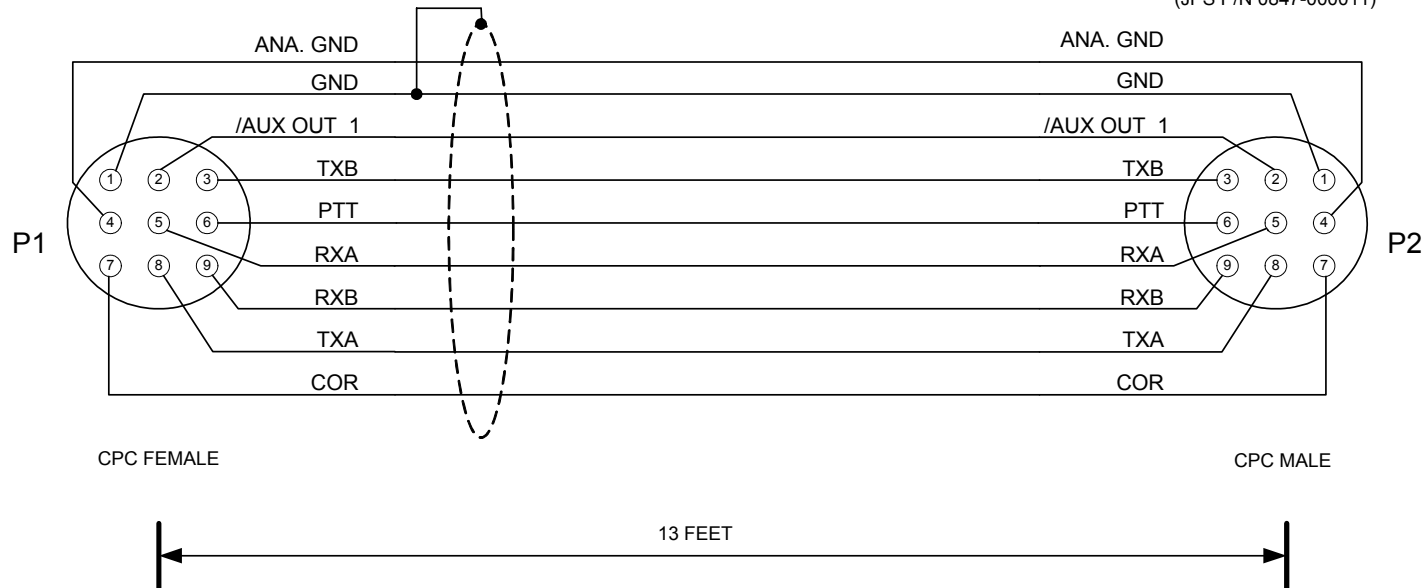
|              |     |   |                       |                            |
|--------------|-----|---|-----------------------|----------------------------|
| Designed By: | JAC | <b>Raytheon JPS Communications</b>            |                       |                            |
| Drawn By:    |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

|     |     |      |
|-----|-----|------|
| 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)



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