

ODT Manual

SEPTEMBER 7, 2014

LG Electronics Inc.

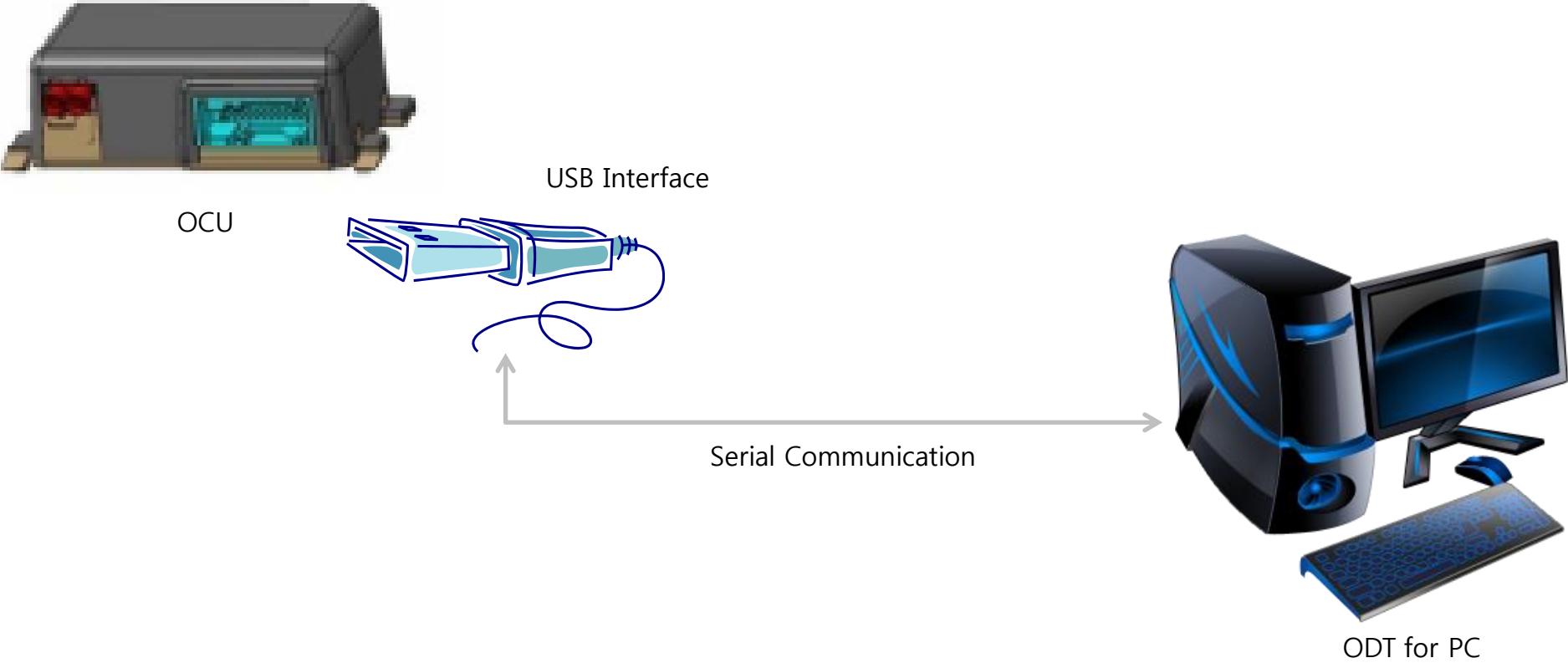


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- II. Environment for ODT
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1. What is ODT?

ODT(OCU Development Tool) is development tool for debugging, testing and analyzing for OCU



2. Environment for ODT

OS: Windows 7 or later (We not support Windows XP)
Development Tool: Visual Studio 2010

3. Function List

Window	Major Functionalities
Main	GNSS Information, Network Information, Filtering Logs, Power Status, Virtual Button, Telltale, QXDM Logging, GNSS Maker
GNSS	GNSS Information
Call	Call Control, Auto Answer, RF Information
Data	APN, QoS Setup
SIM	SIM information, Virtual SIM
SMS	Send SMS message, Receive SMS message.
Audio	Play Prompt, Start/Stop Loopback
Log	System Logs, Service Logs, Debug Messages
DTC	Display DTC's Status
Configuration	Set and Get OCU's Configuration
Update	SW upgrade of NAD, GNSS and Micom
KML Convertor	Generate KML file

4. Function - Main

HW Rev:E SW Rev:M6600A-SCAUBNZ-3.5.317 OCU_Y092 OCU-BUILDER@lge.com Sep 2 2014 10:34:05

File(F) View(V) Update(U) Help(H)

GNSS Information

Timestamp: 2014-09-07 03:14:19

Latitude: 37.4852154

Longitude: 127.0367674

Altitude: 101

C/No: 22

Satellite: 22

Network Information

Signal Quality: 125

Channel: 0


Current PLMN: None

Call Status: Idle

Roaming: Searching

2G / 3G: No Service


Manual Interface



eCall

Crash Signal

Power State



QXDM Logging

Enable

Marker Start

Power Supply Mode

Normal Mode

Set

OCU Service Log

Filter: ALL Clear Pause

Time	Module	Message Text
11:54:45	General	[02:54:45.219] ocu version: M6600A-SCAUBNZ-3.5.317 OCU_Y092 OCU-BUILDER@lge.com Sep 2 2014 10:34:05 (odt_tool.c line:141)
11:54:45	General	[02:54:45.245] ocu version: M6600A-SCAUBNZ-3.5.317 OCU_Y092 OCU-BUILDER@lge.com Sep 2 2014 10:34:05 (odt_tool.c line:141)
11:54:45	General	[02:54:45.245] ocu version: M6600A-SCAUBNZ-3.5.317 OCU_Y092 OCU-BUILDER@lge.com Sep 2 2014 10:34:05 (odt_tool.c line:141)
11:54:45	General	[02:54:45.247] ocu version: M6600A-SCAUBNZ-3.5.317 OCU_Y092 OCU-BUILDER@lge.com Sep 2 2014 10:34:05 (odt_tool.c line:141)
11:54:45	General	[02:54:45.248] ocu version: M6600A-SCAUBNZ-3.5.317 OCU_Y092 OCU-BUILDER@lge.com Sep 2 2014 10:34:05 (odt_tool.c line:141)
11:54:45	General	[02:54:45.253] ocu version: M6600A-SCAUBNZ-3.5.317 OCU_Y092 OCU-BUILDER@lge.com Sep 2 2014 10:34:05 (odt_tool.c line:141)
11:54:45	General	[02:54:45.253] ocu version: M6600A-SCAUBNZ-3.5.317 OCU_Y092 OCU-BUILDER@lge.com Sep 2 2014 10:34:05 (odt_tool.c line:141)
11:54:45	General	[02:54:45.253] ocu version: M6600A-SCAUBNZ-3.5.317 OCU_Y092 OCU-BUILDER@lge.com Sep 2 2014 10:34:05 (odt_tool.c line:141)
11:54:45	General	[02:54:45.253] ocu version: M6600A-SCAUBNZ-3.5.317 OCU_Y092 OCU-BUILDER@lge.com Sep 2 2014 10:34:05 (odt_tool.c line:141)
11:54:45	General	[02:54:45.257] ocu version: M6600A-SCAUBNZ-3.5.317 OCU_Y092 OCU-BUILDER@lge.com Sep 2 2014 10:34:05 (odt_tool.c line:141)

4. Function - GNSS

View > GNSS > GNSS Information : You can see information of GNSS and DR in detail using this function.

GPS Info. (PERIODIC)

Timestamp	2014-9-7 3:17:31	Heading	7987832 (10^5)degree
Latitude	37.485249 degree	Current HDOP	63
Longitude	127.0367471 degree	Current PDOP	115
Altitude	109 meter	Current VDOP	97
Speed	63 mm/s	HRE Reported to OBN	
Vel E	-58 mm/s	SV Count	23/26
Vel N	24 mm/s	C/No	28 dBHz
Vel U	-58 mm/s	PRNDL	
TTFF	174 sec	Foreward/Reverse State	
Max C/No	37 dBHz	Fix Type	3D Fix

DR Info.

Direction	Forward
Wheeltick	0 tick
Gyro	4096 deg/s

GPS Command

Hot Start 174 s Initiate

GPS Mode: GPS Only Set

Message Rate: 1 Hz Set

DR Mode: GNSS Set

GNSS Mode: External GNSS Set Get

4. Function - Network

View > Network > Call : You can see the network information and call using this function.

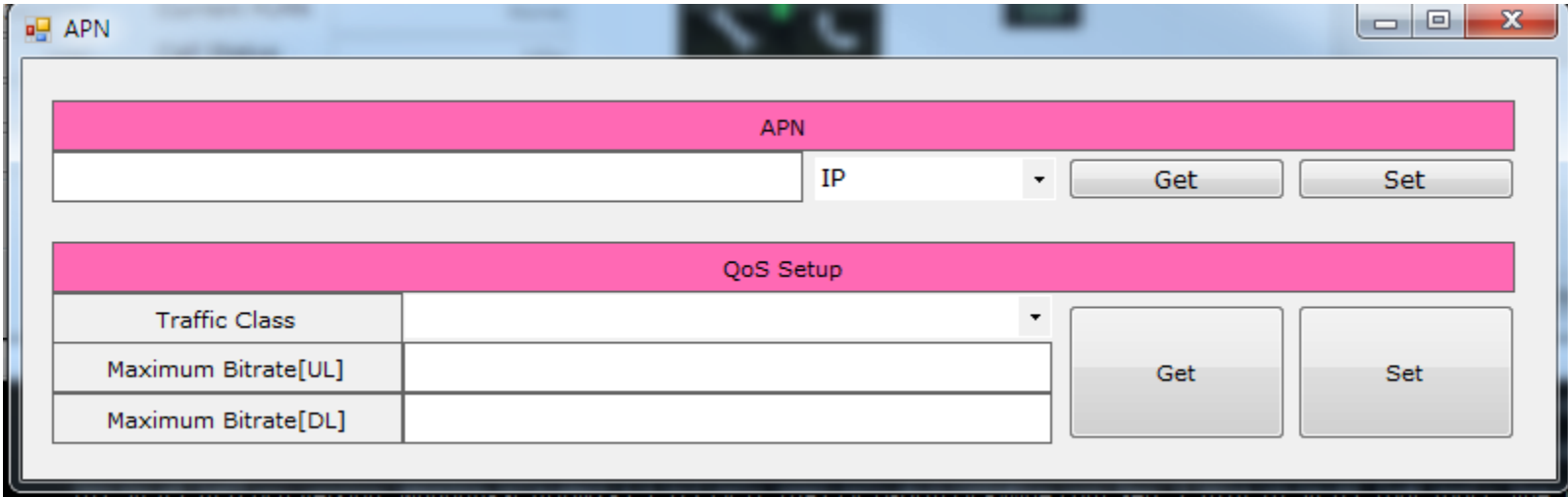
The screenshot shows a software interface titled 'Call' with a standard Windows-style title bar. The interface is divided into four main sections, each with a green header bar:

- Network Information:** A table displaying various network parameters and their current values.
- System Control:** A control panel for the 'Auto Answer' feature, including a dropdown menu and 'Get', 'Set', and 'Reset' buttons.
- Call Control:** A control panel for making calls, featuring a 'Phone Number' input field and 'Call' and 'End' buttons.
- DTMF:** A control panel for sending DTMF tones, with a 'Number (Only 0~9, *, #)' input field and a 'Send' button.

Network Information			
Attach State	Searching	Current System	No Service
Current ARFCN	65535	Current PLMN	FF-FF-FF
NMO	3	Cell ID	0
LAC/RAC	0/255	DRX	0
MM State/Cause	19-0	GMM State/Cause	1-0
SS State/SM Cause	4/0	RRC State	Disconnected
RSSI	125	TX Power	-100

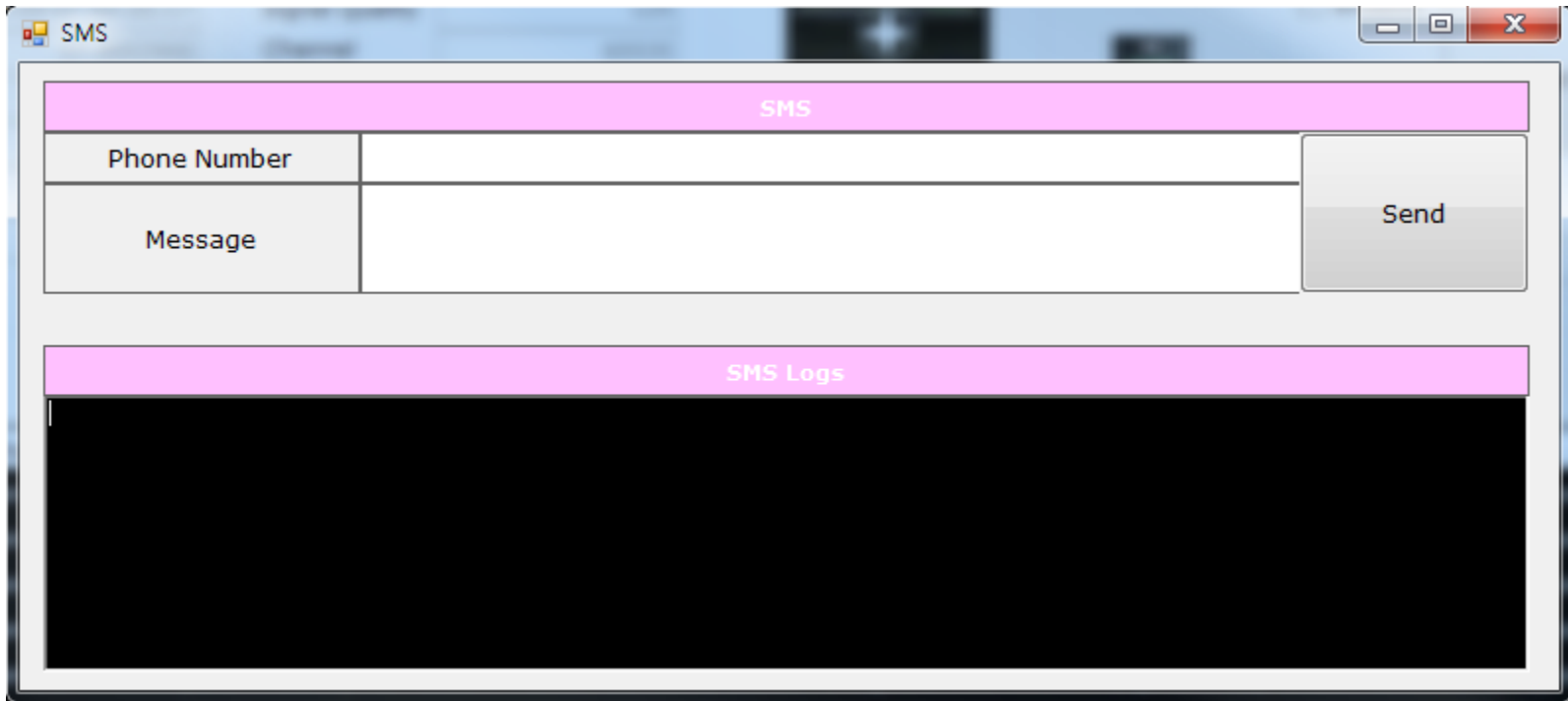
4. Function - Network

View > Network > APN : You can get and set APN and QoS setup through this function.



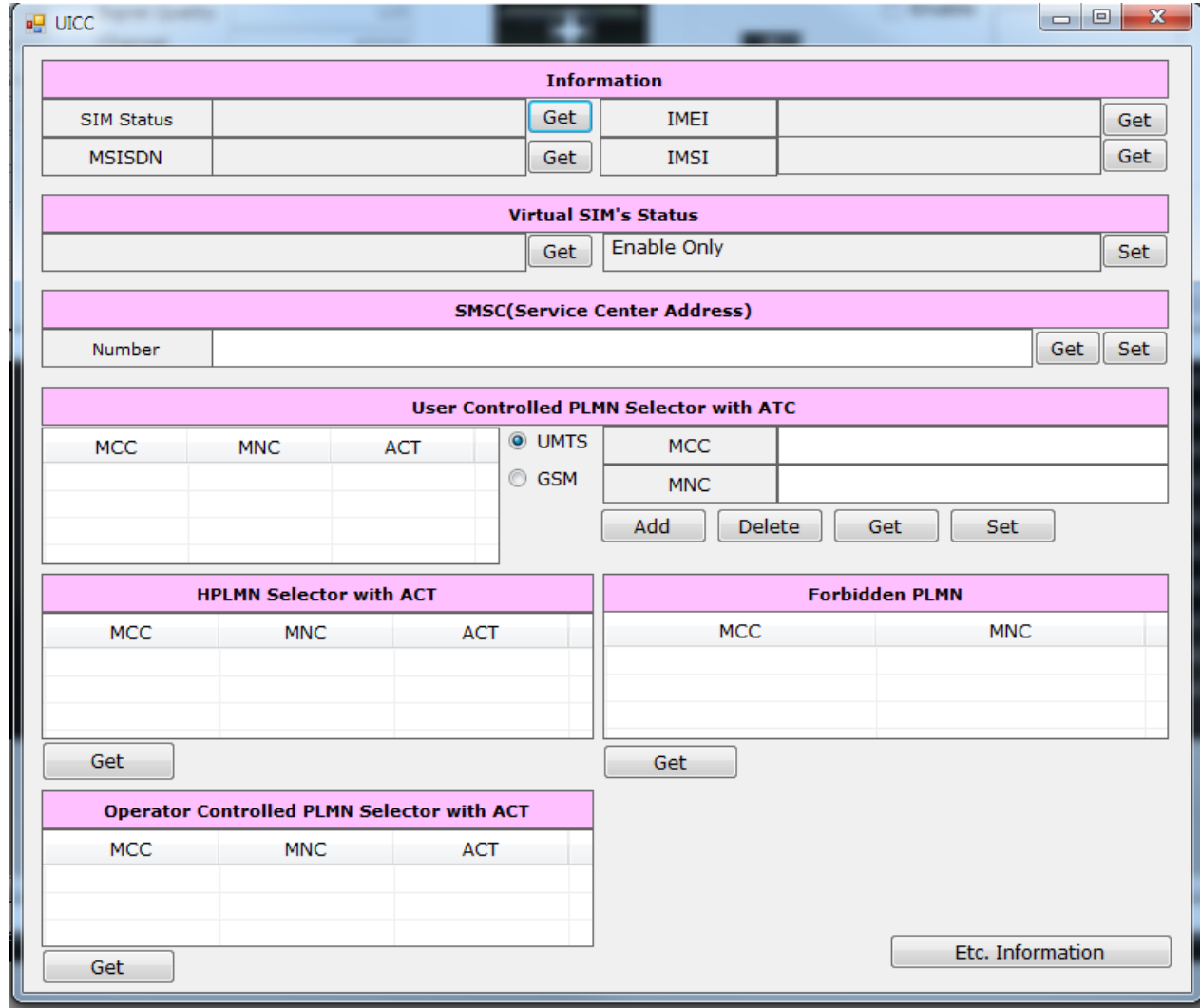
4. Function - Network

View > Network > SMS : You can send and receive the SMS message.



4. Function - Network

View > Network > UICC : You can set and get all UICC's parameters.



4. Function – System Information

View > System Information : You can see and check all version of OCU’s module.

System Version	
OCU HW	Rev:E(Installed)
	Rev:D(Recommended)
OCU SW	M6600A-SCAUBNZ-3.5.317 OCU_Y092 OCU-BUILDER@lge.com Sep 2 2014 10:34:05(Installed)
	M6600A-SCAUBNZ-3.5.317 OCU_Y090 OCU-BUILDER@lge.com Aug 13 2014 15:56:04(Recommended)
NAD SW	Sep 2 201410:34:05Jul 28 201405:00:00SCAUBNZ3(Installed)
	Aug 13 201415:56:04Jul 28 201405:00:00SCAUBNZ3(Recommended)
Micom SW	OCU Sep 3 2014 16:17:20 Y093
	OCU Aug 14 2014 17:43:34 Y090 (Recommended)
GNSS SW	2.01 (81566)(Installed)
	2.01 (81566)(Recommended)
CAN SW	wk2814_001(Installed)
	wk2814_001(Recommended)
JAVA VM SW	
	b75-25_Jun_2014-02:09:04(Recommended)
Online Service SW	
	VW.Service.M080(Recommended)
VAL SW	
	VW.VAL.Y090(Recommended)
ODT SW	0.1.5361.25394

4. Function – DTC

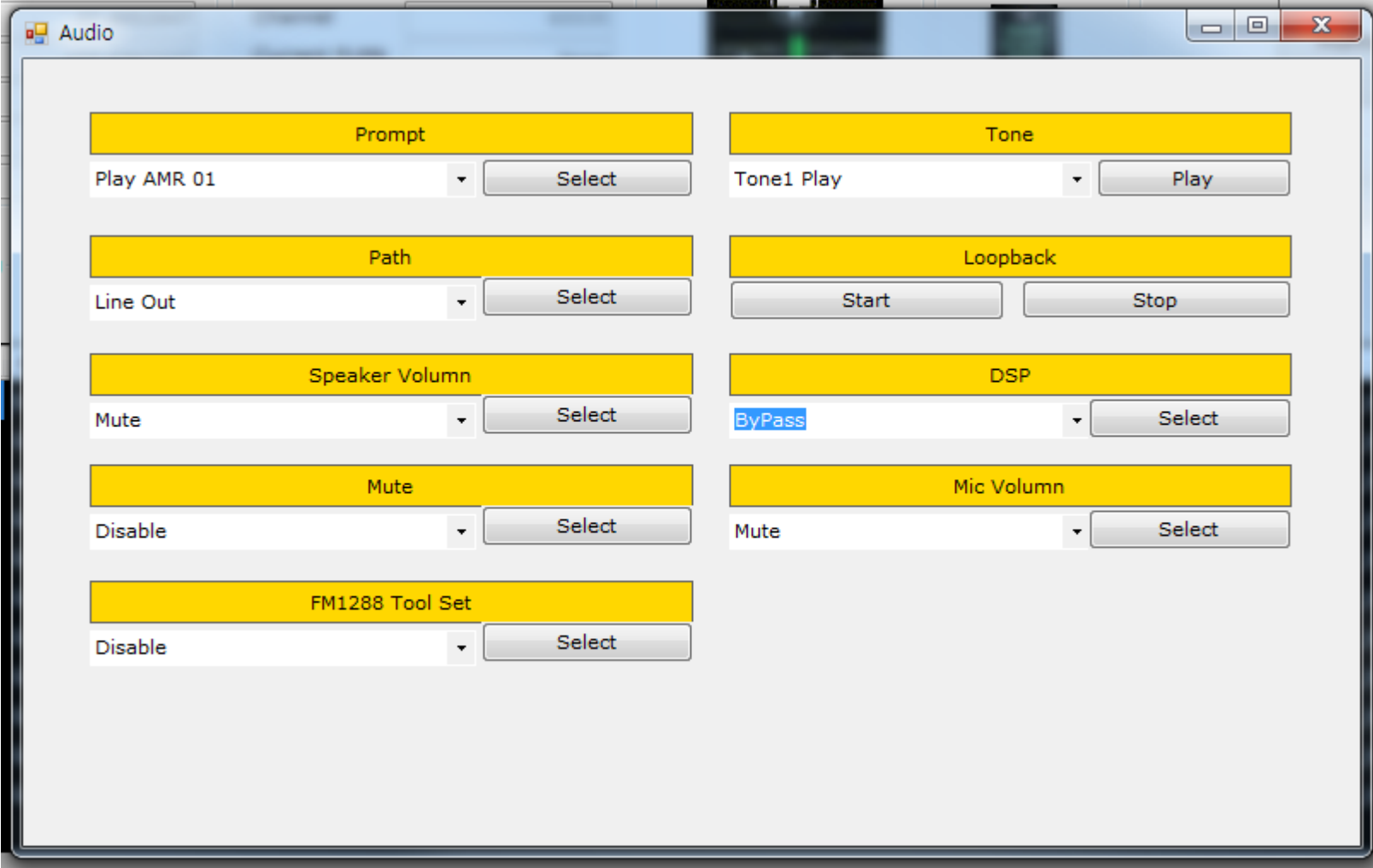
View > DTC : You can get, clear and mask DTC(Diagnostic Trouble Codes) of OCU.

TI	DTC	Code	Status	Get	Clear	Priority	Mask	Mask_Byte	Mask_Bit
B105207	Button Assembly - Mechanical Malfu...	0x905207	0	<input type="checkbox"/>	<input type="checkbox"/>	4	<input type="checkbox"/>	4	5
B105211	Button Assembly - Short circuit to gr...	0x905211	0	<input type="checkbox"/>	<input type="checkbox"/>	4	<input type="checkbox"/>	4	2
B105212	Button Assembly - Short circuit to ba...	0x905212	0	<input type="checkbox"/>	<input type="checkbox"/>	4	<input type="checkbox"/>	4	3
B105213	Button Assembly - Interruption	0x905213	0	<input type="checkbox"/>	<input type="checkbox"/>	4	<input type="checkbox"/>	4	4
B105311	GSM/UMTS-Antenna - Short circuit to...	0x905311	0	<input type="checkbox"/>	<input type="checkbox"/>	4	<input type="checkbox"/>	1	6
B105312	GSM/UMTS-Antenna - Short circuit to...	0x905312	0	<input type="checkbox"/>	<input type="checkbox"/>	4	<input type="checkbox"/>	1	5
B105313	GSM/UMTS-Antenna - Interruption	0x905313	1	<input type="checkbox"/>	<input type="checkbox"/>	4	<input type="checkbox"/>	1	7
B190211	LED - Short circuit to ground	0x905411	0	<input type="checkbox"/>	<input type="checkbox"/>	4	<input type="checkbox"/>	17	5
B190212	LED - Short circuit to battery	0x905412	0	<input type="checkbox"/>	<input type="checkbox"/>	4	<input type="checkbox"/>	17	6
B190213	LED - Interruption	0x905413	0	<input type="checkbox"/>	<input type="checkbox"/>	4	<input type="checkbox"/>	17	7
B105411	GPS-Antenna - Short circuit to ground	0x000A04	0	<input type="checkbox"/>	<input type="checkbox"/>	4	<input type="checkbox"/>	2	2
B105412	GPS-Antenna - Short circuit to battery	0x000A05	0	<input type="checkbox"/>	<input type="checkbox"/>	4	<input type="checkbox"/>	2	3
B105413	GPS-Antenna - Interruption	0x000A06	0	<input type="checkbox"/>	<input type="checkbox"/>	4	<input type="checkbox"/>	2	4
B107311	Airbag line - Short circuit to ground	0x107311	0	<input type="checkbox"/>	<input type="checkbox"/>	4	<input type="checkbox"/>	5	5
B107315	Airbag line - Interruption/ Short circu...	0x107314	0	<input type="checkbox"/>	<input type="checkbox"/>	4	<input type="checkbox"/>	5	6
B129B11	Microphone - Short circuit to ground	0x904811	0	<input type="checkbox"/>	<input type="checkbox"/>	4	<input type="checkbox"/>	3	6
B129B12	Microphone - Short circuit to battery	0x904812	0	<input type="checkbox"/>	<input type="checkbox"/>	4	<input type="checkbox"/>	3	7
B129B13	Microphone - Interruption	0x904813	0	<input type="checkbox"/>	<input type="checkbox"/>	4	<input type="checkbox"/>	4	0
B104912	Hardwired Mute Line - Short circuit t...	0x904912	0	<input type="checkbox"/>	<input type="checkbox"/>	4	<input type="checkbox"/>	3	3
B104914	Hardwired Mute Line - Interruption/ ...	0x904914	0	<input type="checkbox"/>	<input type="checkbox"/>	4	<input type="checkbox"/>	3	4
B14F111	Audio-Line Out - Short circuit to grou...	0x904E11	0	<input type="checkbox"/>	<input type="checkbox"/>	4	<input type="checkbox"/>	2	6
B14F112	Audio-Line Out - Short circuit to batt...	0x904E12	0	<input type="checkbox"/>	<input type="checkbox"/>	4	<input type="checkbox"/>	2	7
B14F113	Audio-Line Out - Interruption	0x904E13	0	<input type="checkbox"/>	<input type="checkbox"/>	4	<input type="checkbox"/>	3	0
B14F1F0	Audio-Line Out - Short circuit betwe...	0x904EF0	0	<input type="checkbox"/>	<input type="checkbox"/>	4	<input type="checkbox"/>	3	1
B14A611	Emergency Speaker - Short circuit to...	0x904F11	0	<input type="checkbox"/>	<input type="checkbox"/>	4	<input type="checkbox"/>	4	7
B14A612	Emergency Speaker - Short circuit to...	0x904F12	0	<input type="checkbox"/>	<input type="checkbox"/>	4	<input type="checkbox"/>	5	0
B14A613	Emergency Speaker - Interruption	0x904F13	0	<input type="checkbox"/>	<input type="checkbox"/>	4	<input type="checkbox"/>	5	1

Get All DTC

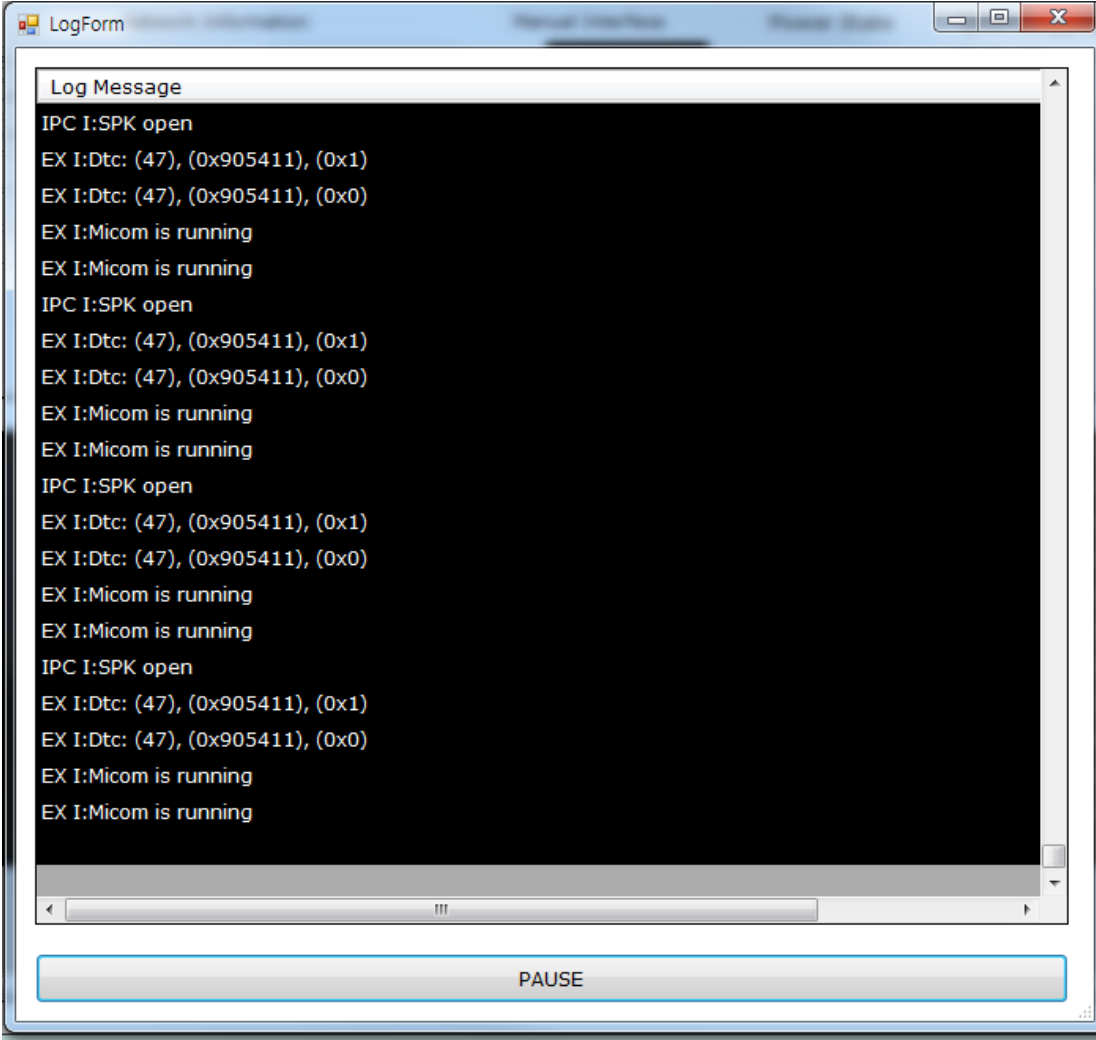
4. Function – Audio

View > Audio : You can control the audio features of OCU using this function



4. Function – Logs

View > Logs : You can see all logs of OCU



4. Function – Configuration

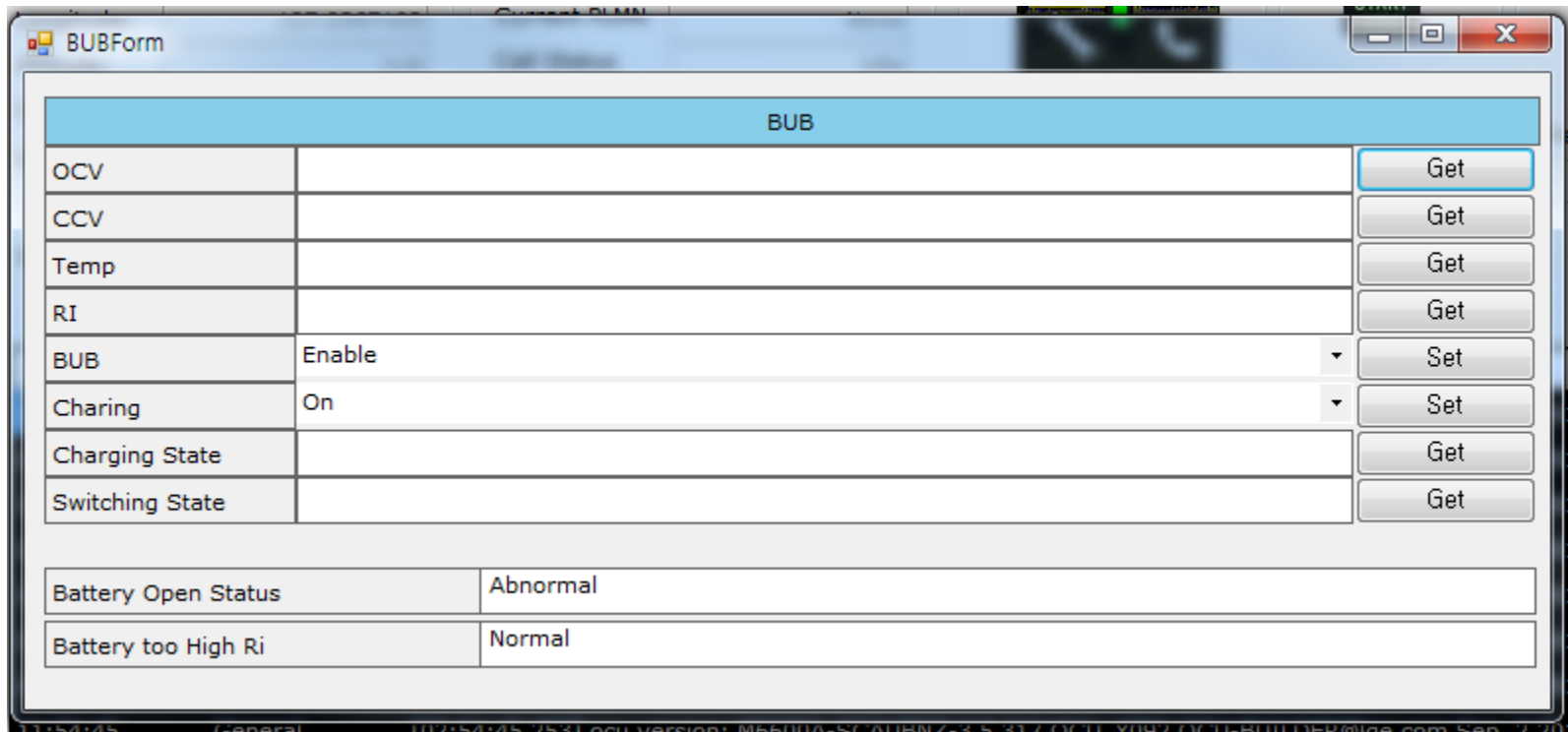
View > Configuration > Configuration : You can set and get the configuration of OCU.

The screenshot shows a software window titled 'Configuration' with several tabs: 'Adaption', 'Actuator', 'Coding', 'Data Set', 'Default Setting', 'Identification', 'Readings', and 'Measured Values'. The 'Adaption' tab is active, displaying a table with columns: TI, Object ID, Record ID, Title, Length, Payload, Get, and Set. Below the table are two buttons labeled 'Get All' and 'Set All'.

TI	Object ID	Record ID	Title	Length	Payload	Get	Set
IDE07699	Dia_An_p_733	2893	Mobile_Phone_Network_Pro...	63		<input type="button" value="Get"/>	<input type="button" value="Set"/>
MAS08170	Dia_An_p_739	2896	User_Profile_Name	25		<input type="button" value="Get"/>	<input type="button" value="Set"/>
MAS08171	Dia_An_p_738	2897	User_Profile_Password	25		<input type="button" value="Get"/>	<input type="button" value="Set"/>
MAS08172	Dia_An_p_737	2894	Online_Service_Backend_Pri...	39		<input type="button" value="Get"/>	<input type="button" value="Set"/>
MAS08173	Dia_An_p_736	2898	Online_Service_Backend_Se...	39		<input type="button" value="Get"/>	<input type="button" value="Set"/>
MAS08174	Dia_An_p_735	2895	Backup_DNS_Server	39		<input type="button" value="Get"/>	<input type="button" value="Set"/>
IDE00761	Dia_An_p_1235	2892	Emergency_Call_Power_Ma...	14		<input type="button" value="Get"/>	<input type="button" value="Set"/>
MAS08175	Dia_An_p_1309	2901	Online_Service_Activation_T...	3		<input type="button" value="Get"/>	<input type="button" value="Set"/>
n/a	Dia_An_p_1437	2902	Number_Of_Navigation_Des...	1		<input type="button" value="Get"/>	<input type="button" value="Set"/>
MAS08981	Dia_An_p_1582	9359	Dimming_Red_Functional_Ill...	12		<input type="button" value="Get"/>	<input type="button" value="Set"/>
MAS08982	Dia_An_p_1769	9360	Dimming_Green_Functional_...	12		<input type="button" value="Get"/>	<input type="button" value="Set"/>
MAS08983	Dia_An_p_1794	9361	Dimming_Coefficient_Red_F...	1		<input type="button" value="Get"/>	<input type="button" value="Set"/>
MAS08984	Dia_An_p_1797	9362	Dimming_Coefficient_Green...	1		<input type="button" value="Get"/>	<input type="button" value="Set"/>
IDE02699	Dia_An_p_220	2818	Emergency_Call_1	15		<input type="button" value="Get"/>	<input type="button" value="Set"/>
IDE02700	Dia_An_p_380	2820	Emergency_Call_2	15		<input type="button" value="Get"/>	<input type="button" value="Set"/>
IDE11482	Dia_An_p_1762	2540	Ecall_Automatic_Crash_Notif...	15		<input type="button" value="Get"/>	<input type="button" value="Set"/>
IDE11483	Dia_An_p_1765	2541	Ecall_Automatic_Crash_Notif...	15		<input type="button" value="Get"/>	<input type="button" value="Set"/>
IDE03481	Dia_An_p_383	9288	Emergency_number	15		<input type="button" value="Get"/>	<input type="button" value="Set"/>
MAS08176	Dia_An_p_226	2891	Emergency_call_test_number	15		<input type="button" value="Get"/>	<input type="button" value="Set"/>
IDE04478	Dia_An_p_503	2827	Emergency_Call_SMS_1	15		<input type="button" value="Get"/>	<input type="button" value="Set"/>
IDE00769	Dia_An_p_184	2315	Set number for info call	15		<input type="button" value="Get"/>	<input type="button" value="Set"/>
IDE02330	Dia_An_p_187	2313	Set number 2 for info call	15		<input type="button" value="Get"/>	<input type="button" value="Set"/>
IDE00770	Dia_An_p_190	2316	Set number for service call	15		<input type="button" value="Get"/>	<input type="button" value="Set"/>
IDE02331	Dia_An_p_193	2314	Set number 2 for service call	15		<input type="button" value="Get"/>	<input type="button" value="Set"/>
IDE00001	Dia_An_p_467	1278	Productionmode	3		<input type="button" value="Get"/>	<input type="button" value="Set"/>

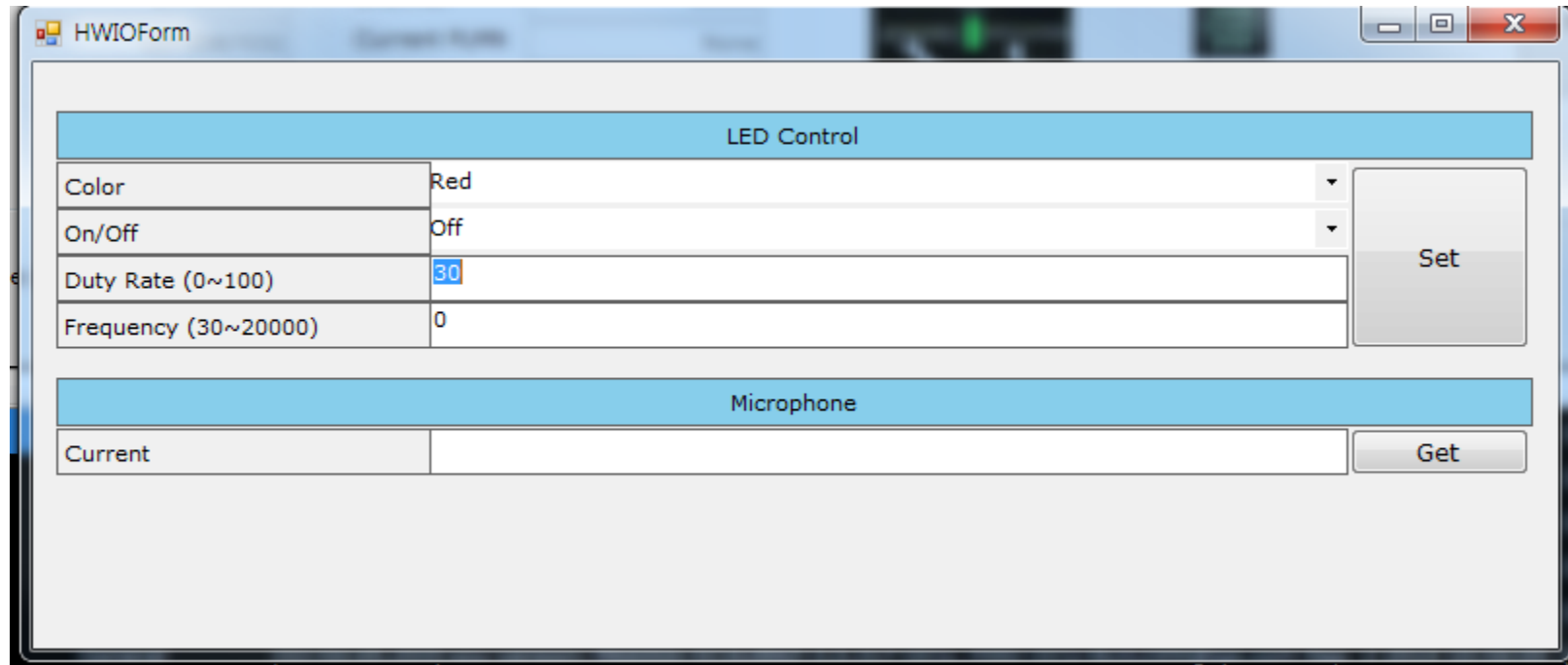
4. Function – BUB (Backup Battery)

View > BUB : You can get the BUB(Backup Battery)'s status.



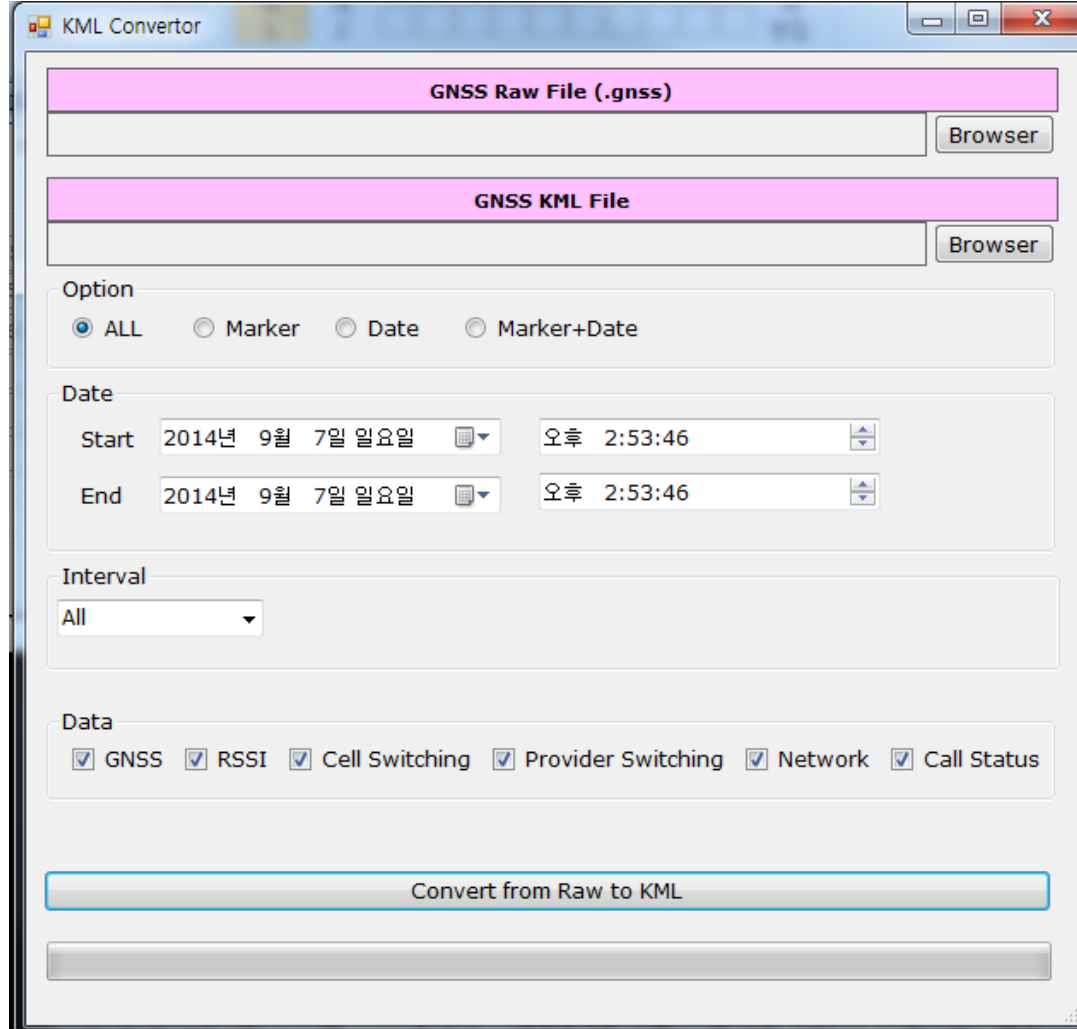
4. Function – HW IO

View > HW IO : You can control the LED of OCU and get the Microphone's current.



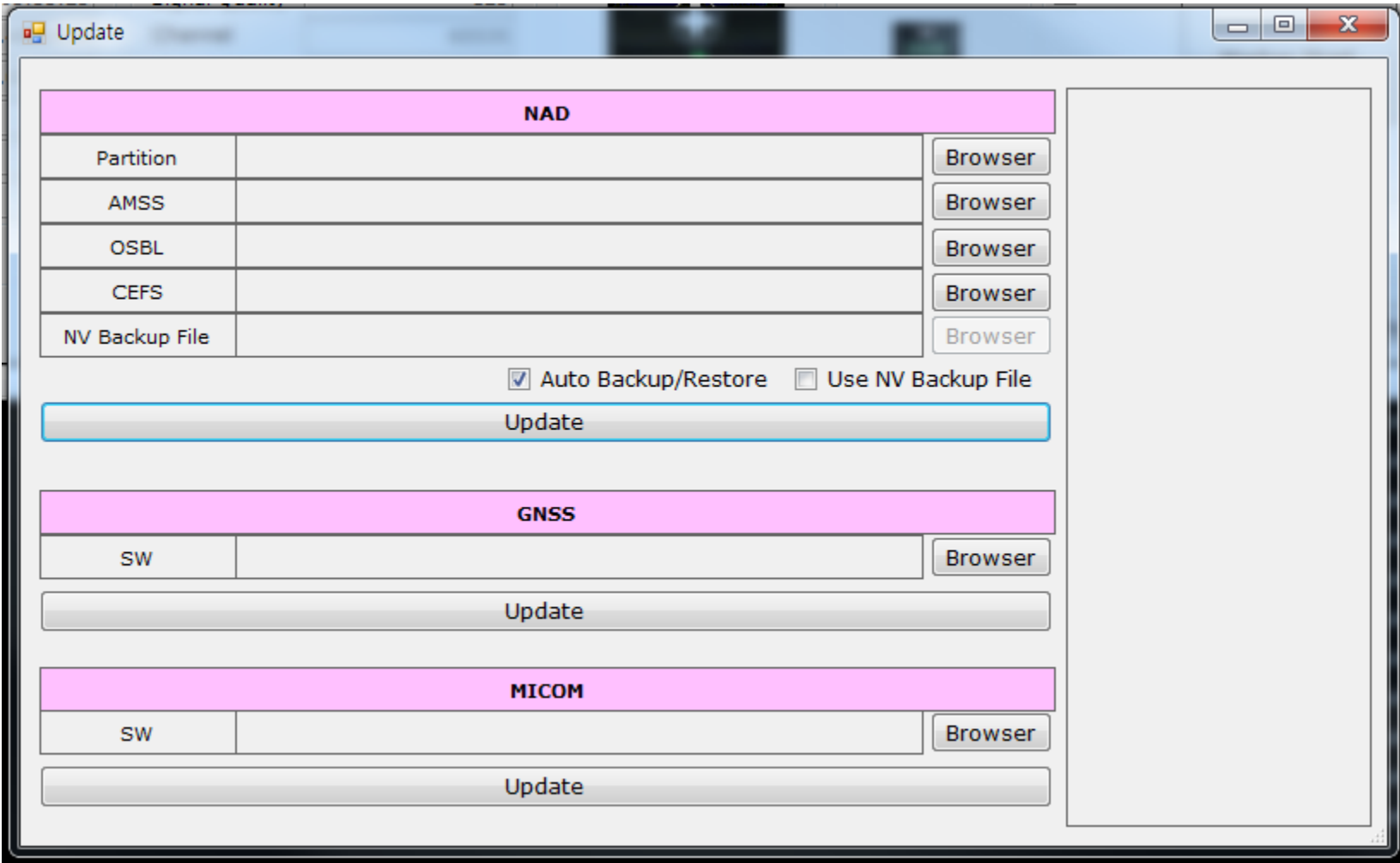
4. Function – KML Convertor

View > KML Convertor : You can convert from the raw data of GNSS and Network to KML file to test and debug on Google Earth



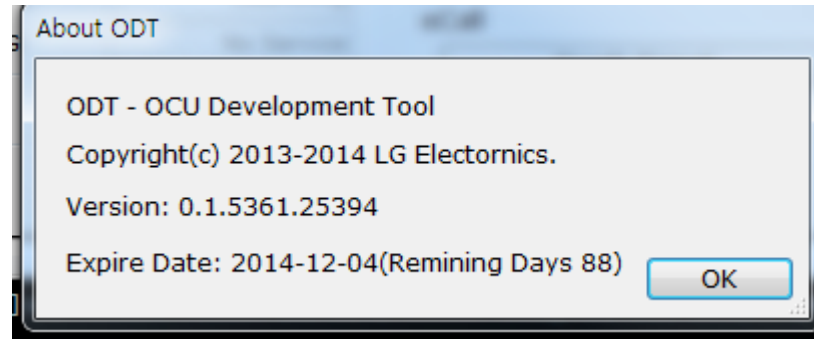
4. Function – Update

View > KML Convertor : You can update NAD, Micom and GNSS of OUC using this function.



4. Function – Help

View > Help > About ODT : You can know the version and expire date of ODT through this function



Part 15.21 statement

"Change or Modifications that are not expressly approved by the manufacturer could void the user's authority to operate the equipment. "

"In order to comply with RF Exposure requirements the antenna or radiating element of this device must be installed to ensure that it is at least 20cm from end users. The antenna supplied with this device must not exceed a maximum gain of -7dBi in the cellular band and -7dBi in the PCS band."

Part 15.105 statement

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: -Reorient or relocate the receiving antenna. -Increase the separation between the equipment and receiver. -Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Part 15 Class B Compliance

This device and its accessories comply with part 15 of FCC rules. Operation is subject to the following two conditions:

(1) This device & its accessories may not cause harmful interference.

(2) This device & its accessories must accept any interference received, including interference that may cause undesired operation.

Installation

This unit should only be installed by qualified personnel by .

The transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

This equipment complies with the FCC RF radiation exposure limits set forth for an uncontrolled environment.

This equipment should be installed and operated with a minimum distance of 30 cm between the radiator and any part of your body.