

# Application Note

AN #: 540

DATE: 04-Nov-03

Page 1 of 1

PYRAMID MODEL #: 2012/2016/Merlin

RADIO MODEL: Vertex VX-2500

ENGINEER: C. Carbajal

APPROVAL INITIALS

ENGINEER

DEPT. HEAD

Connections:	Pyramid	Function	Radio	DB-9 Connector
	Black/Shield	Ground	Pin 5	Ground
	White	Tx Audio Out	Pin 3	TXA
	Blue	On-Air Detect	Pin 6	AUX
	Green	PTT Out	Pin 7	PTT
	Red	Switched B+	Pin 8	SW B+
	Yellow	Rx Audio In	Pin 2	RXA
	Violet	COR	Pin 1	SQ
(Optional)	Brown	Audio Mute Out	N/C	
(Optional)	Grey	Channel Change	Pin 4	DTR

<b>2012/Merlin</b>	J1	[Out]	TX audio level	<b>Pyramid</b>	Mobile COR Polarity:	High
<b>Jumpers:</b>	J2	[Out]	PTT loop back		<b>Program:</b>	Mobile Type:
					On-Air Polarity:	High
<b>2016</b>	J1	[Out]	PTT loop back		I/O Pin 9	Ch. Change
<b>Jumpers:</b>	J2	[Out]	TX audio level			Method = Continuous

**Additional Modifications (2012/2016/Merlin):** None.

## Additional Modifications (Radio):

1. Replace F1501 with a 2 AMP Pico Fuse.
2. Install a Jumper JP1502 to enable SW B+ on the accessory connector.
3. Install a 1K resistor between J1501 Pin 7 and J1502 (DB-9) Pin 6. This brings On Air Detect to Pin 6 of the DB-9 accessory connector.
4. In the CE47 Programming Software, program the following:
  1. In the **Key Assignment** menu, set the accessory port for **External PTT**.
  2. In the **Common2** menu, set **Data Mode = Enable**.
  3. In the **Common2** menu, set PTT Interlock = Disable.
  4. In the **Common2** menu, set the **Data** System/Group to the desired Data channel in the radio. This is optional and requires the **Grey** wire from the Pyramid to be connected to **Pin 4** of the accessory port. When asserted, Pin 4 will steer the radio to the **Data** System/Group as defined.