

No	Description	Count	Part Number	Reference
1	DIODE - ZENER	1	UDZ4.7B	ZD601
2	DIODE - VARACTOR	4	1SV279	D201,D202,D302,D303
3	DIODE - TVS	3	SMS05C	ZD101,ZD102,ZD103
4	DIODE - ARRAY	2	DAN202U	D160,D501
5	DIODE - ARRAY	2	DA221	D601,D602
6	DIODE - PIN	2	BAR63 -02W	D350,D351
7	TR -SMALL SIGNAL	1	2SA1576	Q161
8	TR -SMALL SIGNAL	1	SC4081	Q350
9	TR -SMALL SIGNAL	2	2SC4617	Q502,Q507
10	TR -SMALL SIGNAL	4	MMBT2222AWT1	Q101,Q102,Q503,Q511
11	TR -DIGITAL	1	RN1102	Q160
12	TR -DIGITAL	2	RN1104	Q508,Q509
13	TR -DIGITAL	1	RN2104	Q501
14	FET -SILICON	1	SI3443DV	Q505
15	FET -SILICON	2	FDC6329L	U202,U203
16	IC -EEPROM	1	24C256	U106
17	IC -SRAM	1	616U4110	U101
18	IC -ETC. MEMORY	1	84VD22194	U103
19	IC -POWER AMP	1	912	U201
20	IC -VOLFAGECOMP	1	75W393	U601
21	IC -POWER SUPERVISOR	1	1000	U501
22	IC -IF CIRCUIT	1	IFR3000 -48BCCF -TR	U302
23	IC -IF/FM/AM	1	RFT3100	U204
24	IC -DATA COMM./GEN	1	MSM3100	U609
25	IC -MIXER	1	CMY212B	U361
26	IC -DATA COMM./GEN	1	RF2366TR7	U360
27	IC -PLL	1	LMX2332LSLB	U402
28	IC -CASCODE AMP	1	0916	U404
29	THERMISTOR -NTC	1	10Kohm	R501
30	VARISTOR	2	5.6V	C602,C603
31	R -CHIP	2	2Kohm	R161,R620
32		4	100ohm	R108,R109,R115,R125
33		4	100ohm	R126,R128,R129,R216
34		4	1Kohm	R134,R137,R140,R141
35		4	1Kohm	R147,R202,R207,R312
36		4	1Kohm	R330,R331,R374,R506
37		4	1Kohm	R508,R552,R613,R622
38		2	2.2Kohm	R414,R611
39		1	2.7Kohm	R502
40		4	4.7Kohm	R103,R504,R542,R606
41		1	5.1Kohm	R415
42		1	6.8Kohm	R536

43		1	8.2Kohm	R503
44		4	10Kohm	R101,R136,R138,R139
45		4	10Kohm	R149,R160,R206,R209
46		4	10Kohm	R316,R317,R515,R537
47		3	10Kohm	R616,R618,R636
48		3	22Kohm	R110,R507,R543
49		2	47Kohm	R104,R124
50		1	82Kohm	R629
51		4	100Kohm	R130,R204,R205,R539
52		4	100Kohm	R540,R541,R544,R604
53		3	100Kohm	R605,R631,R632
54		4	200Kohm	R117,R118,R122,R133
55		2	200Kohm	R215,R603
56		2	470Kohm	R314,R617
57		4	10ohm	R370,R371,R373,R376
58		4	10ohm	R406,R412,R416,R420
59		1	1.5Kohm	R612
60		1	10Mohm	R528
61		1	330Kohm	R105
62		1	33Kohm	R313
63		1	39Kohm	R628
64		2	470ohm	R111,R377
65		2	4.7ohm	R218,R219
66		1	18ohm	R647
67		3	36ohm	R510,R511,R512
68		1	51ohm	R643
69		1	270ohm	R203
70		4	330ohm	R127,R132,R315,R645
71		1	330ohm	R646
72		1	910ohm	R319
73		2	1.2Kohm	R131,R372
74		1	1.8Kohm	R214
75		1	3.3Kohm	R509
76		2	180Kohm	R614,R619
77		3	16oHM	R404,R409,R410
78		1	20oHM	R413
79		1	2.2MoHM	R221
80		1	12Kohm	R210
81		4	0oHM	R106,R123,R142,R144
82		4	0oHM	R148,R201,R208,R211
83		4	0oHM	R213,R220,R222,R318
84		4	0oHM	R375,R411,R418,R419
85		4	0oHM	R424,R480,R514,R521

86		4	0oHM	R524,R529,R531,R535
87		1	0oHM	R553
88	C -CERAMIC CHIP	4	0.1nF	C110,C112,C117,C118
89		4	0.1nF	C207,C215,C229,C231
90		4	0.1nF	C335,C337,C373,C380
91		4	0.1nF	C387,C392,C408,C411
92		4	0.1nF	C412,C413,C424,C426
93		4	0.1nF	C431,C432,C433,C436
94		4	0.1nF	C437,C438,C507,C519
95		4	0.1nF	C522,C526,C529,C535
96		2	0.1nF	C539,C540
97		4	10nF	C101,C102,C103,C106
98		4	10nF	C109,C116,C123,C128
99		4	10nF	C140,C144,C146,C205
100		4	10nF	C208,C214,C217,C219
101		4	10nF	C230,C239,C334,C336
102		4	10nF	C338,C340,C410,C418
103		4	10nF	C419,C422,C423,C425
104		4	10nF	C428,C435,C501,C502
105		4	10nF	C503,C504,C511,C512
106		4	10nF	C516,C542,C609,C616
107		3	10nF	C620,C621,C622
108		2	0.01nF	C381,C427
109		2	0.15nF	C343,C346
110		2	0.015nF	C390,C391
111		4	1nF	C119,C120,C121,C125
112		4	1nF	C126,C127,C147,C150
113		4	1nF	C151,C152,C23,C235
114		4	1nF	C318,C323,C331,C332
115		4	1nF	C342,C372,C377,C382
116		4	1nF	C398,C404,C407,C409
117		2	1nF	C566,C652
118		1	0.001nF	C406
119		2	220pF	C420,C605
120		2	0.022nF	C201,C371
121		2	0.027nF	C513,C514
122		2	0.002nF	C233,C375
123		1	3.3nF	C129
124		1	3.9nF	C416
125		4	4.7nF	C203,C339,C345,C393
126		1	4.7nF	C395
127		4	470pF	C104,C105,C114,C115
128		2	470pF	C145,C226

129		4	0.047nF	C204,C216,C237,C238
130		1	0.004nF	C221
131		4	0.056nF	C218,C223,C234,C414
132		1	0.008nF	C222
133		1	0.03nF	C310
134		3	47NF	C396,C556,C601
135		4	2200nF	C209,C213,C220,C397
136		2	2200nF	C530,C532
137		3	4700NF	C520,C525,C527
138		1	0.33nF	C384
139		4	100nF	C107,C108,C111,C113
140		4	100nF	C122,C124,C142,C143
141		4	100nF	C202,C341,C378,C386
142		4	100nF	C388,C394,C417,C508
143		4	100nF	C510,C517,C524,C528
144		4	100nF	C531,C534,C537,C538
145		4	100nF	C549,C607,C608,C610
146		4	100nF	C611,C612,C613,C615
147		4	100nF	C617,C618,C619,C640
148		2	100nF	C641,C651
149		4	1000nF	C515,C523,C533,C536
150		1	7pF	C370
151		1	0.0047nF	C344
152		3	0.003nF	C319,C376,C383
153		2	33nF	C349,C385
154		2	0.18nF	C210,C211
155		2	1uF	C160,C227
156		1	4.7uF	C350
157		1	220nF	C421
158		4	10UF	C333,C379,C389,C415
159		1	10UF	C606
160		3	33UF	C506,C509,C604
161	INDUCTOR -SMD	1	270nH	L307
162		1	3.3nH	L325
163		1	8.2nH	L405
164		1	12nH	L332
165		1	68nH	L319
166		1	33nH	L209
167		1	5.6nH	L406
168		2	27nH	L204,L205
169		1	1.5nH	L326
170		2	18NH	L328,L329
171		1	10NH	L206

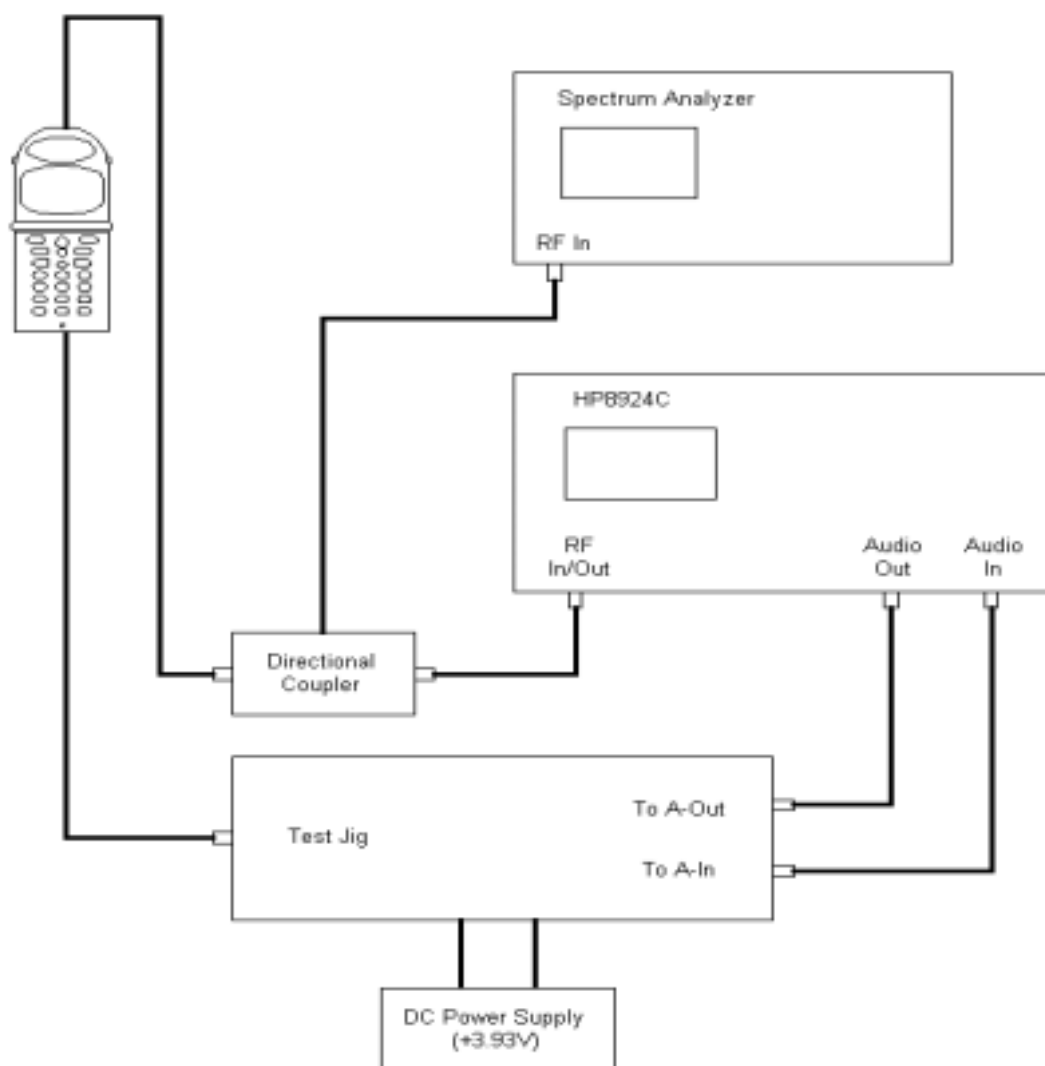
172		1	180nH	L311
173		1	8.2nH	L327
174		1	2.7nH	L320
175		1	MLF1608DR22K T	L323
176		1	47nH	L324
177		1	270nH	L331
178	CRYSTAL -SMD	1	0.032786MHz	X501
179	OSCILLATOR -VCO	1	967MHZ	OSC402
180	OSCILLATOR -VCTCXO	1	19.68MHz	OSC401
181	FILTER -EMI SMD	3	25V	F101,F102,F103
182	FILTER -SAW	1	836.5MHz	F201
183	FILTER -SAW	1	881.5MHz	F303
184	FILTER -SAW	1	85.38MHz	F301
185	FILTER -DUPLEXER	1	881.5MHz,836.5MHz	F302
186	CORE -FERRITE	4	AB	L202,L210,L211,L318
187	CORE -FERRITE	4	AB	L321,L322,L402,L403
188	CORE -FERRITE BEAD	1	AB	L201
189	CONNECTOR -COAXIAL	1	SMC, JACK	CN302
190	CONNECTOR -SOCKET	2	20P	J101,J102
191	CONNECTOR -SOCKET	1	18P	CN101
192	JACK -PHONE	1	5P	CN303
193	CONNECTOR -SOCKET	1	NOWALL	VCON2
194	CONNECTOR -SOCKET	1	NOWALL	VCON1
195	BUZZER -MAGNETIC	1	88dB	AU501
196	COUPLER -DIRECTION	1	925 -960MHZ	F401

VENDOR	LOCATION	VENDOR CODE	DESCRIPTION
MATSUSITA	F302	ETSD836MB2Z1	DUPLEXER
QUALCOMM	U609	MSM 3100C-208FPBGA	Mobile Station Modem
ALPS	OSC402	UCVA3-112A	VCO
TI	U402	LMX2332LSLBTMX	PLL
KYOSERA	OSC401	KT18-DCV28A-19.68M-T	VCTCXO
QUALCOMM	U302	IFR3000-48BCCF-TR	IFR3000
QUALCOMM	U204	RFT3100-32BCCPF-MT	RFT3100
INFINEON	U361	CMY212B	DOWN CONVERTER
RFMD	U360	RF2366TR13	LNA
CONNEXANT	U201	RM912	Power Amp Module
QUALCOMM	U501	TWL2213	PM1000

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

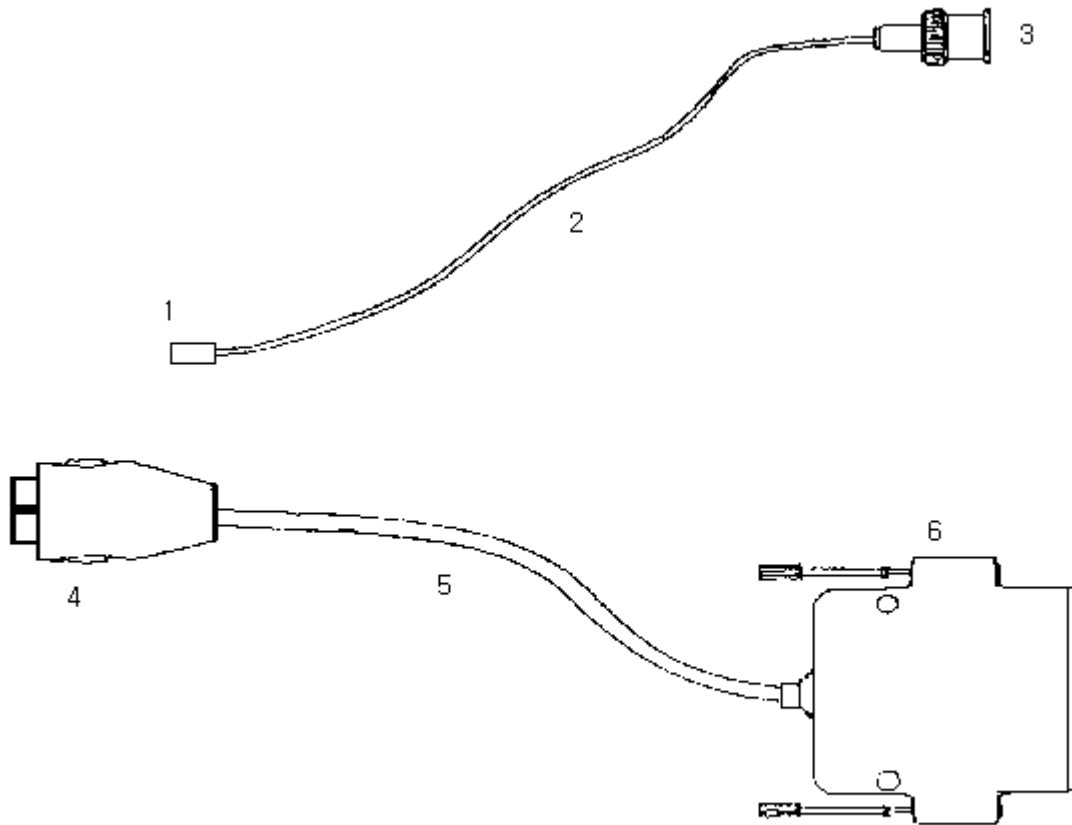
Configuration of Test



CAUTION : The test jig and data cable has a voltage drop of 0.15V at FM Max power output, you'd better set the DC power supply is 3.8V for normal test condition.
(Nominal voltage of battery is 3.8V at cellular phone)

TEST CABLE DESCRIPTION FOR SCH-A302

1. TEST CABLE

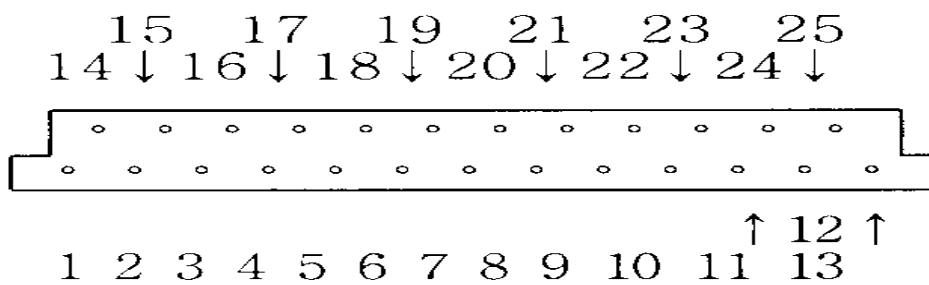


2. TEST CABLE CONNECTIONS

1	MHC 172
2	RF CABLE (1.4dB Loss for CDMA800 and AMPS, 2.1dB Loss for PCS)
3	BNC CONNECTOR (RF)
4	PLUG CONNECT TO SCH-A302
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

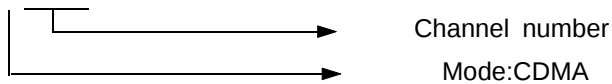
T Y P E	CHANNEL	CONVERSION EQUATION	REMARK
TX FREQUENCY	$1 \leq N \leq 799$ $990 \leq N \leq 1023$	$F = 0.03 \times N + 825.00$ $F = 0.03 \times (N - 1023) + 825.00$	N ; CH NUMBER F ; FREQUENCY
RX FREQUENCY	$1 \leq N \leq 799$ $990 \leq N \leq 1023$	$F = 0.03 \times N + 870.00$ $F = 0.03 \times (N -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

Change to Test Mode

A. To change the phone's state from Normal Mode to Test Mode, You should enter the following keys.
: Press [MENU + #]

B. The command "2 1" is mode and channel change.

"20383"



and Push the [OK] key to save.

C. The command '0 1' is Suspend.

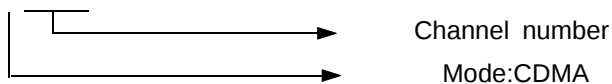
D. To finish the Test Mode, You should enter the command " 0 2".

Channel Selection and Tx Power Output Level Control**1. CDMA**

A. Enter to Test Mode [MENU + #]

B. The command "2 1" is mode and channel change

"20383"



Push the [OK] key to save.

C. "0 1" : Suspend.

D. "0 2 0 3 8 3 '# ' " : Set to '0383' channel.

E. "0 7" : Carrier On.

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

G. "7 1 * * * " : Adjust RF power level.

Set the accurate power with press 'SEND'(power growing up) or 'END'(power growing down).

"* * *" means AGC level and AGC level range is from 000 to 511.

2. CDMA

TEST ITEMS	PROCEDURE
1. PREPARANCE	Set test equipments up. [MENU + #] : Enter the Test Mode "0 1" : Suspend Confirm that the phone is in the "CDMA Mode". (If not CDMA Mode, Use Test Command "020""2XXXX" and Push the [save] Key to "OK", and enter "0 2" to restart) If you select a wrong key, press "CLR", then enter new command. To exit the Test Mode at any time, just press [0 2].
2. FREQUENCY ACCURACY	"0 1" : Suspend. "0 2 0 3 8 3 '# ' " : Set channel to 383. "0 7" : Carrier On. "3 4" : Spread spectrum. "7 1 3 0 0 '# ' " : Set AGC level. Measure the TX frequency : 836.49MHz $\pm$300Hz.
3. OCCUPIED CDMA BANDWIDTH	"0 1" : Suspend. "0 2 0 3 8 3 '# ' " : Set channel to 383. "0 7" : Carrier On. "3 4" : Spread spectrum. "7 1 X X X '# ' " : Enter AGC Code(XXX) to adjust RF Output Power. Measure the bandwidth (spec: 1.23MHz).
4. LIMITATIONS ON EMISSIONS	"0 1" : Suspend. "0 2 0 3 8 3 '# ' " : Set channel to 383. "0 7" : Carrier On. "3 4" : Spread spectrum. "7 1 X X X '# ' " : Enter AGC Code(XXX) to adjust RF Output Power. Measure the spurious at $F_c \pm 900\text{kHz}$, $F_c \pm 1.98\text{MHz}$, $2F_c$, $3F_c$, $1/2F_c$. spec: $F_c \pm 900\text{kHz}$ below 42dBc/30kHz $F_c \pm 1.98\text{MHz}$ below 54dBc/30kHz Outside Receive Band $43+10\log(PY)$ PY: Mean Output Power in watts

NAM PROGRAMMING

NAM features can be programmed as follows:

Notes:

- If you enter the NAM program mode, each item shows the currently 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 #	-selects NAM programming
NAM Program 1:General 2:NAM1 Setup 3:NAM2 Setup	1	-Choose 'General'
ESN B0000000	Volume ▲	-Electronic Serial Number of the phone is displayed
CAI version 3	Volume ▲	-Common Air Interface version is displayed
13K/EVRC/8K 13K voice	* or # OK	Vocoder sample rate -changes the status. -stores it. - 8K is not supported.
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 status 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

Setting Up NAM

LCD Display	Key in	Function
NAM Program 1:General 2:NAM1 Setup 3:NAM2 setup	2	-Choose 'NAM1 Setup'
CDMA TEL NO. 3003003000	number OK	MIN1,MIN2 is displayed -to change, enter new one. -stores it.
IMSI MCC 000	number OK	IMSI Mobile Country Code,current code is displayed. -to change, enter new one. -stores it.
IMSI MNC 00	number OK	IMSI Mobile Network Code,current code is displayed. -to change, enter new one. -stores it.
SYSTEM Standard	OK	- Only 'Standard' mode is supported.
ACCOLC 0	class number OK	CDMA Access Overload Class,current status is displayed. -to change,enter new one. -stores it.
Pchn Sys A 000	channel number OK	Primary CDMA Channel for System A is displayed -to change, enter new one. -stores it.
Pchn Sys B 000	channel number OK	Primary CDMA Channel for System B is displayed -to change, enter new one. -stores it.
Schn Sys A 000	channel number OK	Secondary CDMA Channel for System A is displayed -to change, enter new one. -stores it.
Schn Sys B 000	channel number OK	Secondary CDMA Channel for System B is displayed -to change, enter new one. -stores it.
LockoutSID 1 ~ 10 0000	SID number OK	CDMA SID to lockout is displayed -to change, enter new one. -stores it.
CDMA HOME SID Yes	# or * OK	CDMA Home system ID, current value is displayed. -changes the status. -stores it.
CDMA fSID Yes	# or * OK	CDMA foreign SID, current value is displayed. -changes the status. -stores it.
CDMA fNID Yes	# or * OK	CDMA foreign NID, current value is displayed. -changes the status. -stores it.

HomeSID #1 ~ #4 4120	number OK	CDMA HOME SIDs written in the list, current value is displayed. -to change, enter new one. -stores it.
HomeNID #1 ~ #4 65535	number OK	CDMA HOME NIDs written in the list, current value is displayed. -to change, enter new one. -stores it.