

# President Lincoln and HR2600

## ALIGNMENT PROCEDURE

### PLL and CARRIER OSCILLATOR PORTION

Test equipment required:

Power Supply: 13,8 V

Oscilloscope

Frequency Counter

DC Voltmeter

Preparation alignment:

PA SW

Off

RIT

Middle position

Mode

AM

Frequency

28.000 MHz

Step	Condition	Adjustment	Procedure
1	AM RX	L315	Connect the Oscilloscope and Frequency Counter to TP306. Adjust for 6.200 MHz +/- 20 Hz
2	AM RX	L318	Connect the Oscilloscope and Frequency Counter to TP304. Adjust for 38.6950 MHz +/- 20 Hz. Check: USB : 38.6975MHz LSB : 38.6925MHz
3	AM RX	L317	Connect the DC Voltmeter to TP 303. Adjust for 6.5 V +/- 0.1 V
4	CW RX	L117	Connect the Oscilloscope and Frequency Counter to TP1. Adjust for 10.695 MHz +/- 20 Hz
5	LSB RX	L118	Connect the Oscilloscope and Frequency Counter to TP1. Adjust for 10.6925 MHz -40 Hz to + 0 Hz
6	USB RX	L116	Connect the Oscilloscope and Frequency Counter to TP1. Adjust for 10.6975 +/- 20 Hz
7	USB RX	VR111	Connect the Oscilloscope and Frequency Counter to TP5. Adjust for 38.6975 +/- 20 Hz

Adjustment	Description
VR304	Amplifier Gain Adjustment
	Only in President HR2600

### Adjustment of Balanced Mixer`s

Adjustment	Description
VR301	DC Balance Adjustment for Balanced Mixer
L303	9-10MHz Signal Balance Adjustment to Mixer
L304	14-18MHz Signal Balance Adjustment to Mixer
	Connect Oscilloscope to IC304 pin 2. Adjust VR301 for correct DC-balance. Adjust L303 for maximum signal. Adjust L304 for maximum signal.

Adjustment	Description
VR302	DC Balance Adjustment for Balanced Mixer
L313	22MHz Signal Balance Adjustment to Mixer
L314	36-40MHz Signal Balance Adjustment to Mixer
	Connect Oscilloscope to IC305 pin 2. Adjust VR302 for correct DC-balance. Adjust L313 for maximum signal. Adjust L314 for maximum signal.

### BandPassFilter Adjustment

Adjustment	Description
L310	High Band Adjustment
L319	Low Band Adjustment
	Connect Oscilloscope to Output Terminal for VCO. Adjust L310 for maximum at 29.000MHz. Adjust L319 for maximum at 28.500MHz.

Band	Frequency Range (Without ChipSwitch or Frequency Modification)
A	28.000 to 28.4999 MHz
B	28.500 to 28.999 MHz
C	29.000 to 29.4999 MHz
D	29.5000 to 29.699 MHz

### Output Frequency from PLL-PCB to Analog-PCB

$$F_{VCO} = F + 10.6950\text{MHz} + a$$

F = Transmitting and Receiving frequency

$F_{VCO}$  = VCO Output frequency

a = 0kHz for CW/FM/AM

a = +2.5kHz for USB

a = -2.5kHz for LSB

## RECEIVER PORTION

### Test equipment required:

Power Supply: 13,8 V	Dummy Load 8 ohm	AF VTVM	Oscilloscope
HF SSG:	28.000 MHz	1 kHz	30% Mod.

### Preparation alignment:

NB SW	Off
PA SW	Off
Beep SW	Off
VOLUME	Max.
RIT	Middle position
Mode	AM
Squelch	Min.
DX/LOC	DX
Frequency	28.000 MHz

Step	Condition	Adjustment	Procedure
1	AM SSG 40dB 1 kHz Mod.	L101 L104 L113 L115 L105	Alignment of sensitivity. Adjust coils for maximum reading on the AF VTVM.
2	AM SSG 66dB 1 kHz Mod.	VR102	Alignment of Squelch. Set Squelch to maximum. Adjust VR102 so that the squelch just breaks.
3	AM SSG 46dB No Mod.	VR101	Alignment of S-meter. Adjust VR101 so that "9" LCD just lights on.
4	FM SSG 1 mV 1.5 kHz Dev.	L401	Adjust L401 for maximum reading on the AF VTVM.
5	AM SSG 1 mV Noise Gen.	L203	Adjust L203 for maximum reading on the AF VTVM. Noise Generator output: 50 Hz SQ wave 2 V P-P.

## TRANSMITTER PORTION

### Test equipment required:

Power Supply: 13,8 V	AF SSG	RF VTVM	DC AM-meter
AF VTVM	FM Linear Detector	Oscilloscope	RF Power Meter
Dummy Load, 50 ohm			

## Preparation alignment:

VR112	Clockwise
VR113	Counter Clockwise
VR103	Clockwise
SWR/CAL	Clockwise
RF Gain	Middle position
PA SW	Off
INDIC SW	RF
Mic Gain Sw	Off
RF Power	Max.
Frequency	28.000 MHz

Step	Condition	Adjustment	Procedure
1	USB No Mod.	VR112	Remove the B002 (PB-100) from Main PCB. Connect a DC AM Meter to TP4 (+) and TP3 (-). Adjust VR112 for 50 mA reading on the DC AM Meter.
2	USB No Mod.	VR113	Remove the B002 (PB-100) from Main PCB. Connect the DC AM Meter to TP4 (+) and TP2 (-). Adjust VR113 for 50 mA reading on the DC AM Meter
3	USB 1 mV Mod.	L111	Connect a RF Power Meter to Ant.jack. Connect a RF VTVM, an Oscilloscope and an RF Linear Dectector across an Dummy Load to the RF Power meter. Adjust L111 for maximum reading en the RF VTVM. During this step, set the AF Oscillator so that the output is less than 20 V. Repeat this step two times.
4	USB 30 mV Mod.	VR104	Adjust VR104 for 32.5 V reading on the RF VTVM.
5	USB 30 mV Mod.	VR106	Adjust VR106 so that the carrier leakage at USB and LSB become minimum and almost equal.
6	CW No Mod.	VR103	Connect a SW between Pin 8 and 9 of ACC connector. When turn on the SW, adjust VR103 for 21 Watt reading on the RF Power Meter.
7	AM No Mod.	VR107	Adjust VR107 for 10 Watt reading on the RF Power Meter
8	AM No Mod.	VR117	Adjust VR107 so that "9" LCD just light on.
9	AM 1 kHz 30 mV Mod.	VR114	Adjust VR114 to obtain the 85% negative reading on the Oscilloscope.
10	AM 1 kHz 1 mV Mod.	VR115	INDIC: MOD. Adjust VR115 so that "9" LCD just light on.
11	FM 1 kHz 30 mV Mod.	VR105	Adjust VR105 for +/- 3 kHz deviation on the FM Linear Detector.

12	CW No Mod. Vol.: Max.	VR116	Connect an AF VTVM across a Dummy Load (8 ohm) between Pin 1 and Pin 2 of ACC connector. When turn on the SW, adjust VR116 for 0.4 V reading on the AF VTVM.
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This counter shows the number of hits since the 7th November 1999

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Unable to open config file for reading: /www-home/homepages.ihug.co.nz/Counter/conf/count.cfg
It is a permission problem! Make sure all the counter directories are accessible
and the file count.cfg is readable by your web server.
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