**Paraben's iRecovery Stick for APPLE™ iPHONE**

# Paraben's iRecovery Stick
v.5.6

# User Manual

**Paraben's iRecovery Stick for APPLE™ iPHONE**

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# About Paraben's iRecovery Stick

Welcome to Paraben's iRecovery Stick!

This tool allows you to recover data from a variety of iPhone/iPad/iPod Touch devices. Recovery of live data on the device as well as recovery of deleted data such as text messages is part of the many features of this tool. The iRecovery Stick will work either directly with the device via a cable connection through a computer or the processing of a backup file from the computer associated with the device.

All iPhone OS are supported including 1.x-11.

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# What's New?

- **iOS 11 Support:** Added support iOS 11. Must have the device password.

# Getting Started

## System Requirements

The following requirements must be met to use iRecovery Stick:

- iRecovery Stick requires a Windows Vista or newer 32 or 64-bit operating system.
- To use the Export to Microsoft Excel feature, Microsoft Excel must be installed on your computer and you must add the .Net Framework programming tools during the installation process.
- To use the Tracking History feature, Google Earth should be installed on the computer.

## How to Use iRecovery Stick

**To start using the iRecovery Stick**, do the following:

1. Disable anti-virus software on computer. Occasionally the anti-virus software on a computer can interfere with the recovery that is done by the iRecovery Stick. It is recommended that you disable this software.
2. Plug the iRecovery Stick into the USB port of your computer.
3. Open the USB drive when you are prompted by Windows.
4. Double-click the iRecoveryStick.exe file.
5. If drivers for iPhone/iPad/iPod Touch are not installed, the iRecoveryStick.exe file will initialize their installation. Follow the installation wizard if needed.
6. When installation is finished, remove the iRecovery Stick from USB port and restart the computer. This will ensure all drivers are installed properly and are ready for your recovery.
7. Ensure the anti-virus software is still disabled when the computer reboots so that it will not interfere with the recovery.
8. Plug the iRecovery Stick into the USB port of your computer.
9. Double-click the iRecoveryStick.exe file.
10. The iRecovery application main window will open.
11. You now can select your device or load a backup file for recovery using your iRecovery Stick.

# Application User Interface

## Understanding User Interface

The iRecovery Stick interface includes the following parts:
- o **The Main page**: This page contains information about iRecovery Stick and three buttons that let you open the existing workspace, start recovery process from the iPhone/iPad/iPod Touch device or iTunes backup files.
- o **The Data page**: On this page, the recovered data and other backup data received from the device is displayed.
- o **The Main menu**: The menu provides access to the main functionality of Paraben's iRecovery Stick.

## Main Page

The Main page of iRecovery Stick opens at the program start-up.

It contains the following elements:
- o A tool bar.
- o Short description of iRecovery Stick.
- o Three icons: Start Recovery, Open Workspace, and Start Import from iTunes Backup.
- o A link to the Data page if there is any data in the workspace.

From the Main page, you can do the following:
- o Start recovery process from the iPhone/iPad/iPod Touch device or iTunes backup files.
- o Define program options.
- o Open an existing workspace.
- o Move to the Data page.
- o Rename the currently opened workspace.
- o Export workspace data to Excel.

## Data Page

The Data page opens when data recovery process finishes. This screen will also open when you open a workspace or you click the Back to Data link on the Main page.

The Data page contains the following elements:
- o A list of data categories.
- o The Data pane in which data is displayed.
- o The name of the device from which data was recovered.
- o A Search field.

- o The Details pane, including the Properties tab, the Bookmarks tab, the Search Results tab, the Extended View tab, and the Acquisition Details tab.
- o A link to the Main page.

From the Data page, you can do the following:
- o View the recovered data.
- o View the properties of the device from which you recovered data.
- o Search text data in the workspace.
- o Create and access bookmarks.
- o Define program options.
- o Open an existing workspace.
- o Go to the Main page.
- o Save the open workspace using a different name.
- o Export workspace data to Excel.
- o Export location history.

# Main Menu

## File Menu

The File Menu contains basic file options for working with iRecovery Stick.

| Menu Item | Description |
|---|---|
| Open Workspace | Opens a saved workspace. |
| Save As | Saves the open workspace under a different name. |
| Start Recovery | Closes the open workspace and displays a screen from which you can select a device to scan. |
| Start Import | Starts the import of iPhone backup files. |
| Export to Microsoft Excel | Exports workspace content as an MS Excel (.xls) file. |
| Exit | Shuts the iRecovery Stick down. |

## View Menu

The View menu lets you display tools in the iRecovery Stick user interface.

| Menu Item | Description |
|---|---|
| Properties | Opens the Properties pane containing properties of the acquired device. |
| Bookmarks | Opens the Bookmarks pane containing created bookmarks. |
| Acquisition Details | Opens the Acquisition Details pane containing information on device acquisition. |
| Extended View | Opens the Extended View pane for viewing advanced information on recovered data and some application data (e-mails, etc.) |
| Search Results | Opens the Search results pane containing results of the recent search. |

## Tools Menu

The Tools menu lets you check for iRecovery Stick updates and define logging and folder options.

| Menu Item | Description |
|---|---|
| Options | Allows you to define logging options and the default folder for saved workspaces. |
| Validate Workspace | Runs a hash encryption algorithm on a workspace data to ensure the data has not been altered if the data is being used as evidence. |
| Check for Updates | Connects to the Paraben's site to download updates. |

## Help Menu

The Help menu gives access to this help file, information about the iRecovery Stick application, and displays registration data.

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| Menu Item | Description |
|-----------|-------------|
| Help | Opens iRecovery Stick user documentation. |
| About Qt | Provides data about the Qt tool, licensed for use in iRecovery Stick. |
| About | Displays the iRecovery Stick description and the version number. |

# Recovering Data

## About Data Recovery

iRecovery Stick allows you to recover data either from an iPhone/iPad/iPod Touch device or from an iPhone backup.

**CAUTION:** iRecovery Stick places recovered data in a temporary workspace that is automatically created in the workspace folder. The folder location is defined in the Options menu and has a *Workspace<number>.ds* name. When you close the workspace, you must save it or you will lose the data.

## Recovering Data from iPhone/iPad/iPod Touch Device

The iRecovery Stick acquires data and recovers the deleted data from iPhone/iPad/iPod Touch devices. This section explains how to recover data from your iPhone/iPad/iPod Touch.

Before the recovery process starts, do the following:
1. Turn on the device.
2. Ensure that the device battery is completely charged.
3. Ensure that the proper drivers are installed on your computer. Their installation is performed automatically at the first iRecovery Stick connection.
4. Connect the device to the computer with a data cable.
5. Ensure that the device is unlocked. Please, note, iPhone 5s and newer devices have a fingerprint protection.
6. If iTunes was installed you your computer before and you enabled the **Encrypt iPhone/iPad/iPod Touch backup** function for the device, you must set the Auto-lock option to never or remove the password or remove the encryption and make a new iTunes backup before starting the recovery.

**NOTE:** If you have iOS 7–10 and newer versions, when you connect iPhone/iPad/iPod Touch device to a new computer, you will be asked to confirm that you trust the connected computer. To start recovering data, tap Trust in the appeared message on the connected device.

**To recover data from the iPhone/iPad/iPod Touch:**

1. Do one of the following:
   - Click **Start Recovery** on the Main page.
   - Click **File** > **Start Recovery.**
   - Press **F5**.
2. Click the image of the device you want to scan. If multiple devices are connected to your computer, multiple images are displayed.
   **NOTE:** If your device does not appear in the list in several seconds after the connection, try to disconnect it and then connect back again. If you continue having problems, check your cable and make sure it is functioning properly.

3. Select one of the following acquisition options and click the corresponding button to start acquisition:

- **Acquire textual and multimedia data**: This type of acquisition allows acquiring graphics and multimedia along with the textual data.
- **Acquire all data including 3$^{rd}$ party Apps**: This type of acquisition takes longer. Acquired data will contain not only text data and multimedia, but a full list of applications installed on the device, the list of their permissions, and data from most popular applications (Skype, Facebook, etc.).

4. The acquisition and recovery process starts.
5. The details of the acquisition process are displayed in the **Data Acquisition** pane in the bottom of the screen.

# Recovering Data from iTunes Backup Files

The iRecovery Stick imports data from the iPhone backup files created by iTunes and recovers deleted data stored in them. If the iTunes backup files are encrypted (password protected), the password must be removed and a new backup created before recovery.
**To generate the backup file in iTunes**

- Right-click your iPhone device in iTunes under Devices and select **Back Up.**

The default location for iTunes backup files is the as follows:

- **Windows XP**: C:\Documents and Settings\USERNAME\Application Data\Apple Computer\MobileSync\Backup\<sequence of numbers and letters>\Manifest.plist
- **Windows Vista/7/8/8.1/10**: C:\Users\USERNAME\AppData\Roaming\Apple Computer\MobileSync\Backup\<sequence of numbers and letters>\Manifest.plist

**To import the iTunes backup file into iRecovery Stick:**
1. Do one of the following:
   - Click **File** > **Start Import**.
   - On the **Main** page, click the **Start Import from iTunes Backup** icon.
2. Navigate to the **Manifest.plist** file, and then click **Open**.
3. If the backup is encrypted, remove the password and make a new backup. Note: Encrypted backups cannot be read without the password.
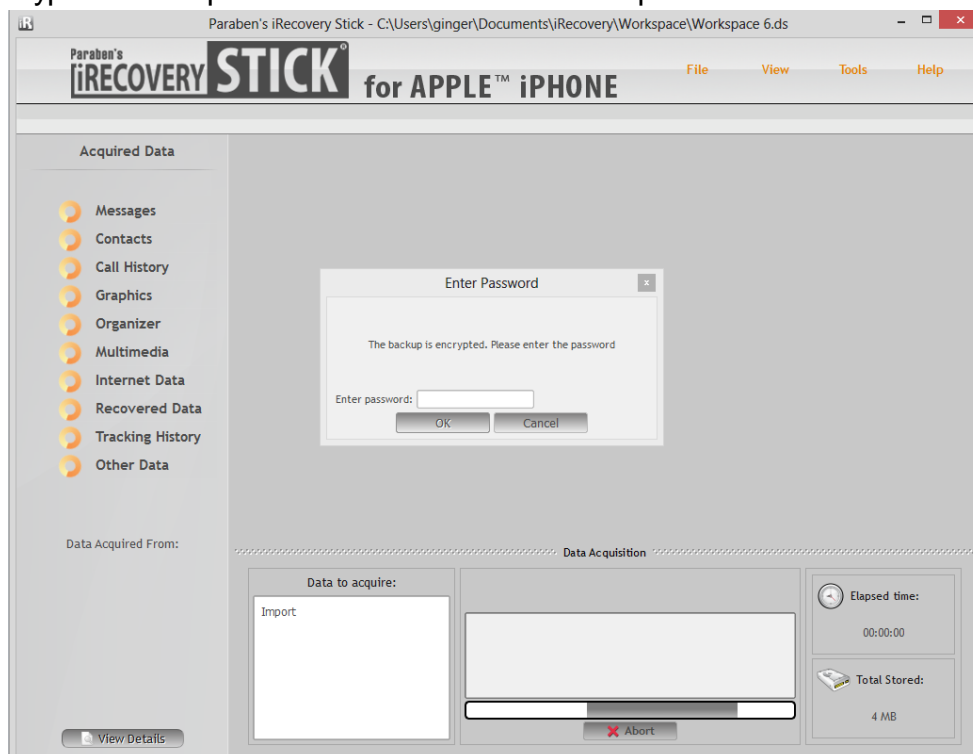
# Working with Workspaces

## About Workspaces

A workspace is a file with a **.ds** extension that contains information recovered from a single iPhone device.

## Creating New Workspace

When you start data recovery, iRecovery Stick creates a new temporary workspace. The workspace is named *Workspace<number>.ds*. By default, the workspace is saved in the current Windows user folder. The workspace is also updated after you create a bookmark. You can change the default location where a workspace is saved, and you can use the **Save As** function to relocate and rename a saved workspace.

**To create a workspace:**
1. Start the data recovery process. See [Recovering Data from iPhone](#).
2. Click **File** > **Save As**, then click **Save**.

**To define the default workspace folder:**
1. Click **Tools** > **Options**, then type a new name and browse to the folder you want to use.
2. Click **Save**.

**To change the name of a workspace:**
1. Open the workspace that you want to change.
2. Click **File** > **Save As**.
3. Browse to the location where you want to save the workspace, and then type a new name.

## Opening Existing Workspace

Workspaces created by iRecovery Stick (*.ds files) can be opened from the user interface.
1. **To open an existing workspace**, do one of the following:
   o On the **Main** page, click the **Open Workspace** button.
   o In the **File** menu, select the **Open Workspace** item.
   o Press **Ctrl+O**.

When you open a new workspace, the currently open workspace closes. Unsaved information is lost.

# Validating Workspace

Through data validation you can check if the workspace data has been altered. This is valuable if the data you have collected will be used in court as evidence.

**To validate a workspace**:

1. Open an existing workspace with acquired data.
2. In the main menu, select **Tools > Validate Workspace** or press **CTRL+L**.
3. The data validation process starts.
4. When the validation process finishes, you will see the message with validation results.

# Closing Workspace

The workspace closes when any other workspace opens or iRecovery Stick shuts down.

# Viewing iPhone Data

The iRecovery Stick receives two types of data from the iPhone device or iPhone backup:

- Recovered deleted data.
- Other backup data.

# Recovered Deleted Data

iRecovery Stick recovers the following types of data:

- Contacts properties

- Notes

- Call History records

- Contacts

- Safari Bookmarks

- Calendar records

- Cell Locations

- SMS

- iMessages

- Network connections (for iOS 4.x)

**To view the recovered data**, select the **Recovered Data** category.
The recovered data is parsed and displayed in grids.
There is a separate tab for each category of the recovered data.
The number of columns for each category depends on the category type.

You can click **[BINARY DATA]** in the **Raw Data** column to view record contents in not parsed format in the File viewer to the right of the Data pane.

If you want to view the data in another language, you may do so by selecting the code page after you open the record. There is an option in the drop down menu to select the different encoding options.

**To close the File viewer for the record**, click **Close**.

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## Other Data

Other data received from the iPhone backup includes the following parts:

- o **Device properties:** The properties of the iPhone from which data was recovered are displayed in the **Properties** tab of the Details pane. Click **View Details** to open the details pane.
- o **Data categories:** To the left of the Data page, the categories of the backup data are displayed. Click the category name to view its content.
- o **Backup data:** Acquired backup data is displayed in the right part of the Data page. Data representation depends on its format.

Text data includes the following categories:
- o **Contacts**: The device phonebook.
- o **Messages**: The device SMS messages.
- o **Call History**: The device call logs.
- o **Organizer**: The device calendar, memos, and so on.
- o **Internet Data**: Includes Safari suspend state, Safari Bookmarks, Safari History, Cookies, Delivery Accounts, Mail Accounts, and YouTube bookmarks.
- o **Other Data**: This data includes Properties, Maps Directions, Maps Bookmarks, Maps History, and Dynamic Text.

Data from each category is displayed in a grid to the right of the Data page. There can be several tabs in the grid if data contains sub-categories, such as Calendar and Notes for the Organizer.

Multimedia data includes **Graphics** and **Multimedia** category.

This data is displayed as thumbnails. You can click a file to view it in a larger view. The image opens in the same pane. If necessary (for larger images), it scales to fit the window size. To return to thumbnails, click the scaled image.

You can also use external viewers to view multimedia data. **To open the image in the external viewer**, right-click the image and select **Open with**.
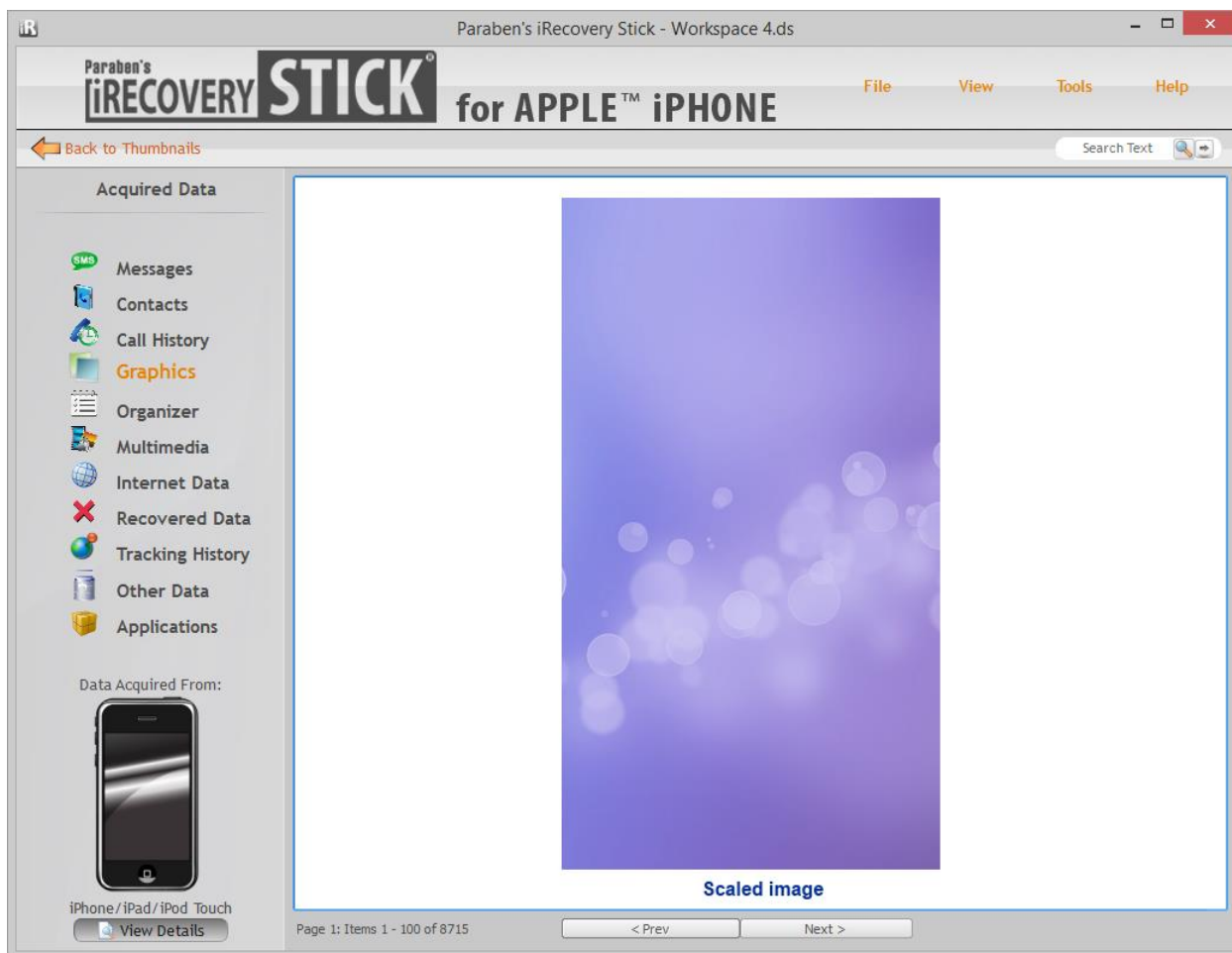
**Tracking History** category includes information on geographical location of the iPhone user. It contains longitude and latitude coordinates along with a timestamp and is displayed in the Google Earth viewer. The location history information is determined by the cell-tower triangulation.

**NOTE:** To view the location history, you should download and install the Google Earth Viewer.

Tracking history is available for iPhone OS version 4.0 to 4.3.3.

**Application data** includes a full list of installed applications, parsed application data for the most popular applications, and the permission list, which includes the full list of permissions an application has and the application suspicion rate basing on its permissions. Data is displayed in three tabs: the first tab displays application permissions, the second tab includes the list of all installed applications, and the third tab displays the parsed application data in the tree-view structure.

Application data for the following applications are currently parsed: Whisper, WhatsApp, Jott Messenger, KIK, LinkedIn, Gmail, Google Maps, Evernote, Mail.ru, TextFree, TextPlus, Vkontakte, Facebook, Facebook Messenger, Skype, Twitter, Chrome, VoiceMail. Dozens of file hiding apps are also supported. These apps are designed to hide photos and files behind a PIN or password. For most of these apps, the iRecovery Stick can display the hidden files. Some apps actually encrypt the files so the iRecovery Stick can only show that there are files and will allow you to export them but cannot open them.

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# Searching Data

The iRecovery Stick allows you to search for text data in a workspace.

**To search text data:**
1. On the **Data** page, in the **Search Text** field (in the upper right corner of the page); type the search text you would like to find.
2. Click **Search** or press **Enter.**
3. The search progress is displayed in the **Search Results** tab of the **Details** pane. Click **Abort** to stop the search.
4. When the search finishes, the search results are displayed in the **Search Results** tab of the **Details** pane. Each result is displayed as <Category name>\<Sub-category (tab) name>.
5. Double-click the search result to navigate to it.



When searching, you can use the **Search Word List** option that allows you to load the search expression for a Boolean text search from a file. To create a search words list, create the text file (*.txt). Use the new line for **OR** logic. Words in one line are interpreted with **AND** logic.

**To use the Load Words option:**

1. On the **Data page**, in the **Search** field, click the arrow sign and select **Search Word List**.
2. In the opened window, click **Browse** and navigate to the text file with search expressions.
3. Click **Start Search**.
4. Data will be found according to the defined search expression.

For example:

| Expression in the table | Found result | Not found |
|---|---|---|
| White cat<br>Black<br>Dog | White cat and dog<br>Black dog<br>White cat and black dog | White snow<br>Gray cat |
| White Cat with dog<br>Black | White cat with dog<br>Black cat | Gray cat with dog<br>White cat |

# Exporting Data

## Exporting Data to MS Excel

You can export data from the workspace as a Microsoft Excel workbook (.xls file). You must have Microsoft Excel installed to be able to use this feature.

**To export data:**
1. Click **File** > **Export to Microsoft Excel**.
2. Click **Browse** to navigate to the destination folder and name the exported file.
3. Check **Open file after generation** to open the exported file.
4. Click **Export**.

# Bookmarks

A Bookmark is a pointer to particular areas of interest in the workspace.

Bookmarks include the following information:
- o Item (the name of the first cell of the row to which the bookmark is pointing)
- o Name (the name of the bookmark)
- o Details (the description of the bookmark)

## Accessing Bookmarks

Bookmarks are displayed in the **Bookmarks** tab of the **Details** pane.

**To view bookmarks**:
1. Do one of the following:
   - o Click **View** > **Bookmarks**.
   - o On the Data page, click **View Details** (in the bottom left corner).
2. To view the data, to which bookmark is pointing, double-click the bookmark.

## Adding Bookmarks

**To add a bookmark:**
1. Select data to be bookmarked (it can be either a cell of the grid or a row).
2. Right-click the item and select **Add to Bookmarks.**
3. Type a name and a description for the bookmark, and then click **Save**.

## Editing Bookmarks

**To edit a bookmark:**
1. Open the **Bookmarks** tab of the **Details** pane.
2. Right-click the bookmark and click **Edit,** or, from the menu, click **Manage** > **Edit.**
3. Edit the bookmark name and description, and then click **Save**.

## Deleting Bookmarks

**To delete a bookmark:**
1. Open the **Bookmarks** tab of the **Details** pane.
2. Highlight the bookmark to delete.
3. Right-click the bookmark and select **Delete,** or, from the menu, click **Manage** > **Delete**.
4. Select **Delete All** to delete all bookmarks.

# Troubleshooting

The following section provides answers for some common issues that you may encounter when using iRecovery Stick.

Most issues you will run into are due to phone PINs or phone encryption (iTunes backup passwords). If your phone has a PIN, you can remove the PIN or set the phone screen to never turn off (see the first troubleshooting solution below). If your phone is encrypted (i.e. you set a password on the iTunes backup file), you must remove the password and create a non-password protected backup before performing a recovery.

Another option for recovery is processing the iTunes backup file. Most backups are not password protected and will process without error. If there is a password, for iOS 10 and below, you can enter the password and the recovery will process without error.

**Problem**:
The recovery failed and I get the following message: "Please remove the device password or set the Auto-lock option in device settings to Never"

**Solution 1 – Set Auto-lock to Never**:
If the device has a PIN, you must either remove the PIN temporarily or you must set the screen to never turn off. To set the screen to never turn off, follow these instructions before performing a recovery:

## 1. Go to Settings/Display & Brightness



## 2. Slide the Auto-Brightness all the way to the left to preserve battery life during the recovery and then click

## Auto-Lock

**●●○○○ AT&T 🛜          11:02 AM          ⁎ ▬**

**❮ Settings   Display & Brightness**

BRIGHTNESS

☀ ⚪ ───────────── ☀

Auto-Brightness                          🟢

Night Shift                          Off ❯

Auto-Lock                          Never ❯

## 3. Check "Never"

**●●○○○ AT&T 🛜          11:48 AM          ⁎ ▬**

**❮ Display & Brightness Auto-Lock**

30 Seconds

1 Minute

2 Minutes

3 Minutes

4 Minutes

5 Minutes
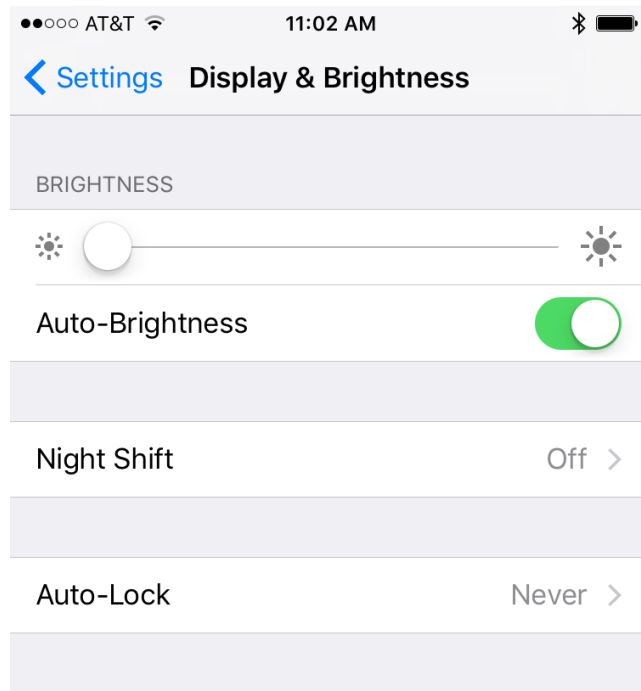
Never                          ✓
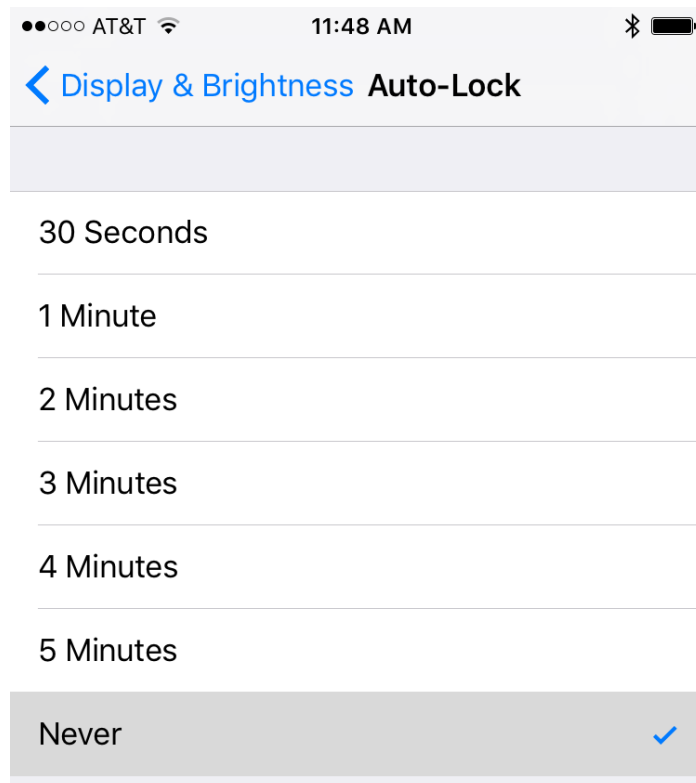
**Click on Display & Brightness at the top of the screen to save the setting.**

**Solution 2 – Remove the PIN**:

If you would rather just remove the PIN, you can go to Settings/Touch ID & Passcode (you will be asked to enter the current PIN) and tap the Turn Passcode Off option. Tap Turn Off and re-enter your PIN.

**Solution 3 – Remove iTunes Password (Encryption)**:
The recovery may fail because you or somebody else has enabled backup encryption of the device through iTunes. To complete a recovery, you must turn off encryption and create a new backup file.

**To turn off the Encrypt iPhone Backup function**, do the following:
1. Open the **iTunes** application.
2. Select the connected device in the **iTunes** application.
3. The device menu opens.
4. Click the **Summary** tab.
5. In the **Backups** section, clear the **Encrypt iPhone backup** checkbox.
6. Click **Done**.
7. Create a new backup.

**Problem**:
**The iPhone hung. What do I do?**

**Solution**:
Reset the iPhone by holding the sleep/wake button at the top right of the device and the home button at the bottom center of the face at the same time. This will not remove any data from the device, but will allow the device to be restarted and not be hung anymore.



**Problem:**
The iPhone doesn't connect to the computer. What should I do?

**Solution:** Please try one of the following:

- The iPhone battery might need to be recharged. Make sure it is charged at least 50% before starting your recovery.
- Change USB ports on the computer. If the device was plugged into one part, move it to a different port on the computer and retry the process.
- Power the iPhone off and power it back on again and reconnect the device to the computer.
- Press and hold the Sleep/Wake button on the top of the iPhone for a few seconds until a red slider appears, and then slide the slider. Then press and hold the Sleep/Wake button until the Apple logo appears.



- Unplug the device, and restart the computer and repeat all the above steps including driver installation.
- Download and install (or reinstall) the latest version of iTunes from www.apple.com/itunes.

**Problem:**
I cannot acquire data from the device, the process fails on start. What do I do?

**Solution:** You need to uninstall the Apple software components and then reinstall the iRecovery Driver Pack. Follow the Apple support instruction

([http://support.apple.com/kb/ht1923](http://support.apple.com/kb/ht1923)) to properly uninstall Apple software components. After this, uninstall the Driver Pack and install it again.

**Problem:** When I launch the stick, all functions are disabled and a message appears asking me to activate the program, although the stick worked fine before. What happened?

**Solution:** Most probably you have renamed the stick drive. In this case, you need to rename the stick back to iRecovery.

# Creating Log Files

iRecovery Stick has three options for logging support built right in:

- The **Plug-in Log** option creates a text file log of the recovery based on the plug-in activity.
- The **Serial Log** option logs all traffic across the communication port.
- The **GUI Log** option logs all events that happened in the iRecovery Stick interface during one program session.

Logs contain useful information for resolving issues and adding support for new models. The GUI Log is created automatically and rewritten each time when iRecovery Stick is restarted. The Plug-in Log and the Serial Log are optional. The best practice is to leave these logging options turned off unless you encounter a problem. Then enable both logging options and duplicate the problem. These logs may be needed if you call tech support to assist you.

**To enable the Plug-in Log and the Serial Log creating:**
1. Click **Tools** > **Options**.
2. Check **Serial Logs**, **Plugin Logs**, or both.
3. Click **Save**.

**NOTE:** All logs are created in the user folder (by default, **C:\Documents and Settings\{user name}\logs** in Windows XP and **C:\Users\Default\AppData\Local\Temp\logs** in Windows 7). The Plug-in Log and the Serial Log are overwritten when a new recovery process is performed using the same plug-in.

# iRecovery Stick Options

**To define iRecovery Stick options**, select **Tools-Options**.

iRecovery Stick options are the following:

- o **Logs:** You can define what logs will be created during the recovery process. The **Plug-in logs** option creates a text file log of the recovery process based on the plug-in activity and the **Serial logs** option logs all traffic across the communication port. If you have any problems with iRecovery Stick, send the logs to Paraben. The logs destination path is displayed below the logs checkboxes in the Options window.

- o **Default Workspace Folder**: When recovery process starts, a new workspace is automatically created in the default workspace folder. When you close such a workspace, you are proposed to save it under other name. If you do not want to save the workspace, click **No** and the workspace will be deleted. Make sure that there is enough space on the disk, on which the default workspace folder is stored.

# Additional Information

Paraben Consumer Software offers a variety of tools for investigations. These tools include Phone Recovery Stick for Android devices, Data Recovery Stick for deleted data recovery of a computer, Chat Stick for review and recovery of instant messaging data, and the Porn Detection Stick for the recovery and detection of illicit materials.

For any details on any of these products, please visit us at www.paraben-consumer.com