Extra Features Manual

iFly 740

Thank you for purchasing the iFly 740

▪ The iFly 740 Owner's Manual is for your convenience and safety when using this product.

▪ Before operating the iFly 740, and to take full advantage of this aviation navigation system, please read the manual carefully and
  follow its instructions.

▪ Depending on the navigation system model type, the contents of this owner's manual may vary. The navigation system and the
  owner's manual are subject to changes in function or performance without prior notice for the convenience of users.

▪ iFly GPS will not be responsible for any equipment damage resulting from improper installation or use.

Safety precautions
For your safety, and your passengers, please follow these safety warnings.

▪ Make sure that the device is installed securely to prevent the device from coming off or moving during operation.

▪ The GPS receiver might not function normally in some aircraft that have heated windows or when recessed fitted into the panel.
  In these cases, please contact our sales representative to buy an external GPS antenna, which is sold as an optional item

▪ GPS signals might be affected under hangers, in built-up areas or in know dead spots due to weak electrical waves.

▪ Use the navigation device only for situational awareness. Chart data must be updated regularly to maximize safety.

▪ Store device out of direct sunlight to prevent it from damage due to overheating.

▪ Make sure that water or other liquids do not get inside the product. This could cause fire or electric shock.

▪ To reduce the risk or electric shocks, do not open the cover (or back). There are no user-serviceable parts inside.

▪ The GPS receiver operates optimally at 14 to 140 degrees. If the temperature is too low or too high, the product might not
  function correctly. Make sure that the optimal temperature is maintained.

▪ If the suction mount is attached to the glass for a long time, it might come off due to reduced adhesiveness.

▪ The memory card (SDHC) could be damaged if used with any other devices.

▪ Do not remove the memory card (SDHC) while the product is in operation. It may cause mechanical problems.

▪ Do not touch the product with wet hands. It might cause electric shock or damage.

▪ Do not disassemble or drop the product. It might cause damage or a mechanical breakdown.

▪ Use only the specified power adaptor. Using a different type of adaptor might cause damage or a mechanical breakdown.

▪ Touch the LCD with fingers or blunt devices only. If a sharp drill or a nail is used, it might cause damage.

▪ Use only soft and dry cotton cloth when cleaning the product. Do not use strong solvents such as alcohol, benzene, or thinners, as
  these might damage the surface of the product.

Table of Contents

1. Getting Started

© ⓘ Components (default+option)

iFly 740 MAIN BODY	**SDHC MEMORY CARD**
SUCTION MOUNT	**SOFT CASE**
CIGARETTE JACK	**AC-DC ADAPTER**
REMOTE	

© □ **External Appearance of iFly 740**

(Front View)

2 & 3

1

(Front side information)

|		
1.	**Touch screen**	Operate all functions by touching the screen with the stylus pen provided.
2.	**Indication light**	Indicates battery-charging status. If the battery is fully charged, the red light will be turned off automatically.
3.	**Remote Control sensor**	Operate various functions with Remote control (Option).

(Rear View)

1

GPS

R-CAM

AV-IN

EAR

▲ SD MMC

EXT.IR

USB

DC 12V

2

AS   TRIP

SD Ext

③

(Rear Side Information)

1	**External GPS Connection Terminal**	External connection in order to improve reception efficiency of GPS. - For panel mounts or recessed installations. * Option-sold separately
2	**Speaker**	Audible alerts, vocal guidance and audio output.
3	**Mount Holder**	Mount area. For Ram Ball or Suction Mount attachment.

(Side View)
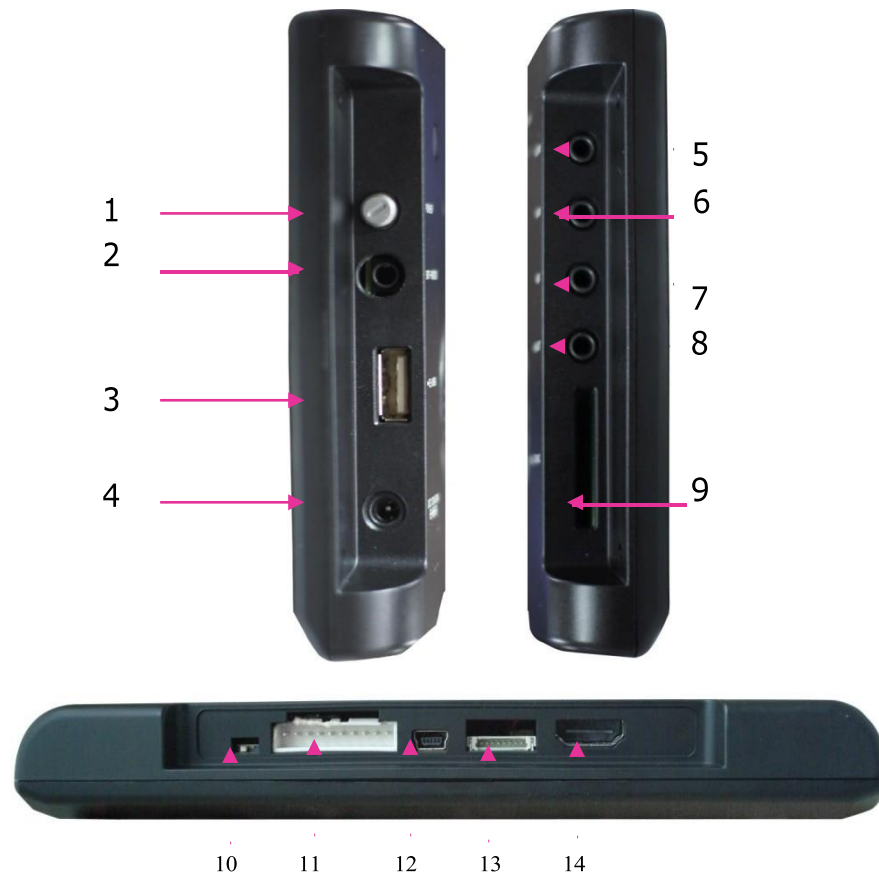
1	**POWER**	Power button to turn device on and turn off.
2	**EXT -IR/SIO**	IR wired relocation port for panel installs that cover the bezel.
3	**USB**	Connect USB to Serial Cable for NMEA output. Input from serial ADS-B or AHRS device. External USB memory storage for video or image files or loading GPX flight plan files.
4	**DC 12V/24V**	12v/24v input for AC-DC adapter o DC hardwire connection to ships power source.
5	**R-CAM**	Connect a remote camera. It detects camera automatically and displays camera view. For more details, please refer to "using R-Cam". **(page 26)**
6	**AV-IN**	Used to connect an external video and audio device.
7	**AUX**	Audio output to headphone/headset jack or Aux output to audio panel.
8	**AV-OUT**	Outputs composite video and stereo audio to an external AV device. Pass-through from AV-IN
9	**SD MMC**	Memory Card for Software and Data.

10.	**BAT S/W (ON/OFF)**	Turns internal battery On / Off. Isolates the battery out of the system.
11	**IO (DC/SIO/GPIO)**	2 Serial ports and DC power in. (Reserved for future expansion)
12	**USB (DEVICE)**	Connect a mini USB cable. (Reserved for future expansion)
13	**DEBUG**	Service Port
14	**EXT-SD/USB**	For connecting extended SD/USB box. (Reserved for future expansion)

© ☐ Installing IFLY 740

① Press the suction cup against windscreen

② Align and connect the 4 prongs of the suction mount into the 4 slots on the back of the GPS.

③ Slide the Suction plate update to secure the mount to the back of the iFly 740.

④ After installation, make sure the device is fixed firmly and then use it.

Do not install where Pilot's view is blinded.

Do not install on an unsafe glare shield.

☐☐Please make sure that the suction cup is securely fixed to the windscreen, as it may become detached due to severe vibration or turbulence during travel.

☐☐When adjusting angle of the GPS receiver, make sure that it has a clear and horizontal view of the sky.

„ ☐ If power from the cigarette jack is not connected, IFLY 740 will prompt to transition to battery power.

„ ☐ Remove or stow your IFLY 740 away from view when you leave you aircraft or car.

© □ Taking out Memory Card

Press Memory Card lightly. It will click and eject upon release.

© □ Turning Power On

Connect power (DC cigar jack or AC adaptor) to the IFLY 740.

Press down the power button on the right hand side for one or more seconds to apply power.

If battery is fully charged, the device can be used without external power connection. However we strongly

recommended you to connect power (DC cigar jack or AC adaptor).

1) Once power is connected, the LED on the front panel turns on. And after 2 or more seconds the Logo Screen is displayed.

2) After about 7 seconds Main Menu Screen is displayed.

© Ⅱ **Main Menu Screen**

The Main Menu consists of several program icons. Each program can be launched by touching the screen. If an application is already running you will switched back to it on the screen.

It supports multi-tasking, so you can listen to music while navigation is on.

Configuration of Main Menu Screen

1. Navigation	An icon to launch iFly GPS.
2. Update	An icon to Update iFly GPS via Wi-Fi or Update Package of USB or SD card.
3. Customer	To open iFly Streets. *Must have the iFly Streets option installed.
4. Applications	An icon to launch application. Including clock, calendar, calculator, memo and AV-IN icons
5. Settings	An icon to launch settings function. Including sound, screen brightness, option, initial and network icons.
6. Multimedia	An icon to launch multimedia. It may play music, video and photo.
7. Battery Charge Meter	Shows the current battery status. When you connect the power, it automatically start charging, meanwhile you may see this ⬛ icon.
8. Time icon	Shows the current time.
9. LCD on/off button	Click this button once to turn off the LCD backlight. Click any spots to turn on the LCD.

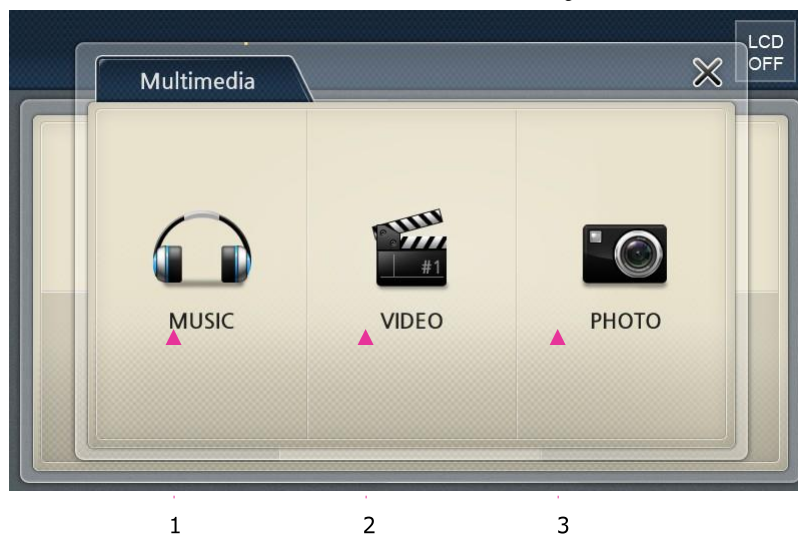# 2. Programs and its Basic Operation

© ⓵ Using Internet Icon

Execute this by pressing Internet icon on the Main Menu.

1. Menu	There are some icons for easy operation.
2. Exit	Exit the current menu and return to the main menu

© ⓶ Using Multimedia Icon

When you press Multimedia icon on the Main Menu, it shows music, video and photo icons as below image.

1	Music icon	An icon to open music player.
2	Video icon	(Not Available)
3	Photo icon	An icon to open image viewer.

❖❖ MUSIC

1) Getting started

Execute this by pressing Music icon on the Main Menu.

1. Title bar	Shows the name of current playing file.
2. Progress Bar	Shows the process time of the current playing file.
3. Previous file	Play the previous audio file.
4. Play or Pause	Toggles between play and pause of current file.
5. Stop	Stops playing.
6. Next file	Plays the next audio file.
7. Play list	To add and delete files for playing.(please see the next page for details)
8. Music configuration	**Play mode:** Repeat one, Repeat all one time, Repeat all, In order play, shuffle play **Equalizer type:** Pop, Classic, Techno, Rock, Live, Normal
9. Mute	Mutes the sound.
10. Volume	Controls the volume.
11. Time	Shows the current time.
12. Return	Close the current menu and return to main menu.
13. One-touch button	Directly go to the navigation screen.
14. Close	Close the viewer and return to main menu.

2) Play list

Press the "Play list" button to show play list

1.File list	Select files or folders. When you click a file, all files will add to the current play list. Meantime, it plays automatically and returns to the music play screen.
2.Delete	Delete a file from the current play list
3.File scroll bar	Scroll files,
4.Upper folder	Move to the upper folder
5.close	Go back to the music play screen.

3) Available File Format & Codec

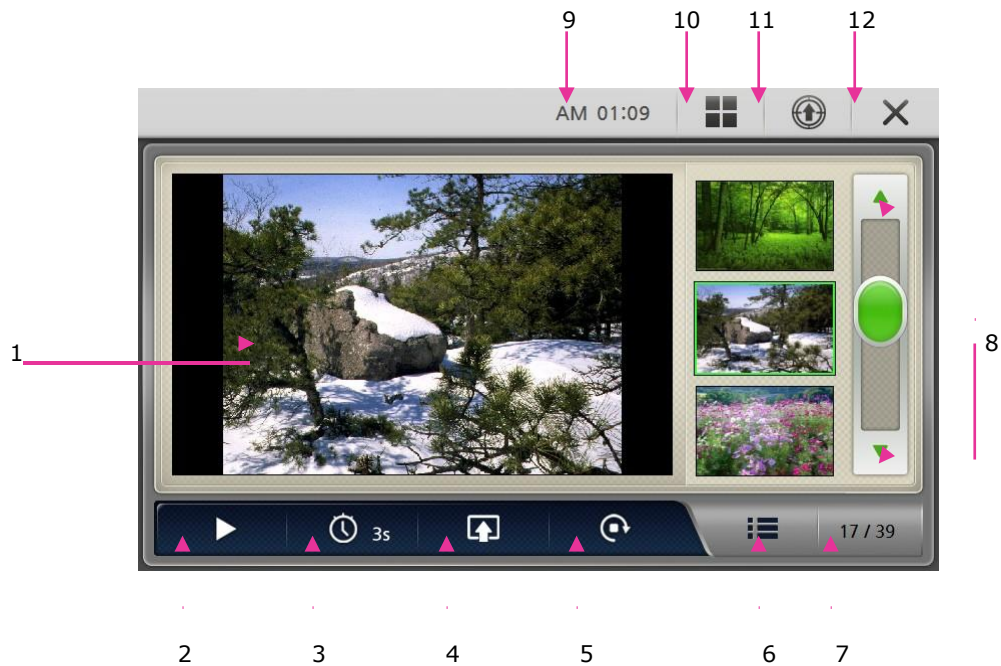| Supported Codec	- MP2, MP3, MIDI ,OGG, AAC, WAV, FLAC, BSAC,DTS
File format	- Ogg Media (*.ogg) / MP3 (*.mp3) / WAV

[Note]: Because of codec licensing some files may not play.

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❖❖ PHOTO

1) Getting Started

Launch this function by pressing photo icon in the Main Menu.

2) Configuration of Screen

1.	Screen	It shows images.
2.	Play slide show	To show images in the play list one by one.
3.	Time setting (slide)	Time setting for slide show. (3sends, 5seconds, 7seconds, 10seconds, 15seconds)
4.	Booting image	Using the current image for booting image.
5.	Rotate	Rotate the image to 90° clockwise.
6.	Play list	To add and delete images for playing.
7.	Page information	Shows the processing pages of current playing file.
8.	Scroll bar	Change play list page.
9.	Time	Shows current time.
10.	Return	Close the current menu and return to main menu.
11.	One touch button	Directly go to the navigation screen.
12.	Close	Close the viewer and return to main menu.

3) Full Screen

In full screen, there are some buttons as below.

<Previous

<Next file>

<Full screen/Return to Image
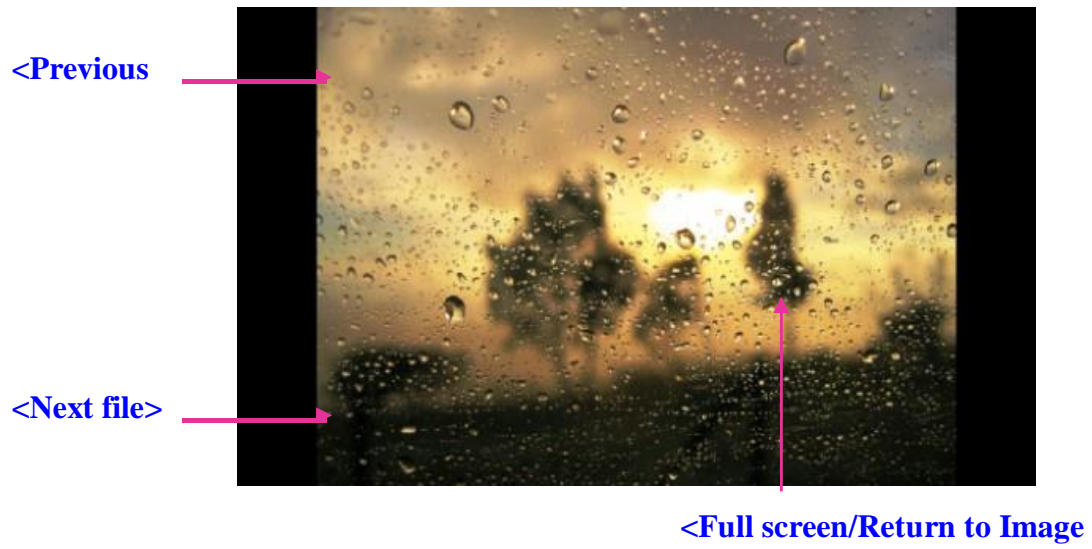
© ⓘ Using iFly Streets

Please press iFly Streets icon in the Main Menu to launch the iFly Streets navigation. You must have an SD card   with the iFly Streets upgrade in order for this to function. If you do not, a message will advise you to contact Adventure Pilot to purchase an iFly Streets card.

Please see the iFly Streets Manual located at iFlyGPS.com under the Support Tab and then select Product Manuals.

© ⓘ Using Applications icon

When you press Application icon on the Main Menu, it consists of 5 icons as below.

1	Clock	An icon to open the Clock function.
2	Calendar	An icon to open the Calendar function.
3	Calculator	An icon to open the Calculator function.
4	Memo	An icon to open the Memo function.
5	AV-IN	An icon to open the AV-IN function.

❖❖ Clock
Getting Started

Start this by pressing the Clock icon, you may choose any types of clock as your basic clock image.

<div align="center"><Analogue Clock 1>   <Analogue Clock 1>   <Digital Clock></div>

Note: the current time will be displayed on the entire screen by clicking Setting icon in the main menu and then click Screen icon again, and you may see Analogue clock 1, Analog clock 2 and Digital clock.

❖❖ Calendar
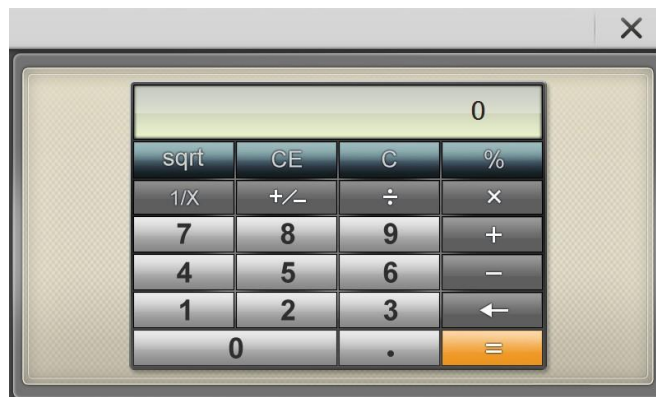
Getting Started

Launch this program by pressing the Calendar icon on menu.
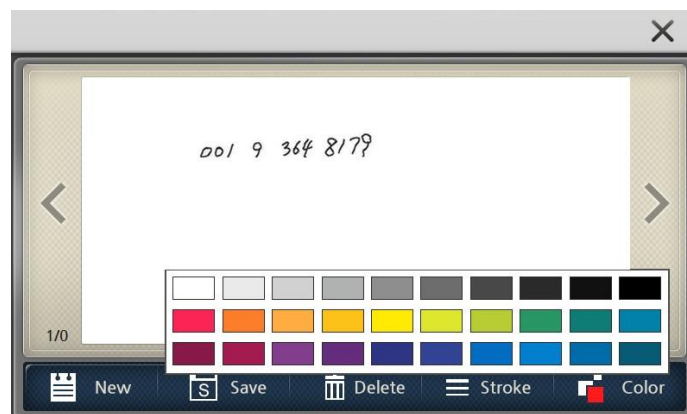

❖❖ Calculator

Getting Started

Launch this program by pressing the Calculator icon on menu.

❖❖ Memo

Getting Started

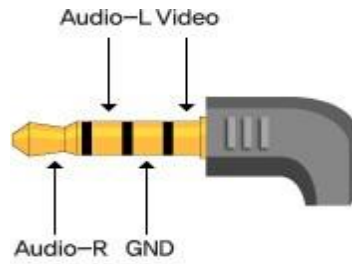Launch this program by pressing the Memo icon on menu.

❖❖ AV-IN

1) Getting Started

Connect the AV cable between AV device and AV-In jack.

Launch this function by pressing the AV-IN icon on the launcher screen to see the AV screen from the AV device.

[Note]: AV cable is supplied in separate sales and only the following pin type jack is supported.

2) Configuration of Screen

You can see the video screen and sound supplied from to AV-IN jack. If you touch the screen, current set volume,

volume button, close button as shown below are displayed. These buttons disappear after 3 seconds.
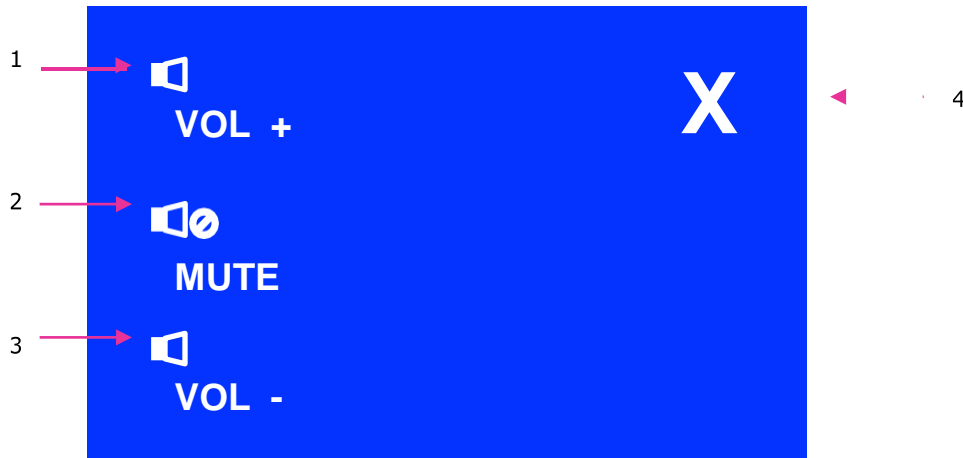
1	Volume UP	Increase volume
2	Mute	Mute sound
3	Volume DOWN	Decrease volume
4	Close	If you touch the screen, it returns to the main menu.

© Using Setting Icon

When you press Application icon on the Main Menu, it shows 7 icons as below images.

1. Sound	Start the Sound control settings.
2. Screen	Start program, Main screen, screen saver, Clock, Calibration settings.
3. Brightness	Start the Back Light control settings.
4. Option	May customize below settings: TV OUT, AV-IN/Rear camera, Parking line, Time zone, Day light saving time, Map path, customer path
5. Initial	An icon to call back GPS Rest and Factory Reset functions.
6. System	Shows system information.
7. Network	Shows Wi-Fi settings.

❖❖   Sound

1) Getting Started

Launch this program by pressing the Sound icon on menu.

2) Configuration of Screen

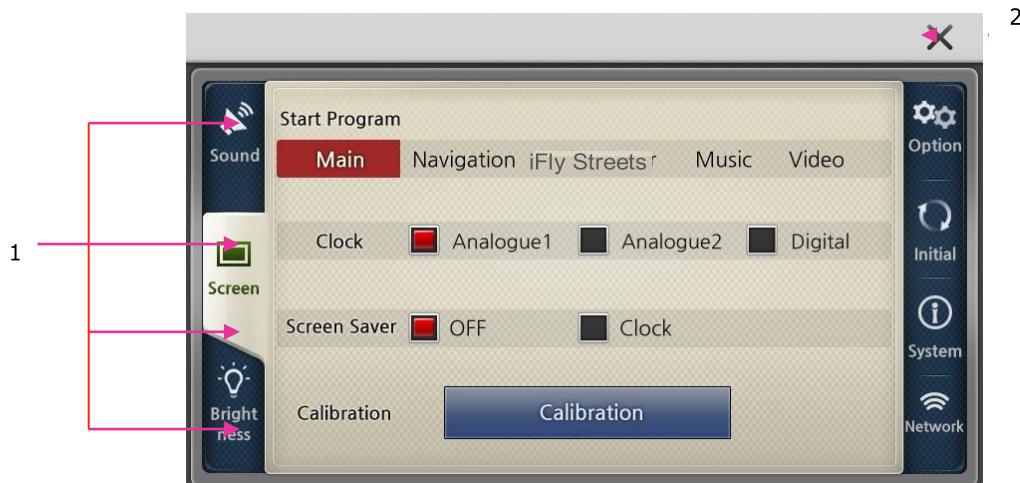| 1 Sound	**System volume**: You can adjust the volume for the system. **Earphone/Speaker volume sync, Button sound, System booting sound:** You may select and click the button as the above image.
2. Close	Close the current menu and return to main menu.

❖❖ Screen

1) Getting Started
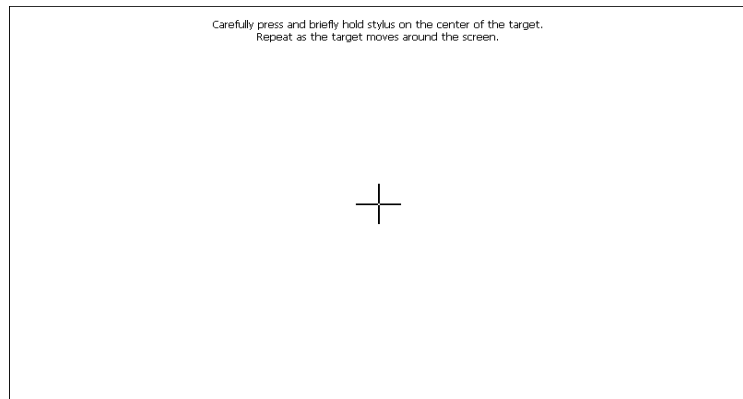
Launch this program by pressing the Screen icon on menu.

2) Configuration of Screen

1. Screen	**Start program:** Start program by choosing one of the icons. **Main Screen:** choose Basic screen or Customer screen for your main screen. **Screen saver:** select the clock as screen saver or turn off the screen saver function. **Clock:** you have 3 options and may select any of the icons for setting clock. **Calibration:** If you feel that the touch panel is not accurate, you can calibrate it with this application.
2. Close	Close the current menu and return to main menu.

[note]: Calibration: If you feel that the touch panel is not accurate, you can calibrate it with this application.

And you can touch any spots to return to the setting menu.

❖❖ **Brightness**

1) Getting Started

Launch this program by pressing the Brightness icon on menu.

2) Configuration of Screen

1. Backlight Control	You may adjust the display backlight level by pressing < or > button, including daytime settings and nighttime settings.
2. Close	Close the current menu and return to main menu.

❖❖ Option
1) Getting Started
Launch this program by pressing the Initial icon on menu.

2) Configuration of Screen
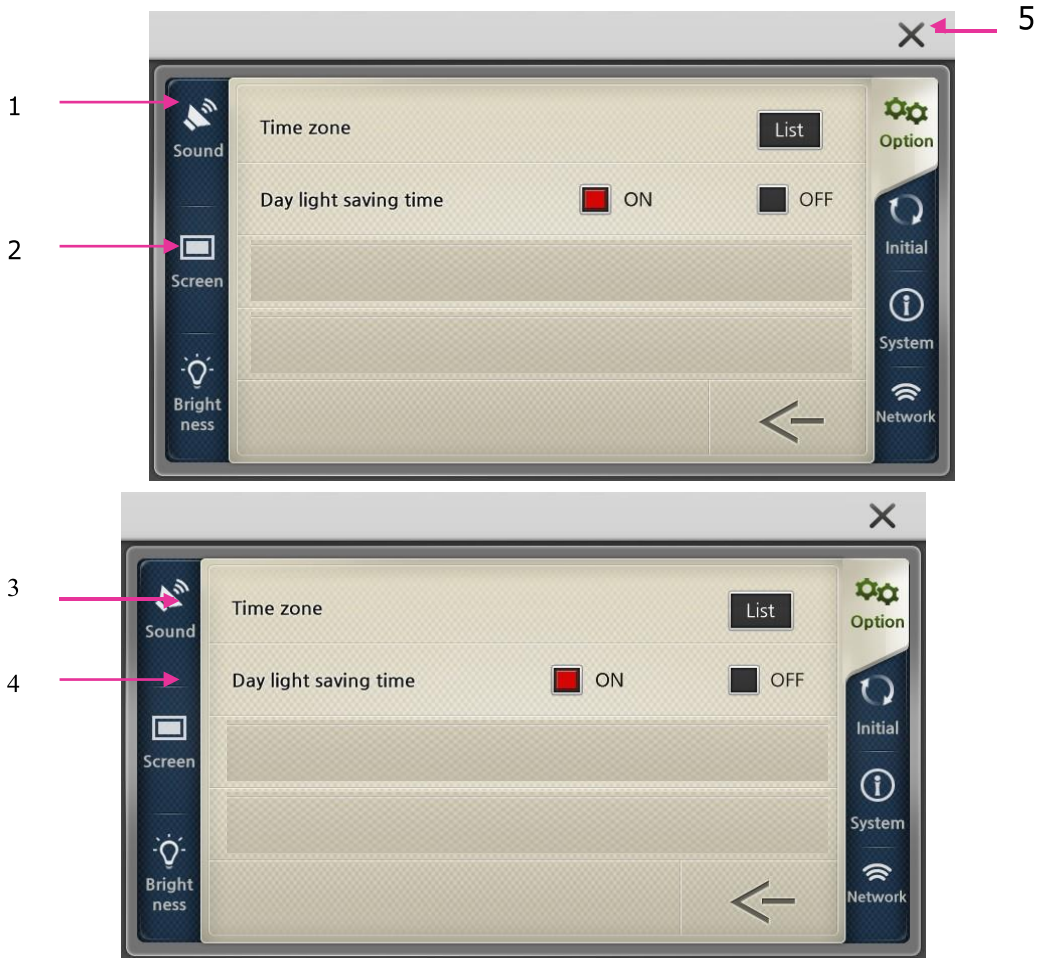
1	TV OUT	An icon to open TV out function.
2	AV-IN / Rear camera	An icon to open AV-IN and Rear camera functions.
3	Time zone	Customize your time zone.
4	Day light saving time	Customize your time zone.
5	Close	Close the current menu and return to main menu.

❖❖ Initial

1) Getting Started

Launch this program by pressing the Initial icon on menu.

2) Configuration of Screen
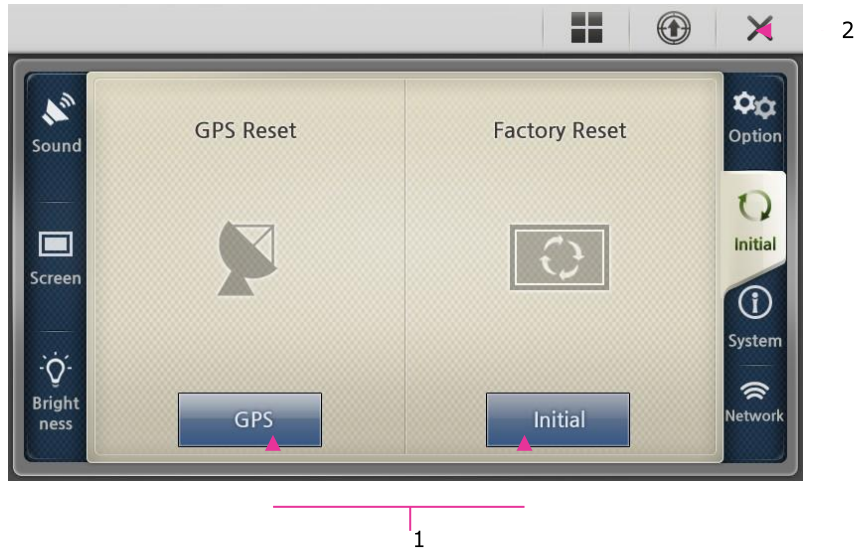
1. Initial Control	You may click the GPS button for GPS reset.
	You may click the Initial button for Factory reset.
2. Close	Close the current menu and return to main menu.

*[note]: GPS reset should be activated in the open sky after closing all programs. Wait for about 5minute and check the GPS signal reception in map.

❖❖ System
1) Getting Started

Launch this program by pressing the system icon on menu.
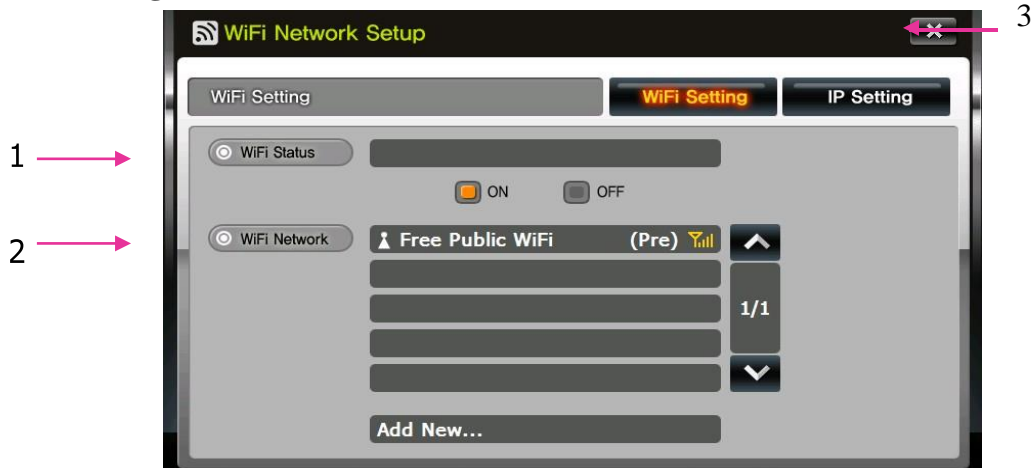
2) Configuration of Screen

1. System information	Shows system information, including model name and the version information on embedded applications.
2.Close	Close the current menu and return to main menu.

❖❖ Wi-Fi Network

If you click the Network icon on menu, you may see the images as below.

A. Wi-Fi Setting information.

3

1

2

1 Wi-Fi Status	Select Wi-Fi Status: ON, OFF (When it shows **"connected to***"**, you may access the internet.)
2 Wi-Fi Network	Wi-Fi will be automatically shows on the list.
3 Close	Return to Setup menu.

B. Shows IP Setting information.

4

1

2

3
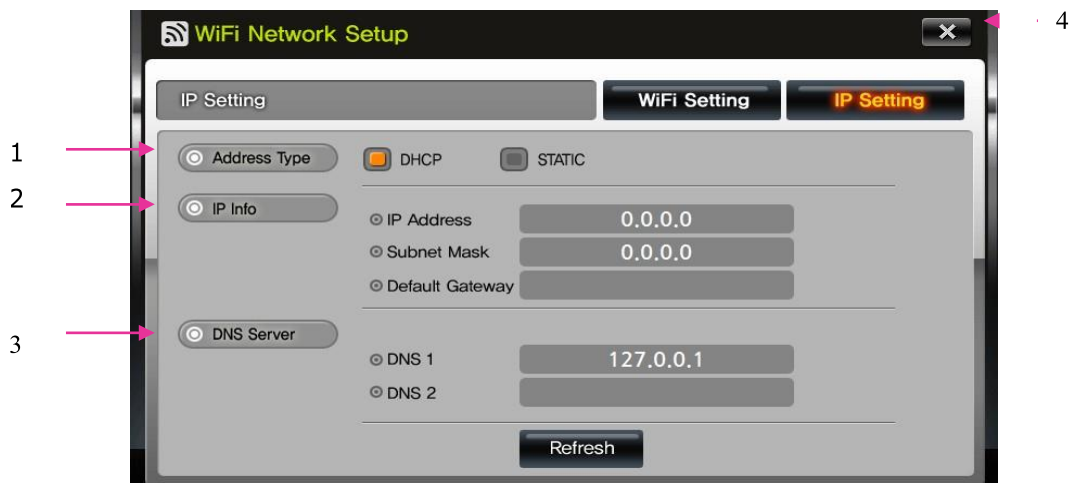
1. Address Type	Select Address Type: DHCP, STATIC
2. IP Info	Shows IP Address value, Subnet Mask value, Default Gateway value.
3. DNS Server	Shows DNS1, DNS2
4. Close	Return to Setup menu.

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3. Additional Functions

© ▢ Multi Tasking

Multi Tasking means that you can use several application programs simultaneously. For example, you can use Navigation and Music Player at the same time.

If you want Multi-Tasking for those two programs, launch one first. Then press the Menu Button on the front panel and return to the Main Menu. If you press another program's icon, it operates together with the previous program. On Screen you will see the Navigator program and sound comes from Music Player. When Navigation alerts / instructions come up the multimedia player sound is muted.

To change between the applications press the Menu Button and return to the Main Menu and then click the required program icon.

© ▢ Quick View Function

After power is detected to the device, even though the device is not booted if rear gear is set you can see rear view through rear camera.

© ▢ Screen Saver

The screen saver starts after 10 seconds of inaction. The Analog clock is displayed. Touch the screen to exit the screen saver.

## © ▢ Using the Remote Camera

1) Getting Started

Connect the rear camera cable between your Remote Camera and R-CAM jack.

Connect the remote camera power cable to your camera power source or camera power switch.

Our R-CAM auto detect type is an image detect. If power is on to the camera the iFly 740 pops up the remote camera image automatically.

[Note]: A R-Cam cable is supplied separately and only the following pin type jack can be supported
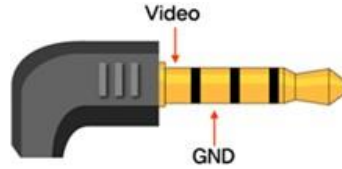
© □ **Using Remote Control (Optional)**

POWER	Turn on and off screen and sound.
MUTE	Mute sound
OK	Confirm
▲	Pan Up
▼	Pan Down
<	Pan Left
>	Pan Right
MAP	Map Mode
PLANE	Track Plane
INFO	Quick Info Popup
BRIGHT ▲	Maximize screen brightness
BRIGHT ▼	Minimize screen brightness
MENU	Return to main menu

4. Common Knowledge on GPS

© □ What is GPS?

GPS (Global Positioning System) is a system to provide services such as position, speed and time measurement using satellite that was developed by U.S. Department of Defense. There are 24 satellites available currently as a standard.


<24 satellites available>

GPS can perform accurate measurement of three dimensional position, altitude and time. It can provide service continuously for 24 hours, is strong against weather conditions, interference and obstruction, and has a feature to use global common coordinate system.

To know an exact position you can use a GPS receiver, and receive a signal simultaneously from at least 4 satellites.

GPS satellite C, Distance C, and positioning point

Intersection point of 3 sections, Principle of GPS positioning
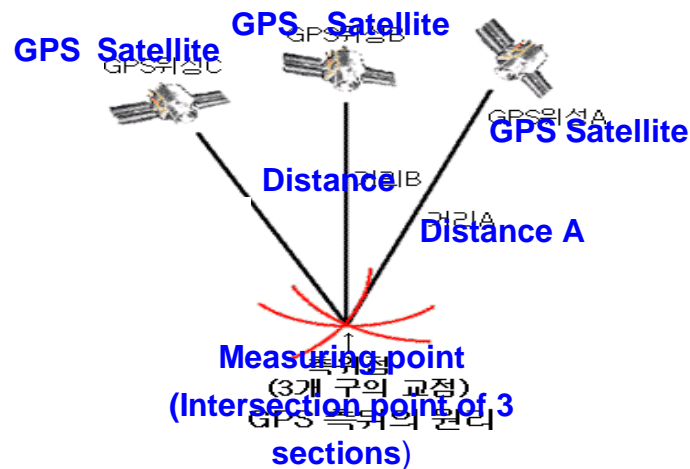
GPS is accompanied with about 5m~15m error even though SA does not activate during single positioning (absolute positioning, 1 point positioning) where position is measured by only one receiver, so the single positioning method is being utilized mainly for navigation such as vehicle, ship, aircraft, etc. or in GIS field where allowable error is relatively big rather than for measurement.

© □ Cause of Error Occurrence in GPS

Factors dropping accuracy in position measurement of GPS can be largely classified into 3 parts.

First, errors occurring due to structure factors include satellite time error, satellite position error, refraction in ionosphere and troposphere, noise, multi-path, etc.; secondly, there is geometrical error due to arrangement situation of satellite; and lastly, there is SA (Selective Availability) that is the biggest error factor.

Potential combination of all these factors brings about very big error result, which is called UERE (User Equivalent Range Error). Each error varies greatly depending on time and place.

Satellite time error	0-1.5	M
Satellite position error	1- 5	M
Refraction in ionosphere	0-30	M
Refraction in troposphere	0-30	M
Receiver noise	0-10	M
Multi-path	0-1	M
SA(Selective Availability)	0-70	M

In C/A code, horizontal error combined with all errors is 28m when SA does not activate and 100m when SA activates.

SA code means enlargement of error range so that Deviceed States may limit use by non-allowed GPS satellite users during military operation.

Basically, GPS is not much affected by weather. It cannot be said that there is no effect at all, but there is no absolute effect. Depending on situation, as sunspot activity of sun becomes active, if magnetic field change around earth becomes severe, GPS reception cannot be well performed.

© □ Cautions during Use of GPS

①　　　Do not dissemble, repair, or remodel it randomly.
②　　　Pay attention not to pour water or liquid.
③　　　Avoid use in environments with shock, high temperature, high humidity, etc.
④　　　Use it by avoiding the following conditions.

●● Tree foliage.
●● Next to tall buildings, beneath bridge, beneath elevated road.
●● Inside buildings, tunnels, aircraft, ships etc.
●● Beneath other objects blinding GPS antenna parts, etc.
●● When covered by the palm of a hand.
●● Do not put gold, metallic objects, or electric wave emitting objects around GPS. Do not leave GPS for long time where there is severely high or low temperature.

5 Support Guide

© □ Self Check List before contacting technical support

The following checklist will be helpful in solving problems encountered while using your navigation system. Before reviewing the following checklist, check the equipment connection and operation procedure.

Screen is blank.	◦ Verify if power is applied to the device.
Navigation does not start.	◦ Verify that SD card containing the navigation program is inserted fully.
GPS does not operate well.	◦ Verify that there is no equipment blocking to the GPS antenna. ◦ Verify that the vehicle has clear line of sight to the sky (it is not in an underground parking lot or inside tunnel).

<mark>If system still does not operate normality please contact a dealer or customer services.</mark>

© Cautions during Use

① Only use the power adaptor provided with this navigation system.
   If other adapters are used, there is a risk of system malfunction and fire.
② Be careful that no foreign materials enter your iFly 740, as this may seriously damage the internal parts.
③ Do not give severe shock to adaptor or dissemble it, as it may cause damage, explosion, or fire.
④ Do not use in a humid environment, nor submerge directly into water.
⑤ Do not disassemble the device.
⑥ Do not put this near magnets, including large speaker, as the Memory Contents may be erased or LCD screen may be damaged.
⑦ Back up important data at all times. Data may be damaged or deleted due to unscheduled reset.
⑧ Please store your stylus pen keep safely and keep out of reach of children, as this may cause serious injury.

© Product Specification

Division	Contents
CPU	Dual Core 2.12GHz
Power input	12V/24V 1.5A, Rebooting protection circuit
LCD	TFT Touch screen LCD, 24bit full color, 7" Landscape (16:9 Picture Ratio, 800*480 WVGA)
Display Brightness	1300 nits
SD/MMC	SD card 1 Slot (up to 32GB)
Audio	Headphone-Stereo output port 1 Speaker-1W (built in) 36π (Stereo) x 2
GPS	WAAS Enabled 24 Satellite Receiver
Weight	14.4 ounces
Dimension (LxWxH)	7.25 in x 4.5 in x .82 in
Temperature Range	-4°F to 176°F
Internal Battery	1650mAh Circuit Protected Li-Po Rechargeable.
Wireless Card	802.11 B /G / N