

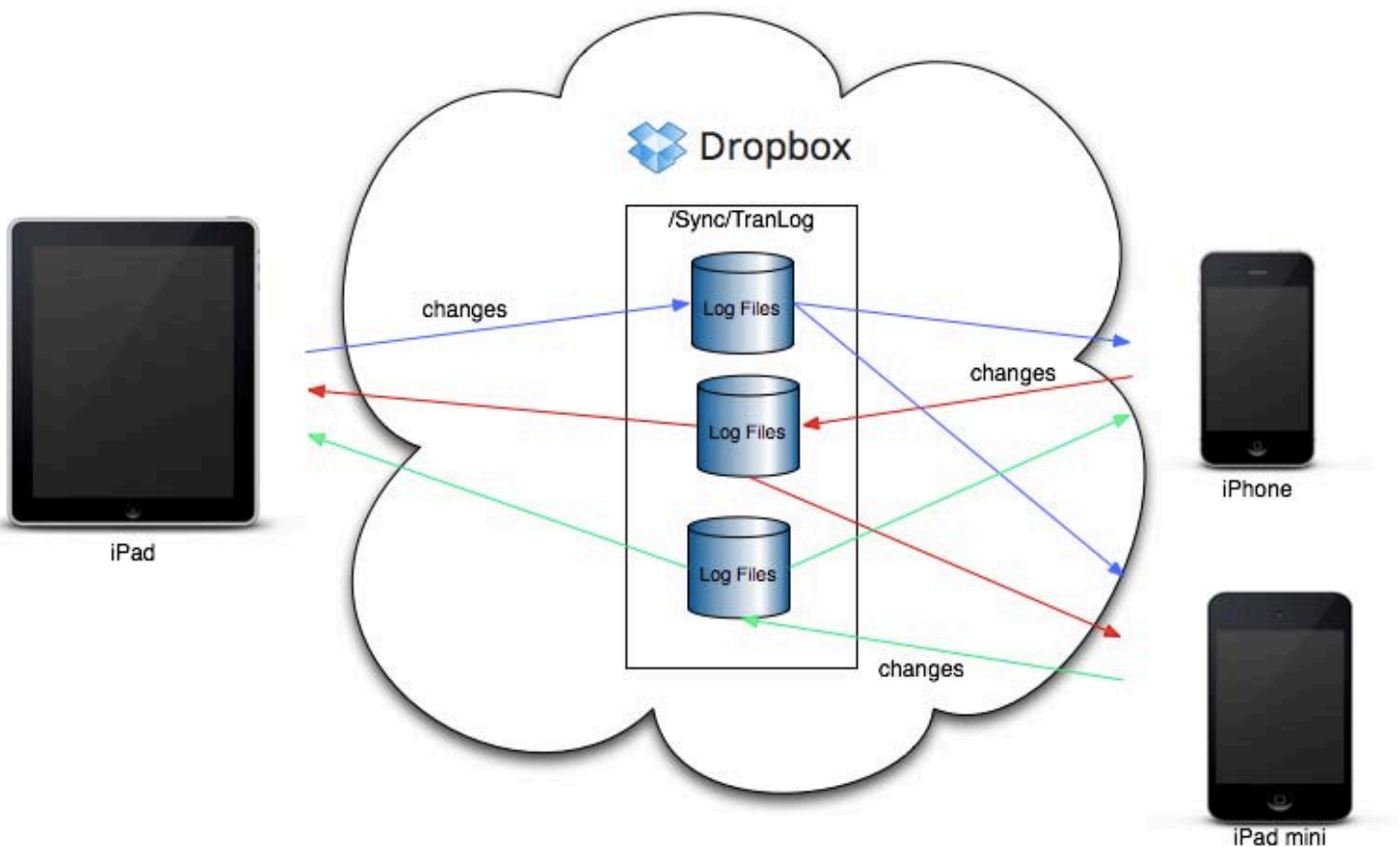
## SYNCHRONISATION

**Bookkeeping4 Pro Edition Only**

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## SYNCHRONISATION OVERVIEW

Bookkeeping4 Pro edition includes the capability to use a Dropbox account for synchronisation of book changes between iOS devices.



This facility allows you to make changes on one device and have those changes automatically applied to other iOS devices. You can, for example, enter some information into your iPad and via the synchronisation facility those changes will be applied to your iPhone.

You can choose whether synchronisation occurs across the Cell/Mobile network (off by default) or only when the device has Wi-Fi connectivity (on by default).

Each change that you make in Bookkeeping is written to a transaction log file. These transaction log files are sent to your Dropbox account where they become available for all other devices to access. The program will attempt to send any new transaction log files to Dropbox every 10 seconds so that they are available to other devices as soon as possible. If there are no new transaction log files then nothing occurs and no network activity occurs.

Bookkeeping4 Pro can either fetch new transaction logs for other devices automatically every 5 minutes (on by default), or only manually when you press the "Sync Now" button on the toolbar (off by default).

If you wish to fetch any new transaction log files immediately then you can press the "Sync Now" button at any time to initiate synchronisation with Dropbox.

By using Dropbox instead of a third party proprietary server for synchronisation you remain in control of your data. Only people with access to your Dropbox folder can access the transaction logs generated by Bookkeeping4 Pro edition. At no time do we have access to your synchronisation data.

You can even synchronise between devices using multiple Dropbox accounts using the Dropbox shared folders capability. Just create the synchronisation folder in one Dropbox account (by default this is /Bookkeeping4/Sync). Then share this folder with other Dropbox accounts that you wish to also use for synchronising Bookkeeping4 Pro edition. If you really want you can have a different Dropbox account for each device, however this is not usually necessary.

With the Dropbox synchronisation facility you do not pay us ongoing monthly fees for synchronisation. At the time of writing Dropbox still offers a free 2GB account that can be used for synchronisation.

### **Not just Synchronisation, it's also incremental backups**

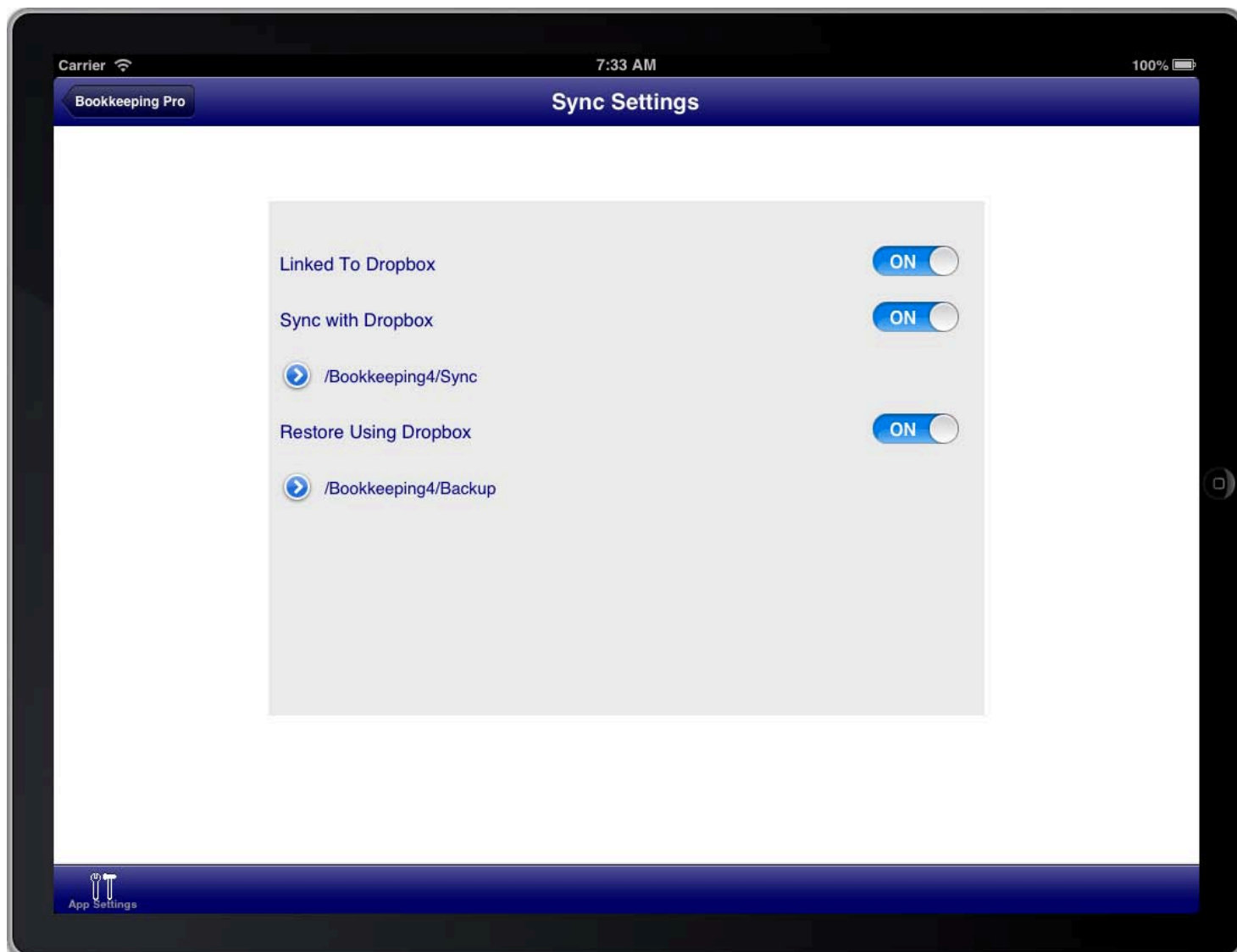
Even if you only have one device you can still gain the benefit of incremental backups using the synchronisation facility. Each change you make in Bookkeeping will be written to a transaction log and synchronised with your Dropbox account. If your device is lost, damaged, or wiped for some reason (or you delete the Bookkeeping program from the device), then you can replay the transaction logs from Dropbox onto your device to recover all of the information you have entered.

You should still make regular full backups using the backup facility in Bookkeeping (these can be sent to Dropbox as well). However at least you will have peace of mind knowing that all changes since your last backup are safe on Dropbox too.

## SETUP SYNCHRONISATION

If you are going to synchronise your books between devices, or use the synchronisation facility for automatic incremental backups, then the easiest approach is to set up synchronisation before you start.

Press the 'Sync Settings' button to access the settings for synchronisation.



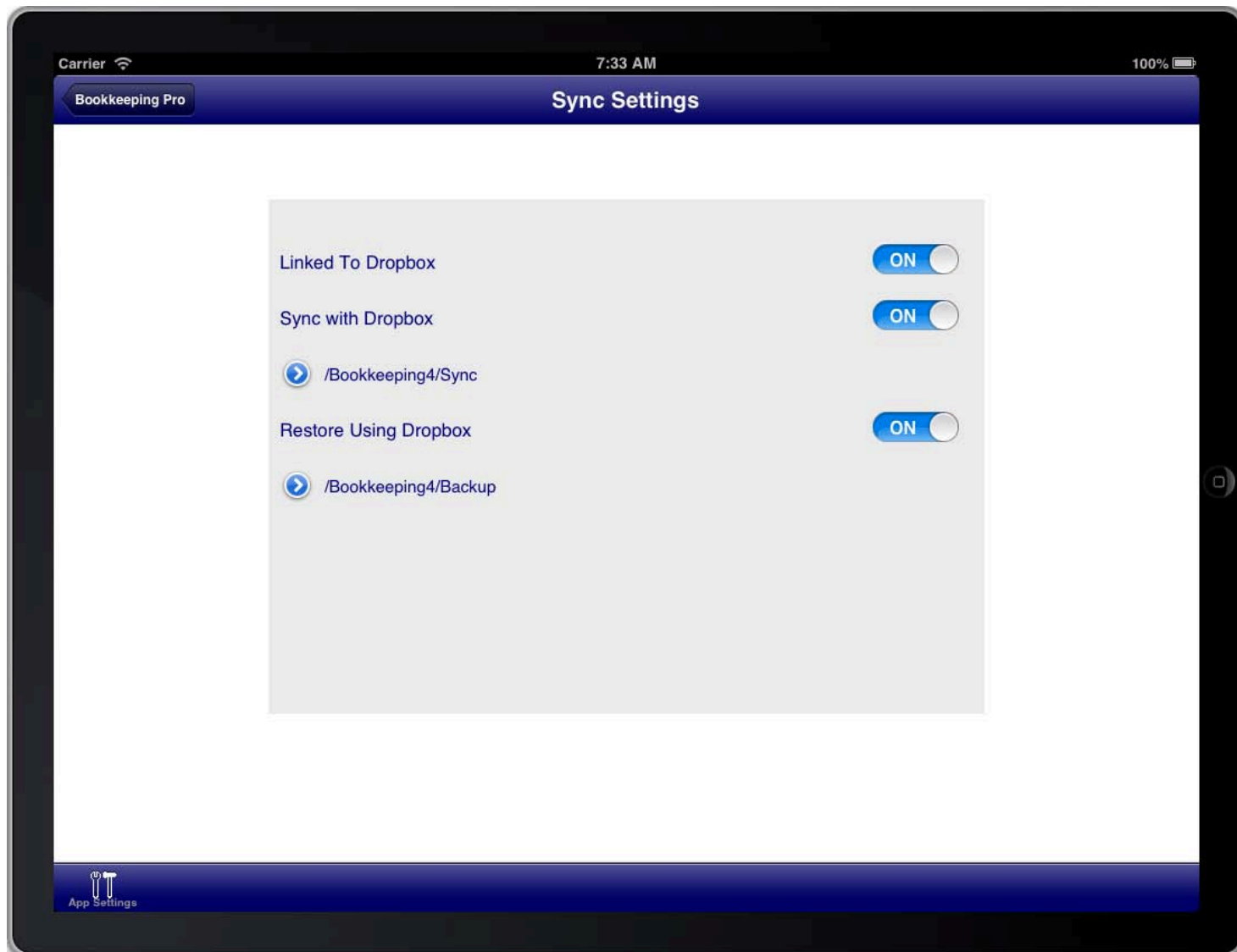
SCREEN: SYNC SETTINGS

Perform the following steps:

1. Link To Dropbox
2. Turn the 'Sync with Dropbox' switch ON
3. Optionally turn the 'Restore Using Dropbox' switch ON

**Do not change the sync path unless absolutely necessary. Changing the sync path can require that you reset all synchronisation and database settings to get synchronisation working again.**

## CHANGING THE SYNCHRONISATION FOLDER



SCREEN: SYNC SETTINGS

**Do not change the sync path unless absolutely necessary. Changing the sync path can require that you reset all synchronisation and database settings to get synchronisation working again.**

Changing the synchronisation folder is not a simple task and should only be done if absolutely necessary.

Dropbox account replication is used to replicate a copy of a subset of the changes to files in your Dropbox account to the local device. The Dropbox delta process is used to avoid the time consuming, and data intensive, task of scanning the entire Dropbox account for changes. The delta process keeps a cursor on the local device that indicates which changes have been replicated from Dropbox to the local device. When the next inbound synchronisation event occurs the cursor is used to determine if any further changes to files have occurred since the last inbound synchronisation. At the end of the inbound synchronisation event the cursor on the local device is updated to ensure that the next time an inbound sync occurs it only looks for newer changes than those already processed. Each inbound synchronisation event uses the list of changes to find any changes in the sync folder, and sub folders, and applies those changes to the local device. Any changes made in other folders in your Dropbox account are ignored. This process ensures that after an inbound synchronisation the local folders are the same as the sync folder on Dropbox.

If you change the synchronisation folder then all inbound synchronisation activities that have occurred up until that point for that device become invalid. This is because the new synchronisation folder would have been ignored

in all prior inbound synchronisation events to save bandwidth and time.

**It is therefore necessary to reset the inbound synchronisation on the device if the synchronisation folder is changed.**

However there is more that is required because the synchronisation folder contains a record of every change made to the database on each device. If the synchronisation folder is changed after changes have been replicated to a different folder on Dropbox then the Dropbox sync folder and the actual changes to the database on each device no longer match.

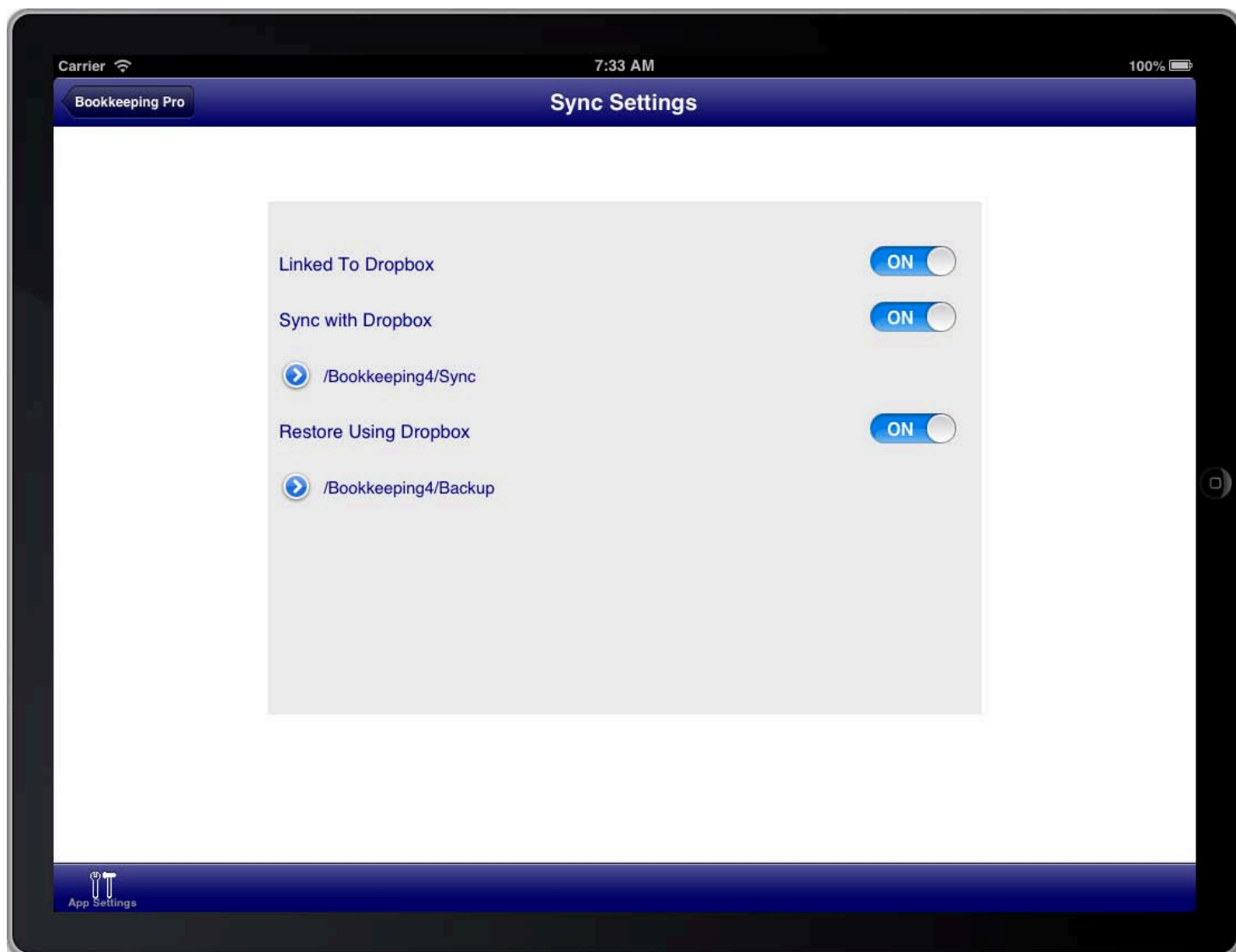
**Therefore it is also necessary to move all synchronisation files on Dropbox from the old sync folder to the new sync folder before resetting the inbound synchronisation on the devices.**

The recommended procedure for changing the synchronisation folder on all devices is as follows:

1. Take a full backup of each book on one of the devices that is up to date and store the backup in a safe place that is not on the device itself.
2. Return to the books list screen on all devices.
3. Press the "Sync Now" button on each device to ensure that synchronisation to Dropbox has completed; so that Dropbox contains a complete record of all changes on all devices
4. Change the synchronisation folder on all devices to the same matching folder.  
**You will need to create the new folder on Dropbox first**
5. Using the Dropbox app, or the Dropbox website, move the transaction logs from the old sync folder to the new sync folder
6. On each device open the App Settings screen on Bookkeeping, select Advanced, turn ON "Reset Inbound Sync", turn ON "Close Program"
7. Open Bookkeeping on each device, open the Sync Settings screen on Bookkeeping, turn ON "Sync with Dropbox", press the "Sync Now" button
8. Ensure that all Synchronisation activity has completed by pressing the "Sync Now" button again.

**Be aware that resetting the inbound sync will result in all of the transaction log files being downloaded from Dropbox again to each device. Therefore it is highly recommended that you perform this process using a WiFi connection.**

## RESETTING SYNCHRONISATION



### SCREEN: SYNC SETTINGS

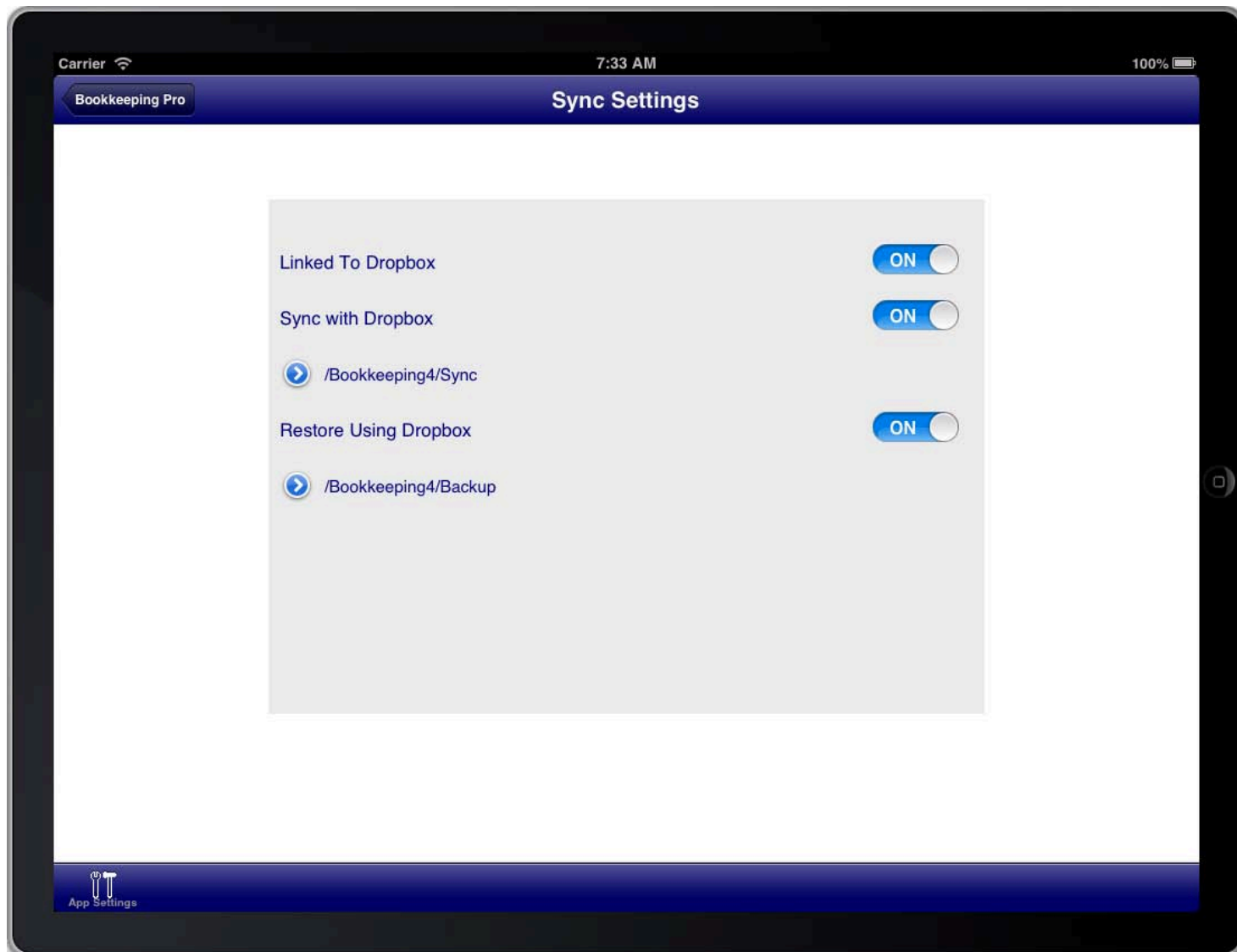
If you wish to completely reset synchronisation on a device and synchronise it again completely from the Dropbox transaction logs then do the following:

1. Take a full backup of each book on the device and store the backup in a safe place that is not on the device itself.
2. Return to the books list screen on the device.
3. Press the "Sync Now" button on the device to ensure that synchronisation to Dropbox has completed; so that Dropbox contains a complete record of all changes on the device.
4. On each device open the App Settings screen on Bookkeeping, select Advanced, turn ON "Reset Outbound Sync", turn ON "Reset Database", turn ON "Reset Inbound Sync", turn ON "Close Program"
5. Open Bookkeeping on the device, open the Sync Settings screen on Bookkeeping, turn ON "Sync with Dropbox", press the "Sync Now" button
6. Ensure that all Synchronisation activity has completed by pressing the "Sync Now" button again.

**Be aware that resetting synchronisation will result in the Bookkeeping database being wiped clean, so it is very important to have a backup of each book in a safe place.**

**Be aware that resetting synchronisation will result in all of the transaction log files being downloaded from Dropbox again to the device. Therefore it is highly recommended that you perform this process using a WiFi connection.**

## RESETTING THE DATABASE FROM THE DROPBOX TRANSACTION LOGS



SCREEN: SYNC SETTINGS

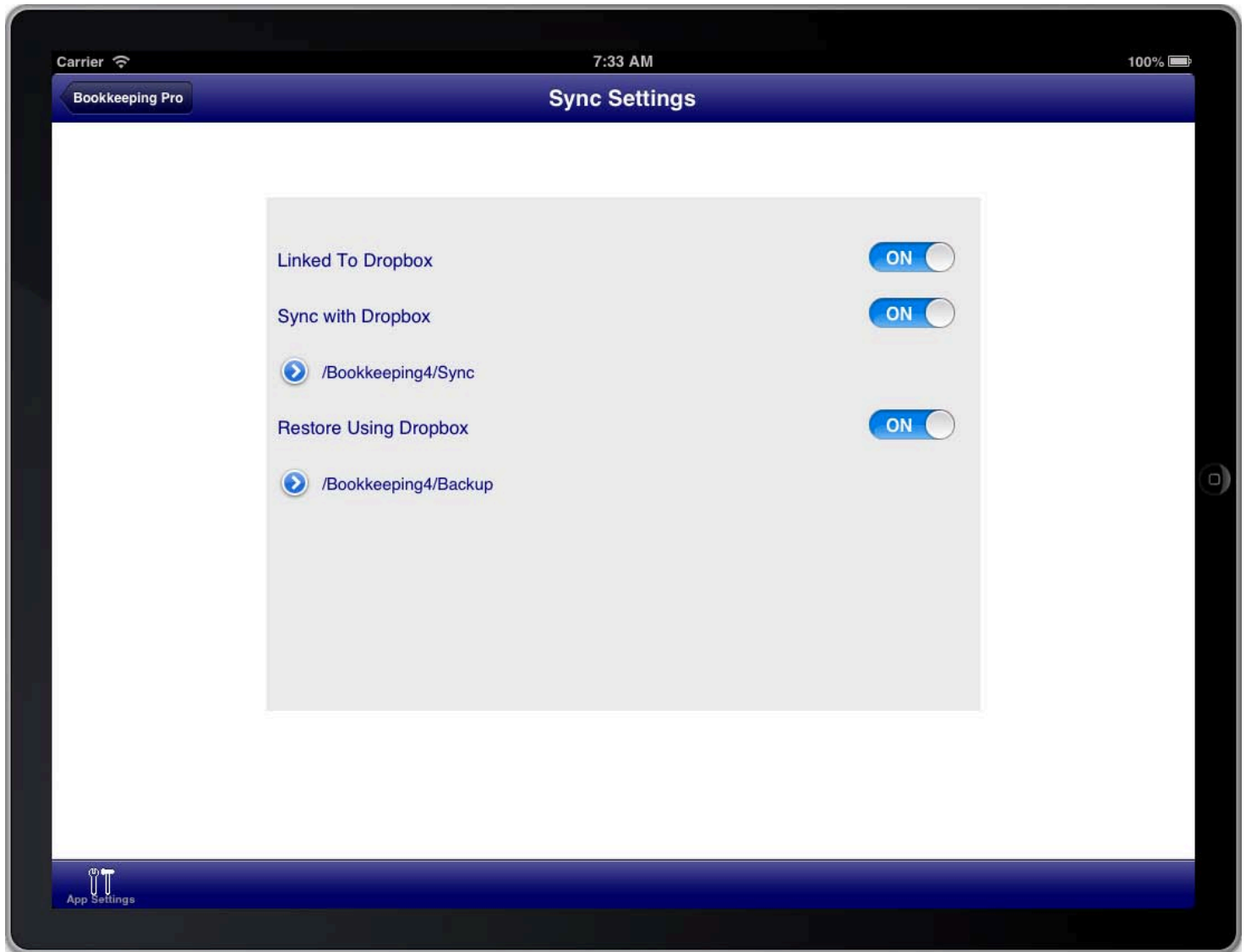
If you wish to wipe the database on the device and synchronise it again completely from the Dropbox transaction logs that already exist on the device then do the following:

1. Take a full backup of each book on the device and store the backup in a safe place that is not on the device itself.
2. Return to the books list screen on the device.
3. Press the "Sync Now" button on the device to ensure that synchronisation to Dropbox has completed; so that Dropbox contains a complete record of all changes on the device.
4. On each device open the App Settings screen on Bookkeeping, select Advanced, turn ON "Reset Database", turn ON "Reset Inbound Queue", turn ON "Close Program"
5. Open Bookkeeping on the device, open the Sync Settings screen on Bookkeeping, turn ON "Sync with Dropbox", press the "Sync Now" button
6. Ensure that all Synchronisation activity has completed by pressing the "Sync Now" button again.

**Be aware that resetting the database will result in the Bookkeeping database being wiped clean, so it is very important to have a backup of each book in a safe place.**



## CHANGING DROPBOX ACCOUNTS



### SCREEN: SYNC SETTINGS

If you change Dropbox accounts by unlinking and then relinking Bookkeeping again to Dropbox, even if the new account is the same as the old account, then synchronisation becomes invalid because the cursor used by synchronisation is only relevant to the original linked account.

If you do this then you will need to follow the procedure of resetting synchronisation in order for synchronisation to work again on the new account that is linked.

## UPGRADING DEVICES

When synchronisation is used between devices it is important to upgrade devices to a new version of Bookkeeping in a specific sequence.

The procedure that you should follow to apply an update of Bookkeeping to devices that use synchronisation is as follows:

1. Make a backup of each book on one device that is fully synchronised and store the backup in a safe place that is not on the device.
2. Ensure that each device is completely synchronised with Dropbox and that the devices are all at the books list screen
3. Close Bookkeeping on all devices to ensure that no further synchronisation or changes occurs.
4. Select one device and update the Bookkeeping program on that device.
5. Open each book on that device so that the book is also upgraded to the latest program version.
6. Return to the books list screen on the device and press the "Sync Now" button to ensure that all changes are synchronised with Dropbox.
7. Select another device and update the Bookkeeping program on that device.
8. Press the "Sync Now" button on that device to synchronise with Dropbox and thereby receive the upgrade changes that were processed on the first device.
9. Press the "Sync Now" button again to ensure that there are no further changes to be synchronised from Dropbox.
10. Proceed repeat the prior three steps for each other device until all devices have been upgraded and fully synchronised.
11. You can then proceed to open books and use the program on each device as normal.

Failure to follow these steps can result in synchronisation conflicts and may result in an incorrect book upgrade.