

## 2. Specification

### 2-1. GSM General Specification

	<b>GSM850</b>	<b>EGSM900</b>	<b>DCS1800</b>	<b>PCS1900</b>
Freq. Band[MHz] Uplink/Downlink	824~849 869~894	880~915 925~960	1710~1785 1805~1880	1850~1910 1930~1990
ARFCN range	128~251	0~124 & 975~1023	512~885	512~810
Tx/Rx spacing	45MHz	45MHz	95MHz	80MHz
Mod. Bit rate/ Bit Period	270.833kbps 3.692us	270.833kbps 3.692us	270.833kbps 3.692us	270.833kbps 3.692us
Time Slot Period/Frame Period	576.9us 4.615ms	576.9us 4.615ms	576.9us 4.615ms	576.9us 4.615ms
Modulation	0.3GMSK	0.3GMSK	0.3GMSK	0.3GMSK
MS Power	33dBm~5dBm	33dBm~-5dBm	30dBm~0dBm	30dBm~0dBm
Power Class	5pcl ~ 19pcl	5pcl ~ 19pcl	0pcl ~ 15pcl	0pcl ~ 15pcl
Sensitivity	-102dBm	-102dBm	-100dBm	-100dBm
TDMA Mux	8	8	8	8
Cell Radius	35Km	35Km	2Km	2Km

## 2-2. GSM TX power class

<b>TX Power control level</b>	<b>GSM850</b>	<b>GSM900</b>
5	33±2 dBm	33±2 dBm
6	31±2 dBm	31±2 dBm
7	29±2 dBm	29±2 dBm
8	27±2 dBm	27±2 dBm
9	25±2 dBm	25±2 dBm
10	23±2 dBm	23±2 dBm
11	21±2 dBm	21±2 dBm
12	19±2 dBm	19±2 dBm
13	17±2 dBm	17±2 dBm
14	15±2 dBm	15±2 dBm
15	13±2 dBm	13±2 dBm
16	11±3 dBm	11±3 dBm
17	9±3 dBm	9±3 dBm
18	7±3 dBm	7±3 dBm
19	5±3 dBm	5±3 dBm

<b>TX Power control level</b>	<b>DCS1800</b>	<b>PCS1900</b>
0	30±3 dBm	30±3 dBm
1	28±3 dBm	28±3 dBm
2	26±3 dBm	26±3 dBm
3	24±3 dBm	24±3 dBm
4	22±3 dBm	22±3 dBm
5	20±3 dBm	20±3 dBm
6	18±3 dBm	18±3 dBm
7	16±3 dBm	16±3 dBm
8	14±3 dBm	14±3 dBm
9	12±4 dBm	12±4 dBm
10	10±4 dBm	10±4 dBm
11	8±4dBm	8±4dBm
12	6±4 dBm	6±4 dBm
13	4±4 dBm	4±4 dBm
14	2±5 dBm	2±5 dBm
15	0±5 dBm	0±5 dBm

---

## 3. Operation Instruction and Installation

---

### Main Function

- Quad Band (GSM850+EGSM900+DCS1800+PCS1900)
- GPRS Rx/Tx, EDGE Rx
- FM Radio
- Bluetooth v2.0 + EDR
- TFT LCD 2." 256K Color
- VGA 1/10" CMOS Camera
- MP3 Player
- Micro SD Card (Up to 8GB)

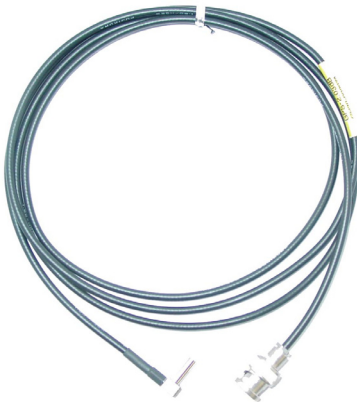
## 4. Array course control



**Test Jig (GH99-36900A)**



**Test Cable (GH39-01160A)**



**RF Test Cable (GH39-00985A)**



**Adapter (GH99-38251A)**

## Software Downloading

### 4-1. Downloading Binary Files

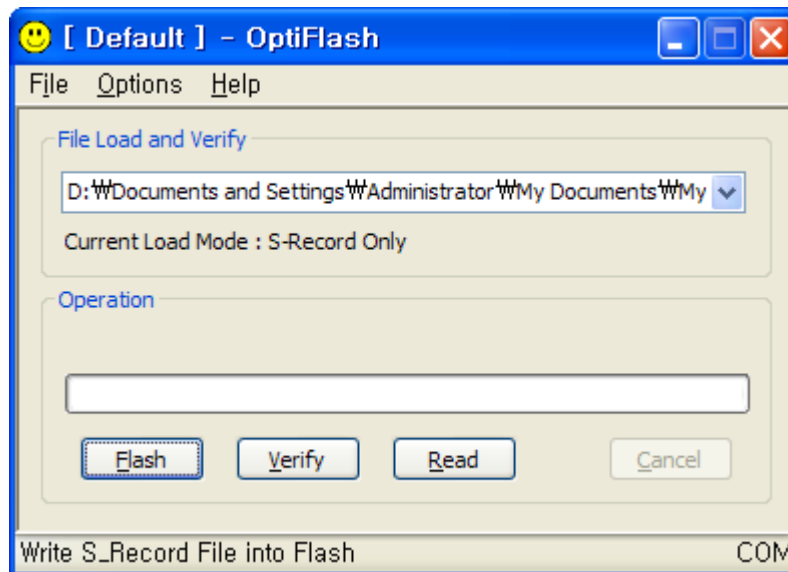
- Three binary files for downloading C3050
  - C3050XXYY.s3 : Main source code binary

### 4-2. Pre-requisite for Downloading

- Downloader Program ([OptiFlash.exe](#))
- C3050 Mobile Phone
- Data Cable
- Binary files

### 4-3. S/W Downloader Program

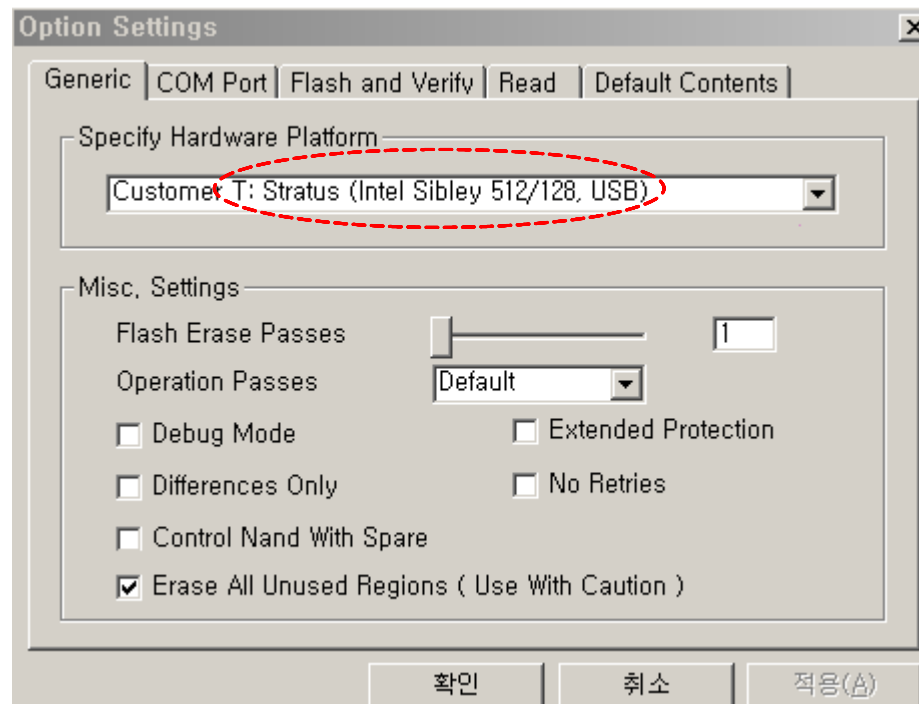
1. Load the binary download program by executing the "**Optiflash.exe**"



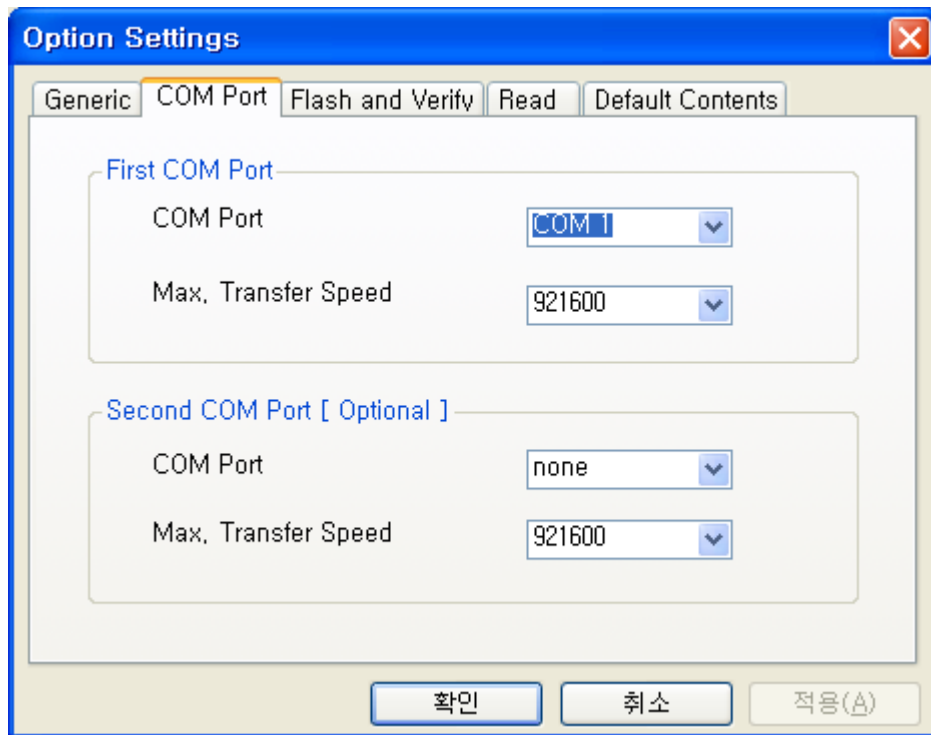
2. Select the "**Options**" → "**Settings**" → "**Generic**" → "**Specify hardware platform**".

Choose hardware platform for the downloader file setting.

Set the everything else as the default values which are shown below



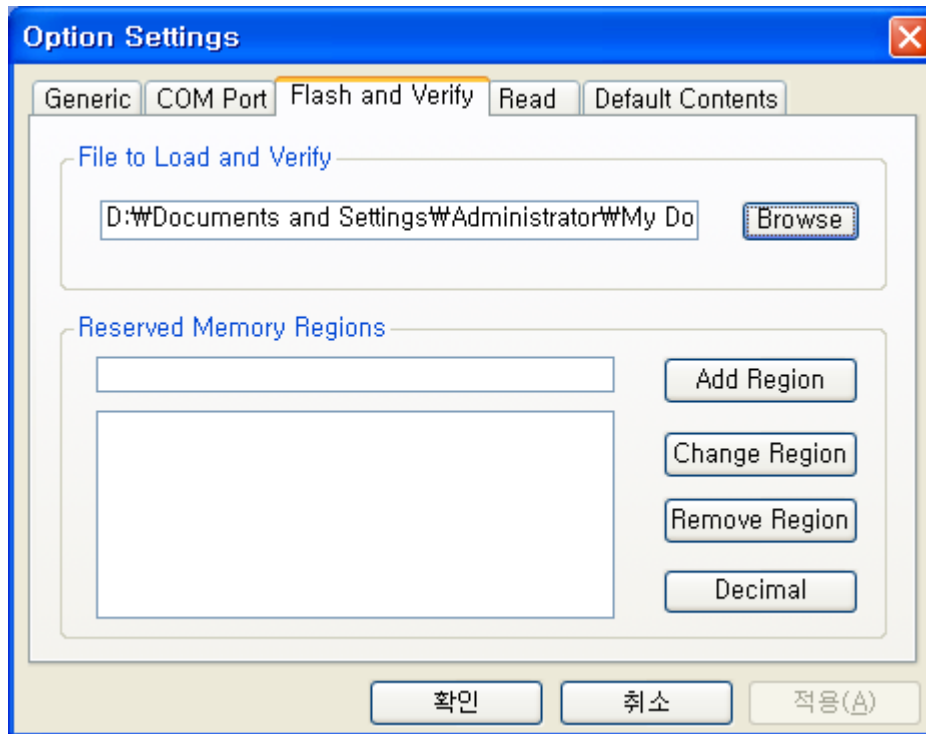
3. Select the **COM port** when the download cable is connected



Additionally you can select the maximum transfer speed OptiFlash will use to communicate with the phone. However, OptiFlash will use a slower speed if either the PC's or the phone's serial hardware is incapable of handling the selected speed

4. Select the **"Flash And Verify"** → **"Browse"**

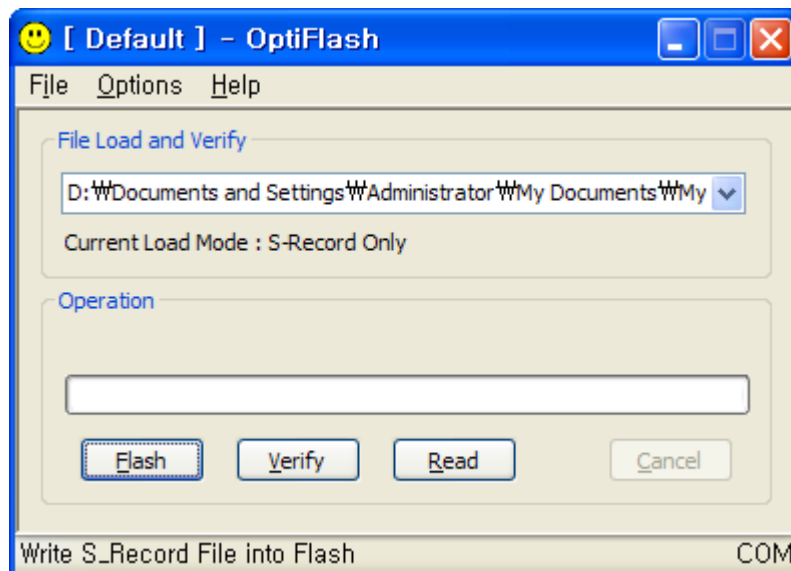
Set the directory path and choose the lastet s/w binary, for example "C3050XXYY.s3", for the downloader binary setting.



5. Click **"OK"** button then press **"Flash"**.

(Before pressing 'Flash' button, push the button **"\*\*and 'END' at the same time**. Then press 'Flash'.)

Downloader will upload the binary file as below for the downloading.





6. When downloading is finished successfully, there is a "All is well" message.
7. After finishing downloading, Certain memory resets should be done to guarantee the normal performance.
8. Confirm the downloaded version name and etc. :

**\*#1234#**

Full Reset :

**\*2767\*3855#**

---

## 10. Reference data

---

### Reference Abbreviate

- **ADC** : Analog to Digital Converter
- **AMPS** : Advanced Mobile Phone System(analog IS-95)
- **BGA** : Ball Grid Array
- **BPF** : Band Pass Filter
- **CDMA** : Code Division Multiple Access
- **DL** : Downlink
- **FTP** : File Transfer Protocol
- **GPS** : Global Positioning System
- **MMS** : Multimedia Messaging Service
- **PBA** : Panel Board Assembly
- **PCS** : Personal Communication System
- **PIM(S)** : Personal Information Management (System)
- **QPSK** : Quadrature Phase Shift Keying
- **RF** : Radio Frequency
- **RSS** : Received Signal Strength
- **SAW** : Surface Acoustic Wave
- **SMS** : Short Message Service
- **TCXO** : Temperature Compensated Crystal Oscillator
- **TSP** : Touch Screen Panel
- **UL** : Uplink
- **USB** : Universal Serial Bus

---

# 1. Safety Precautions

---

## 1-1. Repair Precaution

- Repair in Shield Box, during detailed tuning.  
Take specially care of tuning or test, because the specification of cellular phone is sensitive for surrounding interference(RF noise).
- Be careful to use a kind of magnetic object or tool, because performance of parts is damaged by the influence of magnetic force.
- Surely use a standard screwdriver when you disassemble this product, otherwise screw will be worn away.
- Use a thicken twisted wire when you measure level.  
A thicken twisted wire has low resistance, therefore error of measurement is few.
- Repair after separate Test Pack and Set because for short danger (for example an overcurrent and furious flames of parts etc) when you repair board in condition of connecting Test Pack and tuning on.
- Take specially care of soldering, because Land of PCB is small and weak in heat.
- Surely tune on/off while using AC power plug, because a repair of battery charger is dangerous when tuning ON/OFF PBA and Connector after disassembling charger.
- Don't use as you pleases after change other material than replacement registered on SEC System.  
Otherwise engineer in charge isn't charged with problem that you don't keep this rules.

## 1-2. ESD(Electrostatically Sensitive Devices) Precaution

Several semiconductor may be damaged easily by static electricity. Such parts are called by ESD (Electrostatically Sensitive Devices), for example IC,BGA chip etc. Read Precaution below.

You can prevent from ESD damage by static electricity.

- Remove static electricity remained your body before you touch semiconductor or parts with semiconductor. There are ways that you touch an earthed place or wear static electricity prevention string on wrist.
- Use earthed soldering steel when you connect or disconnect ESD.
- Use soldering removing tool to break static electricity. Otherwise ESD will be damaged by static electricity.
- Don't unpack until you set up ESD on product. Because most of ESD are packed by box and aluminum plate to have conductive power,they are prevented from static electricity.
- You must maintain electric contact between ESD and place due to be set up until ESD is connected completely to the proper place or a circuit board.