

Application Note

AN #: 547

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PYRAMID MODEL #: 2012 / 3012 / 2017 Merlin / 2016

RADIO MODEL: Icom F121 / F221 / F521 (Conv. w/ no Channel Change)

ENGINEER: C. Carbajal

APPROVAL INITIALS

ENGINEER _____

DEPT. HEAD _____

Connections:	Pyramid	Function	Radio DB9 of Icom OPC-617
	Black/Shield	Ground	Pin 9
	White	Tx Audio Out	Pin 4
	Blue	On-Air Detect	N/C
	Green	PTT Out	Pin 5
	Red	Switched B+	Pin 1
	Yellow	Rx Audio In	Pin 3
	Violet	COR	Pin 6
(Optional)	Brown	Audio Mute Out	N/C
(Optional)	Grey	Channel Change	N/C

2012/Merlin	J1	[Out]	TX audio level	Pyramid	Mobile COR Polarity:	Low
Jumpers:	J2	[Out]	PTT loop back	Program:	Mobile Type:	Conv
					On-Air Polarity:	High
2016	J1	[Out]	PTT loop back		I/O Pin 9	N/A
Jumpers:	J2	[Out]	TX audio level			

Additional Modifications (2012/2016/Merlin): Install COR pull-up as follows:

In the 2017 and 2016 install J4

In the 3012 MDT install J3

In the 2012 MDT install 10K resistor from R41 (side closest to uP U8) to R30 (side not connected to U1)

Additional Modifications (Radio):

1. Remove the Blue Wire from Pin 2 of J6 (11 pin connector) and move this wire to Pin 1 of J6. This provides SWB+ to Pin 1 of the OPC-617 DB9 connector.
2. Ensure that Solder Bead F is removed and Solder Bead D is installed on the Main Unit PCB of the radio. This enables the flat external audio input.
3. In the radio cloning software, to set Pin 6 as Carrier Operated Relay:
 - a. In the Expert screen, set RX EXO to ON and Delay Timer to OFF.
4. In the radio cloning software, to enable external PTT:
 - a. Set EPTT/FTSW to EPTT
 - b. Set EPTT Delay Timer to OFF