

Application Note

AN #: 512D

DATE: 16-Jan-02

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PYRAMID MODEL #: 2012 / 2016 / Merlin

RADIO MODEL: Kenwood TK-x90 Series mobile

ENGINEER: C.Carbajal

APPROVAL INITIALS

ENGINEER

DEPT. HEAD

Connections:	Pyramid	Function	Radio {DB 25 Accessory Connector}	
	Black/Shield	Ground	Pin 7	Ground
	White	Tx Audio Out	Pin 13	MI/DI In
	Blue	On-Air Detect	Pin 11	Tx Sense
	Green	PTT Out	Pin 4	PF3 In
	Red	Switched B+	Pin 14	SW B+
	Yellow	Rx Audio In	Pin 19	Det out
	Violet	COR	Pin 22	PF4 Out
(Optional)	Brown	Audio Mute Out	Pin 24	Spkr Mute
(Optional)	Grey	Mic Mute/Chan Chng	Pin 2 * (See Step 5)	PF1 Input

2012/Merlin J1 [Out] TX audio level
Jumpers: J2 [Out] PTT loop back

Pyramid Mobile COR Polarity: High
Program: Mobile Type: Conv.
On-Air Polarity: High
I/O Pin 9 Chan Chg
{Optional} Continuous

2016 J1 [Out] PTT loop back
Jumpers: J2 [Out] TX audio level

Additional Modifications (2012/2016/Merlin): Add a 10K pull up resistor to the COR line as follows:

2012 From R41 (side closest to μ P U8) to R30 (side not connected to U1).

2016 From C28 (+ side) to R35 (side *not* connected to U4)

2017 From C28 (+ side) to R35 (side *not* connected to U4)

Additional Modifications (Radio): Reference the main logic PCB:

1. Ensure Zero Ohm resistor is installed at R641 (default) instead of R640.
2. Install SWB+ jumper (SB) just to the left of F501
3. Under **Function Port**, program *PF3 input* as **Ext PTT**. Program *PF4 output* as **TOR** (Tone Operated Relay).
4. Under **Optional Features**, program "**Ext PTT w/MIC Mute**" as "**Yes**"
5. If you are using Data Channel Change, preform the following programming:
 - a) Under **Function Port**, program PF1 for **CH Select A**
 - b) From the main screen, Highlight the channel you would like to use for data and hit **F10**. Program **Remote Channel** to "1".