Application Note

PYRAMID MODEL #: 2017 Merlin / 2016
RADIO MODEL: Icom F521 Conv. w/ Channel Change
ENGINEER: C. Carbajal

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Connections:	*Pyramid*	*Function*	*Radio DB9 of Icom OPC-617*
	Black/Shield	Ground	Pin 9
	White	Tx Audio Out	Pin 4
	Blue	On-Air Detect	Pin 2
	Green	PTT Out	Pin 5
	Red	Switched B+	Pin 1
	Yellow	Rx Audio In	Pin 3
	Violet	COR	Pin 6
	Brown	Audio Mute Out	N/C
	Grey	Channel Change	Pin 7
	Orange/Wht	Channel Change	Pin 8

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

Additional Modifications (2012/2016/Merlin): Install COR pull-up as follows:
In the 2017 and 2016 install J4

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.

3. 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.

4. In the radio cloning softawre, to set Pin 6 as Carrier Operated Relay:
   a. In the Expert screen, set RX EXO to ON and Delay Timer to OFF.

If channel change is required, use firmware version 2.41-ICOM and perform the following:

1. Remove the Violet wire from Pin 5 of J6 and jumper to Pin 3 of the RF PA (TX 5 Volts).

2. Remove the Black wire from Pin 6 of J6 and jumper to Pin 5 of J8. This is the "Priority A" input.

3. Remove the Black wire from Pin 8 of J6 and jumper to Pin 6 of J8. This is the "Channel Up" input.

4. In the Icom Programming software/Key & Display, program the following:
   a. OPF-0 = Priority A
   b OPF-1 = Channel Up