SECTION ADJUSTMENT PROCEDURES

PREPARATION

When you adjust the contents on page 5-6 or 5-7, SOFTWARE ADJUSTMENT, the optional CS-F30G ADJUSTMENT SOFTWARE, OPC-966 cloning cable and RS-232C straight cable are required.

EQUIPMENT	GRADE AND RANGE		EQUIPMENT	GRADE AND RANGE	
DC power supply	0 utput range	7.5V DC	Audio generater	Frequency range	300-3000Hz
	Current capacity	5A ormore	0	0 utput lebel	1-500m V
RF powermeter	Mesuring range	1-10W	Attenuator	Power attenuation	40 or 50dB
	Frequency range	120-600MHz		Capacity	10W ormore
	SWR	Less than 1.2:1	Standard signal	Frequency range	120-600MHz
Frequency counter	Frequency range	0.1-600MHz	generator	0 utput lebel	0.1uV-32mV
Frequency accuracy) }ppm orbetter	DC voltmeter	input inpedance	50k /V DC or better
	Sensitivity	100mVorbetter	0 scilloscope	Frequency range	DC-20MHz
FM deviation mete	Frequency range	DC-600MHz		Measuring range	0.01-20V
	Mesuring range	0 to 55kHz	AC millivoltmeter	Measuring range	10m V - 10V
Digital multimeter	Input im pedance	10M /V DC orbetter		0 0	

REQUIRED TEST EQUIPMENT

SYSTEM REQUIREMENTS

- □ IBM PC compatible computer with an RS-232C serial port
- □ Microsoft Windows95 or Windows98
- □ Intel i486DX processor or faster (Pentium 100MHz or faster recommended)
- □ At least 16MB RAM and 10MB of hard disk space
- □ 640 x 480 pixel display (800 x 600 pixel display recommended)

ADJUSTMENT SOFTWARE INSTALLATION

NOTE: Before using the program, make a backup copy of the original disk. After making a backup copy, keep the original disk in a safe place.

- 1.Boot up Windows. Quit all applications when Windows is running.
- 2.Insert the backup disk1 into the appropriate floppy drive.
- 3.Select 'Run' from the [Start] menu.
- 4. Type the setup program name using the full path name, then push the [Enter] key.
- 5.Follow the prompts.
- 6.Program group 'CS-F30G ADJ' appears in the 'Programs' folder of the [start] menu.

STARTING SOFTWARE ADJUSTMENT

- 1.Connect IC-F30GT/GS and PC with the optional OPC-966 and RS-232C straight cable.
- 2.Boot up Windows, and turn the transceiver power ON.
- 3.Click the program group 'CS-F30G ADJ' in the 'Programs' folder of the [Start] menu, Then CS-F30G ADJ's window is appeared.
- 4.Click 'Connect' on the CS-F30G's window, then appears
- 5.IC-F30GT/GS's up-to-date condition. Set or modify adjustment data as desired.

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ADJUSTMENT SOFTWARE SCREEN DISPLAY EXAMPLE

NOTE: The above values for settings are example only.

Each transceiver has its own specific values for each setting.

- 1: Transceiver's connection state
- 2: Reload adjustment data
- 3: Display adjustment data
- 4: Connected DC voltage
- 5: PLL lock voltage
- 6: Operating channel select
- 7: RF output power
- 8: Flat wave form balance

- 9: FM deviation
- 10: Squelch level
- 11: Receive sensitivity (automatically)
- 12: Receive sensitivity (manually)
 - 13: Reference frequency
- 14: S-meter
- 15: Receive sensitivity measurement



CONNECTION



PLL LOCK VOLTAGE ADJUSTMENT POINT

PLL ADJUSTMENT

ADUISTMEN	A DILISTMENIT CONDITIONS	MESUREMENT			ADJUSTMENT	
ADJUST MILN.	ADJUSTMENT CONDITIONS	UNIT	LOCATION	VALUE	UNIT	ADJUST
PLL LOCK	Operating frequency: 480.000MHz	MAIN	Connect a		MAIN	
VOLTAGE	Receiving		digital	1.3V		C372
	Transmitting		multimeter	1.3V		C373
	Operating frequency: 520.000MHz		to CP7			
	Receiving			3.0-4.5V		Verify
	Transmitting			3.0-4.5V		Verify

SOFTWARE ADJUSTMENT

Select an operating using $[\Box] / [\Box]$ keys, then set specified value using $[\Box] / [\Box]$ keys on the computer keyboard.

		MESUREMENT		VALUE
ADJUSTMENT	ADJUSTMENT CONDITION		LOCATION	
REFERENCE	Operating frequency: 480.000MHz	Тор	Loosely couple a	480.000MHz
FREQUENCY	High/Low switch: Low1	panel	frequency counter to the	
	Connect the RF power meter or		antenna connector	
	50 dummy load to the antenna connector			
	Transmitting			
OUTPUT	Operating frequency: 480.000MHz	Тор	Connect an RF power	4.0W
POWER (HI)	Eligh/Low switch: High	panel	meter to the antenna	
	Eransmitting		connector	
OUTPUT	High/Low switch: Low2			2.0W
POWER	Eransmitting			
OUTPUT	Eligh/Low switch: Low1			1.0W
POWER	T ransmitting			
WAVE FORM	Operating frequency: 480.000MHz	Тор	Connect an FM	Set flat wave
BALANCE	High/Low switch: Low1	panel	deviation meter to the	form
	Set the FM deviation meter as:		antenna connector	
	HPF OFF		through the attenuator.	
	LPF 20kHz		Ū.	
	De-emphasis OFF			
	Detector (p-p)/2			
	Wide/Narrow switch: Wide			
	Eransmitting and push [P0] key			
FM	Operating frequency: 480.000MHz	Тор	Connect an FM	4.1kHz
DEVIATION	High/Low switch: Low1	panel	deviation meter to the	
[MOD] WODE	Connect the audio generator to		antenna connector	
	OPC-966 and set as: 1kHz/ 150mV		through the attenuator.	
	Wide/Narrow switch: Wide			
	Transmitting			
FM	Wide/Narrow switch: Narrow			2.1kHz
DEVIATION	T ransmitting			
CTCSS TONE	Operating frequency: 480.000MHz	Тор	Connect an FM	0.7kHz
DEVIATION	High/Low switch: Low1	panel	deviation meter to the	
	Wide/Narrow switch: Wide		antenna connector	
	No audio applied to the MIC line.		through the attenuator.	
	€TCSS tone :88.5Hz		-	
	E ransmitting			

SOFTWARE ADJUSTMENT – continued

Select an operating using [] / [] keys, then set specified value using [] / [] keys on the computer

ADIUSTMEN	ADJUSTMENT CONDITION		MESUREMENT	VALUE		
			LOCATION	VILLEE		
RX	Deperating frequency: 480.000MHz	Тор	Connect a SINAD meter	Minimum		
SENSITIVITY	Connect a standard signal generator	panel	with an 8 load to OPC-966	distortion level		
[BPF T1]-	to the antenna connector and		SP port			
[BPF T4]	set as:					
	Frequency 480.000MHz					
	Level +20dBu					
	Modulation 1kHz					
	Deviation ±3.5kHz					
	Receiving					
	CONVENIENT: The BPF T1 - BPF T4 can be adjusted automatically.					
	1.Set the cursol to 'BPF ALL' on the	adjustn	nent program and then push [I	ENTER] key.		
	2. The connected PC turns BPF T1 - BPF T4 to peak levels.					
	or					
	1.Set the cursol to one of BPF T1,T2,T3, or,T4 as desired.					
	2.Push [ENTER] key to start tuning.3.Repeat 1 to 2 perform additional BPF tuning.					
SQUELCH	Operating frequency: 480.000MHz	Тор	Connect a SINAD meter	12dB SINAD		
LEVEL	Connect a standard signal generator	panel	with an 8 load to OPC-966			
	to the antenna connector and		SP port			
	set as:					
	Frequency 480.000MHz					
	Level OFF					
	Modulation 1kHz					
	Deviation ±3.5kHz					
	Receiving					
	Receiving			At the point		
				where the audio		
				signals just		
				annears		

keyboard.