ADJUSTMENT PROCEDURES

PLL ADJUSTMENT for IC-F4TR

ADJUSTMENT		JUSTMENT CONDITIONS	MEASUREMENT		VALUE	ADJUSTMENT	
			UNIT	LOCATION		UNIT	ADJUST
PLL LOCK VOLTAGE	1	Operating freq: 400.000 MHz Receiving	MAIN	Connect a multimeter to check point CP1.	1.3 V	MAIN	L11
	2	Operating freq: 400.000 MHz Transmitting					L405
	3	Operating freq: 430.000 MHz Receiving			3.5V-4.5V		Verify
	4	Operating freq: 430.000 MHz Transmitting					

TRIMMER ADJUSTMENT for IC-F4TR

DJUSTMENT		JUSTMENT CONDITIONS	MEASUREMENT		VALUE	ADJUSTMENT
			UNIT	LOCATION		
REFERENCE FREQUENCY	1	Operating freq: 430.000 MHz Transmitting	Top panel	Loosely couple a frequency counter to the antenna connector	430.000000 MHz	push[up]or[down] keys on the computer key-board.
OUTPUT POWER	1	Operating freq: 400.000 MHz High/Low switch:High Transmitting	Top panel	Connected computer screen "Power (Hi)".	80	push[up]or[down] keys on the computer key-board.
	2			Connect an RFpower meter to the antenna connector.	Maximum output	Adjust C467 on the MAIN unit. (see detailed illustration at right)
	3	Operating freq: 415.000 MHz High/Low switch:High Transmitting			4.2 W	push[up]or[down] keys on the computer key-board.
	4	High/Low switch:Low Transmitting			0.5W-2.0W	Verify
BPF1-BPF4	1	Operating freq: 400.000 MHz Set the SSG as: Level :+20dBuV Modulation :1kHz Deviation :3.0kHz(W) :1.5kHz(N) Receiving	Top panel	Connect an SSG to the antenna connector and a SINAD meter with 8 ohm load to the [SP] jack.	Minimum distortion level	push[up]or[down] keys on the computer key-board.

TRANSMITTER ADJUSTMENT for IC-F4TR

ADJUSTMENT		JUSTMENT CONDITIONS	MEASUREMENT		VALUE	ADJUSTMENT	
			UNIT	LOCATION		UNIT	ADJUST
FM BALANCE	1	Operating freq: 415.000 MHz	Top panel	Connect an FM deviation meter to the antenna connector through an attenuator.	Set to flat wave	MAIN	R119
FM DEVIATION	1	Operating freq: 415.000 MHz Wide/Narrow switch:Wide Connect an audio generator to the [MIC]jack and set as: 1kHz/100mV Set an FM deviation meter as: HPF :OFF LPF :20kHz De-emphasis :OFF Detector :(P-P)/2 Transmitting	Top panel	Connect an FM deviation meter to the antenna connector through sn attenuator	3.5kHz	MAIN	R564

RECEIVER ADJUSTMENT for IC-F4TR

DJUSTMENT		JUSTMENT CONDITIONS	MEASUREMENT		VALUE	ADJUSTMENT	
			UNIT	LOCATION		UNIT	ADJUST
SQUELCH LEVEL	1	Operating freq: 415.000 MHz Wide/Narrow switch:Wide Set the SSG as: Modulation :1kHz Deviation :3.0kHz Receiving	Top panel	Connect an SSG to the antenna connector and SINAD meter with an 8ohm load to the antenna connector	12dB SINAD	SSG	Output level
	2	Turn R92 clockwise to close squelch Receiving			At the point where the audio signals just appears.	MAIN	R92