

JACKSON LINE-UP PROCEDURE

This is JACKSON (EXPORT), FACTORY Alignment Procedure; re-written slightly for the experienced technician. Courtesy 'Custom Conversions'.

Equipment Suggested: Audio Generator; RF VTVM; DC Power Supply (\*); Freq. Counter; Oscilloscope; RF Wattmeter & Dummy Load (50W minimum); RF Sig. Gen. (capable of 1KHz at 30% mod-AM, 1.5KHz deviation at 1KHz-FM); VOM-20K ohm/V min.... (\*)-Varies per unit, suggest 7A minimum, REGULATED.

PLL ALIGNMENT (Use Locator A)

Pre-set conditions: Mode - AM                      Clarifier(both) - Center  
                                  Band - C                                      Power Supply - 13.8VDC  
                                  Ch. Selector - 19                      PA/CB - CB  
 (Do not change any conditions unless specified.....)



STEP	SETTING CHANGE	CONNECTIONS	ADJUST	DIRECTIONS
1.	RX Cond, E Band, Ch-40, AM/FM	DC VOM to TP-2, (lead of R122)	L12	Adjust so that the VOM will indicate 6.0VDC $\pm 0.1$ at E Band Ch-40. Check A Band Ch-1, should be approx. 2V.
2.	RX Cond, C Band, Ch-19, AM/FM	Scope to TP-3, (lead of R73)	L13	Adjust for maximum indication on scope.
3.	Same as above	Freq. Counter to TP-3 (lead of R73).....	L14	Adjust for 16.490MHz, $\pm 20$ Hz.
4.	RX Cond, C Band, Ch-19, USB	Same as above	L15	Adjust for 16.4925MHz, $\pm 20$ Hz.
5.	RX Cond, C Band, Ch-19, LSB	Same as above	L16	Adjust for 16.4875MHz, $\pm 20$ Hz.
6.	Same as above	Freq. Counter to TP-4 (lead of R104).	L24	Adjust for 10.6975MHz $\pm 20$ Hz.
7.	RX Cond, C Band, Ch-19, USB	Same as above	L23	Adjust for 10.6925MHz $\pm 20$ Hz.
8.	TX Cond, (Make sure Dummy Load is connected).. C Band, Ch-19, AM....	Freq. Counter to TP-5 (lead of R82).	L22	Adjust for 10.695MHz $\pm 20$ Hz.

End of PLL Alignment.....

TRANSMIT ALIGNMENT (Use Locator B)

Pre-set Conditions: Mode - USB                      Mic Gain - CW  
                                  Band - C                                      Selector - Ch. 19  
                                  PA/CB - CB                                      \*(Dummy Load, Power Meter, and Scope to Antenna Terminal)....  
 (Do not change any settings unless specified.....)

**JACKSON - TRANSMIT ALIGNMENT (Cont.).....**

STEP	SETTING CHANGE	CONNECTIONS	ADJUST	DIRECTIONS
1.	TX Cond, C Band, Ch-19, USB, NO MODULATION	Disconnect PC-834AA, connect DC ammeter to TP8(+), TP6(-)	VR10	Adjust for 50ma on ammeter.
2.	Same as above	DC ammeter to TP8(+), TP7(-)	VR9	Adjust for 80ma on ammeter.
3.	TX Cond, C Band, Ch-19, USB mod. input 30mV - 2,400Hz & 500Hz.	Disconnect meter reconnect PC-834AA.	L42, VR8	L42-turn as far down in coil as possible. VR8-turn clockwise.
4.	Same as above	No change	L41, L43, L33	Adjust for max on scope. NOTE: Adjust input level, so output level is less than 25V.
5.	Change to: B Band, Ch-19. TX Cond, USB mod input 30mV 2,400Hz & 500Hz	No Change	L42	Peak at current Fo setting. Re-peak for power output balance A Band, Ch-1 to E Band, Ch-40.
6.	Same as above, but change to: E Band, Ch-19	No change	L30	Adjust for max on scope.
7.	No change	No change	VR8	Adjust for 32.4V on scope.
8.	TX Cond, C Band, Ch-19, USB, NO MODULATION	No change	VR5	Adjust for minimum carrier-leak balance between USB and LSB modes.
9.	TX Cond, E Band, Ch-19, AM mode, NO MODULATION	No change	VR11	Adjust for 10W on Power Meter
10.	Same as above, push button to S/RF.	No change	VR7	Adjust so meter on unit indicates as below. 
11.	Same as Step 9; but put 1KHz at 30mV input.	No change	VR12	Adjust for 90% modulation
12.	Same as above, but change to; C Band, Ch-19, push button to MOD position.	No change	VR3	Decrease input until modulation output is 50%. Then increase by 16db. Adjust meter to indicate as below: 

JACKSON - TRANSMIT ALIGNMENT (Cont.).....

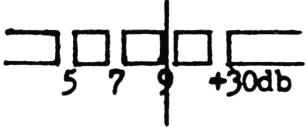
STEP	SETTING CHANGE	CONNECTIONS	ADJUST	DIRECTIONS
13.	TX Cond, E Band, Ch-40, FM Mode, input 1KHz, 30mV	Connect to the RF Output line, Deviation Meter	VR4	Adjust for 3KHz deviation
14.	AM mode, any frequency. ROGER BEEP sw. to ON position NO INPUT MOD.	Remove Deviation Meter...	None	Observe on scope waveform for TX mod when going from TX to RX mode.
15.	TX Cond, C Band, Ch-19, NO INPUT MOD, NO BEEP	No change	VR6	Adjust for 27.185MHz, <u>+</u> 100Hz.
16.	Same as above, but +10KHz Sw. ON.....	No change	None	Check for TX Fo of 27.195MHz, <u>+</u> 100Hz.

End of Transmit Alignment.....

RECEIVE ALIGNMENT (Use Locator C)

Pre-set Conditions: Band - C Selector - Ch. 19  
 RF Gain - CW PA/Squelch - Squelch (CCW)  
 Clarifier (Both) - Center  
 Volume - CW NB/ANL - OFF  
 Mod, S/RF - S/RF

RF Sig. Generator to input of antenna connector at C Band, Ch.-19 Fo.  
 (All db reference taken directly from generator.)

STEP	SETTING CHANGE	ADJUST	DIRECTIONS
1.	Sig. Gen. to: C Band, Ch-19 frequency, 1KHz 30% mod, AM, 500mW level.	L6, L5, L7, L8, L9..	Adjust core of L6 as low as possible. Adjust L5, L7, L8, & L9 for peak indication.
2.	Sig. Gen. to C Band, Ch-1 freq, same level Unit to C Band, Ch-1.	L6	Adjust for peak indication, then turn 1/4 turn CCW.
3.	Sig. Gen. & Unit both to Step 1 setting, CHANGE: No mod., 46db output.....	VR1	Adjust the S meter for indication below: 
4.	Sig. Gen. to 66db +2db, with mod as in Step 1.	VR2	Squelch to CW position, adjust VR2 until opens.
5.	Sig. Gen. to no mod, +20db output C Band, Ch-19. Unit to C Band, Ch-18, USB.....	L3	Scope to lead of D2, adjust L3 for max D.C. voltage, with NB/ANL Sw - ON...

JACKSON - RECEIVE ALIGNMENT (Cont.).....

STEP	SETTING CHANGE	ADJUST	DIRECTIONS
6.	Sig. Gen. to Step 1. Change: FM 1KHz, 1mV, 1.5KHz deviation Unit change to FM.	I4	Tune for peak audio sinusoidal wave.

End of Receive Alignment.....

LOCATORS (Reduced to Scale)

