ATTACHMENT M – TUNE UP PROCEDURE

SCP-6000 Adjustment Discription for Mass production.

APPROVE	CHECK	ISSUE

1-163-293-00	SCP-6000S/H.US

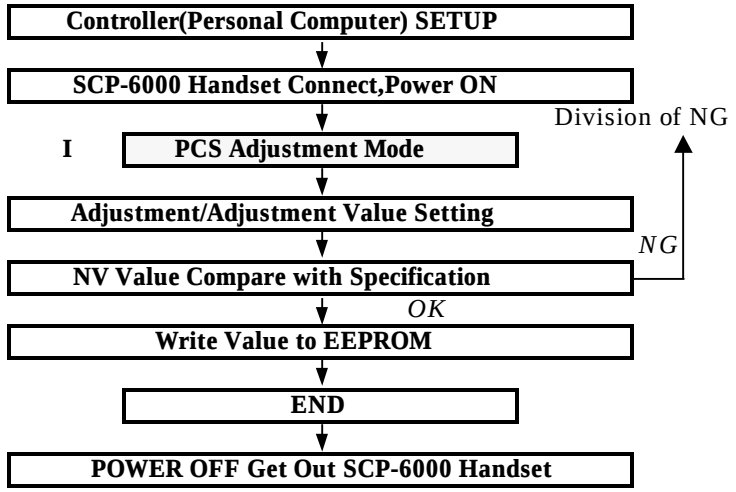
Eng. Section	**Personal Telecommunication Division Technical Engineering Department RF Group**
NAME	**T-Taniguchi**

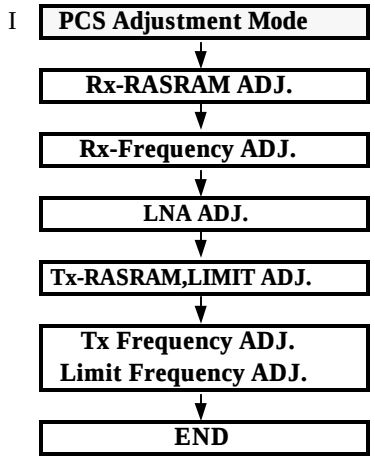
No.	Contents
1	**Set-Up for Tune-Up and Adjustment of Transmitter**
2	**Alignment Procedure**
3	**Adjust Value**
4	**Measurement Specification of Adjustment**

Minor Change Version

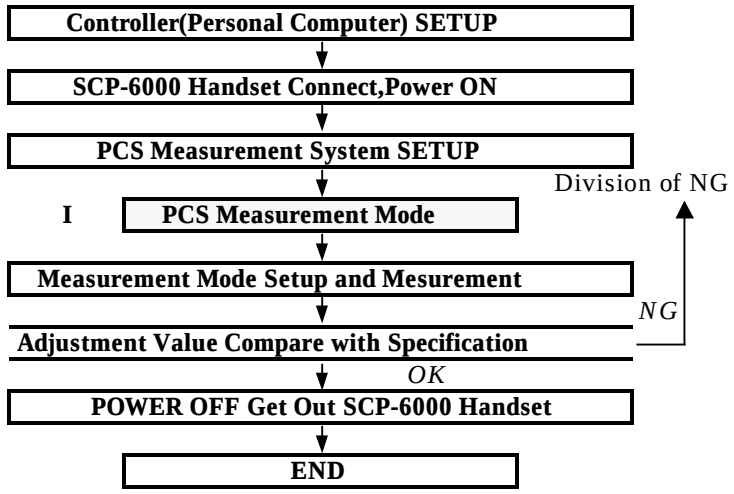
2 Alignment Procedure

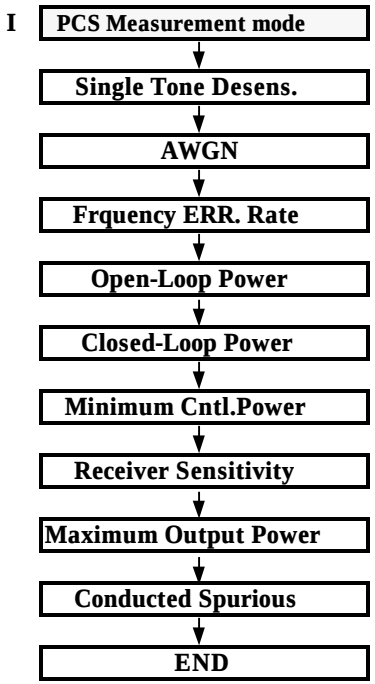
(1)Adjustment Procedure





(2)Measurement Procedure



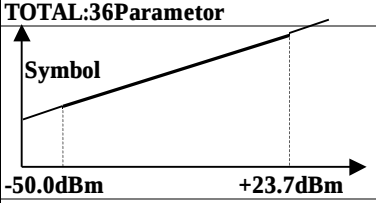


3.Adjustment Value

1.PCS RX Adjustment

ITEM	Sub-ITEM	Handset Setup(Internal Setup)	HP8924 Setup	Adj. Value	Accuracy of NV-Value
Rx-RASRAM Adjustment	Table 1	Normal Mode	CDMA Ch=563 :SG LV=-106.0dBm	-106.0dBm	
	Table 2	OFF Line Mode	SG LV=-100.6dBm	-100.6dBm	
	Table 3		SG LV=-95.3dBm	-95.3dBm	
	Table 4		SG LV=-90.0dBm	-90.0dBm	
	Table 5		SG LV=-84.7dBm	-84.7dBm	
	Table 6		SG LV=-79.4dBm	-79.4dBm	
	Table 7		SG LV=-74.1dBm	-74.1dBm	
	Table 8		SG LV=-68.8dBm	-68.8dBm	
	Table 9		SG LV=-63.5dBm	-63.5dBm	
	Table 10		SG LV=-58.1dBm	-58.1dBm	
	Table 11		SG LV=-52.8dBm	-52.8dBm	
	Table 12		SG LV=-47.5dBm	-47.5dBm	
	Table 13		SG LV=-42.2dBm	-42.2dBm	
	Table 14		SG LV=-36.9dBm	-36.9dBm	
	Table 15		SG LV=-31.6dBm	-31.6dBm	
	Table 16		SG LV=-26.3dBm	-26.3dBm	
	Table 17		SG LV=-21.0dBm	-21.0dBm	
RX AGC Frequency Adjustment	Bk 0=38ch	Normal Mode	RF INPUT(SG) LV=-63.5dBm	AGC DIFF.	
	Bk 1=113ch	Reference ch :563ch	Change to Channel 16 Time.	AGC DIFF.	
	Bk 2=188ch	Deference of Center ch AGCsym.		AGC DIFF.	
	Bk 3=263ch	Change to Channel 16 Time.		AGC DIFF.	
	Bk 4=338ch	OFF Line Mode		AGC DIFF.	
	Bk 5=413ch			AGC DIFF.	
	Bk 6=488ch			AGC DIFF.	
	Bk 7=563ch			Center CH	
	Bk 8=638ch			AGC DIFF.	
	Bk 9=713ch			AGC DIFF.	
	Bk10=788ch			AGC DIFF.	
	Bk11=863ch			AGC DIFF.	
	Bk12=938ch			AGC DIFF.	
	Bk13=1013ch			AGC DIFF.	
	Bk14=1088ch			AGC DIFF.	
	Bk15=1163ch			AGC DIFF.	

2.PCS TX & TX-LIMIT Adjustment

ITEM	Sub-ITEM	Handset Setup(Internal Setup)	HP8924 Setup	Adj. Value	Accuracy of NV-Value
Tx-RASRAM →		Nomal Test Mode	PCS Ch=1163ch	+23.7dBm	
Adjustment			SG level is ccording to the transmission	-50.0dBm	
			power level of MS		
&		TOTAL:36Parametor			
					
		-50.0dBm +23.7dBm			
Tx-Limit →	Table 1		PCS Ch=1163ch	+8.75dBm	
Adjustment	Table 2			+10.1dBm	
	Table 3			+11.4dBm	
	Table 4			+12.7dBm	
	Table 5			+14.1dBm	
	Table 6			+15.4dBm	
	Table 7			+16.7dBm	
	Table 8			+18.1dBm	
	Table 9			+19.4dBm	
	Table 10			+20.7dBm	
	Table 11			+22.1dBm	
	Table 12			+23.4dBm	
	Table 13			+23.7dBm	
	Table 14				
	Table 15				
	Table 16				
	OFFSET	Offset : 16.7dB(Table 7)			
	SPN	Spn : 26.0dBm(Table 14)		+23.7dBm	

3.Tx AGC Frequency Adjustment and Tx Limit Frequency Adjustment.

TX AGC Frequency Adjustment	Bk 0=38ch	Nomal Test Mode	RF INPUT(SG) LV=-92.0dBm	Tx-Pow diff.	
	Bk 1=113ch	Reference ch :1163ch	Change to Channel 16 Time.	Tx-Pow diff.	
	Bk 2=188ch	Difference of Center ch AGCsym.		Tx-Pow diff.	
	Bk 3=263ch	Change to Channel 16 Time.		Tx-Pow diff.	
	Bk 4=338ch			Tx-Pow diff.	
	Bk 5=413ch			Tx-Pow diff.	
	Bk 6=488ch			Tx-Pow diff.	
	Bk 7=563ch			Tx-Pow diff.	
&	Bk 8=638ch			Tx-Pow diff.	
	Bk 9=713ch			Tx-Pow diff.	
	Bk10=788ch			Tx-Pow diff.	
	Bk11=863ch			Tx-Pow diff.	
	Bk12=938ch			Tx-Pow diff.	
	Bk13=1013ch			Tx-Pow diff.	
	Bk14=1088ch			Tx-Pow diff.	
	Bk15=1163ch			REF. CH	
TX Limit Frequency Adjustment	Bk 0=38ch	Nomal Test Mode	RF INPUT(SG) LV=-92.0dBm	*	
	Bk 1=113ch	Reference ch :1163ch	Change to Channel 16 Time.	*	
	Bk 2=188ch	Difference of Center ch AGCsym.		*	
	Bk 3=263ch	Change to Channel 16 Time.		*	
	Bk 4=338ch			*	
	Bk 5=413ch			*	
	Bk 6=488ch			*	
	Bk 7=563ch	12Symb=1.0dB		*	
	Bk 8=638ch			*	
	Bk 9=713ch			*	
	Bk10=788ch			*	
	Bk11=863ch			*	
	Bk12=938ch			*	
	Bk13=1013ch			*	
	Bk14=1088ch			*	
	Bk15=1163ch			REF. CH	

***TX-Power Diffrencial + ADC Diffrencial×Limit Table Value**

4.Measurement Specification of Adjustment

1. PCS Measurement Specification

Measurement Item	Standard Item	IS98C Standard Spec	Measurement Spec	Measurement Condition	Measurement Channel	Others
RTC Demod. of FW.ch	TIA/EIA-98-C			Rateset2 SVC opt9		
	3.3.3					
AWGN Test10(Eb/Nt=4.1)		1%(0.010)	1%(0.010)	7200(TEST10)	25ch	
Waveform Quality	TIA/EIA-98-C			Rateset2 SVC opt9		
RHO	4.3.2	>0.944	>0.944	14400bps	25ch	
Frequency Err Rate	4.1.1	±150Hz	±150Hz		25ch	
Time Offset	4.3.1	±1uS	±1uS		25ch	
TTC Range of Openloop	TIA/EIA-98-C	dBm	dBm	Rateset2 SVC opt9		
Openloop Power Test1	4.4.1	-51±9.5(CLASS II)	-51±9.5(CLASS II)	14400bps	25ch	
Openloop Power Test2		-11±9.5(CLASS II)	-11±9.5(CLASS II)		25ch	
Openloop Power Test3		20±9.5(CLASS II)	20±9.5(CLASS II)		25ch	
TTC Range of Closedloop	TIA/EIA-98-C			Rateset2 SVC opt9		
Closedloop Full Power	4.4.4	RF Output = -13dBm	-14±3dBm	14400bps	25ch	
Closedloop Max Power		>+24dB	>+24dB			
Closedloop Min Power		<-24dB	<-24dB			
TTC Min.Controlled Pow	TIA/EIA-98-C			Rateset2 SVC opt9		
Minimum Controlled Pow	4.4.6	-50dBm/1.23MHz	-50dBm/1.23MHz	14400bps	25ch	
RTC Receiver Sensitivity	TIA/EIA-98-C	0.5%(Confidence95%)	1.0%(Confidence95%)	Rate2 Full -106.8dBm	600ch, 1175ch	
Receiver Sensitivity FER	3.4.1	0.5%(Confidence95%)	1.0%(Confidence95%)	Rate2 Full -106.0dBm	25ch	
Single Tone Desens.	TIA/EIA-98-C	1.0%(Confidence95%)	1.0%(Confidence95%)	Rate2 Full -101.0dBm	1175ch(+)	
Sensitivity FER	3.4.2			Undesired>-30dBm	1175ch(-)	
TTC Max RF Output Pow	TIA/EIA-98-C	23.0dBm~30.0dBm	21.5dBm~23.5dBm		25ch	
Max Power Output	4.4.5	(EIRP)	21.5dBm~23.5dBm		600ch	
			21.5dBm~23.5dBm		1175ch	
TTC Conducted Spurious	TIA/EIA-98-C			SCV Opt9(14400)		
>1.25MHz	3.5.1	<-42dBc	<-42dBc	Max Power Output	1175ch	
>1.98MHz		<-50dBc	<-50dBc	Max Power Output	1175ch	
>2.25MHz		<-13dBm	<-13dBm	Max Power Output	1175ch	

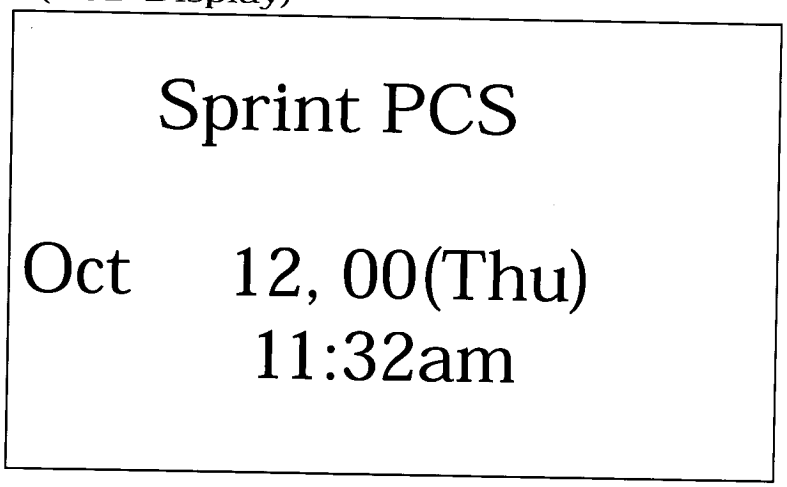
ANT GAIN=1.0dBi

FCC TEST MODE OPERATION MANUAL

[FCC TEST Start Up]

1): Push the "POWER" Key.

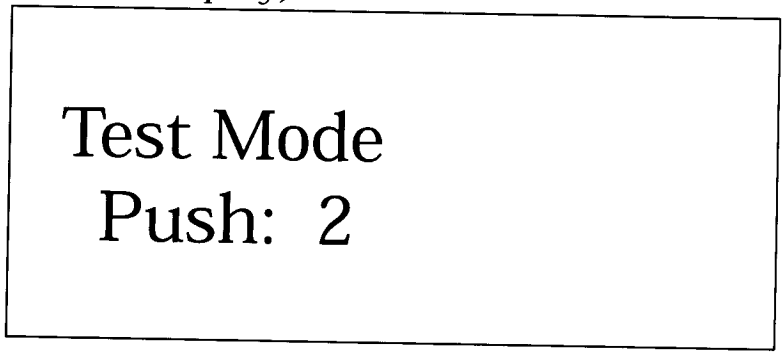
(LCD Display)

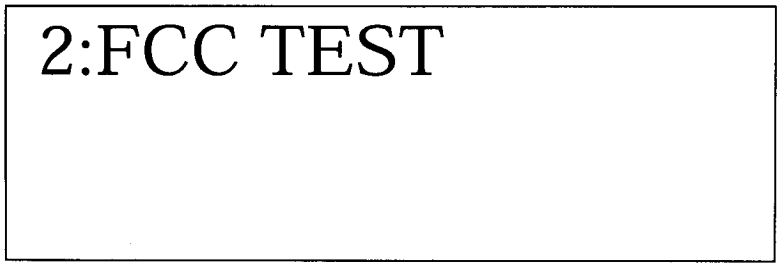


2): It transits to "Test Mode".

Push the "Menu" Key and push the " " "(Left) ◄Key .

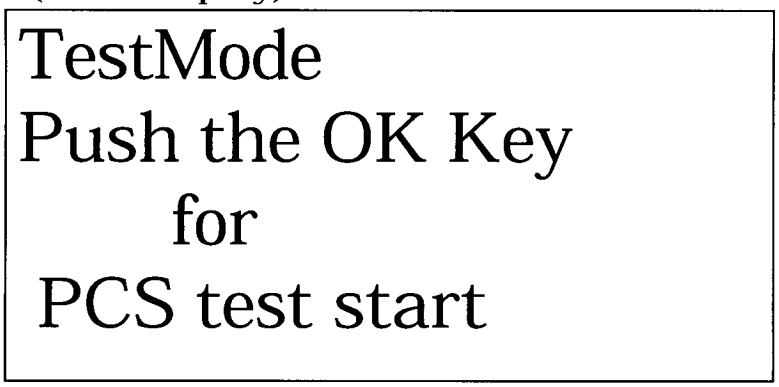
(LCD Display)





3): Push the "2" Key, then entered the FCC TEST Mode.

(LCD Display)



Push the "OK" Key, then entered the PCS Mode.

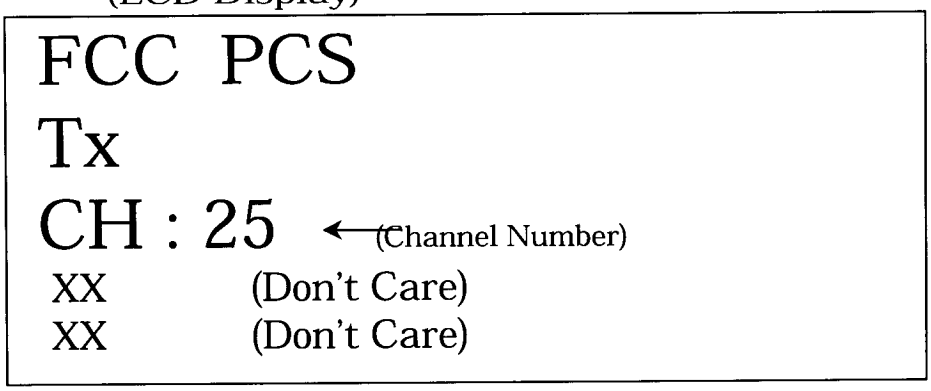
(The Initial Screen of PCS Mode is TX setting screen; See Page 3)

[PCS Mode]

1) Tx, TRx and Rx Mode

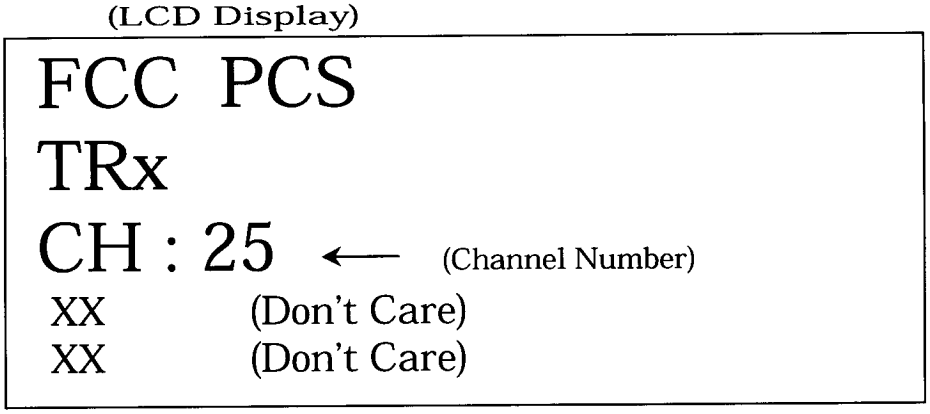
(Tx mode)

(LCD Display)



(Tx/Rx mode)

(LCD Display)



(Rx Mode)

(LCD Display)

FCC PCS
Rx
CH : 25 ←(Channel Number)
XX (Don't Care)
XX (Don't Care)

PCS Initial screen is Tx mode.

1) Mode switch

Push the **"#"** Key.

(Sequentially switched " **Tx** mode→ **TRx** mode → **Rx** mode ")

2) Channel Number setting

Push the " * " Key.

(Sequentially switched " **25 → 600 → 1175** ")

3) Quit

Push the "**END**" Key . (Exit PCS Test Mode.)

(Display change the initial Screen, see page 2)

Push the "**END**" Key . (Exit FCC Test Mode.)

(Display change the initial Screen, see page 1)

AEZSCP-6K