

4-2 Setting Up NAM1

LCD Display	Key in	Function
NAM Program 1:General 2:Setup NAM1 3:Setup NAM2 4:Setup NAM3 5:Setup NAM4	2	-Choose 'Setup NAM1.'
CDMA TEL NO 1234567890	Phone number STO	-directory number -to change, enter new one. -store it.
IMSI_MCC 000	number STO	IMSI Mobile Country Code, current code is displayed. -to change, enter new one. -store it.
IMSI_MNC 00	number STO	IMSI Mobile Network Code, current code is displayed. -to change, enter new one. -store it.
CDMA pref.. A only	* or # STO	Preferred system selection, current system is displayed. -changes the system. -store it.
CDMA ACCOLC 0	class number STO	CDMA Access Overload Class, current status is displayed. -to change, enter new one. -store it.
Pchn Sys A 779	channel number STO	Preferred channel currently used under system A -to change, enter new one. -store it.
Pchn Sys B 779	channel number STO	Preferred channel currently used under system B -to change, enter new one. -store it.
Schn Sys A 738	channel number STO	Second channel currently used under system A -to change, enter new one. -store it.

LCD Display	Key in	Function
Schn Sys B 738	channel number STO	Second channel currently used under system B -to change, enter new one. -store it.
CD Acq SID 1 0	ID number STO	1st Acquisition system ID, current status is displayed. -to change, enter new one. -store it.
CD Acq SID 2 0	ID number STO	2nd Acquisition system ID, current status is displayed. -to change, enter new one. -store it.
CD Acq SID 3 0	ID number STO	3rd Acquisition system ID, current status is displayed. -to change, enter new one. -store it.
CD Acq SID 4 0	ID number STO	4th Acquisition system ID, current status is displayed. -to change, enter new one. -store it.
CD Acq SID 5 0	ID number STO	5th Acquisition system ID, current status is displayed. -to change, enter new one. -store it.
CD Acq SID 6 0	ID number STO	6th Acquisition system ID, current status is displayed. -to change, enter new one. -store it.
CD lockSID 1 0	ID number STO	1st lock system ID,current status is displayed. -to change, enter new one. -store it.
CD lockSID 2 0	ID number STO	2nd lock system ID,current status is displayed. -to change, enter new one. -store it.
CD lockSID 3 0	ID number STO	3rd lock system ID,current status is displayed. -to change, enter new one. -store it.
CD lockSID 4 0	ID number STO	4th lock system ID,current status is displayed. -to change, enter new one. -store it.
CD lockSID 5 0	ID number STO	5th lock system ID,current status is displayed. -to change, enter new one. -store it.
CD lockSID 6 0	ID number STO	6th lock system ID,current status is displayed. -to change, enter new one. -store it.

LCD Display	Key in	Function
CDMA Home SID Yes	* or # STO	CDMA Home system ID, current status is displayed -changes the status. -store it.
CDMA fSID Yes	* or # STO	CDMA foreign SID, current status is displayed. -changes the system. -store it.
CDMA fNID Yes	* or # STO	CDMA foreign NID, current status is displayed. -changes the system. -store it.
SID #1 1700	number STO	first SID written in the list, current status is displayed. -to change, enter new one. -store it.
NID #1 1	number STO	first NID written in the list, current status is displayed. -to change, enter new one. -store it.
SID #2 1700	number STO	2nd SID written in the list, current status is displayed. -to change, enter new one. -store it.
NID #2 2	number STO	2nd NID written in the list, current status is displayed. -to change, enter new one. -store it.
SID #3 1700	number STO	3rd SID written in the list, current status is displayed. -to change, enter new one. -store it.
NID #3 3	number STO	3rd NID written in the list, current status is displayed. -to change, enter new one. -store it.
SID #4 1700	number STO	4th SID written in the list, current status is displayed. -to change, enter new one. -store it.
NID #4 15	number STO	4th NID written in the list, current status is displayed. -to change, enter new one. -store it.

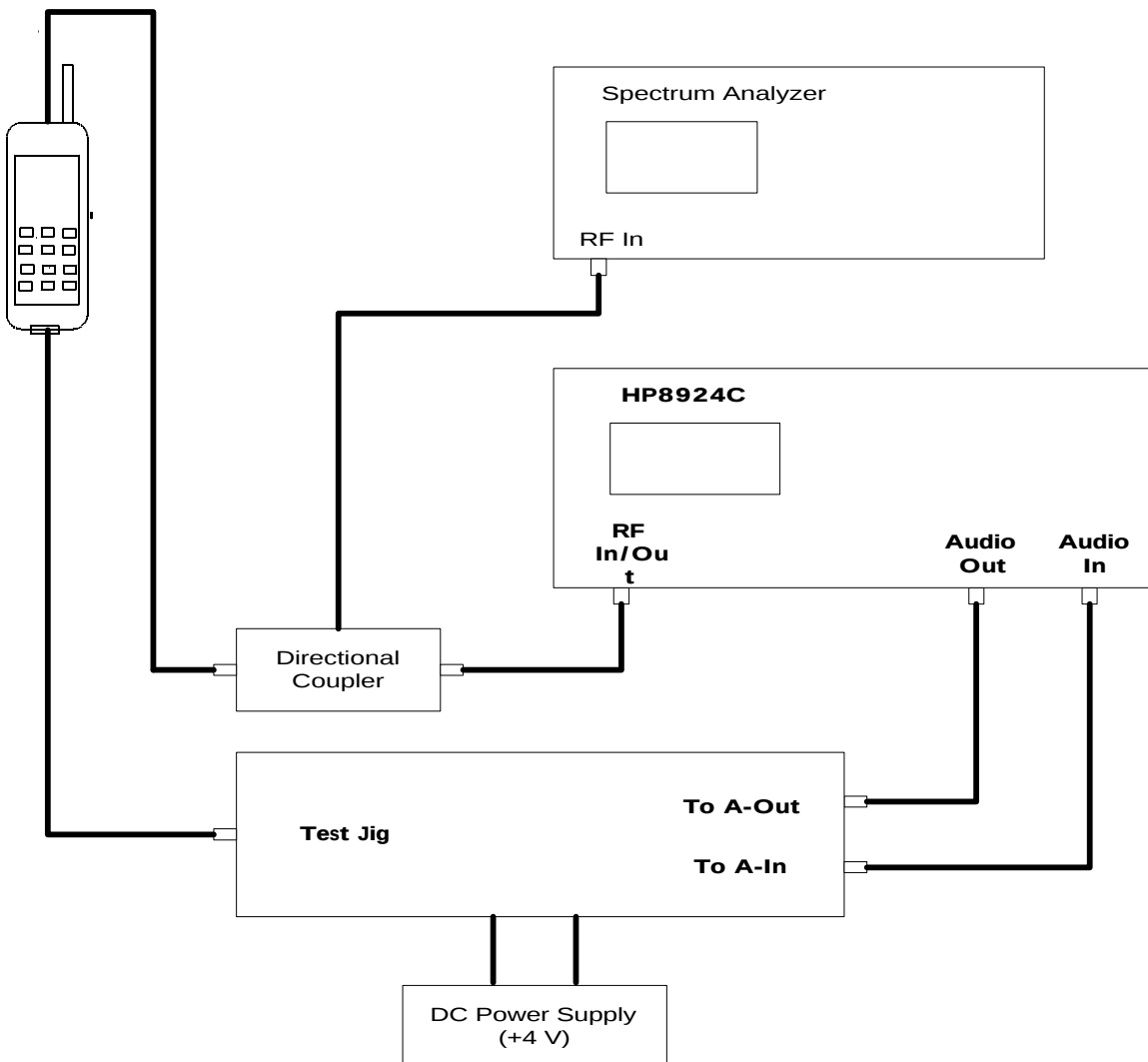
4-3 Setting Up NAM2,3,4

The NAM2,3,4 setup program is the same as '4 - 2 Setting Up NAM1'

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

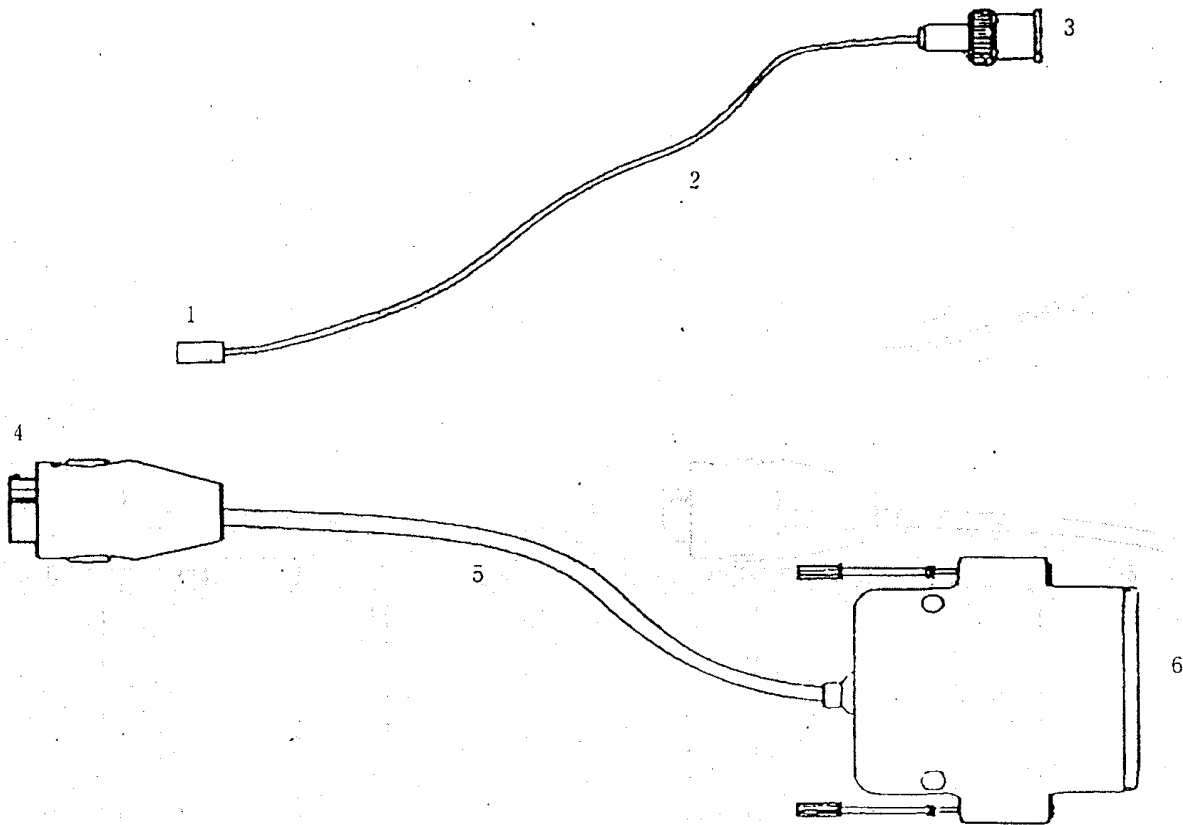
Configuration of Test



CAUTION : Because there is the loss of the test jig and Data cable,
you'd better input 4 V to the DC Power Supply to use 3.6V (Battery normal voltage)
at Cellular phone.

TEST CABLE DESCRIPTION FOR SCH-I201

1. TEST CABLE

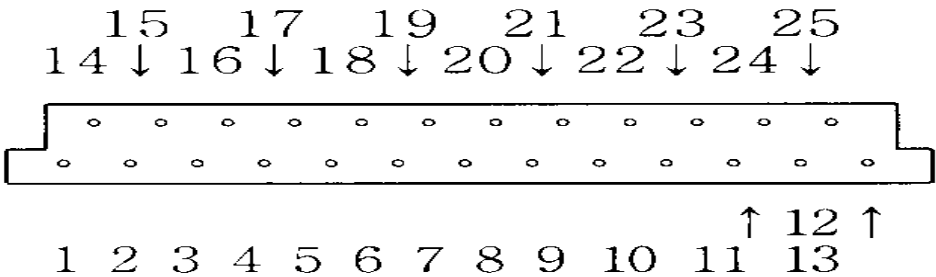


2. TEST CABLE CONNECTIONS

1	MHC 172
2	RF CABLE (1.4 dB Loss)
3	BNC CONNECTOR (RF)
4	PLUG CONNECT TO SCH-I201
5	DATA CABLE
6	Dsub 25PIN CONNECTOR (DATA)

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

DATA DESCRIPTION	Dsub CONN. PIN NO.	DATA DESCRIPTION	Dsub CONN. PIN NO.
V_F	12,21	DP_RX_DATA	8
DGND	2,4,6,13,19	HP_PWR	9
BATT	15,16,22	RI	10
C_F	3,20	CD	11
TX_AUDIO	5	RTS	14
DP_TX_DATA	7	CTS	17
RX_AUDIO	1	DTR	18



4. CONVERSION TABLE OF FREQUENCY vs CHANNEL

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

Change to Test Mode

A. To change the phone's state from Normal Mode to Test Mode, You should enter the following keys.

" 6 5 4 8 # 0 * 4 5 6 8 0 "

B. The command "0 1" is Suspend.

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

Channel Selection and Tx Power Output Level Control

Digital Mode (CDMA)

A. Enter to Test Mode (6 5 4 8 # 0 * 4 5 6 8 0).

B. "0 1" : Suspend.

C. "0 9 0 3 6 3 #" : Set to '0363' channel.

D. "0 7" : Carrier On.

E. "3 4" : Spread spectrum to 1.23MHz band width.

F. "7 1 2 7 5 #" : Output RF power level setting.

"275" means AGC level and AGC level range is from 0 to 511.

Digital Mode(CDMA)

TEST ITEM	PROCEDURE
1. PREPARE	Setup the test equipment. Make sure to check the "Digital Only" in NAM 1 "6 5 4 8 # 0 * 4 5 6 8 0 " : Enter to Test Mode "0 1" : Suspend If you press a wrong key, press "#", then enter new command. To exit the Test Mode at any time : press [0 2].
2. FREQUENCY ACCURACY	"0 1" : Suspend. "0 9 0 3 6 3 #" : Set to '0363' channel. "0 7" : Carrier On. "7 1 2 7 5 #" : Set AGC level 275. Measure the TX frequency : 835.89 MHz $\pm$ 300Hz.
3. OCCUPIED CDMA BAND WIDTH	"0 1" : Suspend. "0 9 0 3 6 3 #" : Set to '0363' channel. "0 7" : Carrier On. "3 4" : Spread spectrum. "7 1 2 7 5 #" : Set AGC level 275. Measure the band width (spec: 1.32MHz).
4. LIMITATIONS ON EMISSIONS	"0 1" : Suspend. "0 9 0 3 6 3 #" : Set to '0363' channel. "0 7" : Carrier On. "3 4" : Spread spectrum. "7 1 2 7 5 #" : Set AGC level 275. Measure the spurious at FC $\pm$ 900KHz, FC $\pm$ 1.98MHz, 2FC, 3FC, 1/2FC. spec: FC $\pm$ 900KHz below 42dBc/30KHz FC $\pm$ 1.98MHz below 54dBc/30KHz Outside Receive Band 43+10log (PY) PY: Mean Output Power in watts
5. GATED POWER & TIME	Set the service option: 2. Set the Sector A power: -75dBm. Set the data rate: Eighth (1200bps). Registering: HHP --> HP8924C. Call : HP8924C --> HHP. Measure the Gated Power & Time. spec: Gated Power at least 20dB Gated Time - Rising Time: below 6us Falling Time: below 6us Burst Time: 1.25ms

SCH-I201 TEST COMMAND TABLE

Command No. (OP,AB,RB)	Signal. Name	Description
01(1F,0,0)	T_SUSPEND_I	Terminate the normal mode, enter to the test mode.
02(3F,0,0)	T_RESTART_I	Terminate the test mode, enter to the normal mode.
03(FD,0,0)	T_SAVE_VAL_I	Save value in EEPROM. (Only for Auto test).
04(1D,0,1)	T_GET_MODE_I	Get mode CDMA or FM (Only for Auto test).
05(1C,1,0)	T_SET_MODE_I	Set mode CDMA or FM. (Only for Auto test).
06(1E,0,0)	T_WRITE_NV_I	Write an EEPROM item (one of the NV items)
07(81,0,0)	T_CARRIERON_I	Turn the carrier on.
08(82,0,0)	T_CARRIEROFF_I	Turn the carrier off
09(83,4,0)	T_LOADSYN_I ²⁾	Set the synthesizer to the channel specified by ch_data.
10(84,1,0)	T_PWRLEVEL_I ²⁾	Set the RF power level.
11(85,0,0)	T_RXMUTE_I	Mute the receive-audio signal.
12(86,0,0)	T_RXUNMUTE_I	Unmute the receive-audio signal.
13(87,0,0)	T_TXMUTE_I	Mute the transmit-audio signal.
14(88,0,0)	T_TXUNMUTE_I	Unmute the transmit-audio signal.
15(89,1,0)	T_VOC_ESEC_I	Echo canceller ON/OFF
16(8F,0,0)	T_ST_ON_I	Transmit a continuous Signaling Tone(ST).
17(90,0,0)	T_ST_OFF_I	Stop transmit a continuous Signaling Tone.
19(93,0,0)	T_INDEX_DECR_I	Index dn Key.
20(9E,3,0)	T_LNA_GAIN_WR_I	Write LNA gain.
22(91,96,96)	T_SNDNAM_I ¹⁾	Display and send NAM information.
23(95,3,4)	T_SNDVERSION_I ¹⁾	Display and return s/w version .
24(9F,7,8)	T_SNDESN_I ¹⁾	Display and return ESN .
25(92,0,0)	T_BACKLIGHT_ON_I	Turn on the backlight
26(93,0,0)	T_BACKLIGHT_OFF_I	Turn off the backlight
27(96,0,0)	T_LAMP_ON_I	Turn on the LAMP
28(97,0,0)	T_LAMP_OFF_I	Turn off the LAMP
29(9A,5,0)	T_REBUILD_I	Rebuild EEPROM
30(9D,16,0)	T_PLINE_I	Display and return production line information.
32(A0,1,0)	T_SAT_ON_I* ²⁾	Enable the transmission of SAT.
33(A1,0,0)	T_SAT_OFF_I*	Disable the transmission of SAT.
34(A2,0,0)	T_CDATA_I	Transmit continuous 5-word Reverse CTL CH message.
35(A3,3,0)	T_VOLUME_UP_I	Increase value of the last command (Only for autotest)
36(A4,3,0)	T_VOLUME_DOWN_I	Decrease value of the last command (Only for autotest)
38(A6,3,0)	T_VOC_ENC_OFFSET_I	Vocoder ENC offset.
39(A7,3,0)	T_VOC_DEC_OFFSET_I	Vocoder DEC offset.

Command No. (OP,AB,RB)	Signal. Name	Description
40(A8,4,0)	T_VOC_CDMA_UNITY _GAIN_I	Vocoder CDMA unity gain.
41(A9,0,0)	T_VOC_FM_HFRX _UPGAIN_I	Vocoder FM hfrx upgain.
42(AA,1,0)	T_DTMFON_I ²⁾	Activate dtmf generator with keycode.
43(AB,0,0)	T_DTMFOFF_I	Deactivate DTMF generator.
44(B0,0,0)	T_COMPANDORON_I	Enable the compressor and expander.
45(B1,0,0)	T_COMPANDOROF_I	Disable the compressor and expander.
46(B2,0,0)	T_FM_VCLINE_I*	Enter Analog voice channel state.
47(B3,0,0)	T_FM_AUD_GAIN_I	FM audio gain.
48(B4,0,0)	T_VIBRATOR_ON_I	Active A Vibrator.
49(B5,0,0)	T_VIBRATOR_OFF_I	Inactive A Vibrator.
50(B6,0,4)	T_BATT_TYPE_I	Batt type.
51(B7,1,1)	T_BBA_I	BBA supplier.
52(B9,2,2)	T_HW_VERSION_I	HW version.
53(BA,3,0)	T_CARRIER_I	Target Carrier option (Banner).
54(BB,1,0)	T_VOC13K_I	Target Service option (8K/13K).
55(AC,1,0)	T_EXT_AUDIO_I	External Audio Path ON/OFF.
56(AD,0,0)	T_LOOP_BACK_I	Loopback ON.
57(BC,0,0)	T_MIC_ON_I	Mic path on.
58(BD,0,0)	T_MIC_OFF_I	Mic path off.
59(BE,0,0)	T_ALLPATH_I	Set Rx Path, TX Path Unmute to Earpiece.
60(BF,3,0)	T_FM_TX_GAIN_I ²⁾³⁾	FM Tx Audio Gain Control.
61(C0,3,0)	T_FM_RX_GAIN_I ²⁾³⁾	FM Rx Audio Gain Control.
62(C1,3,0)	T_DTMF_VOL_TX_I ²⁾³⁾	FM Tx DTMF Gain control.
63(C2,3,0)	T_TX_LIMITER_I ²⁾³⁾	FM Tx Limiter Gain Control.
64(C3,3,0)	T_FM_SAT_LEVEL_I ²⁾³⁾	FM Tx SAT level Control.
65(C4,3,0)	T_FM_FREQ_SGAIN_I ²⁾³⁾	FM Tx Master Gain Control.
66(C5,3,0)	T_FM_ST_GAIN_I ²⁾³⁾	FM TX ST Gain Control.
67(C6,3,6)	T_READ_BATT_I ¹⁾	Reads low batt. Value in Standby or Talk mode.
68(C8,0,3)	T_VBATT1_I ³⁾	Set the low battery position in the standby.
69(C9,0,3)	T_VBATT2_I ³⁾	Set the low battery position in the talking.
70(CA,3,0)	T_WRITE_BATT_I ³⁾³⁾	Write low battery Level Value to NVM.
71(D1,3,0)	T_CDMA_TXADJ_I ²⁾	Change pdm TX AGC in CDMA.
72(D2,3,0)	T_FM_TXADJ_I ²⁾	Change pdm TX AGC in FM.
73(D3,1,0)	T_SET_PA_R0_I ²⁾	Set TX power Amp ctrl R0.
74(D4,4,0)	T_OFF_PA_R0_I	Off TX power Amp ctrl R0.
75(D5,0,3)	T_READ_RSSI_I ³⁾	Read a RSSI.
77(D7,0,3)	T_READ_TEMP_I	Read Temp.
78(D8,0,3)	T_RXRAS_AUTO_I	Adjust RXRAS from 8924C.
79(D9,1,0)	T_BUZZER_ON_I ²⁾	Buzzer On at DTMF 0 key
80(DA,0,0)	T_BUZZER_OFF_I	Buzzer off

Command No.(OP,AB,RB)	Signal. Name	Description
81(E3,0,0)	T_VOC_PCMLPON_I	Play a PCM LOOP BACK.
82(E4,0,0)	T_VOC_PCMLPOFF_I	Play off a PCM LOOP BACK.
85(E7,0,0)	T_SPEAKER_ON_I	Turn on the speaker path.
86(E8,0,0)	T_SPEAKER_OFF_I	Turn off the speaker path.
87(E9,0,0)	T_FM_LOOP_TEST_I	Play a PCM FM loopback.
88(EA,0,0)	T_TRK_ADJ_I ³⁾	FM TRK_LO_ADJ control.
89(EB,0,0)	T_CD_TRK_ADJ_I ³⁾	CDMA TRK_LO_ADJ control.
92(F2,3,0)	T_TXRAS_ADJ_I	TXRAS adj = TX RAS offset array.
93(F3,3,0)	T_RXRAS_ADJ_I	RXRAS adj = RX RAS offset array.
94(F4,4,0)	T_HW_CHANFLAT_T	H/W Channel Flatness.
95(F5,4,0)	T_SW_CHANFLAT_T	S/W Channel Flatness.
96(F6,3,0)	T_CH_FLATNESS_I	Set 22dBm Channel Deviation 10 POINT.
97(F7,3,0)	T_FM_TX_PWR_I	Set FM PWR LEVEL 2~7