

## Adjustment for IC-910H

<b>Adjustment</b>					
Adjustment	No	Adjustment Condition & Tuning	Value	Ref. No.	CK. Point
30.2 MHz Level Adjustment		Connect a high frequency voltage meter or a spectrum analyzer to J541. Adjust the out- put level at R570.	-10dB ±0.5dB	R570	J541
Adjustment of the 430MHz 2 <sup>nd</sup> Lo (60.4MHz) Peak		Connect a high frequency voltage mater or a spectrum analyzer to P551. Adjust the maximum output at L551 and L552	-10dB ±3dB	L551 L552	P551
Setting the 60.4MHz Frequency		*Adjust 5 minutes after power ON Connect a frequency counter to P551 and adjust to 60.4MHz at the trimmer condenser X512.	60.4MHz ± 10Hz	X512	P551
Adjustment of the 144MHz 1 <sup>st</sup> Lo Lock Voltage		Connect a tester to CP100. Indicated Frequency: 173.980 MHz MODE: USB Set the voltage at L193.	2.7V ± 0.1V	L193	CP100
Adjustment of th430MHz 1 <sup>st</sup> Lo Lock Voltage		Connect a tester to CP300. Indicated Frequency: 479.980 MHz MODE: USB Set the voltage at C402.	3.4V ± 0.1V	C402	CP300
Adjustment of the 144MHz RX Peak/ Gain		Connect a signal generator to the VHF antenna connector. Connect a high frequency meter (50 ohm terminal) to the VHF IF OUT. ( A special jig is necessary). S.G. Freq.: 146.0 MHz/-30 dBm Set the PA unit's peak adjustment. Adjust the IF output.	MAX -14dBm ± 0.1dBm	PA L521 PA R547 ± 0.1dBm	P501 P501
Adjustment of Main Band Peak		Connect a signal generator to the VHF antenna connector. Transceiver Freq.: 145.98 MHz (Main band) MODE: FM S.G. Freq.: Same as transceiver setting AF: 1 kHz Dev.: 5 kHz Output: +10 dBu Keep adjusting until the MAIN AF output distortion is at minimum.	Min. AF Distortion Max. AF Output	Main L51 L52 Main L53 L352 L353 L354	Main AF Output  Main AF Output
Adjustment of the Main Band Total Gain		Transceiver Freq.: 145.98 MHz (Main band) MODE: USB S.G. Freq.: Same as transceiver +1.5 kHz Output: +60 dBu Set the MAIN AF output to about 300 mV~1V. Turn the signal generator OFF. Adjust so that the MAIN AF output goes below20 dB.	-20dB	Main R360	Main AF Output
Adjustment of Sub-Band Peak		Transceiver Freq.: 145.98 MHz (Sub-band) MODE: FM S.G. Freq.: Same as transceiver setting AF: 1 kHz Dev.: 5 kHz Output: +10 dBu Keep adjusting until the SUB AF output distortion is at minimum. Transceiver Mode: USB S.G. Freq.: Same as transceiver +1.5 kHz Modulation: OFF Output: -20 dBu Adjust until SUB AF output is at maximum	Min. AF Distortion Max. AF Output	Main L651 L652 Main L653 L851 L852 L853	Sub AF Output  Main AF Output

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Adjustment of th Sub Band Total Gain		Transceiver Freq.: 145.98 MHz (Sub band) MODE: USB S.G. Freq.: Same as transceiver +1.5 kHz Output: +60 dBu Set the SUB AF output to about 300 mV~1V. Turn the signal generator OFF. Adjust so that the SUB AF output goes below 20 dB.	-20dB	Main R857	Sub AF Output
Adjustment of 430 MHz RX Peak (Main band)		Connect a signal generator to the UHF antenna connector. Transceiver Freq.: 435.02 MHz (Main band) MODE: FM S.G. Freq.: Same as transceiver setting AF: 1 kHz Dev.: 5 kHz Output: 0 dBu Adjust so that the MAIN S-meter is at maximum.	Max. Voltage	PA L282 L283 L22 L23	Main CP851
Adjustment of 430 MHz RX Peak (Sub band)		Transceiver Freq.: 435.02 MHz (Main band) MODE: FM S.G. Freq.: Same as transceiver setting AF: 1 kHz Dev.: 5 kHz Output: 0 dBu Adjust so that the SUB S-meter is at maximum.	Max. Voltage	PA L280 L281	Main CP852
Adjustment of the 430 MHz Band Gain		Transceiver Freq.: 435.02 MHz (Main band) MODE: USB S.G. Freq.: Same as transceiver +1.5 kHz Output: +60 dBu Set the MAIN AF output to about 300 mV~1V. Turn the signal generator OFF. Adjust so that the MAIN AF output goes below 20 dB.	-20dB	PA R61	Main AF Output
Adjustment of the Noise Blanker		Input a pulse-type noise to the VHF antenna connector. Transceiver Freq.: 145.98 MHz (Main band) MODE: USB N.B.: OFF S.G. Freq.: Same as transceiver +1.5 kHz Modulation: Non-modulation Level: +15 dBu Apply an oscilloscope to CP101 and adjust so that the pulse-type noise is at maximum. Set the signal generator level to 10 dBu. Check that the noise is blanked when the Noise Blanker is ON Transceiver Freq.: 145.98 MHz (Sub band) MODE: USB N.B.: OFF S.G. Freq.: Same as transceiver +1.5 kHz Modulation: Non-modulation Level: +15 dBu Apply an oscilloscope to CP701 and adjust so that the pulse-type noise is at maximum. Set the signal generator level to 10 dBu. Check that the noise is blanked when the Noise Blanker is ON	Max. Level	Main L103 L102	Main CP101 (CP102)
Adjustment of Idling Current (VHF) ( ) means #11		Connect a current meter to P300. Set the transceiver to VHF CW transmit. Adjust so that the current increases 0.5A at R131. Adjust further so that the current increases 0.1A at R135. (When can't be done at R135 use R138) Adjust further so that the current increases 0.5A at R650.	+0.5A (+0.8A)  +0.1A (+2.5A) +0.5A (None)	PA R131  PA R135 (R138)	P300  P300

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Adjustment of Idling Current (UHF) ( ) means #11		Connect a current meter to P300. Set the transceiver to UHF CW transmit. Adjust so that the current increases 1.0A at R150.	+1.0A (None)	PA R150	P300
Adjustment of RF Peak (430MHz)		Connect a signal generator to the PA P1. (A special jig is necessary) S.G. Freq.: 10.8500 MHz Output: 0 dBu Modulation: OFF Set the transceiver to transmit in UHF. Set the signal generator to -2 dBm. Set C154 so that the power is at maximum.	Max. Output	PA L1,L2 PA C154	UHF Ant
Adjustment of RF Peak (144MHz)		Connect a signal generator to the PA P501. (A special jig is necessary) S.G. Freq.: 10.8500 MHz Output: 0 dBu Modulation: OFF *Adjust the S.G. output so that the PO meter is less than 30W. Set L501 and L502 so that the transmit power is at maximum. Transceiver Freq.: 146.0 MHz S.G. Output: -2 dBm Modulation: OFF Adjust C659 so that the transmit power is at maximum.	Output         Max. Output	L1,L2         PA C659	UHF Ant         VHF Ant
Adjustment of the IF Peak		Connect a high frequency voltage meter to MAIN J51. (A special jig is necessary) MIC GAIN: CENTER MIC INPUT: 1.5 kHz/2mV MODE: USB Set the transceiver to transmit and adjust so that the output is at maximum.	Max. Output	Main L2,L3	Main J51
Adjustment of SSB Carrier Leakage		Connect a spectrum analyzer to MAIN J51. (A special jig is necessary) MIC INPUT: None MODE: USB Set the transceiver to transmit and keep adjusting so that both the USB/LSB carrier leakage is minimum.	Max. Output	Main R206 R216	Main J51
Adjustment of the IF Total Gain		Connect a high frequency voltage meter to MAIN J51. (A special jig is necessary) MIC GAIN: CENTER MIC INPUT: 1.5 kHz/2mV MODE: USB Set the transceiver to transmit and adjust so that the output level is at maximum.	-22dBm	Main R3	Main J51
Adjustment of the 144 MHz Total Gain		Freq.: 146.0 MHz MIC GAIN: CENTER RF POWER: MAX MIC INPUT: 1.5 kHz/2mV MODE: USB Set the transceiver to transmit and adjust so that the output is at maximum.	50W	PA R503	VHF Ant
Adjustment of the 430 MHz Total Gain		Freq.:440.00 MHz MIC GAIN: CENTER RF POWER: MAX MIC INPUT: 1.5 kHz/2mV MODE: USB Set the transceiver to transmit and adjust so that the output is at maximum.	37.5W	PA R3	UHF Ant

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Adjustment of the Ic APC (#11 is Id APC) ( ) means #11		Freq.: 144 (430) MHz Band MIC GAIN: CENTER MIC INPUT: 1.5 kHz/2mV MODE: USB Connect the MAIN CP1631 to GND. Set the transceiver to transmit and adjust so that the total current is 23A (11A). (When the maximum current is below 11A, set to the point where the max. current begins to drop.) Freq.: 144 (430) MHz Band Set the transceiver to transmit and check that the total current is less than 23A.	23A (11A)	Main R1613	Total Current
Adjustment of the TX Power/Meter		When shorting the REMOTE terminal while pushing RIT SATELLITE and turning the power ON, the software adjustment mode is activated. Select '7' in the software adjustment mode screen. Connect a power meter to the VHF antenna. Adjustment starts each time the 'RIT' switch is pushed. Adjusting to 145.01MHz TX Hi PWR/Meter Rotate the main dial to adjust the TX power. Push the 'RIT' switch to set.	100W	Main Dial	VHF Ant
		Adjusting to 145.01MHz TX Mid PWR/Meter Rotate the main dial to adjust the TX power. Push the 'RIT' switch to set.	50W	Main Dial	VHF Ant
		Checking 145.01MHz TX Meter/ TX Lo PWR Check that the TX power is within spec. Push the 'RIT' switch to set	1~5W		VHF Ant
		Adjusting the 1200 MHz unit. (As a mock, transmit at 145MHz and adjust) Rotate the main dial, vary the TX output and adjust the FOR voltage. Push the 'RIT' switch to set.	3.0V ± 0.1V	Main Dial	Main CP1631
		Connect a power meter to the UHF antenna. Adjusting to 439.82MHz TX Hi PWR/Meter Rotate the main dial to adjust the TX power. Push the 'RIT' switch to set.	75W	Main Dial	UHF Ant
		Adjusting to 439.82MHz TX Mid PWR/Meter Rotate the main dial to adjust the TX power. Push the 'RIT' switch to set.	37.5W	Main Dial	UHF Ant
		Checking 439.82MHz TX Meter/ TX Lo PWR Check that the TX power is within spec. Push the 'RIT' switch to set.	1~5W		UHF Ant
Adjusting the FM OSC		MODE: FM Set the transceiver to transmit and adjust the frequency.	10.85MHz ± 50Hz	Main L255	Main CP51
Adjusting the 144 MHz 1 <sup>st</sup> Lo Leakage		RF POWER: Set to MAX MODE: USB Freq.: 148.0 MHz Set the transceiver to transmit and adjust so that the TX output including the 1 <sup>st</sup> Lo components are at minimum.	Min. Lo Leakage	PA R504	VHF Ant

Adjustment for UX-910

ADJUSTMENT					
Adjustment	No.	Adjustment Condition & Tuning	Value	Ref. No.	CK. Point
RX Adjustment		<p>Connect a signal generator to the antenna connector, and connect a spectrum analyzer to J311 pin 25.</p> <p>S.G. Freq: 1280.000000 MHz</p> <p>Non-modulation</p> <p>Output: -50 dBm</p> <p>Spec. Anl. Center Freq: 10.85 MHz</p> <p>SPAN: 1 MHz</p>			
Gain Setting		Set the gain to 16 dB (-34 dBm) at R224	16dB (-34dBm)	R224	J311 pin 25
Idling Adjustment		<p>Connect a power meter to the antenna connector, and connect a signal generator to J311 pin 25.</p> <p>S.G. Freq: 10.850 MHz</p> <p>Non-modulation</p> <p>Output: OFF</p> <p>Mode: CW</p> <p>Connect a tester between CP321 and CP322, and adjust R13 so that the potential difference is <math>0.5 \pm 0.1V</math> when transmitting.</p>	0.5±0.1V	R13	CP321 CP322
Output Power		<p>Connect a signal generator to J311 pin 25.</p> <p>S.G. Freq: 10.850 MHz</p> <p>Non-modulation</p> <p>Output: Where power meter indicates a 5W level.</p> <p>Indicated Frequency: 1240.00000 MHz : 1300.00000 MHz</p> <p>Transmit alternatively, and adjust C332 so that the power difference is at its minimum.</p>	Min.PWR difference	C332	ANT Con
Gain Setting		<p>S.G. Output: -22 dBm</p> <p>Indicated Frequency: 1270.00000 MHz</p> <p>Set to transmit and adjust R83 until the</p>	5W	R83	ANT Con

power becomes 5W.

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APC Setting		S.G. Output: To level of 13W Output Indicated Frequency: 1270.00000 MHz Apply a tester to CP15 and adjust R37 so that it becomes $3.0 \pm 0.1V$ .	3.0±0.1V	R37	CP15
		S.G. Output: To level of 10.5W Output Indicated Frequency: 1270.00000 MHz Apply a tester to CP401 and adjust R67 so that it becomes $3.1 \pm 0.2V$ .	3.1±0.2V	R67	CP401
Power Setting		Adjust R61 so that CP15 voltage becomes $3.0 \pm 0.1V$ .	3.0±0.1V	R61	CP15