NAM features can be programmed as follows:

Notes:
- If you enter the NAM program mode, each item shows the currenly stored data. Go to the next item by pressing **OK**.
- You can modify the data by entering a new data.
- If you enter a wrong digit, press **CLR** to delete the last digit. Press and hold **CLR** to delete all digits.
- To scroll items backwards or forwards, press the **VOLUME** button on the left side of the phone.

(1)GENERAL SETUP

LCD Display	Key in	Function
	MENU,8,2,0	-selects NAM programming
Enter Lock ??????	******	-Enter 6-digit code(MSL)
Svc Menu 1:Phone# 2.General 3:NAM 4:Reset Browser	2	-Choose 'General'
ESN B0000000	Volume ••	-Electronic Serial Number of the phone is displayed
CAI version 3	Volume ••	-Common Air Interface version is displayed
SCM 01101010	Volume ••	-Station Class Mark displays the power class, transmission, slotted class, dual mode.
Lock Code 0000	Volume •• 4-digit code **OK**	Lock code, current ststus is displayed -to change, enter new code. -stores it
Slot Mode Yes	•• * or # •• **OK**	Slot mode. 'Yes' indicates the slot mode. -changes the status. -stores it.
Slot Index 2	Volume •• **0-7** **OK**	Slot mode index. The higher,the longer sleeping time -to change, enter new one. -stores it

(2)SETTING UP NAM

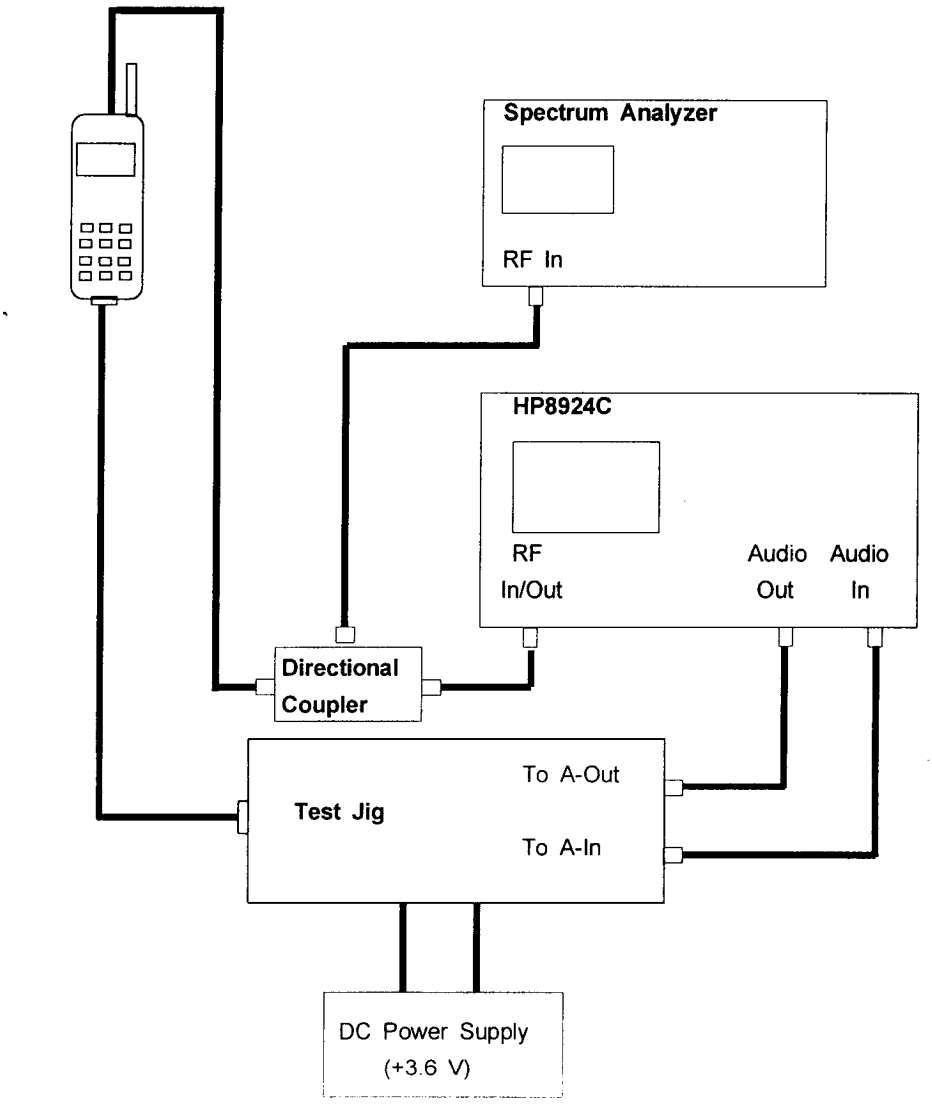
LCD Display	Key in	Function
Svc Menu 1:Phone# 2.General 3:NAM 4:Reset Browser	3	-Choose 'NAM'
IMSI_MCC 310	number **OK**	IMSI Moble Country Code,current code is displayed. -to change, enter new one. -stores it.
IMSI_MNC 00	number **OK**	IMSI Moble Network Code,current code is displayed. -to change, enter new one. -stores it.
CDMA ACCOLC 7	class number **OK**	CDMA Access Overload Class,current status is displayed. -to change,enter new one. -stores it.
CDMA HOME SID Yes	•• or •• **OK**	CDMA Home system ID, current ststus is displayed. -changes the status. -stores it.
CDMA fSID Yes	•• or •• **OK**	CDMA foreign SID, current ststus is displayed. -changes the status. -stores it.
CDMA fNID Yes	•• or •• **OK**	CDMA foreign NID, current ststus is displayed. -changes the status. -stores it.
HOME SID #1 4120	number **OK**	SID written in the list, current ststus is displayed. -to change, enter new one. -stores it.
NID #1 65535	number **OK**	NID written in the list, current ststus is displayed. -to change, enter new one. -stores it.

5. TUNE-UP PROCEDURE
TEST PROCEDURE

LIST OF EQUIPMENT

- DC Power Supply
- Test Jig
- Test Cable
- CDMA Mobile Station Test Set HP8924C, HP83236A, CMD-80, etc
- Spectrum Analyzer(include CDMA test mode) HP8596E

CONFIGURATION OF TEST



CHANGE TO TEST MODE

A. To change the phone from Normal Mode to test Mode, You should enter the following keys.
" 4 7 * 8 6 9 # 1 2 3 5 "

B. The command "0 1"(Suspend) is entered to start test.

C. To finish the Test Mode, You should enter the command " 0 2 ".

CHANNEL SELECTION AND TX POWER OUTPUT LEVEL CONTROL

1. AMPS

A. You should change the phone from Normal Mode to AMPS Test mode
" 0 1 , 2 0 1 0 0 0 1 , 0 2 "

B. The command "0 1"(Suspend) is entered to start test.

C. You should enter the following keys.
" 0 9 X X X X #, 0 7, 7 3 X, 7 2 X X X "
- If you enter the command "0 9", You can select the channel
ex) 0 9 0 3 8 3 (under-bar means channel number)
- The command "0 7" means Carrier On (Carrier Off : "0 8")
- If you enter the command "7 3", You can select power mode.
(" 0 " : High Power Mode - above 0dBm,
" 1 " : Low Power Mode - below 0dBm)
- If you enter the command "7 2", You can control the power output level.
Following under-bar means AGC code. And you can control the power output level using [SEND] or [END] key.
ex) 7 2 4 7 5

D. After enter the command "9 2" and control the Tx Power Output Level to be each power level step using [SEND] or [END] key , press "OK" key to store Data in EEPROM.

LEVEL	LCD Display	TX OUPUT POWER	STORE
2	TXpwr[02]	+26dBm +2 /-4dB	OK
3	TXpwr[03]	+24dBm +2 /-4dB	OK
4	TXpwr[04]	+20dBm +2 /-4dB	OK
5	TXpwr[05]	+16dBm +2 /-4dB	OK
6	TXpwr[06]	+12dBm +2 /-4dB	OK
7	TXpwr[07]	+8dBm +2 /-4dB	OK

2. CDMA

A. You should change the phone from Normal Mode to CDMA Test mode
" 0 1 , 2 0 2 0 3 6 3 , 0 2 "

B. The command "0 1"(Suspend) is entered to start test.

C. You should enter the following keys.
" 0 9 X X X X #, 0 7, 3 4, 7 3 X, 7 1 X X X # "
- If you enter the command "0 9", You can select the channel
  ex) 0 9 0 3 6 3 (under-bar means channel number)
- The command "0 7" means Carrier On (Carrier Off : "0 8")
- If you enter the command "3 4", You can spread the carrier.
- If you enter the command "7 3", You can select power mode.
  (" 0 " : High Power Mode, " 1 " : Low Power Mode)
- If you enter the command "7 1", You can control the power output level.
  Following under-bar means AGC code. And you can control the power output level using [SEND] or [END] Keys.
  ex) 7 1 4 7 5

D. After enter the command "7 4" and control the Tx Power Output Level to be each power level step (TX RAS) using [SEND] or [END] key , press "OK" key to store Data in EEPROM.

3. PCS

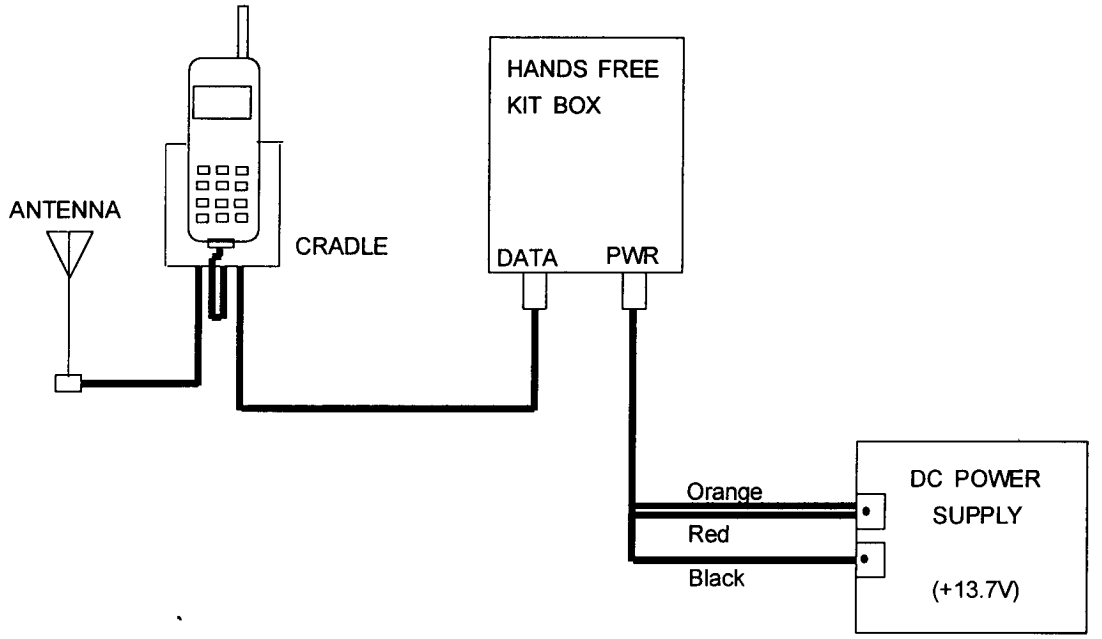
A. You should change the phone from Normal Mode to PCS Test mode
" 0 1 , 2 0 3 0 6 0 0 , 0 2 "

B. The command "0 1"(Suspend) is entered to start test.

C. You should enter the following keys.
" 0 9 X X X X #, 0 7, 3 4, 7 3 X, 7 1 X X X # "
- If you enter the command "0 9", You can select the channel
  ex) 0 9 0 3 6 3 (under-bar means channel number)
- The command "0 7" means Carrier On (Carrier Off : "0 8")
- If you enter the command "3 4", You can spread the carrier.
- If you enter the command "7 3", You can select power mode.
  (" 0 " : High Power Mode, " 1 " : Low Power Mode)
- If you enter the command "7 1", You can control the power output level.
  Following under-bar means AGC code. And you can control the power output level using [SEND] or [END] Keys.
  ex) 7 1 4 7 5

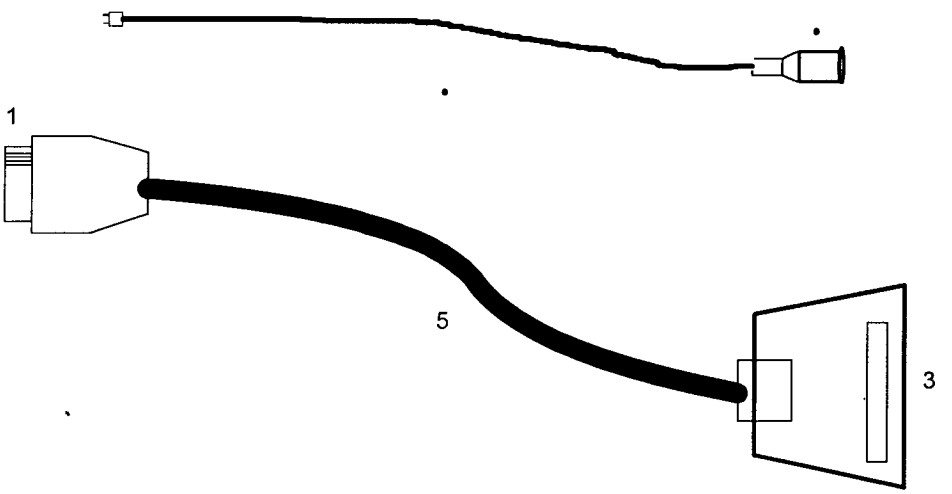
D. After enter the command "7 4" and control the Tx Power Output Level to be each power level step (TX RAS) using [SEND] or [END] key , press "OK" key to store Data in EEPROM.

CONFIGURATION OF TEST (HANDS-FREE)



TEST CABLE DESCRIPTION FOR SPH-T100

1. TEST CABLE

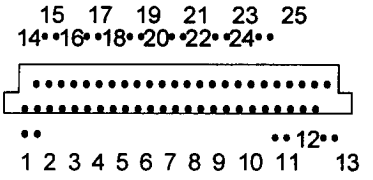


2. TEST CABLE CONNECTIONS

1	PLUG CONNECT TO SPH-T100
2	BNC CONNECTOR (RF)
3	Dsub 25PIN CONNECTOR (DATA)
4	RF CABLE
5	DATA CABLE

3. Dsub 25 PIN CONNECTOR PIN DESCRIPTION (TEST CABLE 1, BACK SIDE)

DATA DESCRIPTION	Dsub CONN. PIN NO.
Vcc	4, 5, 6
GND	13, 23, 24, 25
PW ON/OFF	7
TX AUDIO	10
TX DATA	22
RX AUDIO	12
RX DATA	21
RSSI	8



4. CONVERSION TABLE OF FREQUENCY vs CHANNEL

T Y P E	CHANNEL	CONVERSION EQUATION	REMARK
TX FREQUENCY	1 ••N•• 799 990 ••N••1023	F=0.03 •• N + 825.00 F=0.03 •• (N-1023) + 825.00	N ; CH NUMBER F ; FREQUENCY
RX FREQUENCY	1 ••N•• 799 990 ••N••1023	F=0.03 •• N + 870.00 F=0.03 •• (N-1023) + 870.00	

AMPS MODE

TEST ITEM	STEP	PROCEDURE
1. PREPARE	a	Connect the test equipment
	b	Enter the test mode: press [4 7 * 8 6 9 # 1 2 3 5] Select AMPS mode: Press in test mode [2 0 1 0 0 0 1]
	c	If you press a wrong key, press [#] key and then enter new command.
	d	To exit the test mode at any time : press [0 2]
2. RF POWER	a	Set the channel 383 : Press [0 9 0 3 8 3] (Ch number must be 4 digits)
	b	Turn the carrier on, and set the power level 2 : press [0 7, 7 3 0 #, 1 0 2 #]
	c	Measure the RF Power Output : + 26 dBm +2/ -4 dB Note 1 : In case of using the antenna cable, must compensate for the cable loss(1.4dB). Note 2 : To prevent from damaging the hhp, must measure by calibrated test equipment. Warning ! Adjustments without calibrated equipment can result in excessive heat and will void the warranty.
	d	Power level control mode is [1 0 X] Adjust power level by using [SEND] or [END]key, and store. : press [9 2]
	e	Then measure the power output for each level by pressing [OK] or [••] at every step .
	f	Then turn carrier off : press [0 8]
3. TX FREQUENCY	a	Set the channel 383 : press [0 9 0 3 8 3]
	b	Turn the carrier on : press [0 7]
	c	Measure the tx frequency : 836.490MHz •• 2.5ppm (••2090Hz)
	d	Turn the carrier off : press [0 8]

TEST ITEM	STEP	PROCEDURE
4. VOICE DEVIATION	a	Set the channel 383 : [0 9 0 3 8 3]
	b	Send the RF power, and set TX audio unmute :press [0 7, 4 6, 4 5, 1 4]
	c	Turn the carrier on, and set the power level 2
	d	Set the audio generator output to 1kHz, 3.0Vrms Measure the TX voice deviation by using the HPF of 20Hz and the LPF of 99kHz. (spec : ••12kHz less)
	e	To adjust the peak deviation,
		(••) Press [6 3] and use the [SEND] or [END] key
		(••) Store the peak deviation : press [OK]
	f	Set the audio generator output to 1kHz, 100Vrms.
	g	Measure the TX voice deviation by using the HPF of 50Hz and the LPF of 15kHz. (spec : ••2.9 kHz ••10%)
	h	To adjust the compressor off deviation : press [45], and use [SEND] or [END] key. (spec : ••2.9 kHz ••0.2 kHz)
	i	Store the compressor off deviation : press [OK]
	j	To adjust the compressor on deviation : press [44],and use [SEND] or [END] key. (spec ; ••2.9 kHz ••0.2 kHz)
	k	Store the compressor on deviation : press [OK]
	l	Turn the carrier off, and TX mute : [0 8, 1 3]
5. ST DEVIATION	a	Set the channel 383 : press [0 9 0 3 8 3]
	b	Turn the carrier on, and set the power level 2
	c	Set ST : press [1 6]
	d	Measure the TX ST deviation by using the HPF of 20Hz and the LPF of 15kHz. (spec : ••8 kHz 10%)
	e	To adjust the deviation ; press [66], and use [SEND] or [END] key.
	f	Store the deviation code in EEPROM : press [OK]
	g	Turn the ST and the carrier off : press [1 7, 0 8]

•••• •••	••••	•••••••••
6. SAT DEVIATION	a	Set the channel 383 : [0 9 0 3 8 3]
	b	Turn the carrier on, and set the power level 2
	c	Set the Voice State and SAT on : press [4 6, 3 2 1 #]
	d	Measure the TX SAT deviation by using the HPF of 20 Hz and the BPF of 6 kHz. (spec : ••2kHz ••10%)
	e	To adjust the deviation within specification : press [64], and use [SEND] or [END] key.
	f	Store the deviation code in EEPROM: press [OK]
	g	Turn the SAT and the carrier off : press [3 3, 0 8]
7. WBD DEVIATION	a	Set the channel and carrier on : [0 9 0 3 8 3, 0 7]
	b	WBD on : [3 4]
	c	Measure the WBD deviation by using the HPF of 20 Hz and the LPF of 99 kHz. (spec : •• 8 kHz ••10%)
	d	To adjust the WBD deviation : press [6 5], and use [SEND] or [END] key.
	e	Store the deviation code in EEPROM : press [OK]
	f	Turn the carrier off : press [0 8]
8. RX AUDIO	a	Set the equipment as below. RF frequency : 881.49 MHz Input RF level : - 80 dBm Modulation frequency : 1 kHz Frequency deviation : 8 kHz
	b	Set the channel 383 and the Voice State : press [0 9 0 3 8 3, 4 6]
	c	Set the RX audio unmute : press [1 2]
	d	Set compandor on : press [4 4]
	e	Adjust the expandor on audio level : press [6 1] Use [SEND] or [END] key.
	f	Store the expandor on audio level :press [OK]
	g	Finish the test and exit test mode : press [0 2]

CDMA MODE

TEST ITEM	STEP	PROCEDURE
1. PREPARE	a	Connect the test equipment
	b	Enter the test mode: press [4 7 * 8 6 9 # 1 2 3 5] Select AMPS mode: Press in test mode [2 0 2 0 3 6 3]
	c	If you press a wrong key, press [#] key and then enter new command.
	d	To exit the test mode at any time : press [0 2]
2. FREQUENCY ACCURACY	a	Set the channel 363: press [0 9 0 3 6 3]
	b	Turn the carrier on and set the power level. : press [0 7, 7 3 0 #, 7 1 X X X]
	c	Measure the frequency accuracy (spec: ••300Hz)
	d	To adjust the Frequency Accuracy : press [8 9] and use [SEND] or [END] key.
	e	Store the Frequency Accuracy in EEPROM: Press [OK]
3. OCCUPIED CDMA BANDWIDTH	a	Set the channel 363: press [0 9 0 3 6 3]
	b	Turn the carrier on and set the power level. : press [0 7, 3 4, 7 3 0 #, 7 1 X X X]
	c	Measure the Band Width. (spec: 1.32MHz)
4. LIMITATIONS ON EMISSIONS	a	Set the channel 363: press [0 9 0 3 6 3]
	b	Turn the carrier on and set the power level. : press [0 7, 3 4, 7 3 0 #, 7 1 X X X]
	c	Measure the spurious at F_c••900kHz, F_c••1.98MHz, $2F_c$ $3F_c$, $1/2F_c$ spec: F_c••900kHz below 42dBc/30kHz F_c••1.98MHz below 54dBc/30kHz Outside Receive Band 43+10log (PY) PY: Mean output power in watts
5. GATED POWER & TIME	a	Set the Service option: 2
	b	Set the Data Rate: Eighth (1200bps)
	c	Registering: HHP --> HP8924C
	d	Call : HP8924C --> HHP
	e	Measure the Gated Power & Time spec: Gated Power at least 20dB Gated Time - Rising Time : below 7us Falling Time : below 7us Burst Time : below 1.247ms

PCS MODE

TEST ITEM	STEP	PROCEDURE
1. PREPARE	a	Connect the test equipment
	b	Enter the test mode: press [4 7 * 8 6 9 # 1 2 3 5] Select AMPS mode: Press in test mode [2 0 3 0 6 0 0]
	c	If you press a wrong key, press [#] key and then enter new command.
	d	To exit the test mode at any time : press [0 2]
2. FREQUENCY ACCURACY	a	Set the channel 363: press [0 9 0 6 0 0]
	b	Turn the carrier on and set the power level. : press [0 7, 7 3 0 #, 7 1 X X X]
	c	Measure the frequency accuracy (spec: ••300Hz)
	d	To adjust the Frequency Accuracy : press [8 9] and use [SEND] or [END] key.
	e	Store the Frequency Accuracy in EEPROM: Press [OK]
3. OCCUPIED CDMA BANDWIDTH	a	Set the channel 363: press [0 9 0 6 0 0]
	b	Turn the carrier on and set the power level. : press [0 7, 3 4, 7 3 0 #, 7 1 X X X]
	c	Measure the Band Width. (spec: 1.32MHz)
4. LIMITATIONS ON EMISSIONS	a	Set the channel 363: press [0 9 0 6 0 0]
	b	Turn the carrier on and set the power level. : press [0 7, 3 4, 7 3 0 #, 7 1 X X X]
	c	Measure the spurious at F_c••900kHz, F_c••1.98MHz, $2F_c$ $3F_c$, $1/2F_c$ spec: F_c••900kHz below 42dBc/30kHz F_c••1.98MHz below 54dBc/30kHz Outside Receive Band 43+10log (PY) PY: Mean output power in watts
5. GATED POWER & TIME	a	Set the Service option: 2
	b	Set the Data Rate: Eighth (1200bps)
	c	Registering: HHP --> HP8924C
	d	Call : HP8924C --> HHP
	e	Measure the Gated Power & Time spec: Gated Power at least 20dB Gated Time - Rising Time: below 7us Falling Time: below 7us Burst Time: below 1.247ms