

Application Note

AN #: 520A

DATE: 03-Apr-01

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

RADIO MODEL: BIZCOMusa ESP 604

ENGINEER: C. Carbajal

APPROVAL INITIALS

ENGINEER _____

DEPT. HEAD _____

| Connections: | Pyramid | Function | Radio - Data Port (P/N ASY-0600-11) |
|--------------|--------------|---------------|-------------------------------------|
| | Black/Shield | Ground | DB9 - Pin 5 |
| | White | Tx Audio Out | DB9 - Pin 3 |
| | Blue | On Air Detect | DB9 - Pin 4 |
| | Green | PTT Out | DB9 - Pin 7 |
| | Red | Switched B+ | DB9 - Pin 9 |
| | Yellow | Rx Audio In | DB9 - Pin 2 |
| | Violet | COR | DB9 - Pin 6 |
| | Brown | Audio Mute | N/C |
| | Grey | Mic Mute | N/C |

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

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

Pyramid Program: Mobile COR Polarity: High
Mobile Type: Trunk
On-Air Polarity: High
I/O Pin 9: Mute

Additional Modifications (2012/2016/Merlin): None

Additional Modifications (Radio):

1. Install AFSK Module, SEA P/N ASY-0600-11.
2. On AFSK Data Module (SEA P/N ASY-0600-11), cut the jumper trace on component side of AFSK module, Pin 4. This is the normally the "Clock" output.
3. Run a jumper from Pin 3 (10VTX) of RFPA U307 to Pin 4 DB-9 side of AFSK Module (Run to Pad on component side of PCB).
4. In the programming software for the radio, program the "Data Mode" in each system for "MSK".

Alignment (Pyramid Mobile Data Unit and Base Modem):

COR Level - Adjust RV1 (COR) to measure 2.5 Volts DC at TP2

TX data alignment - Put an oscilloscope on the *White* wire out of the Pyramid harness. Key the Pyramid unit with the personality software (or via test mode, 2012 only). Adjust RV2 (TX Dev) for 500mV P/P on the *White* wire.

RX data alignment - Key another radio on the Data group by grounding pin 7 of DB9 or by keying with pyramid unit. Adjust RV3 (RX) and measure for 1 Volt P/P on receiving Pyramid unit at TP1.

Revision Number _____

Date _____

Approval Initials _____