



CDMA PORTABLE PCS TELEPHONE SCH-6100

SERVICE *Manual*

CDMA PORTABLE PCS TELEPHONE



CONTENTS

1. Specification
2. NAM Programming
3. Test Procedure - Test command
4. Product Support Tool
5. Exploded Views and Parts List
6. Electrical Parts List
7. Block Diagrams
8. PCB Diagrams
9. Schematic Diagrams

1. Specification

1-1 General

Frequency Range	
Transmitter	: 1850 j- 1910 MHz
Receiver	: 1930 j- 1990 MHz
Channel Bandwidth	: 1.23 MHz
Channel Spacing	: 50 KHz
Number of Channels	: 1200
Duplex Separation	: 80 MHz
Type of Emission	: G7W
Input/Output Impedance	: 50 ohms
Intermediate Frequency	
Transmitter	: 130.38 MHz
Receiver	: 210.38 MHz
Local Frequency	
Transmitter	: 1st($F_{TX}-130.38$), 2nd(260.76MHz)
Receiver	: 1st($F_{RX}-210.38$), 2nd(420.76MHz)
TCXO Frequency	: 19.68 MHz
Frequency Stability	: ($f_{RX} - 80MHz$) j ³ / ₄ 150Hz
Operating Temperature	: -30jÉ j- +60jÉ
Supply Voltage	: +3.6V
Current Consumption	
Standby	: 100mA (Non-slot mode)
Talk	: 320mA (at +10dBm)
Size(Inch) and Weight	
including Slim Battery	: 4.1(H) j¿ 1.8(W) j¿ 0.7(D), 86g
including Standard Battery	: 4.1(H) j¿ 1.8(W) j¿ 0.8(D), 109g
including Extended Battery	: 4.1(H) j¿ 1.8(W) j¿ 1.0(D), 131g

1-2 Transmitter

Waveform Quality	: 0.944 or more
Open Loop Power Control Range	
i [±] 25 dBm	: -60.5dBm i ⁻ -41.5dBm
i [±] 65 dBm	: -20.5dBm i ⁻ +1.5dBm
i [±] 104dBm	: +15.0dBm i ⁻ +30.0dBm
Minimum TX Power Control	: -50dBm below
Closed Loop Power Control Range	: i [±] 24dB
Maximum RF Output Power	: 200mW(+23dBm)
Occupied Bandwidth	: 1.23MHz
Conducted Spurious Emissions @1.25MHz	: -42 dBc/30KHz

1-3 Receiver

RX Sensitivity and Dynamic Range	: -104dBm, FER=0.5% or less : -25 dBm, FER=0.5% or less
Conducted Spurious Emission	
i [±] 930 i ⁻ 1990 MHz	: <-81dBm
i [±] 850 i ⁻ 1910 MHz	: <-61dBm
i [±] All Other Frequencies	: <-47dBm
Single Tone Desensitization	: lower than 1%
RX power=-101dBm	
Tone power=-30dBm	
Tone offset from carrier=i [±] 1.25MHz	
Intermodulation Spurious Response Attenuation	: lower than 1%
RX power=-101dBm	
Tone power 1=-43dBm	
Tone power 2=-43dBm	
Tone 1 offset from carrier=i [±] 1.25MHz	
Tone 2 offset from carrier=i [±] 2.05MHz	

2. 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.

2-1 General Setup

LCD Display	Key in	Function
	MENU,8,2,0	-selects NAM programming
Enter Lock	??????	
SVC Menu 1:Phone# 2:General 3:NAM	2	-choose 'GENERAL'
ESN B0000000	Volume	-Electronic Serial Number of the phone is displayed.
CAI version 1	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	4-digit code OK/••	Lock code, current status is displayed. -to change, enter new code. -stores it
Slot Mode Yes	Yes or OK/••	Slot mode. 'Yes' indicates the slot mode. -changes the status. -stores it.

Slot Index	2	0-7 OK/••	Slot mode index. The higher, the longer sleeping time -to change,enter new one. -stores it.
Browser	Yes	↑ ↓ or OK/••	Up Browser Enable -changes the status. -stores it.

2-2 Setting Up NAM1

LCD Display	Key in	Function
Svc Menu ↑ ↓ 1:PCS Phone # 2:General 3:NAM	Volume ↑	NAM Programming Menu is displayed
Svc Menu ↑ ↓ 3:NAM	3	choose 'Setup NAM'
IMSI_MCC 310	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.
CDMA ACCOLC 0	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 status is displayed -stores it.
CDMA fSID Yes	↑ ↓ or OK/••	CDMA foreign SID, current status is displayed. -changes the system. -stores it.

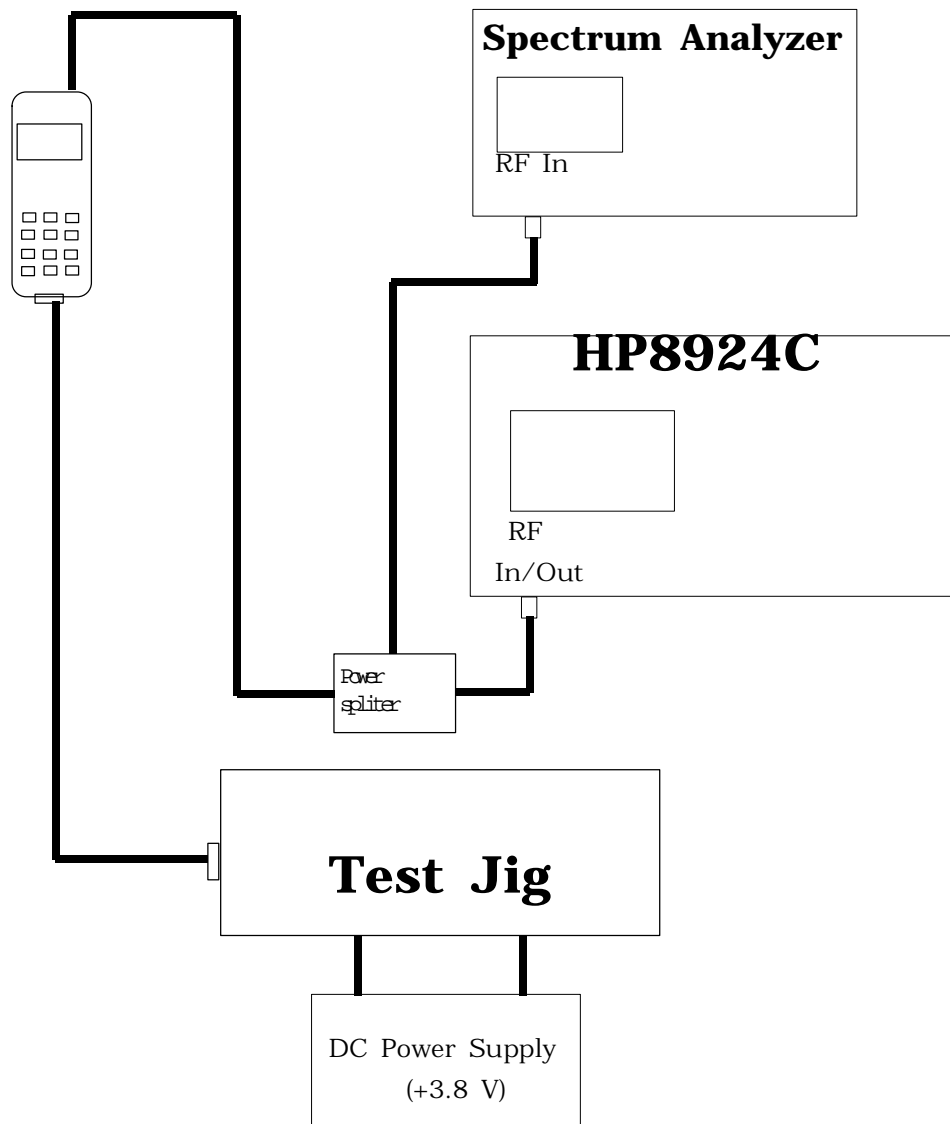
CDMA fNID			CDMA foreign NID, current status is displayed.
Yes	ic ia		-changes the system.
	OK/••		-stores it.
Home SID			first SID written in the list, current status is displayed.
4120	number		-to change, enter new one.
	OK/••		-stores it.
NID			first NID written in the list, current status is displayed.
65535	number		-to change, enter new one.
	OK/••		-stores it.

3. Test Procedure - Test command

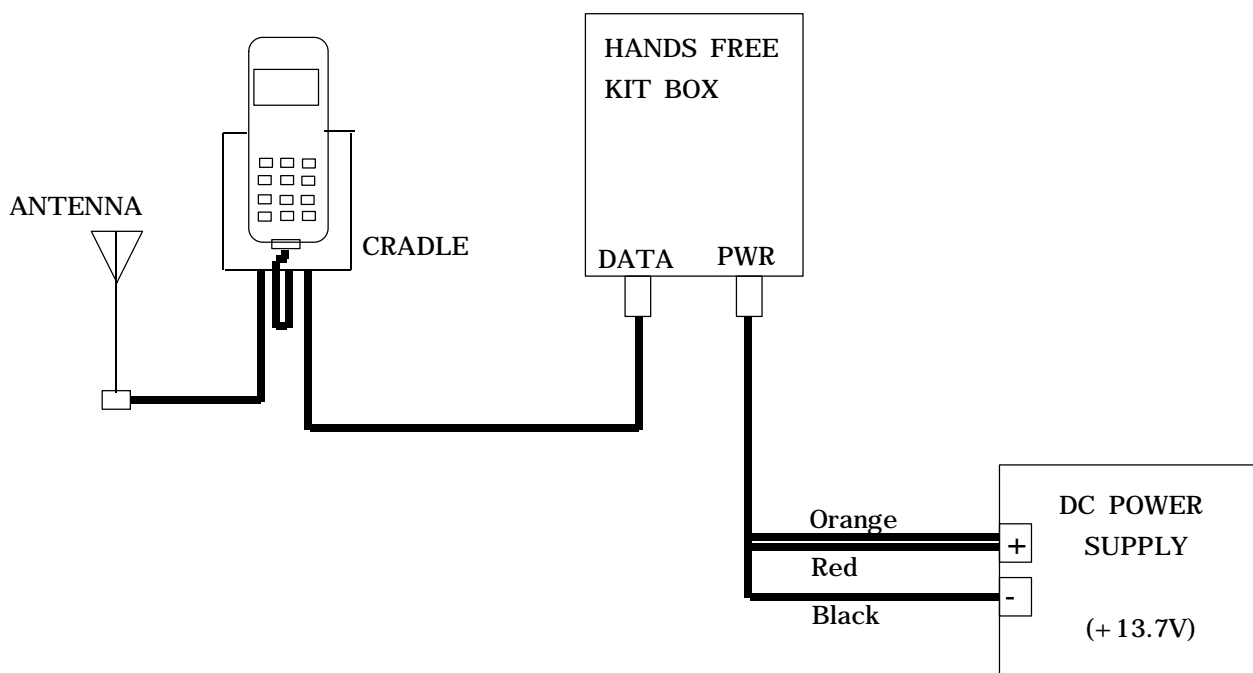
List of Equipments

- 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

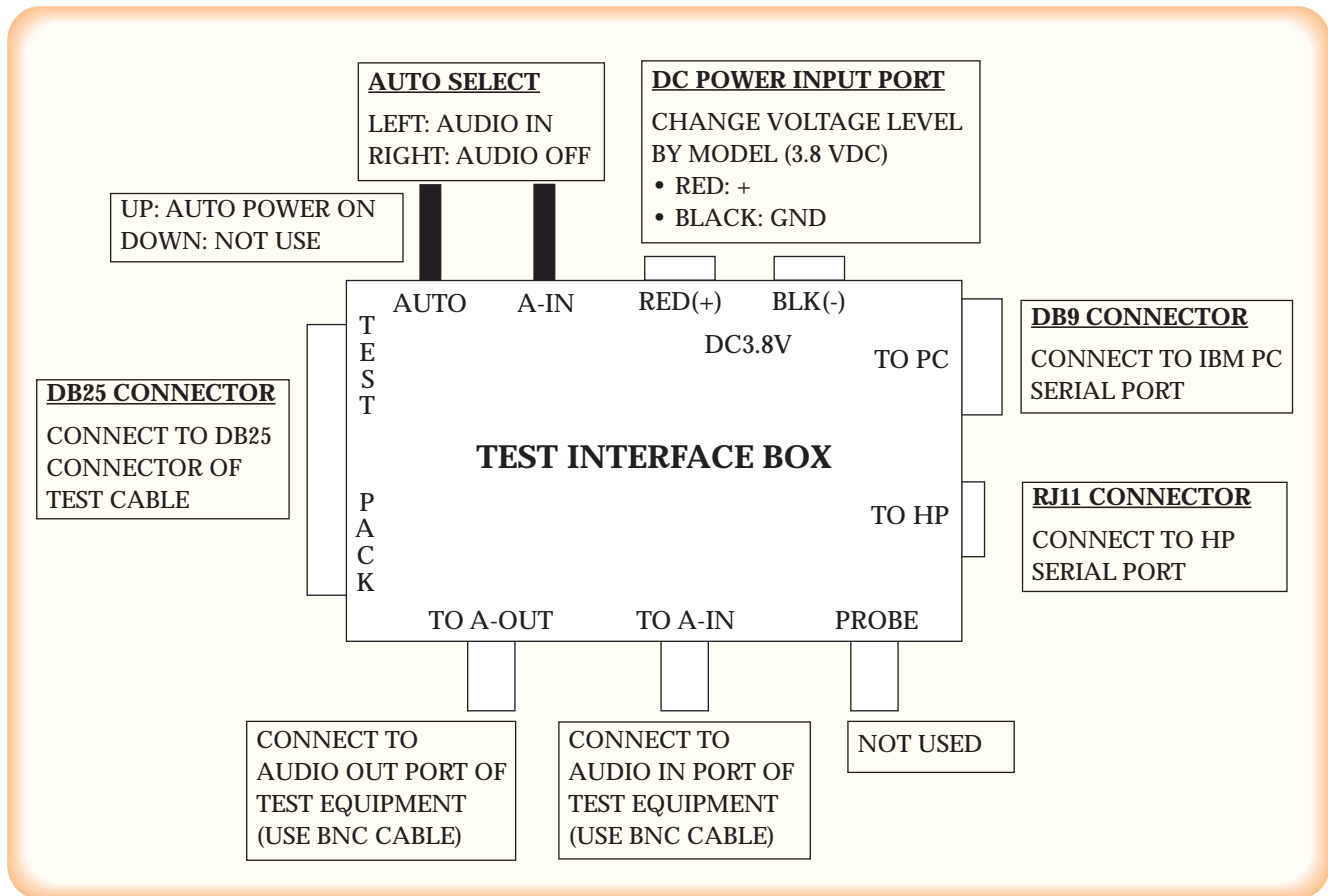


Configuration of Test(Hands-Free)

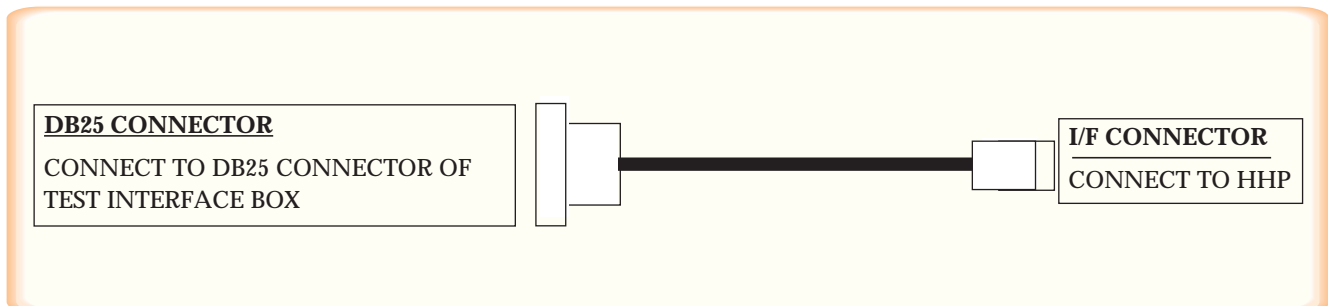


Test Cable Connection Diagram

TEST INTERFACE BOX



TEST CABLE



Items needed to purchase from SAMSUNG

ITEMS	SEC CODE	REMARK
RF Cable	GH39- 00007A	Cable Loss : 2.1dB,1.9 GHz Connection between Phone and Test Equipment (Ex. 8924C)
TEST INTERFACE BOX	GH80- 00001A	Including 1. Power Cable (Black, Red) 2. 9- pin RS 232 Cable for PC.
DM Cable	GH39- 30525A	Connection between Phone and PC
TEST CABLE	GH39- 00052A	Connection between Phone and DB25 connector of INTERFACE BOX

Test Mode

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

"4 7 * 8 6 9 # 1 2 3 5"

B. Press the keys "**0 1**"(Suspend) always in the Test Mode.

C. The command "**2 0**" is mode and channel change, press **<OK/••>** to save.

"3 0 6 0 0"

Channel : **600**
Default value : **3**

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

Channel Selection & Adjustment of the Transmit Power Level

A. Enter to Test Mode.

B. Press the keys **0 1**(Suspend) always in the Test Mode.

E. "**0 9 0 6 0 0 #**" : Set to '0600' channel.

F. "**0 7**" : Carrier On.

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

H. "**7 1 * * ***" : Output RF power level is set power level 2

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

TEST COMMAND TABLE

COMMAND NO (OP,AB,RB)	COMMAND SW NO	DESCRIPTION
01(1F,0,0)	T_SUSPEND_I	Enter to test menu
02(3F,0,0)	T_RESTART_I	Escape from test menu
03(FD,0,0)	T_SAVE_VAL_I	Save values in EEPROM only in auto test
04(1D,0,1)	T_GET_MODE_I	Get mode CDMA/FM
05(1C,1,0)	T_SET_MODE_I	Set mode CDMA/FM
06(1E,0,0)	T_WRITE_NV_I	Write the EEPROM item
07(81,0,0)	T_CARRIERON_I	Turn on the carrier
08(82,0,0)	T_CARRIEROFF_I	Turn off the carrier
09(83,4,0)	T_LOADSYN_I	Load the synthesizer for locking
10(84,1,0)	T_PWRLEVEL_I	Change RF power level
11(85,0,0)	T_RXMUTE_I	Mute RX audio
12(86,0,0)	T_RXUNMUTE_I	Unmute RX audio
13(87,0,0)	T_TXMUTE_I	Mute TX audio
14(88,0,0)	T_TXUNMUTE_I	Unmute TX audio
16(8F,0,0)	T_STON_I	Transmit a continuous Signaling Tone(ST)
17(90,0,0)	T_STOFF_I	Stop transmit a continuous Signaling Tone(ST)
18(AE,2,0)	T_LCD_CONTRAST_I	LCD Contrast control
20(94,5,0)	T_TEST_SYS_I	Roam Test System
22(91,96,96)	T_SNDNAM_I ¹⁾	Display & Send NAM Information
23(95,3,4)	T_SNDVERSION_I ¹⁾	Display & Send Software Version
24(9F,7,8)	T_SNDESN_I ¹⁾	Display & return ESN
25(92,0,0)	T_BACKLIGHT_ON_I	Backlight on
26(93,0,0)	T_BACKLIGHT_OFF_I	Backlight off
27(96,0,0)	T_LAMP_ON_I	LAMP on
28(97,0,0)	T_LAMP_OFF_I	LAMP off
29(9A,0,0)	T_REBUILD_I	Rebuilding EEPROM
30(9D,15,0)	T_PLINE_I	Display and return production date
32(A0,1,0)	T_SATON_I ²⁾	Enable the transmission of SAT
33(A1,0,0)	T_SATOFF_I	Disable the transmission of SAT
34(A2,0,0)	T_CDATA_I	Continuously send TX Control data
35(A3,3,0)	T_VOLUME_UP_I	Electric Volume Up
36(A4,3,0)	T_VOLUME_DOWN_I	Electric Volume Down
38(A6,3,0)	T_PCS_CH_FLATNESS_BP_ON_I	
39(A7,3,0)	T_TXRAS_ADJ_BP_ON_I	TX ras table adjust
40(A8,0,3)	T_RXRAS_FLAT_AUTO_I
41(A9,3,0)	T_RXRAS_FLATNESS_I	Sets RXAdjust RX RAS
42(AA,1,0)	T_DTMFON_I ²⁾	Turn on DTMF
43(AB,0,0)	T_DTMFOFF_I	Turn off DTMF
44(B0,0,0)	T_COMPANDORON_I	Turn on compander
45(B1,0,0)	T_COMPANDOROF_I	Turn off compander
46(B2,0,0)	T_FM_VCLINE_I	Enter FM voice state

COMMAND NO	COMMAND SW NO	DESCRIPTION
47(B3,3,0)	T_FM_AUD_GAIN_I	FM audio gain
48(B4,0,0)	T_VIBRATOR_ON_I	Activate a vibrator
49(B5,0,0)	T_VIBRATOR_OFF_I	Inactivate a vibrator
50(B6,0,4)	T_BATT_TYPE_I	Battery Type
52(B9,2,2)	T_HW_VERSION_I	HW version
55(AC,1,0)	T_EXT_AUDIO_I	External Audio Path On/Off
57(BC,0,0)	T_MIC_ON_I	Mute MIC Path
58(BD,0,0)	T_MIC_OFF_I	Unmute MIC Path
59(BE,0,0)	T_ALLPATH_I	Tune on the all audio path
60(BF,3,0)	T_FM_TX_GAIN_I ²⁾³⁾	AMPS Tx Audio Gain Control
61(C0,3,0)	T_FM_RX_GAIN_I ²⁾³⁾	AMPS Rx Audio Gain Control
62(C1,3,0)	T_DTMF_VOL_TX_I ²⁾³⁾	AMPS Tx DTMF Gain Control
63(C2,3,0)	T_TX_LIMITER_I ²⁾³⁾	AMPS Tx Limiter Gain Control
64(C3,3,0)	T_FM_SAT_LEVEL_I ²⁾³⁾	AMPS Tx SAT level Control
65(C4,3,0)	T_FM_FREQ_SGAIN_I ²⁾³⁾	AMPS Tx Master Gain Control
66(C5,3,0)	T_FM_ST_GAIN_I ²⁾³⁾	AMPS Tx ST Gain Control
67(C6,3,6)	T_READ_BATT_I ¹⁾	Saved Low battery value read
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 a BATT
71(D1,3,0)	T_CDMA_TXADJ_I ²⁾	Sets TX_agc_adj for CDMA mode
72(D2,3,0)	T_FM_TXADJ_I ²⁾	Sets TX_agc_adj for fm mode
73(D3,1,0)	T_SET_PA_R_I ²⁾	Sets PA R1, R0 range bits
74(D4,3,0)	T_TXRAS_ADJ_I	TX RAS table adjust
75(D5,0,3)	T_READ_RSSI_I ³⁾	Read a RSSI
76(D6,3,0)	T_WRITE_RSSI_I ³⁾	Write a RSSI
77(D7,0,3)	T_READ_TEMP_I	Read a temperature
78(D8,0,3)	T_RXRAS_AUTO_I	Adj RXRAS from 8924C
79(D9,1,0)	T_BUZZER_ON_I ²⁾	Buzzer on
80(DA,0,0)	T_BUZZER_OFF_I	Buzzer off
81(E3,0,0)	T_VOC_PCMLPON_I	Turn on to play a PCM LOOP BACK
82(E4,0,0)	T_VOC_PCMLPOFF_I	Turn off to play a PCM LOOP BACK
83(E5,0,0)	T_BYPASS_ON_I	Turn on the bypass mode
84(E6,0,0)	T_BYPASS_OFF_I	Turn off the bypass mode
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	FM loop back
88(EA,3,0)	T_TRK_ADJ_I ³⁾	TRK LOCAL ADJUST
89(EB,3,0)	T_CDTRK_ADJ_I	CDMA TRK LOCAL ADJUST

COMMAND NO (OP,AB,RB)	COMMAND SW NO	DESCRIPTION
90(F0,2,0)	T_HW_CHANFLAT_I	-----
91(F1,4,0)	T_SW_CHANFLAT_I	-----
92(F2,3,0)	T_FM_TX_PWR_I	Setting the volume for power level 2
93(F3,3,0)	T_CH_FLATNESS_I	
94(EF,3,0)	T_RXRAS_ADJ_I	
95(F4,4,0)	T_PCS_HW_CHANFLAT_I	
96(F5,4,0)	T_PCS_SW_CHANFLAT_I	
97(F6,3,0)	T_PCS_CH_FLATNESS_I	
98(F7,3,0)	T_PCS_CH_MAX_MIN_I	Edge Channel Max/Min Power Code
99(FC,3,0)	T_SND_GAIN_I	
100(FF,0,0)	T_MAX_I	

- 1) The AB(Input Argument Byte Number) values of these commands are used only in the manual test. In automatic test mode, the AB is regard as 0.
- 2) You can assign the value for these commands.
If the AB value is assigned without argument, the test is achieved with the value stored in EEPROM.
- 3) After you get a desired test value by performing these commands, if you want to save the value into the corresponding position.

*OP: Operation Command Number
 AB: Input Argument Byte Number
 RB: Return Byte Number

*SAT32, 33 are not operating in MSM@ CHIP test

*46 command is required in Rx, and Tx path test at AMPS mode

4. Product Support Tools

4-1 General

IMPORTANT INFORMATION

Purpose

The Product Support Tool (PST) offers you the ability to interface with the SAMSUNG PCS telephone using a PC. With this tool you can program the phones network system requirements and functionality, swap phone data, and download software upgrades. This document supports UniPST version x.xx.

NOTE: This software must be executed in the Windows95/98 mode.

EQUIPMENT REQUIRED

Make sure you have the following equipment setup:

1. Minimum PC configuration: 586 CPU, 16MB RAM, Windows95/98, 5MB of disk space free for software upgrade.
2. PST Software with appropriate cable (DM Cable for SAMSUNG PCS phone).
3. Serial Port (16550 Serial Interface Card).
4. Power Supply (3.8 V) or Battery.

INSTALLATION

Software

1. Insert the PST floppy disk into drive (A:\).
2. Create an appropriate directory on the C:\ drive for PST software, Execute setup.exe file, The installation program creates folder and task bar on the windows95/98 start bar.

SAMSUNG PCS Phone

The serial port should be configured to COM1 or COM2.

Use the following procedure to connect the phone, cable, and PC .

Plug the female end of the DM Cable into the 16550 card.

Pull the black rubber connector away from the socket at the base of the phone.

Plug the special connector on the cable into the socket at the base of the phone.

4-2 PST (Product Support Tool)

4-2-1 Getting Started

MAIN MENU SCREEN

1. At the Windows95/98, Double Click "UniPst.exe".
2. The Main Menu Screen will be displayed.

The Main Menu Screen shows the basic tasks that are available.

CAUTION: DO NOT attempt to program phone with a low battery.

PST SETUP

UniPst supports SAMSUNG PCS portable telephone. You can select serial port COM1 or COM2.

4-2-2 Operation Procedure

Service Programming

The Service Programming screens enable you to set and change the service activation parameters of the phones. These items can be changed individually or as a group via the "Edit Items" Property Sheet of the PST.

There are several pages on the Service Programming Property Sheet

Read Data from File

Click "open" icon to select the name of a file whose extension is ".mmc". The values will be read from the named file, and will initialize the parameter values seen on the Service programming screen

Read Data from Phone

Click Read from the Phone icon to upload the current programmable parameters of the phone. The values are read from the phone, so the phone must have the power ON and be properly connected to the PST.

NOTE: To actually view the data you need to go to the Edit Items screens.

Edit Items

Click this icon to edit Number Assignment Module (NAM) items or UI items.

There are two types of screens:

1. Parameters associated with a particular Number Assignment Module (NAM)
2. UI items settings

Phone Book

Click this icon to edit Phone Book.

While you edit cell, you can use <Enter> and < UP , DOWN,LEFT,LIGHT Arrow> and <SPACE> key. If you want to edit phone number or name , you must move rectangle box to cell where you want to edit , Write it down . if <UP and DOWN Arrow> key is pressed, the cursor moves to next cell or previous cell.

Save Data to File

Click this icon to save the current parameters to a file. Once you enter a filename, Click <OK> button to write all current parameters to that file. This way the same information can be downloaded into multiple phones.

Write to Phone

Click this icon to write the selected parameter values to the phone. Writing the selected values to the phone may take up to a minute.

If there are dependencies in a field you can make all the changes in the proper fields and download the information all together.

If you intend to use this "Write to Phone" feature, it is recommended that you do a "Read Data from Phone" first, and then make the changes, so that nothing gets inadvertently overwritten.

NOTE: DO NOT TOUCH THE PHONE WHILE WRITING IS IN PROGRESS.

Software Download and Upgrade Screen

To begin a software upgrade or download, perform the following steps:

1. From the main menu screen choose DOWNLOAD MODE

Click open icon to choose a BIN file of the new software to be loaded. Choose the appropriate BIN file, then Click <Open>

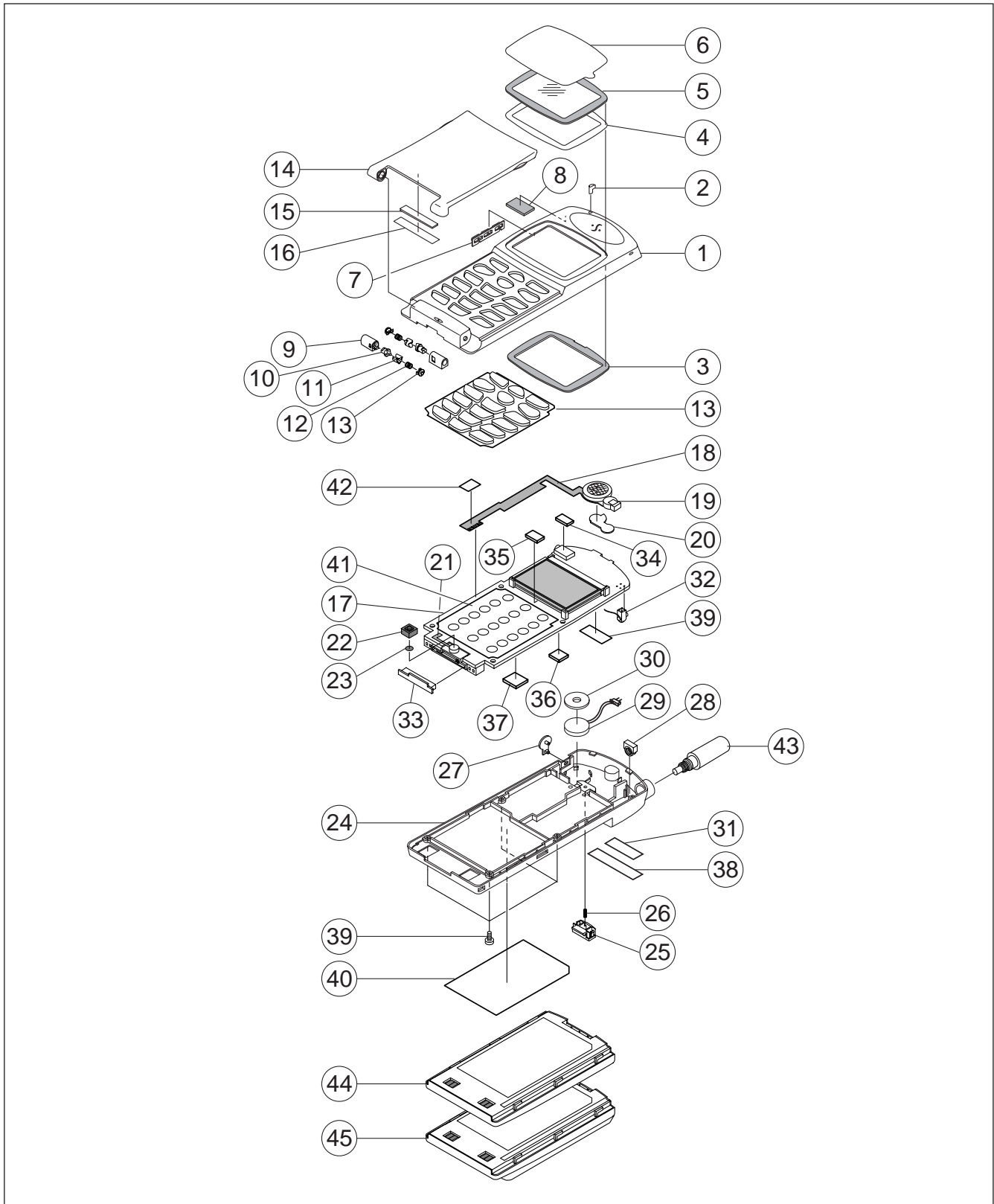
2. Click Download to begin downloading the file. You will notice various messages and a progress bar that informs the user what percentage of the downloading has already occurred.

3. Click Mode Select box, then Select SERVICE MODE to return to the Service Mode Screen.

NOTE: DO NOT POWER OFF WHILE THE PHONE IS BEING DOWNLOADED!

5. Exploded View and Parts List

5-1 Main Set Exploded View



5-2 Main Set Parts List

NO	LEVEL				DESCRIPTION	SEC CODE	Q'TY	REMARK
	1	2	3	4				
	MEA FRONT-SCH6100					GH97-01499A	1	ASS'Y
	MEC-FRONT COVER					GH75-00332A	1	ASS'Y
1			PMO-FRONT COVER			GH72-00560A	1	
2			PMO-REFLECTOR LED			GH72-00561A	1	
3			MPR-SPONGE LCD			GH74-00286A	1	
4			MPR-TAPE WINDOW			GH74-00287A	1	
5			PCT-WINDOW LCD			GH73-00297A	1	
6			WINDOW-LCD BOHO VINYLE			GH74-00555A	1	
7			RMO-KNOB VOLUME			GH73-00316A	1	
8			CUSHION-EARPHONE (A)			GH74-00530A	1	
			MEC-HINGE			GH75-00046A	2	ASS'Y
9				HINGE-HOUSING		GH72-00064A	2	
10				HINGE-SHAFT		GH72-00061A	2	
11				HINGE-CAM		GH72-00060A	2	
12				HINGE-SPRING		GH71-00011A	2	
13				HINGE-CAP		GH72-00059A	2	
			MEC-FLIP COVER			GH75-00554A	1	ASS'Y
14				FLIP-COVER		GH72-00562A	1	
15				MAGNETIC		-	1	
16				LABEL (R)-FLIP		GH68-00664A	1	
17	MAIN PBA					GH92-00808A	1	ASS'Y
	FPCB ASS'Y-VOL/SPK/BUZ					GH96-00868A	1	ASS'Y
18			FPCB-VOL/SPK/BUZ			-	1	
19			RMO-HOLDER BUZZER			GH73-00184A	1	
20			RMO-CUSHION SPK/BUZ			GH73-00298A	1	
	FPCB ASS'Y-MIC					GH96-00867A	1	ASS'Y
21			FPCB-MIC			-	1	

NO	LEVEL				DESCRIPTION	SEC CODE	Q'TY	REMARK
	1	2	3	4				
22					RMO-HOLDER MIC	GH73-00183A	1	
23					RMO-CUSHION MIC	GH73-00297A	1	
					MEA REAR-SCH6100	GH97-01500A	1	ASS'Y
					MEC-REAR COVER	GH75-00335A	1	ASS'Y
24					PMO-REAR COVER	GH72-00563A	1	
25					PMO-LOCKER MAIN	GH72-01224A	1	
26					SPRING-LOCKER	GH70-10516A	1	
27					PMO-EARPHONE COVER	GH72-00564A	1	
28					NDC-ANT. BUSHING	GH71-00035A	1	
29					VIBRATOR	GH31-00007A	1	
30					SPONGE-MOTOR	GH74-00516A	1	
31					LABEL(R)-QUALCOMM	GH68-30846A	1	
32					ANTENNA-CONTACT	GH71-00056A	1	
33					COVER CONNECTOR	GH73-00362A	1	
34					CUSHION-EARPHONE COVER(B)	GH74-00531A	1	
35					RMO-SUPPORT LCD	GH73-00264A	1	
36					MPR-SPONGE TCXO	GH74-00247A	1	
37					MPR-SPONGE BGA	GH74-00246A	1	
38					LABEL(R)-BARCODE	GH68-30963A	1	
39					MACHINE-SCREW	6001-001148	4	
40					LABEL(R)-MAIN	GH68-00665A	1	
41					KEYPAD-DOME	GH72-01074A	1	
42					FOAM TAPE-FPCD	GH74-00132A	1	
43					ANTENNA	GH42-00034A	1	
44					STANDARD-BATTERY PACK	GH43-00162A	1	
45					EXTENDED-BATTERY PACK	GH43-00150A	1	OPTION

6. Electrical Parts LIST

Location No.	Description	SEC CODE	Remark
	PBA MAIN-ONE BOARD;SCH-6100,SPR	GH92-00808A	
	ANTENNA-FIXED	GH42-00034A	
	NDC-ANTENNA CONTACT	GH71-00056A	
	BATTERY-STANDARD	GH43-00162A	
	BATTERY-EXTENDED	GH43-00150A	
	ELA ETC-VOLUME KEY ASS'Y	GH96-00868A	
	ELA ETC-MIC FPC ASS'Y	GH96-00867A	
D301	DIODE-VARACTOR;1SV279,15V	0405-001035	
D302	DIODE-VARACTOR;1SV279,15V	0405-001035	
D413	DIODE-VARACTOR;1SV279,15V	0405-001035	
D414	DIODE-VARACTOR;1SV279,15V	0405-001035	
D295	DIODE-TVS;SMF05,6/-V,20	0406-001084	
D296	DIODE-TVS;SMF05,6/-V,20	0406-001084	
D297	DIODE-TVS;SMF05,6/-V,20	0406-001084	
D298	DIODE-TVS;SMF05,6/-V,20	0406-001084	
D121	DIODE-ARRAY;DAN202U,80V,1	0407-000115	
D200	LED;CHIP,Y/GRN,0.8x1.2mm,	0601-000273	
D201	LED;CHIP,Y/GRN,0.8x1.2mm,	0601-000273	
D202	LED;CHIP,Y/GRN,0.8x1.2mm,	0601-000273	
D203	LED;CHIP,Y/GRN,0.8x1.2mm,	0601-000273	
D204	LED;CHIP,Y/GRN,0.8x1.2mm,	0601-000273	
D205	LED;CHIP,Y/GRN,0.8x1.2mm,	0601-000273	
D150	LED;CHIP,RED,2.0x1.6mm,66	0601-000355	
D310	VARISTOR;5.6V,-,1.6x0.8mm	1405-001019	
D311	VARISTOR;5.6V,-,1.6x0.8mm	1405-001019	
D312	VARISTOR;5.6V,-,1.6x0.8mm	1405-001019	
Q463	TR-SMALL SIGNAL;2SA1576,P	0501-000162	
Q201	TR-SMALL SIGNAL;2SC4081,N	0501-000218	
Q261	TR-SMALL SIGNAL;2SC4081,N	0501-000218	
Q121	TR-SMALL SIGNAL;MMBT2222A	0501-000457	
Q260	TR-SMALL SIGNAL;MMBT2222A	0501-000457	
Q140	TR-SMALL SIGNAL;MMBT2907A	0501-000462	
Q202	TR-DIGITAL;RN1102,NPN,100	0504-000167	
Q150	TR-DIGITAL;RN1104,NPN,100	0504-000168	
Q200	TR-DIGITAL;RN1104,NPN,100	0504-000168	
Q301	TR-SMALL SIGNAL;BFP520,NP	0501-002226	
Q465,Q464	IBM43RF0100	0501-002283	
U206	DISPLAY LCD-SCH6100,UG-12B53-FLHTX-A	GH07-00027A	
U305	STK14A1747	4709-001206	
U200	FET-SILICON;- ,P,-12V,+2.	0505-001037	
U247	FET-SILICON;FDC6329L,N/P,	0505-001376	
U209	IC-EEPROM;24256,256KBIT,S	1103-001147	
U406	IC-POWER AMP;23107,LCC,8P	1201-001305	
U444	IC-OP AMP;358,MSOP,8P,118	1201-001449	
U101	IC-VOLTAGE COMP.;75W56,SS	1202-001022	
U102	IC-ENCODER/DECODER;ST5092	1204-001375	
U304	IC-IF CIRCUIT;IFR3000-48B	1204-001581	
U446	IC-IF CIRCUIT;IFT3000-48B	1204-001582	
U403	IC-MIXER;MRFIC1813,SOP,16	1205-001267	
U103	IC-TRANSCEIVER;MSM3000,PB	1205-001670	
U301	NJG1553F	1205-001710	
U302	PO1241NA	4719-001030	
U148	REED-SWITCH;A3210ELH	1009-001006	

Location No.	Description	SEC CODE	Remark
U203,U205	ILC7082AIM5-30	1203-001850	
U303	KT16-DCV30L-19.680M-T	2809-001230	
U204	ILC7082AIM5-31	1203-001887	
U202	IC REGULATOR;2988AIMMX-2.8	1203-001879	
U207	LRS1349	1109-001153	
TH421	THERMISTOR-NTC;10Kohm,5%,	1404-001040	
R170	R-CHIP;100ohm,5%,1/16W,DA	2007-000138	
R171	R-CHIP;100ohm,5%,1/16W,DA	2007-000138	
R174	R-CHIP;100ohm,5%,1/16W,DA	2007-000138	
R175	R-CHIP;100ohm,5%,1/16W,DA	2007-000138	
R191	R-CHIP;100ohm,5%,1/16W,DA	2007-000138	
R308	R-CHIP;100ohm,5%,1/16W,DA	2007-000138	
R370	R-CHIP;100ohm,5%,1/16W,DA	2007-000138	
R487	R-CHIP;100ohm,5%,1/16W,DA	2007-000138	
R111	R-CHIP;1Kohm,5%,1/16W,DA,	2007-000140	
R121	R-CHIP;1Kohm,5%,1/16W,DA,	2007-000140	
R214	R-CHIP;1Kohm,5%,1/16W,DA,	2007-000140	
R292	R-CHIP;1Kohm,5%,1/16W,DA,	2007-000140	
R202	R-CHIP;2.2Kohm,5%,1/16W,D	2007-000141	
R426	R-CHIP;2.2Kohm,5%,1/16W,D	2007-000141	
R159	R-CHIP;4.7Kohm,5%,1/16W,D	2007-000143	
R107	R-CHIP;6.2Kohm,5%,1/16W,D	2007-000145	
R140	R-CHIP;8.2Kohm,5%,1/16W,D	2007-000147	
R482	R-CHIP;8.2Kohm,5%,1/16W,D	2007-000147	
R102	R-CHIP;10Kohm,5%,1/16W,DA	2007-000148	
R104	R-CHIP;10Kohm,5%,1/16W,DA	2007-000148	
R132	R-CHIP;10Kohm,5%,1/16W,DA	2007-000148	
R158	R-CHIP;10Kohm,5%,1/16W,DA	2007-000148	
R290	R-CHIP;10Kohm,5%,1/16W,DA	2007-000148	
R304	R-CHIP;10Kohm,5%,1/16W,DA	2007-000148	
R305	R-CHIP;10Kohm,5%,1/16W,DA	2007-000148	
R402	R-CHIP;10Kohm,5%,1/16W,DA	2007-000148	
R413	R-CHIP;10Kohm,5%,1/16W,DA	2007-000148	
R414	R-CHIP;10Kohm,5%,1/16W,DA	2007-000148	
R286	R-CHIP;10Kohm,5%,1/16W,DA	2007-000148	
R294	R-CHIP;10Kohm,5%,1/16W,DA	2007-000148	
R217	R-CHIP;10Kohm,5%,1/16W,DA	2007-000148	
R218	R-CHIP;10Kohm,5%,1/16W,DA	2007-000148	
R291	R-CHIP;15Kohm,5%,1/16W,DA	2007-000151	
R103	R-CHIP;20Kohm,5%,1/16W,DA	2007-000152	
R179	R-CHIP;20Kohm,5%,1/16W,DA	2007-000152	
R182	R-CHIP;20Kohm,5%,1/16W,DA	2007-000152	
R183	R-CHIP;20Kohm,5%,1/16W,DA	2007-000152	
R184	R-CHIP;20Kohm,5%,1/16W,DA	2007-000152	
R112	R-CHIP;22Kohm,5%,1/16W,DA	2007-000153	
R157	R-CHIP;22Kohm,5%,1/16W,DA	2007-000153	
R173	R-CHIP;22Kohm,5%,1/16W,DA	2007-000153	
R190	R-CHIP;22Kohm,5%,1/16W,DA	2007-000153	
R462	R-CHIP;24Kohm,5%,1/16W,DA	2007-000154	
R154	R-CHIP;47Kohm,5%,1/16W,DA	2007-000157	
R155	R-CHIP;47Kohm,5%,1/16W,DA	2007-000157	
R303	R-CHIP;47Kohm,5%,1/16W,DA	2007-000157	
R480	R-CHIP;47Kohm,5%,1/16W,DA	2007-000157	
R109	R-CHIP;100Kohm,5%,1/16W,D	2007-000162	
R122	R-CHIP;100Kohm,5%,1/16W,D	2007-000162	
R200	R-CHIP;100Kohm,5%,1/16W,D	2007-000162	

Location No.	Description	SEC CODE	Remark
R201	R-CHIP;100Kohm,5%,1/16W,D	2007-000162	
R203	R-CHIP;100Kohm,5%,1/16W,D	2007-000162	
R206	R-CHIP;100Kohm,5%,1/16W,D	2007-000162	
R212	R-CHIP;100Kohm,5%,1/16W,D	2007-000162	
R221	R-CHIP;100Kohm,5%,1/16W,D	2007-000162	
R230	R-CHIP;100Kohm,5%,1/16W,D	2007-000162	
R101	R-CHIP;150Kohm,5%,1/16W,D	2007-000164	
R240	R-CHIP;150Kohm,5%,1/16W,D	2007-000164	
R251	R-CHIP;150Kohm,5%,1/16W,D	2007-000164	
R204	R-CHIP;200Kohm,5%,1/16W,D	2007-000165	
R113	R-CHIP;1Mohm,5%,1/16W,DA,	2007-000170	
R310	R-CHIP;1Mohm,5%,1/16W,DA,	2007-000170	
R478	R-CHIP;1Mohm,5%,1/16W,DA,	2007-000170	
R266	R-CHIP;56ohm,5%,1/16W,DA,	2007-002970	
R176	R-CHIP:0ohm,5%,1/16W,DA,T	2007-007771	
R313	R-CHIP:0ohm,5%,1/16W,DA,T	2007-007771	
R172	R-CHIP:0ohm,5%,1/16W,DA,T	2007-007771	
R281	R-CHIP:0ohm,5%,1/16W,DA,T	2007-007771	
R283	R-CHIP:0ohm,5%,1/16W,DA,T	2007-007771	
R284	R-CHIP:0ohm,5%,1/16W,DA,T	2007-007771	
R285	R-CHIP:0ohm,5%,1/16W,DA,T	2007-007771	
R282	R-CHIP:0ohm,5%,1/16W,DA,T	2007-007771	
R216	R-CHIP:0ohm,5%,1/16W,DA,T	2007-007771	
R293	R-CHIP:0ohm,5%,1/16W,DA,T	2007-007771	
R381	R-CHIP;10ohm,5%,1/16W,DA,	2007-000172	
R496	R-CHIP;10ohm,5%,1/16W,DA,	2007-000172	
R116	R-CHIP;10ohm,5%,1/16W,DA,	2007-000172	
R106	R-CHIP;1.5Kohm,5%,1/16W,D	2007-000242	
R131	R-CHIP;270Kohm,5%,1/16W,D	2007-000636	
R220	R-CHIP;330Kohm,5%,1/16W,D	2007-000758	
R150	R-CHIP;470ohm,5%,1/16W,DA	2007-000932	
R156	R-CHIP;470ohm,5%,1/16W,DA	2007-000932	
R177	R-CHIP;470ohm,5%,1/16W,DA	2007-000932	
R178	R-CHIP;470ohm,5%,1/16W,DA	2007-000932	
R252	R-CHIP;130ohm,5%,1/16W,DA	2007-003004	
R253	R-CHIP;130ohm,5%,1/16W,DA	2007-003004	
R254	R-CHIP;130ohm,5%,1/16W,DA	2007-003004	
R231	R-CHIP;130ohm,5%,1/16W,DA	2007-003004	
R232	R-CHIP;130ohm,5%,1/16W,DA	2007-003004	
R233	R-CHIP;130ohm,5%,1/16W,DA	2007-003004	
R302	R-CHIP;39ohm,5%,1/16W,DA,	2007-001295	
R489	R-CHIP;39ohm,5%,1/16W,DA,	2007-001295	
R306	R-CHIP;51ohm,5%,1/16W,DA,	2007-001298	
R264	R-CHIP;68ohm,5%,1/16W,DA,	2007-001301	
R265	R-CHIP;68ohm,5%,1/16W,DA,	2007-001301	
R161	R-CHIP;120ohm,5%,1/16W,DA	2007-001305	
R342	R-CHIP;120ohm,5%,1/16W,DA	2007-001305	
R114	R-CHIP;330ohm,5%,1/16W,DA	2007-001313	
R405	R-CHIP;470ohm,1%,1/16W,DA	2007-007586	
R208	R-CHIP;1.2Kohm,5%,1/16W,D	2007-001319	
R423	R-CHIP;1.2Kohm,5%,1/16W,D	2007-001319	
R368	R-CHIP;3Kohm,5%,1/16W,DA,	2007-001323	
R105	R-CHIP;3.3Kohm,5%,1/16W,D	2007-001325	
R215	R-CHIP;3.3Kohm,5%,1/16W,D	2007-001325	
R267	R-CHIP;3.3Kohm,5%,1/16W,D	2007-001325	
R488	R-CHIP;3.3Kohm,5%,1/16W,D	2007-001325	

Location No.	Description	SEC CODE	Remark
R151	R-CHIP;7.5Kohm,5%,1/16W,D	2007-001329	
R108	R-CHIP;18Kohm,5%,1/16W,DA	2007-001333	
R484	R-CHIP;62KOHM,5%,1/16W,DA	2007-003023	
R464	R-CHIP;43KOHM,5%,1/16W,DA	2007-007101	
R492	R-CHIP;100Kohm,1%,1/16W,D	2007-007107	
R301	R-CHIP;15Kohm,1%,1/16W,DA	2007-007132	
R427	R-CHIP;15Kohm,1%,1/16W,DA	2007-007132	
R472	R-CHIP;15Kohm,1%,1/16W,DA	2007-007132	
R470	R-CHIP;18Kohm,1%,1/16W,DA	2007-007135	
R141	R-CHIP;3.9Kohm,1%,1/16W,D	2007-007315	
R465	R-CHIP;47Kohm,1%,1/16W,DA	2007-007139	
R471	R-CHIP;47Kohm,1%,1/16W,DA	2007-007139	
R473	R-CHIP;47Kohm,1%,1/16W,DA	2007-007139	
R491	R-CHIP;47Kohm,1%,1/16W,DA	2007-007139	
R311	R-CHIP;240OHM,5%,1/16W,DA	2007-007141	
R369	R-CHIP;10Kohm,1%,1/16W,DA	2007-007142	
R424	R-CHIP;10Kohm,1%,1/16W,DA	2007-007142	
R485	R-CHIP;10Kohm,1%,1/16W,DA	2007-007142	
R486	R-CHIP;10Kohm,1%,1/16W,DA	2007-007142	
R495	R-CHIP;2.4OHM,5%,1/16W,DA	2007-007200	
R289	R-CHIP;2.2Kohm,1%,1/16W,D	2007-007317	
R180	R-CHIP;1Kohm,1%,1/16W,DA,	2007-007318	
R181	R-CHIP;1Kohm,1%,1/16W,DA,	2007-007318	
R401	R-CHIP;1Kohm,1%,1/16W,DA,	2007-007318	
R425	R-CHIP;11.3Kohm,1%,1/16W,	2007-007491	
R213	R-CHIP;56Kohm,1%,1/16W,DA	2007-007538	
R463	R-CHIP;56Kohm,1%,1/16W,DA	2007-007538	
R490	R-CHIP;510ohm,1%,1/16W,DA	2007-007564	
R493	R-CHIP;510ohm,1%,1/16W,DA	2007-007564	
C160	C-CERAMIC,CHIP:0.1nF,5%,5	2203-000233	
C161	C-CERAMIC,CHIP:0.1nF,5%,5	2203-000233	
C162	C-CERAMIC,CHIP:0.1nF,5%,5	2203-000233	
C175	C-CERAMIC,CHIP:0.1nF,5%,5	2203-000233	
C302	C-CERAMIC,CHIP:0.1nF,5%,5	2203-000233	
C314	C-CERAMIC,CHIP:0.1nF,5%,5	2203-000233	
C322	C-CERAMIC,CHIP:0.1nF,5%,5	2203-000233	
C326	C-CERAMIC,CHIP:0.1nF,5%,5	2203-000233	
C330	C-CERAMIC,CHIP:0.1nF,5%,5	2203-000233	
C373	C-CERAMIC,CHIP:0.1nF,5%,5	2203-000233	
C374	C-CERAMIC,CHIP:0.1nF,5%,5	2203-000233	
C375	C-CERAMIC,CHIP:0.1nF,5%,5	2203-000233	
C376	C-CERAMIC,CHIP:0.1nF,5%,5	2203-000233	
C414	C-CERAMIC,CHIP:0.1nF,5%,5	2203-000233	
C416	C-CERAMIC,CHIP:0.1nF,5%,5	2203-000233	
C418	C-CERAMIC,CHIP:0.1nF,5%,5	2203-000233	
C425	C-CERAMIC,CHIP:0.1nF,5%,5	2203-000233	
C461	C-CERAMIC,CHIP:0.1nF,5%,5	2203-000233	
C113	C-CERAMIC,CHIP:10nF,10%,1	2203-000254	
C180	C-CERAMIC,CHIP:10nF,10%,1	2203-000254	
C182	C-CERAMIC,CHIP:10nF,10%,1	2203-000254	
C184	C-CERAMIC,CHIP:10nF,10%,1	2203-000254	
C186	C-CERAMIC,CHIP:10nF,10%,1	2203-000254	
C188	C-CERAMIC,CHIP:10nF,10%,1	2203-000254	
C211	C-CERAMIC,CHIP:10nF,10%,1	2203-000254	
C232	C-CERAMIC,CHIP:10nF,10%,1	2203-000254	
C242	C-CERAMIC,CHIP:10nF,10%,1	2203-000254	

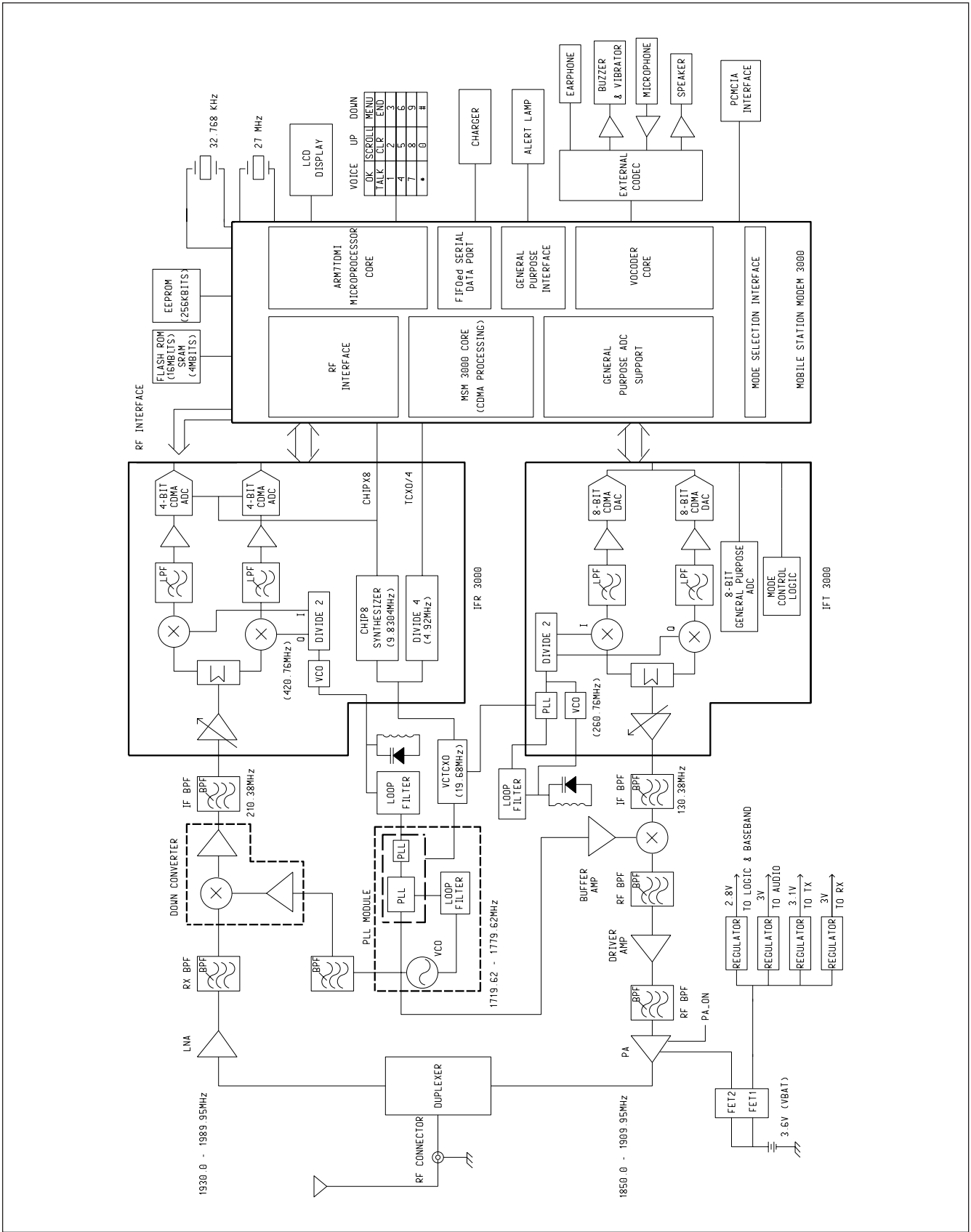
Location No.	Description	SEC CODE	Remark
C252	C-CERAMIC,CHIP:10nF,10%,1	2203-000254	
C304	C-CERAMIC,CHIP:10nF,10%,1	2203-000254	
C307	C-CERAMIC,CHIP:10nF,10%,1	2203-000254	
C331	C-CERAMIC,CHIP:10nF,10%,1	2203-000254	
C333	C-CERAMIC,CHIP:10nF,10%,1	2203-000254	
C335	C-CERAMIC,CHIP:10nF,10%,1	2203-000254	
C337	C-CERAMIC,CHIP:10nF,10%,1	2203-000254	
C339	C-CERAMIC,CHIP:10nF,10%,1	2203-000254	
C381	C-CERAMIC,CHIP:10nF,10%,1	2203-000254	
C383	C-CERAMIC,CHIP:10nF,10%,1	2203-000254	
C410	C-CERAMIC,CHIP:10nF,10%,1	2203-000254	
C426	C-CERAMIC,CHIP:10nF,10%,1	2203-000254	
C429	C-CERAMIC,CHIP:10nF,10%,1	2203-000254	
C433	C-CERAMIC,CHIP:10nF,10%,1	2203-000254	
C434	C-CERAMIC,CHIP:10nF,10%,1	2203-000254	
C463	C-CERAMIC,CHIP:10nF,10%,1	2203-000254	
C464	C-CERAMIC,CHIP:10nF,10%,1	2203-000254	
C468	C-CERAMIC,CHIP:10nF,10%,1	2203-000254	
C471	C-CERAMIC,CHIP:10nF,10%,1	2203-000254	
C473	C-CERAMIC,CHIP:10nF,10%,1	2203-000254	
C474	C-CERAMIC,CHIP:10nF,10%,1	2203-000254	
C476	C-CERAMIC,CHIP:10nF,10%,1	2203-000254	
C477	C-CERAMIC,CHIP:10nF,10%,1	2203-000254	
C481	C-CERAMIC,CHIP:10nF,10%,1	2203-000254	
C488	C-CERAMIC,CHIP:10nF,10%,1	2203-000254	
C267	C-CERAMIC,CHIP:10nF,10%,5	2203-000257	
C313	C-CERAMIC,CHIP:0.01nF,0.5	2203-000278	
C427	C-CERAMIC,CHIP:0.01nF,0.5	2203-000278	
C440	C-CERAMIC,CHIP:0.01nF,0.5	2203-000278	
C469	C-CERAMIC,CHIP:0.12nF,5%,	2203-000311	
C431	C-CERAMIC,CHIP:0.012nF,5%	2203-000330	
C305	C-CERAMIC,CHIP:0.015nF,5%	2203-000386	
C306	C-CERAMIC,CHIP:0.015nF,5%	2203-000386	
C367	C-CERAMIC,CHIP:0.015nF,5%	2203-000386	
C403	C-CERAMIC,CHIP:0.015nF,5%	2203-000386	
C405	C-CERAMIC,CHIP:0.015nF,5%	2203-000386	
C407	C-CERAMIC,CHIP:0.015nF,5%	2203-000386	
C487	C-CERAMIC,CHIP:0.015nF,5%	2203-000386	
C318	C-CERAMIC,CHIP:0.018nF,5%	2203-000425	
C319	C-CERAMIC,CHIP:0.018nF,5%	2203-000425	
C327	C-CERAMIC,CHIP:1nF,10%,50	2203-000438	
C328	C-CERAMIC,CHIP:1nF,10%,50	2203-000438	
C107	C-CERAMIC,CHIP:1nF,10%,50	2203-000438	
C108	C-CERAMIC,CHIP:1nF,10%,50	2203-000438	
C109	C-CERAMIC,CHIP:1nF,10%,50	2203-000438	
C112	C-CERAMIC,CHIP:1nF,10%,50	2203-000438	
C200	C-CERAMIC,CHIP:1nF,10%,50	2203-000438	
C201	C-CERAMIC,CHIP:1nF,10%,50	2203-000438	
C204	C-CERAMIC,CHIP:1nF,10%,50	2203-000438	
C205	C-CERAMIC,CHIP:1nF,10%,50	2203-000438	
C206	C-CERAMIC,CHIP:1nF,10%,50	2203-000438	
C207	C-CERAMIC,CHIP:1nF,10%,50	2203-000438	
C208	C-CERAMIC,CHIP:1nF,10%,50	2203-000438	
C212	C-CERAMIC,CHIP:1nF,10%,50	2203-000438	
C272	C-CERAMIC,CHIP:1nF,10%,50	2203-000438	
C273	C-CERAMIC,CHIP:1nF,10%,50	2203-000438	

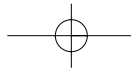
Location No.	Description	SEC CODE	Remark
C274	C-CERAMIC,CHIP;1nF,10%,50	2203-000438	
C275	C-CERAMIC,CHIP;1nF,10%,50	2203-000438	
C276	C-CERAMIC,CHIP;1nF,10%,50	2203-000438	
C277	C-CERAMIC,CHIP;1nF,10%,50	2203-000438	
C278	C-CERAMIC,CHIP;1nF,10%,50	2203-000438	
C279	C-CERAMIC,CHIP;1nF,10%,50	2203-000438	
C280	C-CERAMIC,CHIP;1nF,10%,50	2203-000438	
C282	C-CERAMIC,CHIP;1nF,10%,50	2203-000438	
C315	C-CERAMIC,CHIP;1nF,10%,50	2203-000438	
C316	C-CERAMIC,CHIP;1nF,10%,50	2203-000438	
C317	C-CERAMIC,CHIP;1nF,10%,50	2203-000438	
C321	C-CERAMIC,CHIP;1nF,10%,50	2203-000438	
C332	C-CERAMIC,CHIP;1nF,10%,50	2203-000438	
C334	C-CERAMIC,CHIP;1nF,10%,50	2203-000438	
C336	C-CERAMIC,CHIP;1nF,10%,50	2203-000438	
C338	C-CERAMIC,CHIP;1nF,10%,50	2203-000438	
C340	C-CERAMIC,CHIP;1nF,10%,50	2203-000438	
C365	C-CERAMIC,CHIP;1nF,10%,50	2203-000438	
C402	C-CERAMIC,CHIP;1nF,10%,50	2203-000438	
C406	C-CERAMIC,CHIP;1nF,10%,50	2203-000438	
C408	C-CERAMIC,CHIP;1nF,10%,50	2203-000438	
C409	C-CERAMIC,CHIP;1nF,10%,50	2203-000438	
C422	C-CERAMIC,CHIP;1nF,10%,50	2203-000438	
C428	C-CERAMIC,CHIP;1nF,10%,50	2203-000438	
C446	C-CERAMIC,CHIP;1nF,10%,50	2203-000438	
C447	C-CERAMIC,CHIP;1nF,10%,50	2203-000438	
C448	C-CERAMIC,CHIP;1nF,10%,50	2203-000438	
C449	C-CERAMIC,CHIP;1nF,10%,50	2203-000438	
C450	C-CERAMIC,CHIP;1nF,10%,50	2203-000438	
C451	C-CERAMIC,CHIP;1nF,10%,50	2203-000438	
C452	C-CERAMIC,CHIP;1nF,10%,50	2203-000438	
C134	C-CERAMIC,CHIP;2.2nF,10%,	2203-000489	
C490	C-CERAMIC,CHIP:0.02nF,5%,	2203-000550	
C170	C-CERAMIC,CHIP:0.027nF,5%	2203-000679	
C171	C-CERAMIC,CHIP:0.027nF,5%	2203-000679	
C320	C-CERAMIC,CHIP:0.002nF,0.	2203-000696	
C411	C-CERAMIC,CHIP:0.002nF,0.	2203-000696	
C163	C-CERAMIC,CHIP:470pF,10%,	2203-000940	
C164	C-CERAMIC,CHIP:470pF,10%,	2203-000940	
C165	C-CERAMIC,CHIP:470pF,10%,	2203-000940	
C176	C-CERAMIC,CHIP:0.047nF,5%	2203-000995	
C261	C-CERAMIC,CHIP:6.8nF,10%,	2203-001103	
C262	C-CERAMIC,CHIP:6.8nF,10%,	2203-001103	
C264	C-CERAMIC,CHIP:6.8nF,10%,	2203-001103	
C265	C-CERAMIC,CHIP:6.8nF,10%,	2203-001103	
C104	C-CERAMIC,CHIP:680pF,10%,	2203-001124	
C415	C-CERAMIC,CHIP:0.006nF,0.	2203-001178	
C166	C-CERAMIC,CHIP:8.2nF,10%,	2203-001210	
C167	C-CERAMIC,CHIP:8.2nF,10%,	2203-001210	
C168	C-CERAMIC,CHIP:8.2nF,10%,	2203-001210	
C169	C-CERAMIC,CHIP:8.2nF,10%,	2203-001210	
C308	C-CERAMIC,CHIP:0.008nF,0.	2203-001259	
C361	C-CERAMIC,CHIP:0.008nF,0.	2203-001259	
C310	C-CERAMIC,CHIP:22nF,+80-2	2203-001405	
C417	C-CERAMIC,CHIP:22nF,+80-2	2203-001405	
C150	C-CERAMIC,CHIP:47nF,10%,1	2203-001432	

Location No.	Description	SEC CODE	Remark
C151	C-CERAMIC,CHIP;47nF,10%,1	2203-001432	
C309	C-CERAMIC,CHIP;47nF,10%,1	2203-001432	
C311	C-CERAMIC,CHIP;5pF,0.25pF	2203-001437	
C421	C-CERAMIC,CHIP;5pF,0.25pF	2203-001437	
C430	C-CERAMIC,CHIP;5pF,0.25pF	2203-001437	
C233	C-CERAMIC,CHIP;4700NF,+80	2203-001724	
C243	C-CERAMIC,CHIP;4700NF,+80	2203-001724	
C253	C-CERAMIC,CHIP;4700NF,+80	2203-001724	
C270	C-CERAMIC,CHIP;0.56nF,10%	2203-002525	
C325	C-CERAMIC,CHIP;0.56nF,10%	2203-002525	
C105	C-CERAMIC,CHIP;100nF,+80-	2203-005061	
C110	C-CERAMIC,CHIP;100nF,+80-	2203-005061	
C131	C-CERAMIC,CHIP;100nF,+80-	2203-005061	
C133	C-CERAMIC,CHIP;100nF,+80-	2203-005061	
C135	C-CERAMIC,CHIP;100nF,+80-	2203-005061	
C152	C-CERAMIC,CHIP;100nF,+80-	2203-005061	
C181	C-CERAMIC,CHIP;100nF,+80-	2203-005061	
C183	C-CERAMIC,CHIP;100nF,+80-	2203-005061	
C185	C-CERAMIC,CHIP;100nF,+80-	2203-005061	
C187	C-CERAMIC,CHIP;100nF,+80-	2203-005061	
C189	C-CERAMIC,CHIP;100nF,+80-	2203-005061	
C251	C-CERAMIC,CHIP;100nF,+80-	2203-005061	
C491	C-CERAMIC,CHIP;100nF,+80-	2203-005061	
C269	C-CERAMIC,CHIP;100nF,+80-	2203-005061	
C271	C-CERAMIC,CHIP;100nF,+80-	2203-005061	
C281	C-CERAMIC,CHIP;100nF,+80-	2203-005061	
C362	C-CERAMIC,CHIP;100nF,+80-	2203-005061	
C372	C-CERAMIC,CHIP;100nF,+80-	2203-005061	
C423	C-CERAMIC,CHIP;100nF,+80-	2203-005061	
C424	C-CERAMIC,CHIP;100nF,+80-	2203-005061	
C465	C-CERAMIC,CHIP;100nF,+80-	2203-005061	
C230	C-CERAMIC,CHIP;100nF,+80-	2203-005061	
C231	C-CERAMIC,CHIP;1000nF,10%	2203-005144	
C240	C-CERAMIC,CHIP;1000nF,10%	2203-005144	
C250	C-CERAMIC,CHIP;1000nF,10%	2203-005144	
C323	C-CERAMIC,CHIP;7pF,10%	2203-005383	
C312	C-CERAMIC,CHIP;7pF,10%	2203-005383	
C140	C-TA,CHIP;1uF,20%,16V,-,T	2404-000151	
C220	C-TA,CHIP;2.2uF,20%,16V,-	2404-000167	
C202	C-TA,CHIP;33uF,20%,10V,-,	2404-000309	
C102	C-TA,CHIP;1uF,20%,10V,GP,	2404-001017	
C221	C-TA,CHIP;10uF,20%,10V,GP	2404-001020	
C489	C-TA,CHIP;10uF,20%,10V,GP	2404-001020	
C363	C-TA,CHIP;10uF,20%,6.3V,G	2404-001105	
C368	C-TA,CHIP;10uF,20%,6.3V,G	2404-001105	
C371	C-TA,CHIP;10uF,20%,6.3V,G	2404-001105	
C382	C-TA,CHIP;10uF,20%,6.3V,G	2404-001105	
C341	C-TA,CHIP;10UF,20%,6.3V,G	2404-001105	
C478	C-TA,CHIP;10UF,20%,6.3V,G	2404-001105	
C479	C-TA,CHIP;10UF,20%,6.3V,G	2404-001105	
C103	C-TA,CHIP;4.7uF,20%,6.3V,	2404-001086	
C192	C-TA,CHIP;4.7uF,20%,6.3V,	2404-001086	
C366	C-TA,CHIP;2.2uF,20%,6.3V,	2404-001088	
C460	C-TA,CHIP;2.2uF,20%,6.3V,	2404-001088	
C111	C-TA,CHIP;33uF,20%,6.3V,G	2404-001100	
C260	C-TA,CHIP;1uF,20%,16V,GP,	2404-001101	

Location No.	Description	SEC CODE	Remark
C263	C-TA,CHIP;1uF,20%,16V,GP,	2404-001101	
C266	C-TA,CHIP;1uF,20%,16V,GP,	2404-001101	
C268	C-TA,CHIP;1uF,20%,16V,GP,	2404-001101	
L451	INDUCTOR-SMD;120nH,10%,1.	2703-000265	
L493	INDUCTOR-SMD;1uH,10%,0.8x	2703-000300	
L498	INDUCTOR-SMD;1uH,10%,0.8x	2703-000300	
L302	INDUCTOR-SMD;8.2nH,0.3nH,	2703-001955	
L301	INDUCTOR-SMD;100nH,5%,1.6	2703-001956	
L452	INDUCTOR-SMD;100nH,5%,1.6	2703-001956	
L456	INDUCTOR-SMD;3.3nH,0.3nH,	2703-001178	
L492	INDUCTOR-SMD;10nH,5%,1x0.	2703-001943	
L495	INDUCTOR-SMD;10nH,5%,1x0.	2703-001943	
L304	INDUCTOR-SMD;2.2nH,0.3nH,	2703-001205	
L346	INDUCTOR-SMD;2.2nH,0.3nH,	2703-001205	
L410	INDUCTOR-SMD;2.2nH,0.3nH,	2703-001205	
L411	INDUCTOR-SMD;2.2nH,0.3nH,	2703-001205	
L303	INDUCTOR-SMD;4.7nH,0.3nH,	2703-001206	
L453	INDUCTOR-SMD;6.8nH,5%,1.6	2703-001207	
L323	INDUCTOR-SMD;4.7nH,0.3nH,	2703-001206	
L324	INDUCTOR-SMD;56nH,5%,1.6x	2703-001175	
L490	INDUCTOR-SMD;3.9nH,0.3nH,	2703-001295	
L345	INDUCTOR-SMD;2.7nH,0.3nH,	2703-001288	
L322	INDUCTOR-SMD;2.7nH,0.3nH,	2703-001288	
L343	INDUCTOR-SMD;33nH,5%,1.6x	2703-001942	
L321	INDUCTOR-SMD;5.6nH,0.3nH,	2703-001441	
L412	INDUCTOR-SMD;27nH,5%,1.8x	2703-001512	
L347	INDUCTOR-SMD;27nH,5%,1.8x	2703-001306	
L344	INDUCTOR-SMD;27nH,5%,1.8x	2703-001306	
L454	INDUCTOR-SMD;22nH,5%,1x0.	2703-001727	
L455	INDUCTOR-SMD;22nH,5%,1x0.	2703-001727	
L310	INDUCTOR-SMD;22nH,5%,1.8x	2703-001731	
L305	CORE-FERRITE;AB,1.6x0.8x0	3301-001105	
L306	CORE-FERRITE;AB,1.6x0.8x0	3301-001105	
L361	CORE-FERRITE;AB,1.6x0.8x0	3301-001105	
L362	CORE-FERRITE;AB,1.6x0.8x0	3301-001105	
L381	CORE-FERRITE;AB,1.6x0.8x0	3301-001105	
L415	CORE-FERRITE;AB,1.6x0.8x0	3301-001105	
L461	CORE-FERRITE;AB,1.6x0.8x0	3301-001105	
L499	CORE-FERRITE;AB,1.6x0.8x0	3301-001105	
L202	CORE-FERRITE BEAD;AB,2.0x	3301-001120	
L204	CORE-FERRITE BEAD;AB,2.0x	3301-001120	
L489	CORE-FERRITE BEAD;AB,2.0x	3301-001120	
OSC2	CRYSTAL-SMD;.032768MHZ,30	2801-003747	
OSC1	RESONATOR-CERAMIC;27MHZ,0	2802-001104	
F402	FILTER-SAW;1880MHZ,60MHZ,	2904-001020	
F403	FILTER-SAW;1880MHZ,60MHZ,	2904-001020	
F302	FILTER-SAW;1960MHZ,60MHZ,	2904-001021	
F301	FILTER-SAW;1747.5MHZ,+/-30	2904-001109	
F306	FILTER-DUPLEXER;1960MHZ,1	2909-001096	
F303	TMXL011	2904-001191	
F401	FILTER-SAW;130.38MHZ,630K	2904-001123	
I401	FREQ-ISOLATOR;1.85~1.91GH	4709-001162	
CN6	CONNECTOR-SOCKET;2P,1R,1.	3710-001105	
J301	CONNECTOR-SOCKET;18P,1R,0	3710-001510	
J104	JACK-AC POWER;2P,2.6PI,AU	3722-001172	

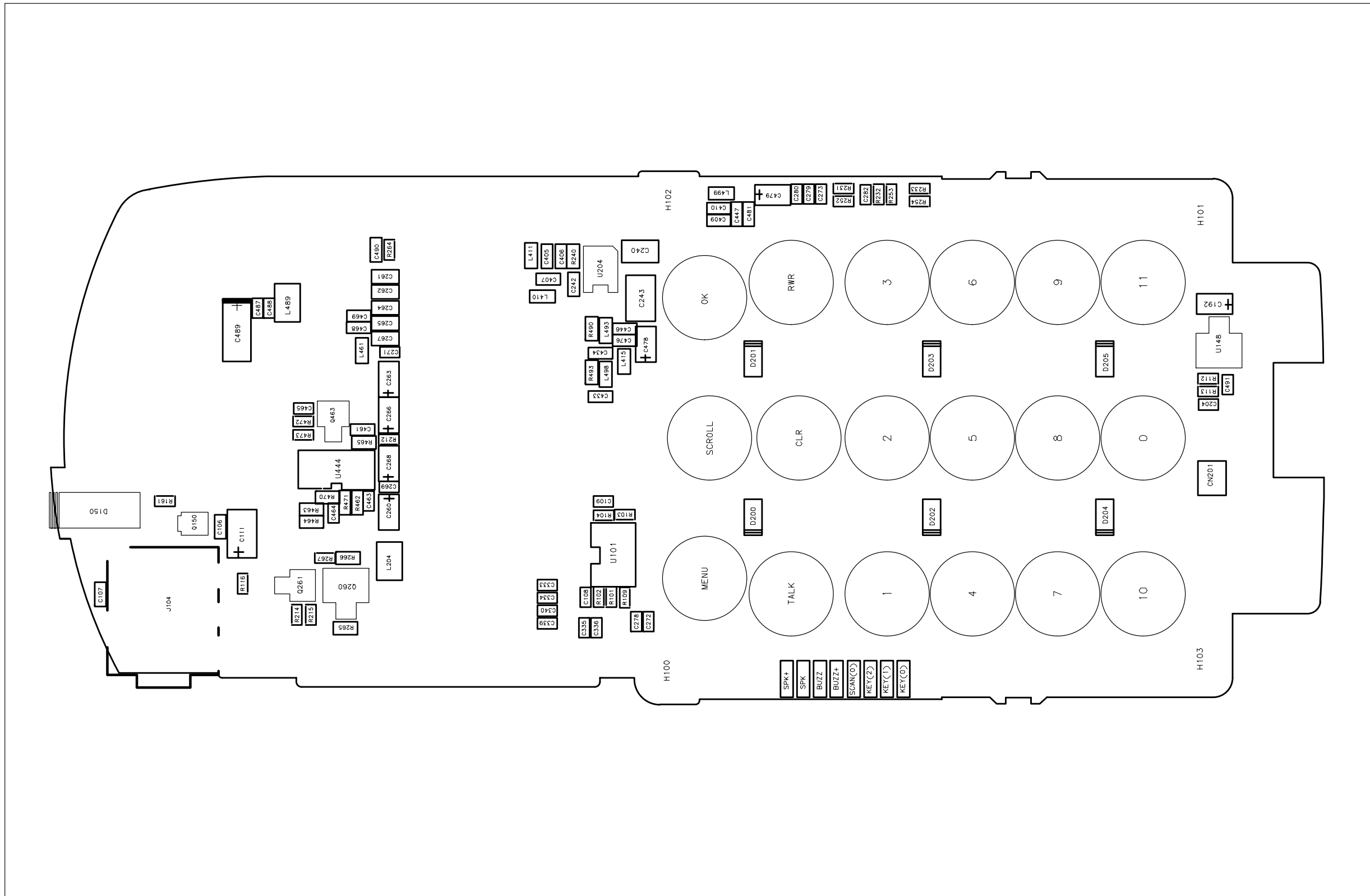
7. Block Diagrams



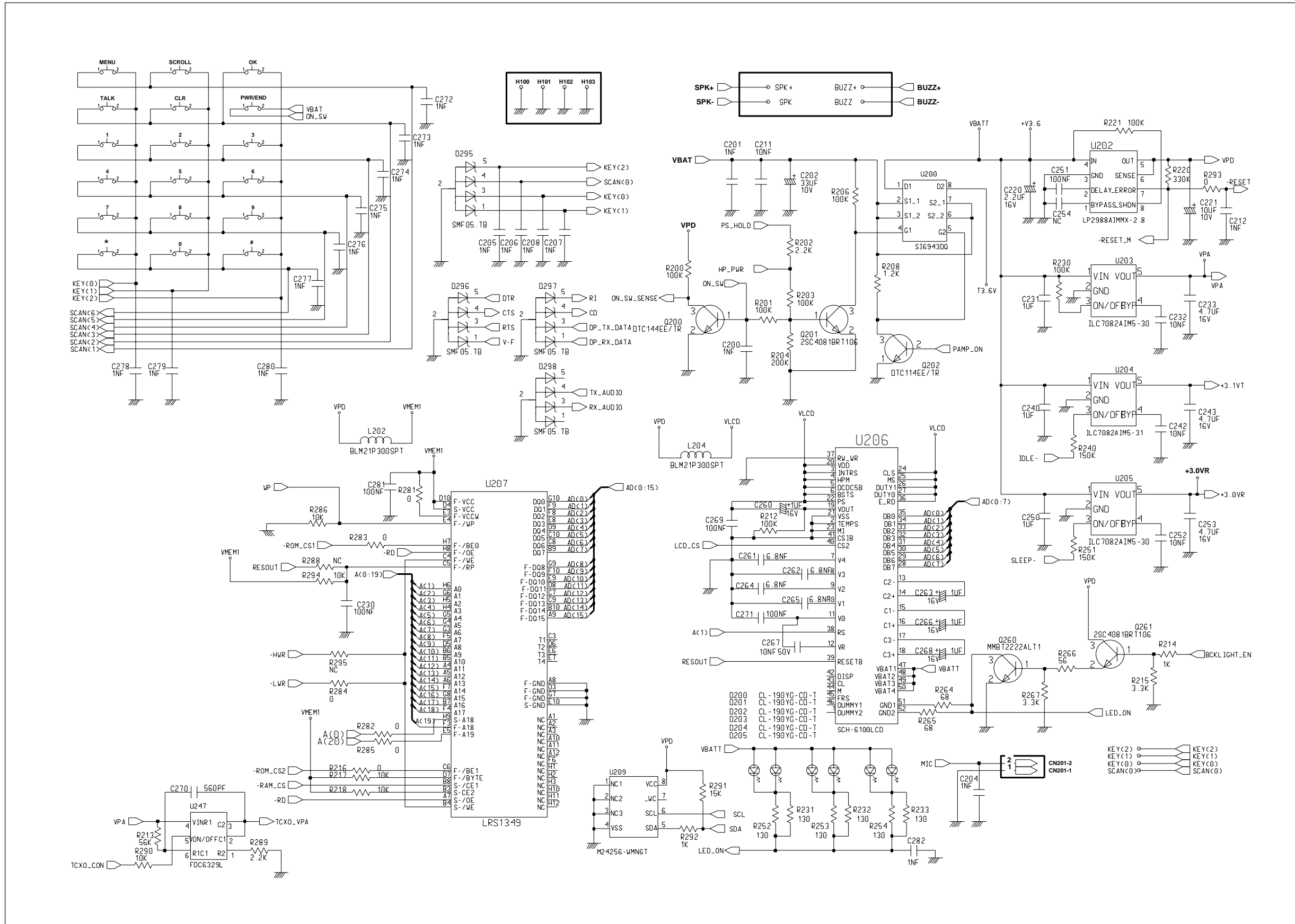


8. PCB Diagrams

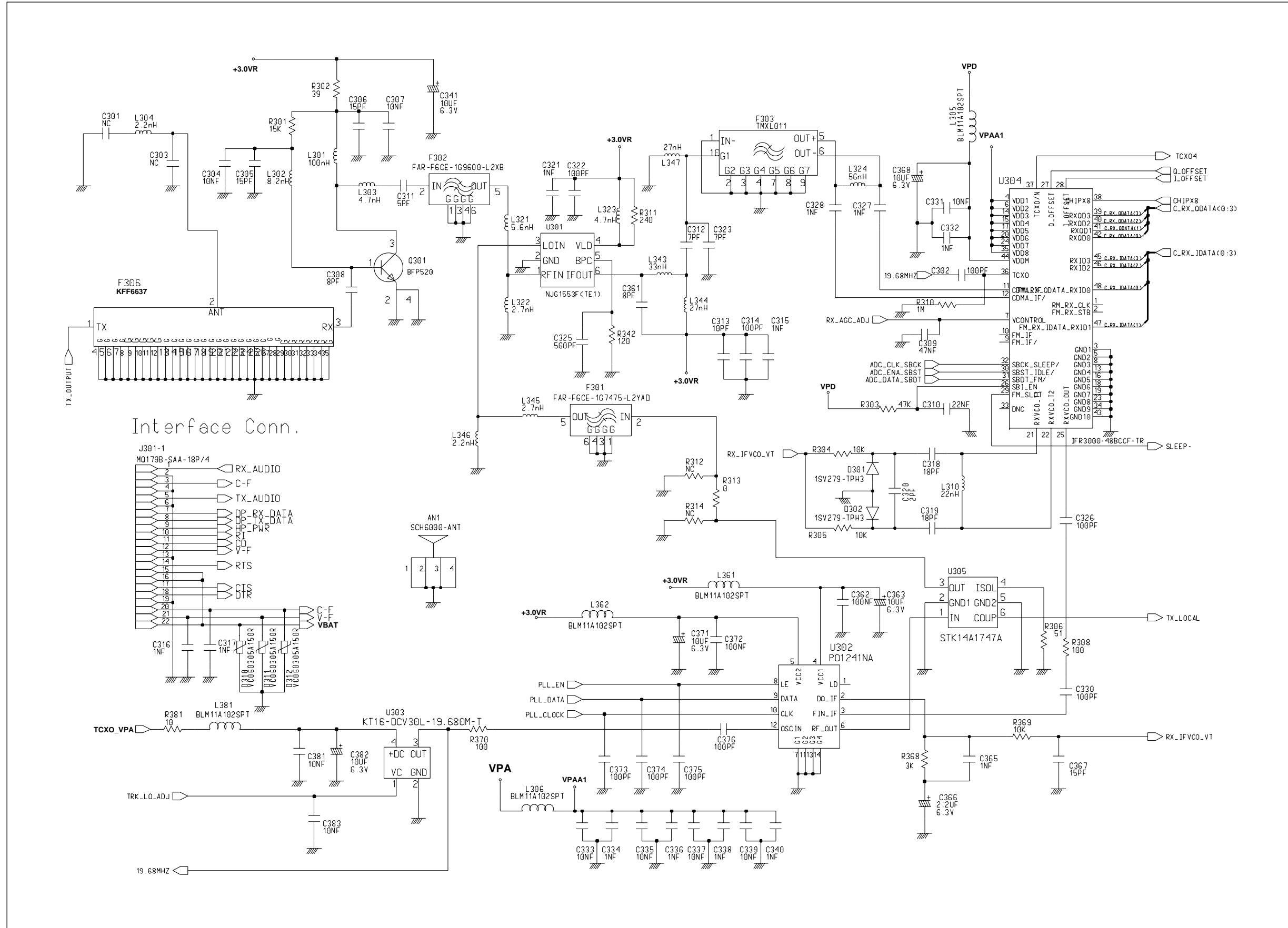
8-1 Top View



9-2 Logic Circuit Diagram



9-4 Receiver Circuit Diagram





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