

EthoScribe™ User's Guide



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Chapter 1 - Getting Started

Introduction

EthoScribe is a software application dedicated to the collection of behavioral data. This application supports many of the popular methods of sampling animal behavior, including focal-animal, all-animal, all-occurrence, sequence, instantaneous, scan, and one-zero sampling. In addition to recording the duration and frequency of occurrence of behaviors, EthoScribe allows you to record the location of the focal subject and the identity of interactors as events unfold. Data-entry screens can be modified to record simultaneous continuous behaviors of the focal animal or to record the behavior of multiple focal subjects.

EthoScribe accommodates an unlimited number of projects, each with its own customized data-entry configurations. An exceptionally intuitive interface permits quick and easy customizing of projects and data-entry screens.

For recording the location of a focal subject, EthoScribe offers two levels of resolution: for studies using ≤ 10 locations, you simply tap the button displaying the appropriate pre-defined location; for studies that require a higher degree of resolution, you can pre-define locations and, on the fly, choose from the list of locations. Those locations not pre-defined in the list can be written into the computer as events unfold. EthoScribe allows you to record locations as single points or as X-Y coordinates.

You can change focal subject ID and species on the fly and establish a new trial without leaving the data entry screen. Additional features include an on-screen clock that toggles between elapsed time and time of day, and a user-configured timer with audible warning for fixed-interval sampling, which is accessible from the data-entry screen.

EthoScribe allows you to quickly review on screen the results of a trial.

For each trial based on a Continuous sampling data-entry screen, EthoScribe's Trial Analysis function calculates and displays on-screen reports of the duration (and %) and frequency of occurrence (and %) of the values of up to 4 variables. By default, the variables are 'Interactors', 'Locations', 'Continuous Activities', and 'Point Activities'. Trials can be analyzed in a nested, hierarchical fashion, and the analyses of duration and frequency of occurrence can be based on all events in a trial or a subset thereof.

Using EthoScribe and its desktop companion application, Tima Connection Utility, Project and Trial Notes, Trial Records, and Trial Analysis Reports can be transferred quickly and easily to desktop computers running Windows 95, Windows NT, or Macintosh 7.0 or higher. When exporting, you can choose OS format, text file delimiter, and date format. You have the option of sending data column headers.

Easy-to-use on-screen Help is available with a tap of the pen.

The Newton MessagePad's pressure-sensitive screen and pen-based data entry eliminate the need to key-code behaviors, which increases the speed with which complex data can be entered into the hand-held computer. For that reason, EthoScribe easily can handle research problems that other hardware - software combinations cannot handle.


What you should know before starting

This guide makes few assumptions about your familiarity with the Newton MessagePad. Although we recommend that you explore the Newton and take advantage of the Newton's many capabilities, you do not have to be a Newton expert to use EthoScribe.

We do, however, suggest strongly that you read the first two chapters of your Newton MessagePad Handbook (MessagePad 130, 120) or MessagePad 2000 Getting Started booklet. In those documents, you will learn about the care and use of the computer, how to set up the Newton, and the essentials for using your MessagePad.

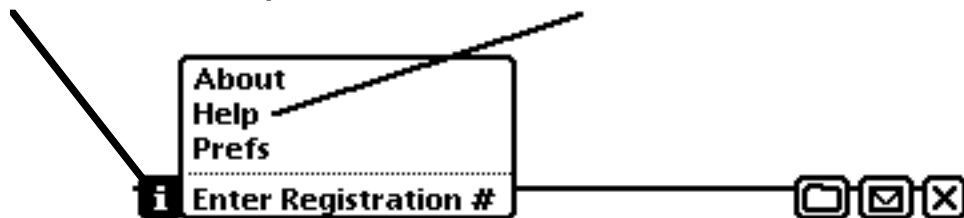
After you do that, we'll take it from there. This guide will walk you through each step in using the Newton MessagePad with EthoScribe.

On-screen help

EthoScribe includes on-screen help that you can consult while you are using the application. You can find it every time in the same place - in the bottom left corner of the screen. Tap the Information button  and select 'Help'. The Help Book opens. Navigate through the Help Book to find answers to your questions. On-screen help can guide you through the basic use of EthoScribe. For detailed answers to your questions, use this guide.

Information button. Tap this to access the on-screen Help Book

Tap 'Help' to open the Help Book



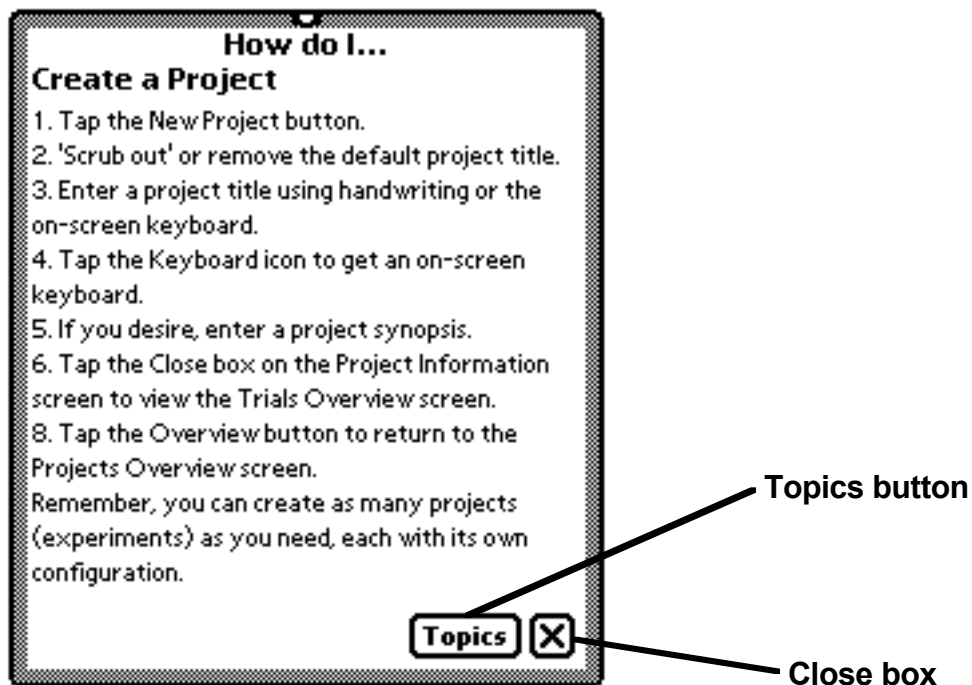
On-screen help - continued

After tapping 'Help', the on-screen Help Book opens to the list of Topics. To navigate through the Help files, all you have to do is tap a title.

Tapping 'Create a Project' opens the instructions for creating a project



- Tapping a title reveals a discussion of that topic.



To return to the list of topics, tap the Topics button. To close the on-screen Help Book, tap the Close box. ✕

Some definitions that will help

Extras Drawer

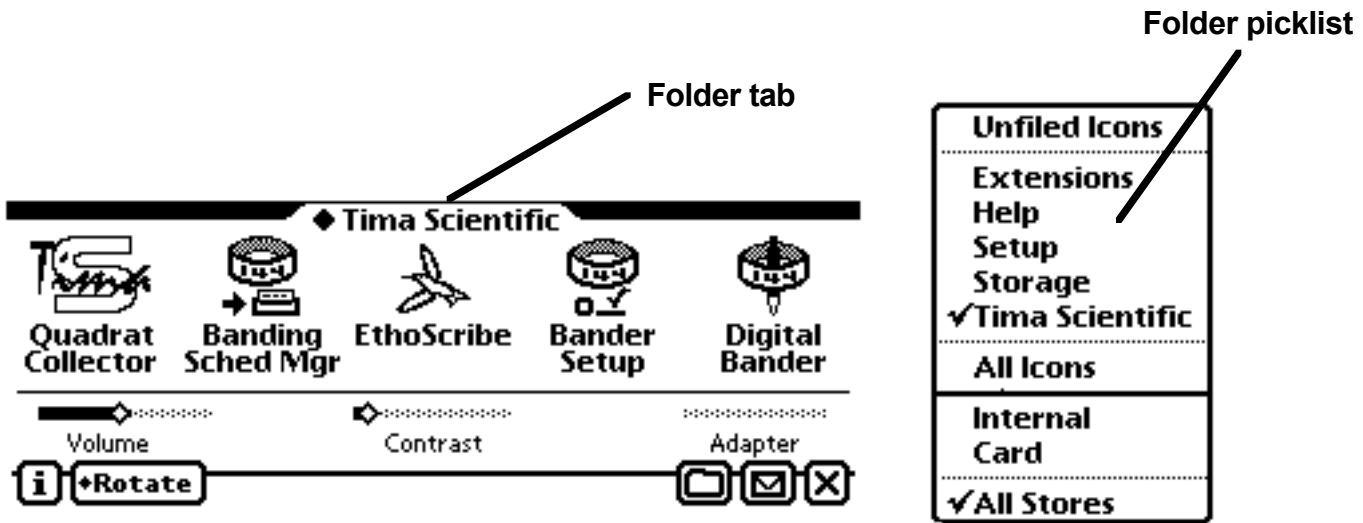
At the bottom of your Newton screen is a line of icons. If you have a MessagePad 130 (or 120), the Extras icon is third from the left. If you have a MessagePad 2000, the Extras icon is the first on the left.



Tapping the Extras icon opens the Extras Drawer, where most MessagePad applications are accessed. If the Extras Drawer is open, tapping the Extras icon will close it.

Folder tab

When the Extras Drawer is open, the name of the folder that you are viewing is present on the Folder tab, to the right of a black diamond. Tapping the Folder tab will reveal a list of the names of the folders contained within the Extras Drawer.



Picklists

At various places in Newton software applications, you tap a word or a button and you get a picklist, or pop-up menu. Picklists give you a list of items from which to choose. Simply tap your choice in the picklist. Tap outside the picklist to close the picklist. The picklist shown above is from the Extras Drawer.

Some definitions that will help - continued


Routing buttons

Virtually all Newton applications, including EthoScribe, have Routing buttons, which lead you to a picklist of actions that the application can execute. The Routing button is represented by an envelope icon and, if present, always is located in the lower right corner of the screen (or slip). Simply tap your choice in the picklist. Tap outside the picklist to close the picklist without choosing a routing action.



The Routing button picklist shown above is from within an EthoScribe project. The user tapped the Routing button and the picklist popped up to the left.

Overview button and scrolling arrows

Many Newton applications make use of the built-in Overview button  and scrolling arrows. If you are using a MessagePad 130 (or 120), the Overview button and scrolling arrows are located at the bottom of the screen in the middle of the line of icons. If you are using a MessagePad 2000, the Overview button and scrolling arrows are located in the far right position in the line icons (unless you have shifted them to the far left side).

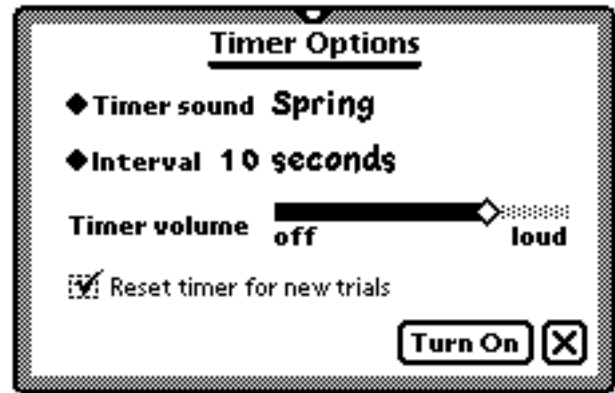
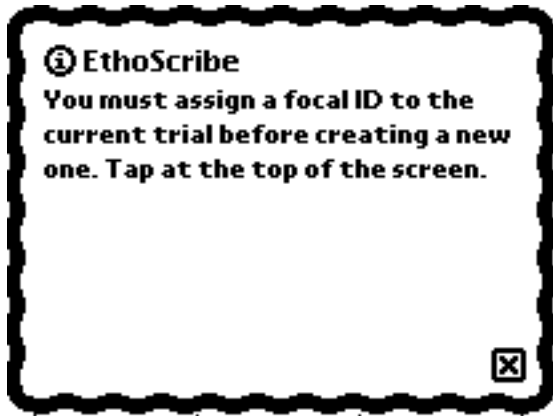


In EthoScribe, the Overview button is used to toggle between an open project's Trial Records Overview screen and the Projects Overview screen, which lists projects (experiments) alphabetically.

Some definitions that will help - continued

Dialog boxes

Dialog boxes are small objects (or slips) that open within a main screen. They either tell you some important information (Alert boxes) or ask you for information (Info slips). Here are two examples:



First time startup

Either you bought a complete EthoScribe system - EthoScribe pre-loaded on a Newton MessagePad - or you bought the EthoScribe software to add to your own MessagePad. In either case, before you can use EthoScribe, you need to start your Newton. To do that, read the following section that applies to you.

If you purchased EthoScribe and a Newton MessagePad:

You are ready to go. We have already installed the batteries and loaded the EthoScribe software onto your Newton MessagePad. Currently, EthoScribe is stored on the Newton's internal store. We recommend strongly that you leave the application on that store. The application resides in the Unfiled Icons folder of the Extras Drawer. Once you are familiar with the basics of the Extras Drawer, you can move EthoScribe to a folder of your choice. EthoScribe is configured with default attributes. Later, you can change the default field labels and picklist values to suit each of your projects.

First you need to know how to open the Newton's case, find the pen, and turn the power on. A quick look at Chapter 1 of either the MessagePad Handbook (120/130) or the MessagePad 2000 Getting Started booklet will show you how to do those tasks.

Open the case, grab the pen, and turn on your Newton MessagePad. You are ready to start EthoScribe. Skip the following page and go right to Chapter 2, "Preliminaries to Using EthoScribe."

First time startup - continued

If you purchased the EthoScribe application only:

At this point, we assume that you know how to work the Newton MessagePad. If that is not the case, to learn the basics, read the first two chapters of the Newton MessagePad Handbook or MessagePad 2000 Getting Started booklet.

EthoScribe comes on a PCMCIA storage card, which you insert into your MessagePad. If you do not know how to do that, please open your Newton MessagePad Handbook on page 38 (page 29 of the MessagePad 2000 Getting Started booklet) and read "Using Storage and Application Cards".

Remove the card from its plastic storage case. Turn your MessagePad on, and follow the instructions in the MessagePad Handbook to insert the card.

You are inserting the card correctly if a stylistic arrow is visible and pointing toward the MessagePad. If you are using a MessagePad 130 (or 120), be sure that you have locked the card in place by pushing the locking tab on the back.

After the card has been inserted, be patient; it might take a few seconds for the Newton to recognize the card. When it does, a Dialog box will appear that tells you how much memory is available on the card. This is what you should see:



The amount of memory in use or free will depend on the number and identity of the Tima Scientific software applications that you have purchased, and the storage capacity of the card.

If you intend to use the card exclusively or primarily in the context of scientific data acquisition, we recommend that you do NOT place a check in the checkbox. In that way, your data are saved to the internal store, leaving the card as a means of making a backup copy of your data before you transfer the data to a desktop computer.

First time startup - continued

If you purchased the EthoScribe application only - continued:

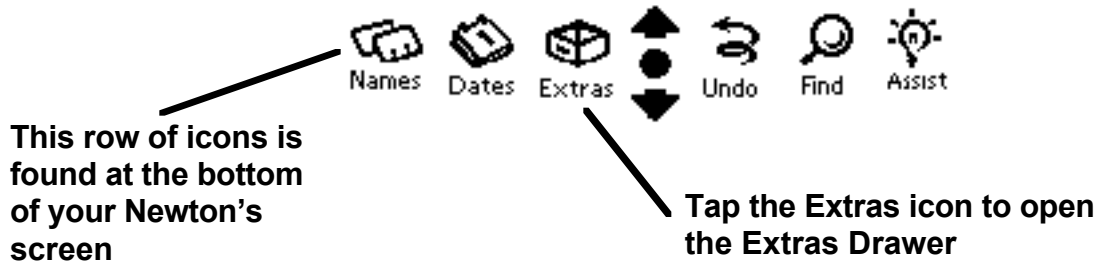


You can use the card to store automatically new applications (packages) and info other than those associated with EthoScribe and other data acquisition software, and still retain the option of keeping a backup of your data on the card. To do that, tap "Save new info and packages on this card". By default, EthoScribe and other Tima Scientific software applications are set to store all of their data on the internal store. The manner in which you can change that default setting is explained later. Tap the Close box to close the Dialog box.

Now you are ready to start EthoScribe.

Chapter 2 - Preliminaries to using EthoScribe

Opening the Extras Drawer

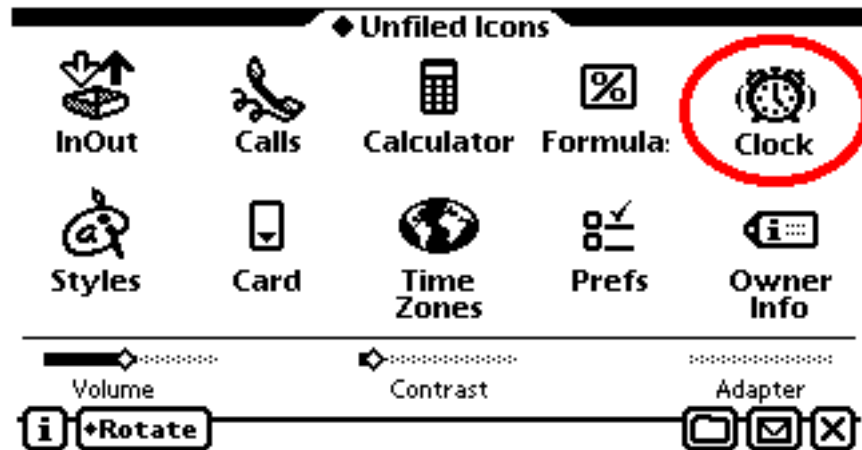


On the MessagePad 2000, the bottom of the screen will not appear exactly as shown above.

Before launching EthoScribe, let's address a few other issues.

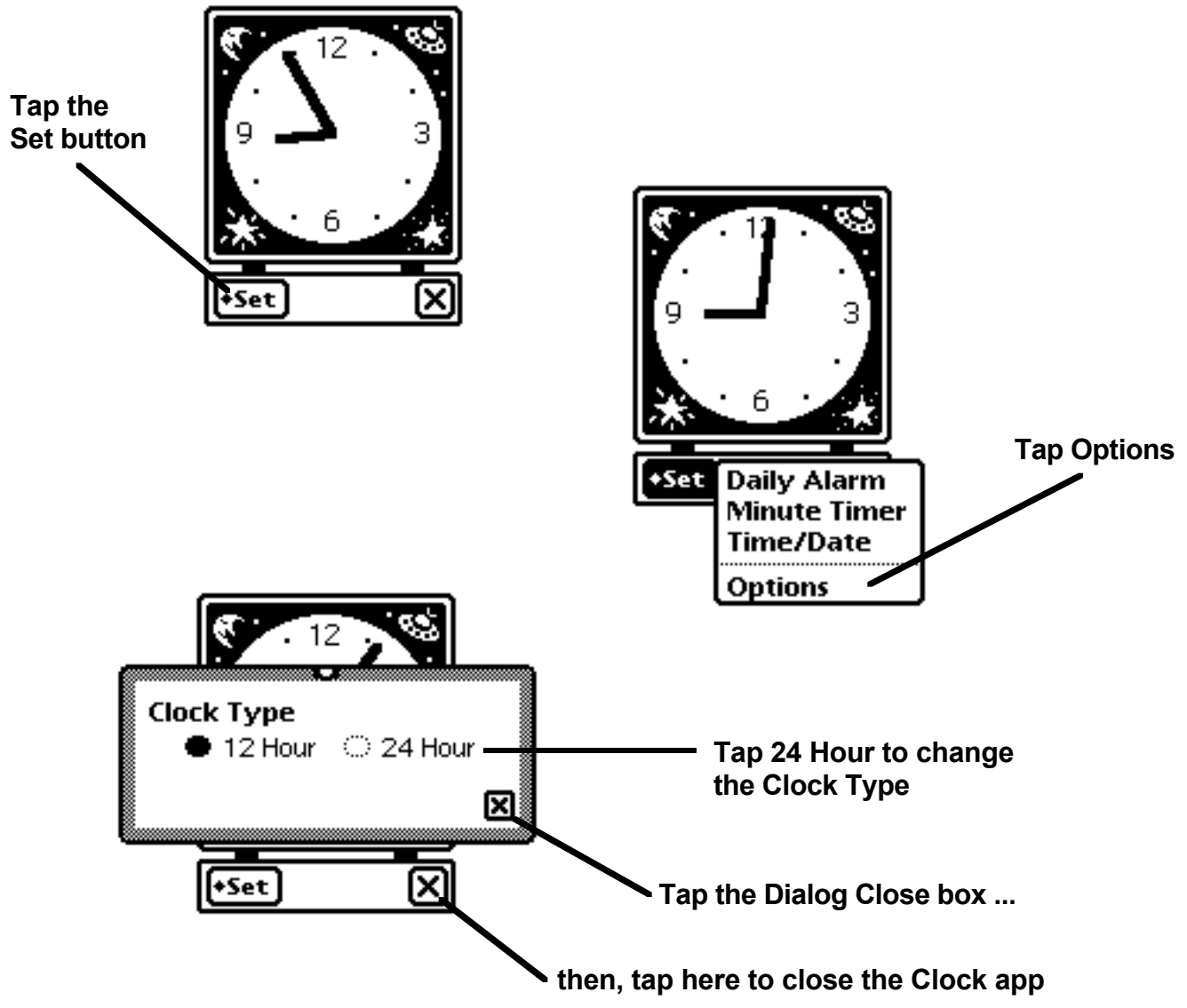
Setting the type of internal clock

By default, the Newton's internal clock is a 12-h clock. If you wish, time of day can be displayed on a 24-h clock. To change the clock format, tap the Clock icon.



Then, execute the sequence displayed on the following page:

Setting the Type of Internal Clock - continued



Changes to the Clock Type affect EthoScribe, as well as all other applications on your Newton. You can change the Clock Type at any time. Doing so will affect the way in which time of day is displayed in EthoScribe, including in existing Trial Records, but it will not affect the integrity of the time of day data per se.

Moving EthoScribe to the internal store

If you purchased a Newton MessagePad with EthoScribe, the application is already residing on the internal store. If you purchased EthoScribe only, we recommend that you move the application from the storage card to the internal store. That insures that EthoScribe can always be found, should your storage card be removed from the Newton.

To move the application, you must, once again, open the Extras Drawer. Once the Extras Drawer is open, look for the EthoScribe (hummingbird) icon. To select the icon you must highlight it. To do that, tap next to (but not on) the EthoScribe icon, and hold the pen against the screen until you hear a "squeak;" then drag the pen across the EthoScribe icon. When the icon is selected, there is a black box around the icon title, and the hummingbird reverses its orientation.

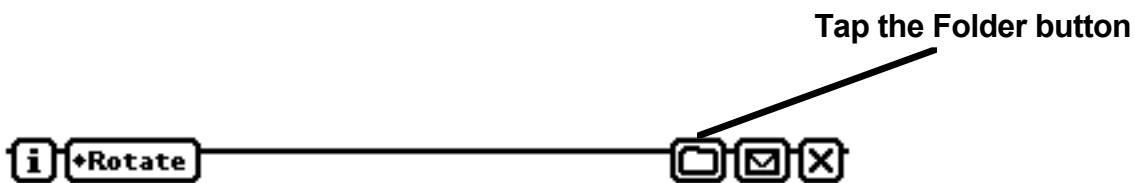
Before the icon is selected



After the icon is selected



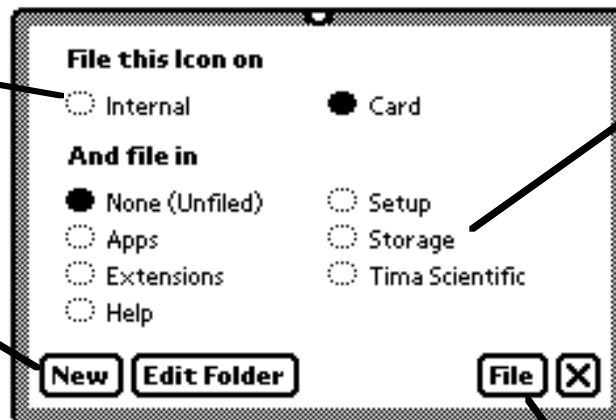
To move EthoScribe to the internal store:



Then,

Tap 'Internal' to file EthoScribe on the internal store

Tap the New button to create a folder



Tap a folder name to file EthoScribe in that folder

Tap the File button to complete the filing process

Launching EthoScribe

Before you launch EthoScribe, you should reset the Newton MessagePad. A soft (or software) reset before each observation session maximizes the efficiency with which the computer and EthoScribe run. To do that, depress for 2 s the Reset button on the back of your MessagePad. See your Newton User's Guide for instructions on using the Reset button. Once you have reset the computer, you should confirm that the Newton's clock is displaying the correct time of day. If you are viewing the Notes application (the default backdrop on the Newton), time of day is displayed in the upper left corner of the screen. For more information on adjusting the Newton clock, see the section, "Setting the type of internal clock," on page 14, above.

If you have moved EthoScribe to a folder other than 'Unfiled Icons,' to launch EthoScribe you must first tap the Extras Drawer Folder tab, then tap the name of the folder in which EthoScribe has been filed. To launch EthoScribe, tap the hummingbird icon.



Now, you are viewing the Projects Overview screen. Once projects are created, they will be listed here. First, though, you must enter your EthoScribe registration number.

Entering your EthoScribe Registration Number

Your EthoScribe registration number is provided on the floppy disk that contains this User's Guide. To register your copy:

- Tap the Information button. 
- Tap 'Enter Registration #'. The Registration Number slip appears.


Enter button. Tap this after you have entered your registration number

- Enter your registration number on the line next to 'Reg. #' using handwriting or the on-screen keyboard. To reveal the on-screen keyboard, tap twice on the line next to 'Reg. #'.
- Tap the Enter button to save your Registration number.

Entering your EthoScribe Registration Number - continued

Your registration number will appear on the EthoScribe About slip.

To view the EthoScribe About slip:

- Tap the Information button. 
- Tap 'About'. The EthoScribe About slip appears. Your registration number appears at the bottom of the About slip.



The Close Box. Any time you see one of these, tapping it will close the screen or slip on which it resides. In this case, it will close the About slip.


Your registration #
will appear here

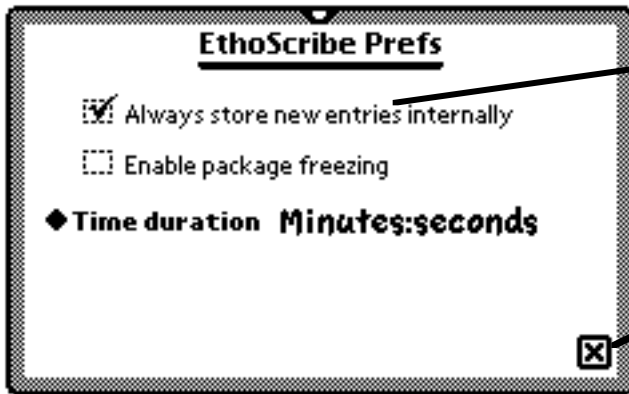
- If you have purchased EthoScribe directly from Tima Scientific, Inc., you are already registered. Otherwise, register your purchase on the Tima Scientific web site (<http://www.timasci.com>).

Setting the default store for EthoScribe data

By default, EthoScribe is set to store all data on the internal store. That setting overrides the global setting on your storage card. We recommend that you store your data on the internal store and periodically back up your data onto the storage card.

In the event that you wish to change from the default store:

- Tap the Information button. 
- Within the Info button picklist, tap 'Prefs'. The EthoScribe Prefs slip appears.



Tap here to remove the checkmark if you want your data stored according to the setting on the Card application

Tap the Close box to save your choice

Chapter 3 - Creating Projects

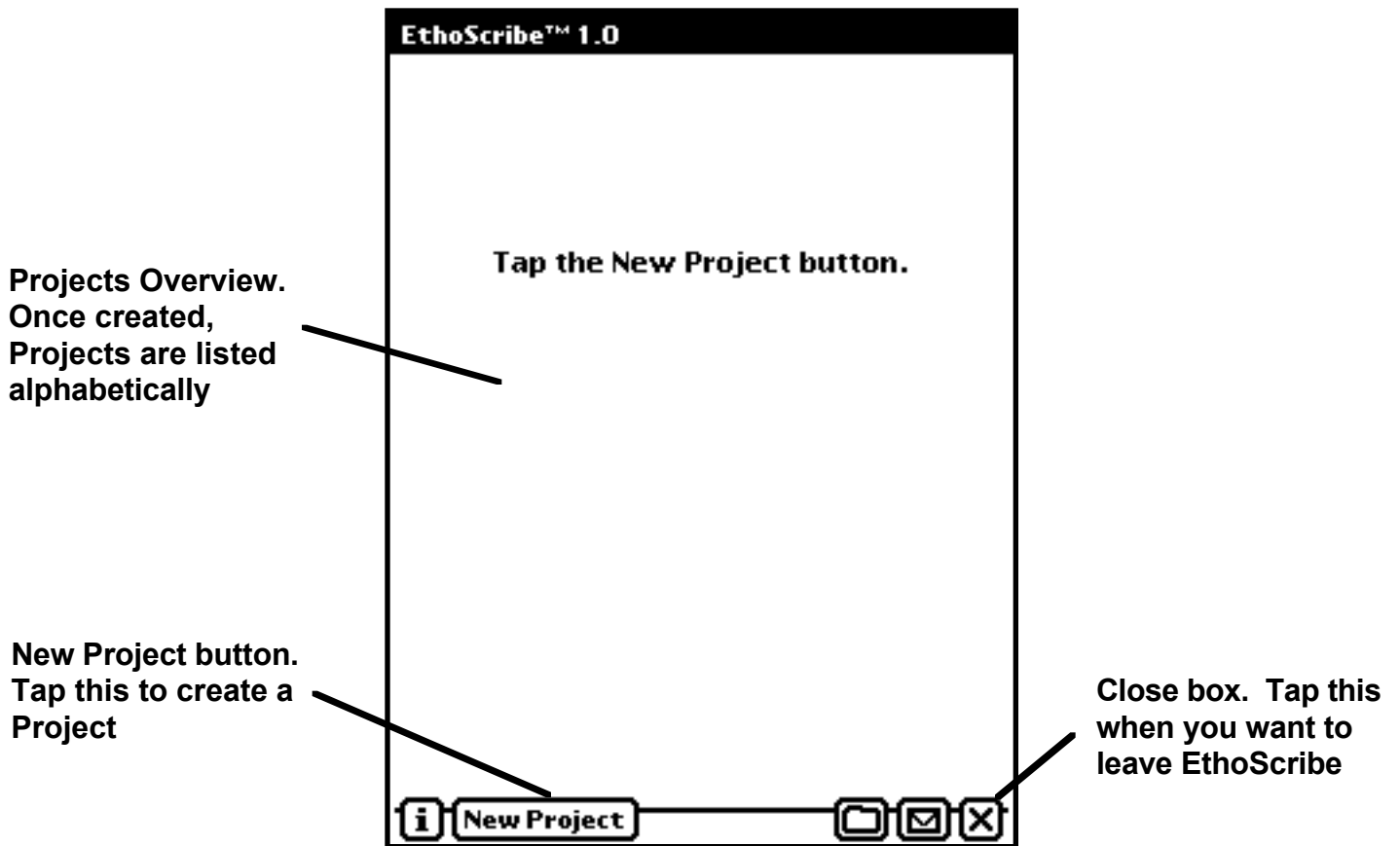
Introduction

The number of Projects that you can create is limited only by the amount of memory you have on your internal store. The Project per se uses very little memory; it is the number of Trial Records and, specifically, the number of Events in those Trial Records that determines how much memory a Project will consume.

In EthoScribe, 'Project' is a generic term. In your research, you may have several experiments that fall within a project, in the broadest sense. If so, each EthoScribe Project might represent an experiment. Basically, you need only to create a new Project when you wish to use unique trial information and data-entry screen configurations. You may, of course, have other reasons to keep Trial Records in separate EthoScribe Projects.

Projects Overview screen

Upon launching EthoScribe, the Projects Overview screen appears. Once Projects are created, they will be listed alphabetically on this screen.



- To create a Project, tap the New Project button.
- The Project opens, and the Project Information slip appears.

Project Information slip

'Scrub out' or otherwise remove the default Project title. Enter a Project title using handwriting or the on-screen keyboard

The image shows a 'Project Information' form with the following elements:

- Title:** A text field containing 'Untitled Project' with a dotted line below it.
- Synopsis:** A text area with three dotted lines below it.
- Buttons:** A 'Keyboard' button (represented by a keyboard icon) and a 'Setup' button are located at the bottom left. A 'Close' button (represented by an 'X' icon) is located at the bottom right.

If you wish, enter a Project Synopsis

Keyboard button. Tap this to reveal the on-screen keyboard

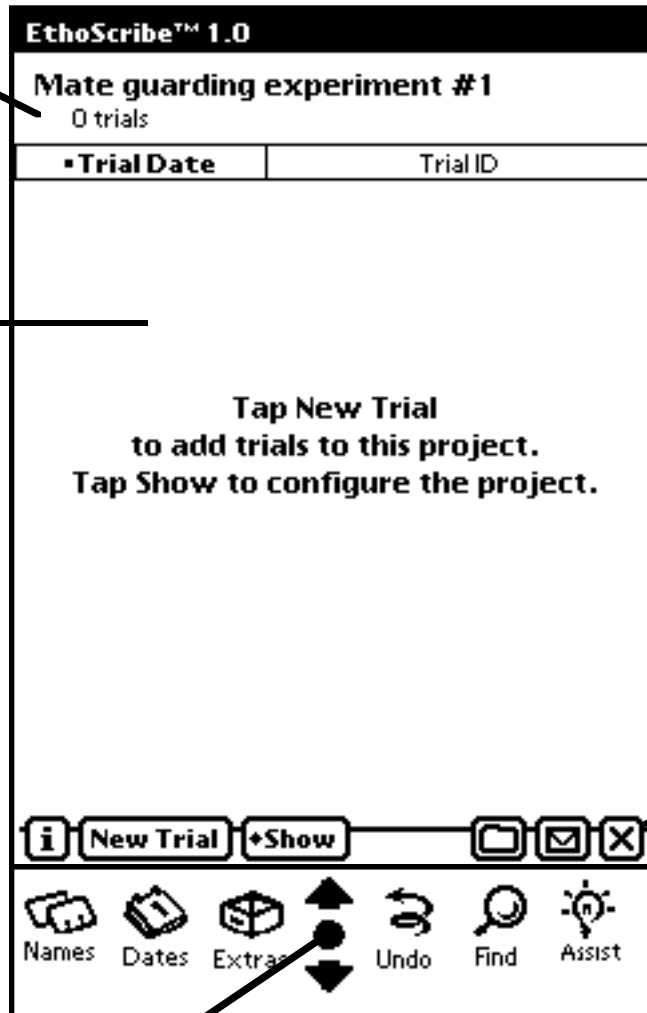
Tap the Close box to finish creating the Project

- Once you close the Project Information slip, you enter the Trials Overview screen of the Project that you have just created.

Trial Records Overview screen

Project Title Header. Tap this to access the Project Information slip, again

Trial Records Overview. Once created, Trial Records are listed here

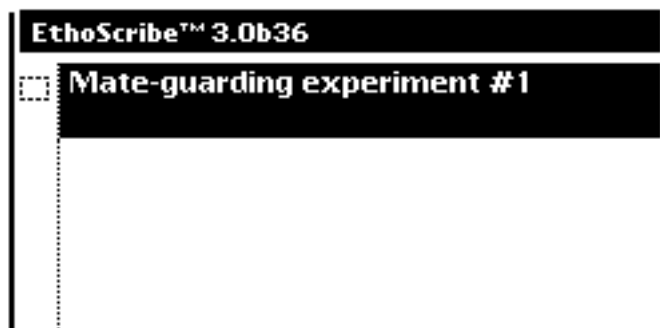


Close box. Tap this to quit EthoScribe

Overview button. Tap this to return to the Projects Overview screen

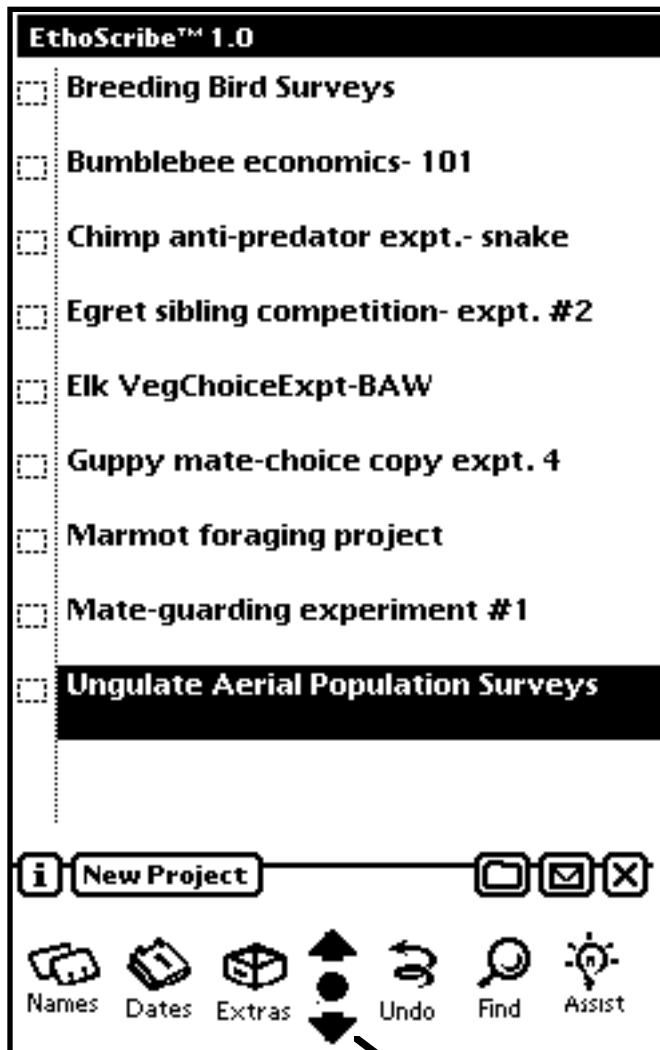
- Note: On the MessagePad 2000, the Overview button will be on the right side of the line of built-in icons. Tap the Overview button to return to the Projects Overview screen.

The title of your newly-created project appears on the Projects Overview screen.



Opening a Project

You may have more Project than can be displayed at one time on the screen of your MessagePad. If so, tap the scrolling arrows to move through the list of Projects.



Projects Overview.

Project titles are listed alphabetically.

Tap the title of the Project that you wish to open

Scrolling arrows. Tap these to find Projects in the list that are not visible on the screen

- To open a Project, simply tap the title of the Project that you wish to open.
- Tapping a Project title opens the Project to its Trial Records Overview screen.

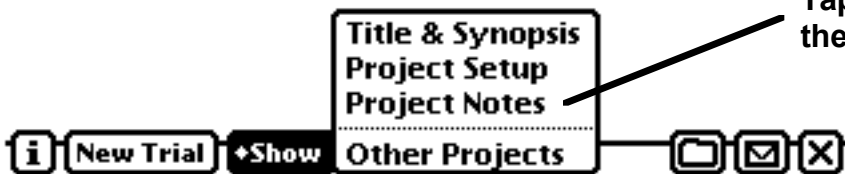
Adding Project Notes



Once a Project is opened, you can add notes at any time. To add notes to a Project, from within the Trial Records Overview screen, execute the following procedures:

Show button. Tap this to add Project Notes



Tap 'Project Notes' to open the Project Notes screen



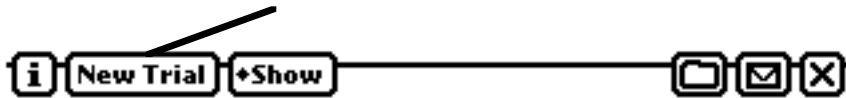
- Tap the Project Notes screen in the spot where you wish the text to begin.
- Use handwriting or the on-screen keyboard to enter notes.
- To open the on-screen keyboard, tap the Keyboard button in the lower left corner of the screen.
 
- To save your Project Notes and return to the Trial Records Overview screen, tap the Close box in the lower right corner of the screen. 

Chapter 4 - Working With Trial Records

Creating a Trial Record

If you are not already viewing the Trial Records Overview screen, tap the title of the Project in which you wish to add a Trial Record.

Tap the New Trial button to open the Trial Information slip



Trial Information slip

The Trial Information slip appears every time you create or open a Trial Record. On the Trial Information slip, you can enter values for variables that are relevant to the interpretation of a trial's behavioral data. At any time, you can enter or change values in the Trial Info slip data fields. In the course of a trial, you are free to update values for variables on the Trial Info slip. If the trial is based on a Continuous sampling data-entry screen, updated values are applied to the current Event (state of the focal subject) and subsequent Events in the trial. If the trial is based on a Periodic sampling data-entry screen, updated values are applied to all Events in the trial.

Trial Information slip - continued

Trial Date field. Tap this to change the trial date and time

The screenshot shows a 'Trial Information' form with the following fields and buttons:

- Trial Date:** 7/10/97 10:57
- Trial ID:** Untitled Trial
- Focal ID:** [Empty field]
- Species:** [Empty field]
- Location:** [Empty field]
- Temp.:** [Empty field]
- Wind Speed:** [Empty field]
- Light Int.:** [Empty field]
- Misc.:** [Empty field]
- Buttons at the bottom:**
 - Keyboard button (represented by a keyboard icon)
 - Notes button
 - Events button (displaying '+0 Events')
 - Routing button (represented by an envelope icon)
 - Close box (represented by an 'X' icon)

'Scrub out' or otherwise remove the default Trial ID.

Enter a Trial ID using handwriting or the on-screen keyboard

Trial Info fields. Tap these to reveal picklists containing potential values

Keyboard button. Tap this to open the on-screen keyboard

Notes button. Tap this to add notes before or after a trial has been executed

Events button. This indicates the number of Events in the trial, and is the route to data-entry and Trial Analyses screens

Close box. Tap this to save the Trial Record

Routing button. Tap this to duplicate or delete the Trial Record the trial

- Additionally, the Trial Information slip is the conduit through which you will proceed to the data-entry and Trial Analysis screens (more about that in the next two chapters).

Setting the Trial Date and Time

When a Trial Record is created, EthoScribe automatically generates a Trial Date and Time. To change the Trial Date and Time, tap 'Trial Date' to open the Date and Time calendar.

The screenshot shows the 'Trial Information' screen with a calendar overlay. The calendar is for July 1997, with the 10th selected. Below the calendar is a time picker showing 10:57. A close box (an 'X' in a square) is located at the bottom right of the calendar overlay. On the left side of the screen, there are several fields: Trial Date (with a diamond icon), Trial ID, Focal ID (with a diamond icon), Species (with a diamond icon), Location (with a diamond icon), and Temp. (with a diamond icon). Lines connect the annotations to the calendar, time picker, and close box.

Month and Year. If you wish, tap this to change the month and year of the trial

Date. Tap the date that you expect to execute the trial

Time picker. Tap the digits to set the tentative time of the trial.

Close box. Tap this once you have set the date and time of the trial

- The Trial Date and Time calendar can be used to schedule trials. When the trial is executed, EthoScribe will update automatically the Trial Date and Time.

Entering Values for Trial Information slip variables

In addition to a Trial Date and Time field, the Trial Information slip has fields for another eight variables. The Trial ID, Focal ID, and Species fields are 'hardwired'; that is, you cannot change the name of those fields. In the Project Setup, you can assign any variable name to each of the remaining five fields. You can enter your own values to all of the picklists. To enter values into the data fields:

The screenshot shows the 'Trial Information' screen with the following fields filled in: Trial Date (7/10/97 10:57), Trial ID (Untitled Trial), Focal ID (Animal #1), Species (Animal #2), and Location (Animal #3). The Trial ID field is highlighted with a black background. A picklist for Focal ID is open, showing three options: Animal #1, Animal #2, and Animal #3. Lines connect the annotations to the Trial ID field, the Focal ID picklist, and the other fields.

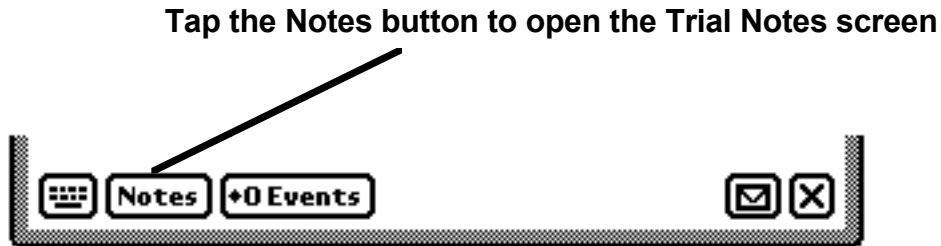
'Scrub out' or otherwise remove the default Trial ID. Enter a Trial ID using handwriting, or the on-screen keyboard


Focal ID picklist. Tap the Focal ID that will be used in this trial (you will add your own values to this and other picklists)

Tap the other Trial Info picklists and choose values for each variable.

Entering Trial Notes from within the Trial Information slip

You can add notes to a Trial Record before, during, and after a trial has been executed. Trial Notes can be accessed from within the Trial Information slip, or from within any data-entry screen (for more on the latter option, see the next chapter, “Executing a Trial”). If you are not viewing a Trial Information slip, create a new trial or open an existing trial. To add notes to a Trial Record from within the Trial Information slip:



- Tap the Trial Notes screen in the spot where you wish the text to begin.
- Use handwriting or the on-screen keyboard to enter notes.
- To open the on-screen keyboard, tap the Keyboard button in the lower left corner of the Trial Notes screen. 


To save your Trial Notes and return to the Trial Information slip, tap the Close box in the lower right corner of the screen. 

- Note, too, that the Trial Notes screen is accessible from within the data-entry screen.

Duplicating a Trial Record

You can duplicate a Trial Record. The duplicate will retain the trial information of the original Trial Record, including Trial Notes, but not the behavioral data of the original. If a Trial Information slip is not in view, tap the Trial Record that you wish to duplicate.

To duplicate the Trial record:

- Tap the Routing button in the lower right corner of the Trial Info slip. 



Tap 'Duplicate' in the Routing button picklist.

A new Trial Information slip appears.

Duplicating a Trial Record - continued

Trial Information

◆ Trial Date 7/10/97 10:57

Trial ID 970710-R1-01copy

◆ Focal ID Animal #1

◆ Species Species #2

◆ Location Location #3

◆ Temp. 15

◆ Wind Speed 4

◆ Light Int. 10

◆ Misc.

Keyboard button. Tap this to open the on-screen keyboard

'Scrub out' or otherwise remove the default Trial ID

Enter a new Trial ID using handwriting or the on-screen keyboard

Close box. Tap this to return to the Trial Records Overview screen

Notes +0 Events

- To return to the Trial Records Overview screen, tap the Close box on the Trial Information slip.



Sorting Trial Records

If you are in the Trial Records Overview screen of a project, you can sort Trial Records in two ways:

1. Tap the Trial Date Header to sort by trial date and time. Trial Records are listed in descending order from the earliest to the latest date and time.
2. Tap the Trial ID Header to sort by trial ID. Trial Records are listed in descending order, first by number, then alphabetically.

Project Title Header. Indicates the number of Trial Records in the Project

Trial Date Header. Tap this to sort records by Trial Date and Time

Trial ID Header. Tap this to sort records by Trial ID

Trial Record. Tap this to open the record

| EthoScribe™ 1.0 | |
|-------------------------|-------------------------|
| Marmot foraging project | |
| 9 trials | |
| Trial Date | Trial ID |
| 9/3/97 11:59 | 34567 - 45GR |
| 9/25/97 8:37 | 22 - Animal #2 |
| 9/25/97 10:17 | 1 |
| 9/25/97 14:30 | 22 |
| 9/25/97 15:55 | 11 |
| 9/25/97 17:46 | 970925-1745 - Bar Dot |
| 9/26/97 10:44 | 970926-1045 - T Dot Bar |
| 9/26/97 15:17 | 226 - Animal #2 |
| 10/8/97 10:50 | Suppl.-970710@1045 - 88 |

Navigation bar: [i] New Trial +Show [Folder] [Envelope] [X]

In the Trial Records Overview screen, tap the Trial Record that you wish to open.

Chapter 5 - Executing a Trial

Introduction

Currently, EthoScribe provides you the choice of 4 data-entry screens; 2 are designed for Continuous sampling methods, and 2 are for Periodic sampling methods.

- The choice of a data-entry screen is made at the level of the Trial Record, not of the Project. A Project can contain a mixture of trials that use one or more of the data-entry screens.
- Continuous sampling data-entry screens record the duration and frequency of occurrence of Events (e.g., behaviors, interactors, locations). Trials that use a Continuous sampling data-entry screen can be submitted to EthoScribe's Trial Analysis.
- Periodic sampling data-entry screens record the frequency of Events (and the time of those events), but not the duration of Events. Trials that use a Periodic sampling data-entry screen can not be submitted to EthoScribe's Trial Analysis. Given the nature and diversity of periodic sampling methods, the virtues of an EthoScribe-based analysis function for trials using Periodic sampling screens are far less than those for trials using Continuous sampling screens. The analysis of trials that are based on periodic sampling methods is left to the domain of the desktop computer.

Choosing a Data-entry screen

If you are not viewing a Trial Information slip, create or open a Trial Record (see Chapter 4, "Working With Trial Records" for instructions on how to create or open a Trial Record). Once a Trial Record is

open (the Trial Information slip is visible), to choose a data entry screen, tap **+0 Events**.

Events button. Tap this to view a list of options



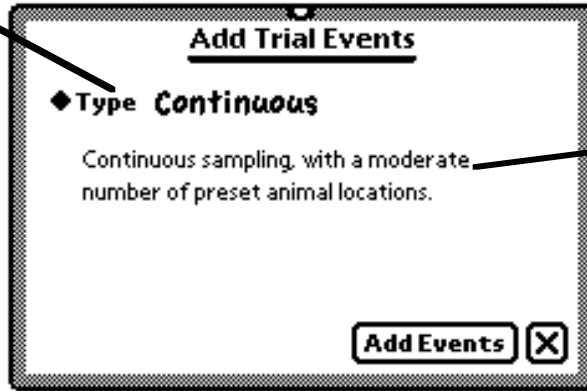
Tap 'Add Events' to proceed to the Add Trial Events slip and choose a data-entry screen



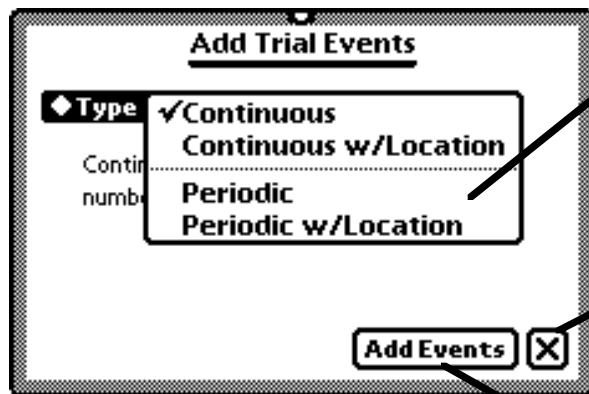
Choosing a Data-entry screen - continued

Add Trial Events slip

Type picklist. Tap this to reveal a list of the types of data-entry screens available



A brief description of the function of the chosen type of data-entry screen



Tap the name of the type of data-entry screen you wish to use with this trial

Close box. Tap this to return to the Trial Records Overview screen

Add Events button. Tap this to proceed to the data-entry screen that you have chosen

The Continuous sampling data-entry screen

- To open the Continuous sampling data-entry screen, on the Add Trial Events slip, tap 'Type', and select 'Continuous'.
- Tap **Add Events**. The Continuous sampling data-entry screen appears.

Trial Info Header. Tap this to open the Trial Information slip

Clock. Tap this to change to Elapsed Time

Start/Stop button. Tap this to begin or end a trial

Interactors

| | | | | | |
|--------|------|-------|-------|-------|-----|
| Mother | Pred | Sib 1 | Sib 2 | Sib 3 | NIL |
|--------|------|-------|-------|-------|-----|

'Interactor' buttons. By default, this variable is set to the 'Nil' (none) value

Locations

| | | | | |
|--------|-------|-------|--------|--------|
| Burrow | <1 m | <2 m | <4 m | <8 m |
| <16 m | <32 m | <64 m | <128 m | ≥128 m |

Event buttons. Tap these to record values for one or more variables

Continuous Activities

| | | | | |
|--------|-------|--------|-------|--------|
| Bask | Sleep | Slouch | Stand | Alert |
| Chased | Chase | Groom | Hide | Freeze |
| Forage | Walk | Run | Play | ? |

Point Activity buttons. Tap these to record Events of short duration

Point Activities

| | | | | |
|-------|------|------------|-------|------|
| Alarm | Bite | Tail flick | Chirp | Scan |
|-------|------|------------|-------|------|

Notes button. Tap this to open the Trial Notes screen

Timer button. Tap this to set the audible timer

Replace Last button. Tap this to change the value of the last Event entered

Done button. Present before and after a trial. Tap this to close the data-entry screen

Continuous sampling data-entry screen - continued

Event button categories and data entry

- On the Continuous sampling data-entry screen, you can record values simultaneously for up to four variables.
- The four categories of Event buttons are labeled **'Interactors'**, **'Locations'**, **'Continuous Activities'**, and **'Point Activities'**.
- Although the label given to each category is 'hardwired', you are free to assign any variable to any category. For instance, you can use 'Interactors' or 'Locations' buttons to record "secondary" continuous behaviors. In that way, you can record simultaneously two continuous behaviors of a focal subject. Additionally, you can use 'Interactors' or 'Locations' buttons to record the continuous behaviors of a second focal subject.
- You assign values to all of the Event buttons in the Project Setup (see Chapter 9, "Setting Up a Project").
- You can enter a value for 'Interactor', 'Location', and 'Continuous Activity' before (or after) you have tapped the Start button. In that way, there will be no lag between the start of the trial and the recording of the first Event.
- By default, the 'Interactor' variable is set to the 'Nil' (or none) value. In the event that you are using that category of Event buttons for recording interactors, the default setting insures that, from the start of a trial, 'None' is recorded as legitimate value. Otherwise, the absence of a value would not be recorded as 'None'.
- The first Event (state of the focal subject) is recorded as soon as the first Continuous Activity button is tapped (before or after you tap the Start button). Each time a Continuous Activity button is tapped a new Event is recorded and a line-entry is created in the EthoScribe database.
- Each time 'Interactors', 'Locations', and 'Continuous Activities' Event buttons are tapped the duration and frequency of occurrence of each value are recorded.
- Although tapping a 'Point Activity' button records an Event, the duration of the value is not recorded, and the button does not remain highlighted, as do the Event buttons of the other categories.
- During a trial, you can open the Trial Information slip by tapping the Trial Info Header at the top of the data-entry screen.
- Changes made to the Trial Information slip are applied to the trial when the Trial Information slip is closed and you return to the data-entry screen. Changes will apply to the current and subsequent Events, but do not affect Events recorded prior to the opening of the Trial Information slip.
- Direct access to the Trial Information slip from within a Continuous data-entry screen means that, theoretically, you can record values for up to 13 variables.

The Continuous w/Location data-entry screen

- To open the Continuous w/Location sampling data-entry screen, on the Add Trial Events slip, tap 'Type', and select 'Continuous w/Location'.
- Tap **Add Events**. Now, you are viewing the Continuous w/Location sampling data-entry screen.

Clock. Tap this to toggle between Elapsed Time and Time of Day

Start button. Tap this once you are ready to begin the trial

| | | | | | |
|---------------------|------|-----------------------------|--------------|--------------|-----|
| Trial: 970710-J1-01 | | Focal ID: Animal #2 | | | |
| Species: Species #2 | | Events: 0 | | | |
| Tap START to begin | | ELAPSED TIME 0:00 | Start | | |
| Interactors | | | | | |
| Mother | Pred | Sib 1 | Sib 2 | Sib 3 | NIL |

'Location' picklists. Tap these to reveal lists of values

X Location
 Y Location

Set Loc

Set Location button. Tap this after each change in 'Location'

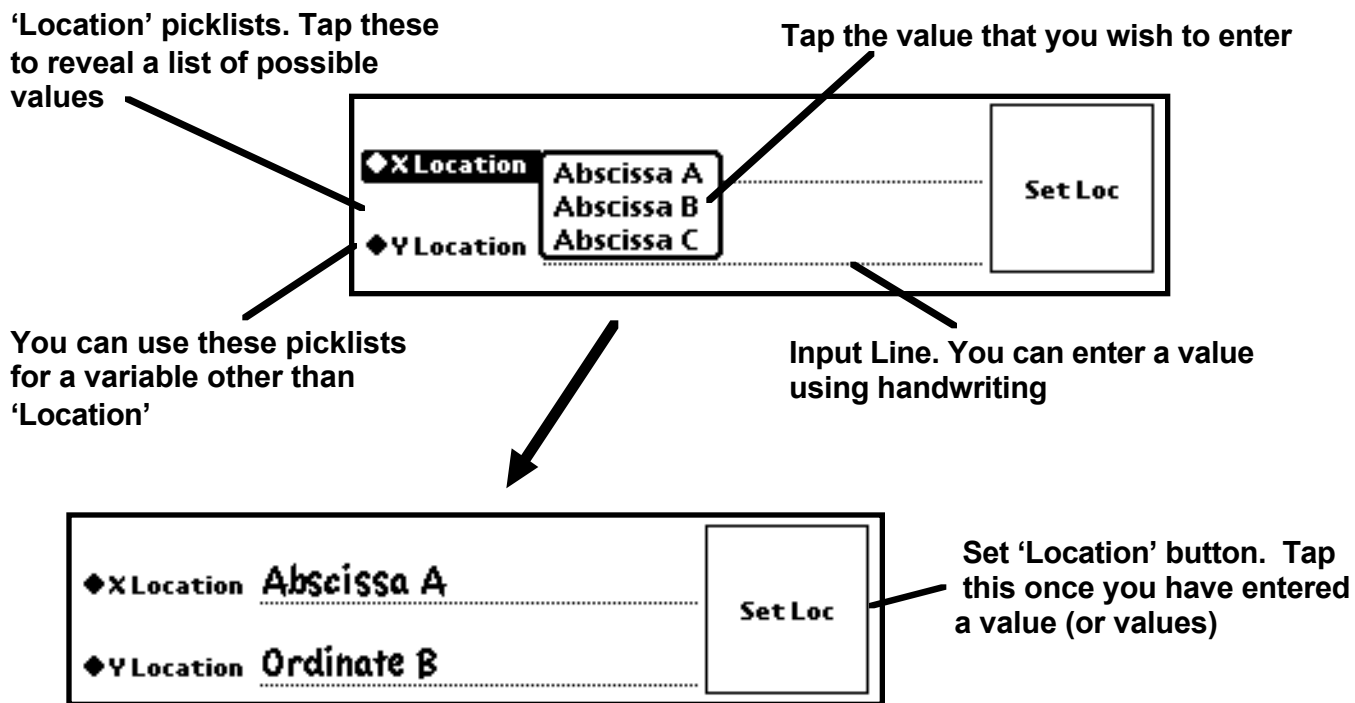
| | | | | |
|-----------------------|-------|--------|-------------|--------|
| Continuous Activities | | | | |
| Bask | Sleep | Slouch | Stand | Alert |
| Chased | Chase | Groom | Hide | Freeze |
| Forage | Walk | Run | Play | ? |

| | | | | |
|------------------|------|------------|-------|------|
| Point Activities | | | | |
| Alarm | Bite | Tail flick | Chirp | Scan |

The Continuous w/Location data-entry screen - continued

Event button categories and data entry

- The Continuous w/Location data-entry screen has all of the attributes of and functions in the same manner as the Continuous sampling data-entry screen, with the exception of the manner in which 'Location' (or alternative variables) is recorded.
- The 'Location' picklists and their input lines enable you to record a variable that has a large number of possible values, or a variable for which you cannot pre-define all or some of the possible values.
- Whether you are using the picklists for 'Locations' or other variables, you do not have to enter values in both fields, and the picklists need not apply to the same variable (values recorded in those fields appear in separate columns in the database).
- To enter 'Location' values on the Continuous w/Location sampling data-entry screen, tap the X Location and/or Y Location picklists and select a preset value, or write the value on the input line.



- Remember, you must tap the Set Loc button to save the values that you have entered. That can be done before or after you have tapped the Start button to begin the trial.

The Periodic sampling data-entry screen

- To open the Periodic sampling data-entry screen, on the Add Trial Events slip, tap 'Type', and select 'Periodic'.
- Tap **Add Events**. The Periodic sampling data-entry screen appears.

Trial Info Header. Tap this to open the Trial Information slip

Clock. Tap this to change to Elapsed Time

Start/Stop button. Tap this to begin or end a trial

| | | | | | |
|----------------------------|--------------|----------------------------------|---------------------|---------------|-----|
| Trial: 970710-R1-01 | | Focal ID: <unknown> | | | |
| Species: Species #2 | | Events: 0 | | | |
| Tap START to begin | | CLOCK 13:16 | Start | | |
| Interactors | | | | | |
| Mother | Pred | Sib 1 | Sib 2 | Sib 3 | NIL |
| Locations | | | | | |
| Burrow | <1 m | <2 m | <4 m | <8 m | |
| <16 m | <32 m | <64 m | <128 m | ≥128 m | |
| Activities | | | | | |
| Bask | Sleep | Slouch | Stand | Alert | |
| Chased | Chase | Groom | Hide | Freeze | |
| Forage | Walk | Run | Play | ? | |
| Alarm | Bite | Tail flick | Chirp | Scan | |
| i | Notes | Timer | Replace Last | Done | |

Highlighted values are recorded and an 'Event' is created each time an 'Activities' button is tapped

'Activities' buttons. Tap these to record Events

Notes button. Tap this to open the Trial Notes screen

Timer button. Tap this to set the audible timer

Replace Last button. Tap this to change the value of the last Event entered

Done button. Present before and after a trial. Tap this to close the data-entry screen

The Periodic sampling data-entry screen - continued

Event button categories and data entry

- On Periodic sampling data-entry screens, there are three categories of Event buttons, which are labeled ‘Interactors’, ‘Locations’, and ‘Activities’.
- Although the labels given to each category are ‘hardwired’, you are free to assign any variable to any category.
- You assign values to all of the Event buttons in the Project Setup (see Chapter 9, “Setting Up a Project”).
- You can enter ‘Interactor’ and ‘Location’ (or alternative variables) values before (or after) you have tapped the Start button. Even if the Start button has been tapped, changes in those values do not, by themselves, induce the recording of an Event.
- Once you tap the Start button, an Event is recorded each time an ‘Activities’ button is tapped, and the highlighted ‘Interactor’ and ‘Location’ values are recorded as part of the Event. ‘Activities’ buttons do not remain highlighted after they are tapped.
- Each Event, which represents a line entry in the data set, will contain values for ‘Activity’ (or other variable), ‘Interactor’ (or other variable), and may contain a value for ‘Location’ (or other variable). Values entered on the Trial Information slip are, of course, included in the line entry of the Event.
- By default, the ‘Interactor’ variable is set to the ‘Nil’ (or none) value. In the event that you are using that category of Event buttons for recording interactors, the default setting insures that ‘None’ is recorded as a legitimate value.
- The values for Focal ID and other variables on the Trial Information slip can be entered or changed before, during, or after the trial. Thus, you can begin or add Events to a trial before you have identified positively the focal subject’s ID.
- To enter for the first time or to change the values of Trial Information variables, open the Trial Information slip by tapping the Trial Info Header at the top of the data-entry screen.
- Changes made to the Trial Information slip are applied to the trial when the slip is closed.
- Changes will be applied to **all Events** in the trial. That condition is necessary because of the potential need to be able to enter Focal ID (and, perhaps, Species) after an Event(s) has (have) been recorded.
- If you wish to enter values on the Trial Information slip and have those changes applied to subsequent Events only, first you have to “spawn” from the current trial a “daughter” Trial Record, then enter the changes to the Trial Information slip. See below for instructions on how to create a daughter Trial Record.

Periodic sampling of multiple focal subjects

Within an observation session, you may wish to record an Event (or Events) for multiple focal subjects (rather than multiple Events for a single focal subject). If that is so, you have to “spawn” a new Trial Record that is a “daughter” of the original Trial Record. By default, the daughter Trial Record inherits the values entered on the Trial Information slip of the parent Trial Record, and the Focal ID that you enter is appended to the parent Trial ID to create a “unique” Trial ID. Thus, daughter trials readily can be identified as being part of a specific observation session. When a new Focal ID has been chosen and a daughter Trial Record has been created, the data-entry screen Clock continues to display the elapsed time of the original trial (observation session), but the Events counter in the lower right corner of the Trial Info Header resets to ‘0’.

New Focal ID button. Tap this to open the New Trial slip

Clock. Displays the Elapsed Time of a trial (or observation session)

Stop button. Tap this to end a trial (or observation session)

| | | | | | |
|----------------------------|------------------------------------|----------------------------|---------------------|--------------|-----|
| Trial: 970710-R1-01 | | Focal ID: Animal #1 | | | |
| Species: Species #2 | | Events: 1 | | | |
| New Focal ID | ELAPSED TIME 0:57 | | Stop | | |
| Interactors | | | | | |
| Mother | Pred | Sib 1 | Sib 2 | Sib 3 | NIL |
| Locations | | | | | |
| Burrow | <1 m | <2 m | <4 m | <8 m | |
| <16 m | <32 m | <64 m | <128 m | ≥128 m | |
| Activities | | | | | |
| Bask | Sleep | Slouch | Stand | Alert | |
| Chased | Chase | Groom | Hide | Freeze | |
| Forage | Walk | Run | Play | ? | |
| Alarm | Bite | Tail flick | Chirp | Scan | |
| i | Notes | Timer | Replace Last | | |

Once you have “spawned” a new trial, if necessary, tap the appropriate buttons in these categories

Periodic sampling of multiple focal subjects - continued

Spawning a new daughter trial

- To “spawn” a new Trial Record, you do NOT have to stop the active trial. Instead, tap the New Focal ID button in the upper left corner of the Periodic sampling data-entry screen. **New Focal ID**
- The New Trial slip appears.

Tap the Focal ID and/or the Species picklist to reveal a list of values

The screenshot shows a form titled "New Trial" with two picklist fields. The "Focal ID" field is set to "Animal #1" and the "Species" field is set to "Species #2". At the bottom right, there are two buttons: "Add Events" and a close button (an 'X' in a square).

By default, the Focal ID and Species are set to the values of the last trial

If the value that you wish to enter is not in the picklist, 'Scrub out' the default value(s). Use the pen to write a value

The screenshot shows the "New Trial" form with the "Focal ID" picklist open. The list contains three options: "Animal #1", "Animal #2", and "Animal #3". The "Species" field remains "Species #2". The "Add Events" and close buttons are still visible at the bottom.

If the new Focal ID is known at the time the 'daughter' trial is created, tap the value in the list

The screenshot shows the "New Trial" form with "Animal #3" selected in the "Focal ID" field. The "Species" field is still "Species #2". The "Add Events" and close buttons are at the bottom.

Add Events button. Tap this to create a 'daughter' Trial Record

Close box. Tap this to cancel the 'daughter' Trial Record

Periodic sampling of multiple focal subjects - continued

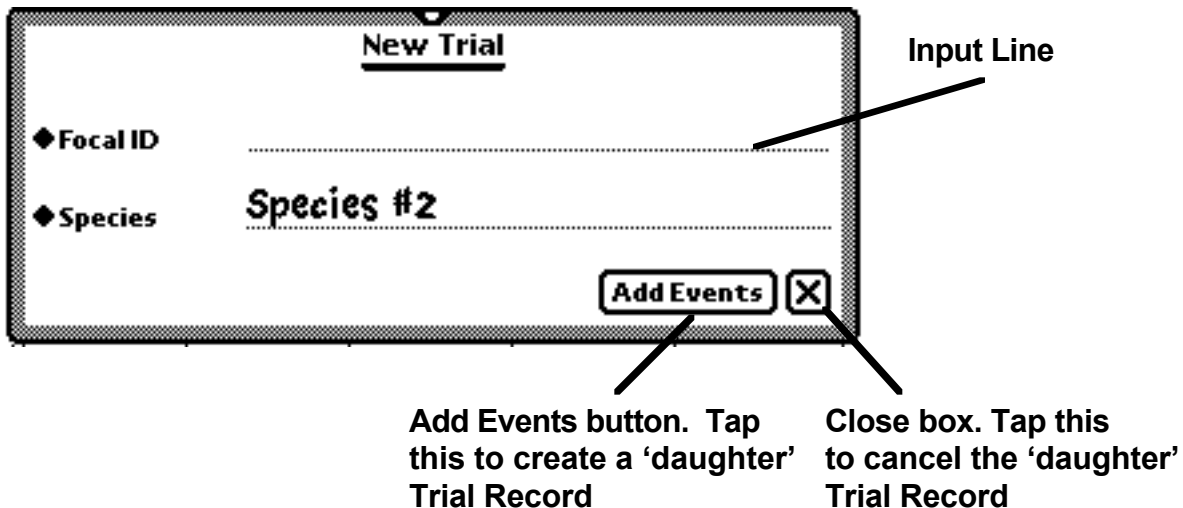
Spawning a new daughter trial - continued

- In many instances, during an observation session, the Focal ID might not be known at the time you want to create a 'daughter' Trial Record. If that is so, you can create a Trial Record, anyway. Once a new Trial Record is created, Events and Focal ID can be entered in any order.

If you do not know the Focal ID or Species at the start of a new 'daughter' trial, leave the input line empty

Tap the Add Events button

You can enter a Focal ID and Species after you have added Events



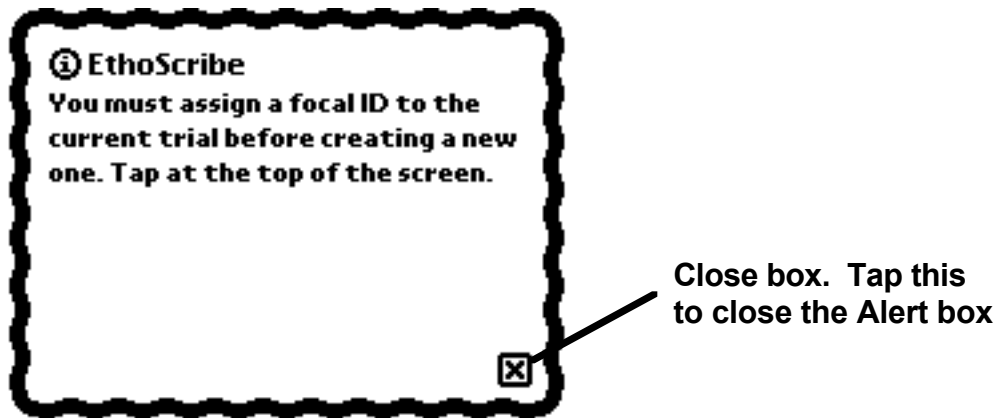
- To enter a Focal ID (or other Trial Info slip variable) after Events have been recorded, access the Trial Information slip by tapping the data-entry screen's Trial Info Header.



- Once you have entered values on the Trial Information slip, to return to the Periodic sampling data-entry screen, tap the Close box in the lower right corner of the Trial Information slip.

Periodic sampling of multiple focal subjects - continued

- During an observation session, if you have not entered a Focal ID for the current trial, when you attempt to create a new Trial Record you will receive the following message:



- To enter a Focal ID for the current trial, before creating a 'daughter' trial, open the Trial Information slip by tapping the data-entry screen's Trial Info Header.

Periodic sampling of multiple focal subjects - continued

Trial ID of a 'daughter' Trial Record

Once your observation session is completed and you have tapped **Done**, you will return to the Trial Records Overview screen. The Focal ID that you entered in a 'daughter' trial is appended to the parent Trial ID to create a "unique" Trial ID. Thus, daughter trials readily can be identified as being part of a specific observation session.

| EthoScribe™ 1.0 | |
|-------------------------|-------------------------|
| Marmot foraging project | |
| 9 trials | |
| Trial Date | Trial ID |
| 9/3/97 11:59 | 34567 - 45GR |
| 9/25/97 8:37 | 22 - Animal #2 |
| 9/25/97 10:17 | 1 |
| 9/25/97 14:30 | 22 |
| 9/25/97 15:55 | 11 |
| 9/25/97 17:46 | 970925-1745 - Bar Dot |
| 9/26/97 10:44 | 970926-1045 - T Dot Bar |
| 9/26/97 15:17 | 226 - Animal #2 |
| 10/8/97 10:50 | Suppl.-970710@1045 - 88 |

Trial IDs of 'daughter' trials

Example configurations of the Periodic sampling data-entry screen

Using Event buttons for variables other than 'Interactor', 'Location', and 'Activity'

In your project, you may wish to use Events buttons to record values of variables other than those for which they were "intended" to record. Consider the following example, which simulates a study of the behavior within elk herds that vary in size.

| Trial: BAW-NW Herd-97071 | | | Focal ID: NW Herd | |
|--------------------------|------------------------|------------------------------|-------------------|-------------------------|
| Species: Elk | | | Events: 11 | |
| New Focal ID | | ELAPSED TIME 12:14 | | Stop |
| Interactors | | | | |
| NEWBORN | JUVENILE | YEARLING | NON REPRO | ADULT |
| Locations | | | | |
| 0 | 1 | 2 | 3-6 | 7-10 |
| 11-15 | 16-20 | 21-25 | 26-30 | 31+ |
| Activities | | | | |
| LAYING DOWN GROOMING | LAYING DOWN HEAD UP | LAYING DOWN HEAD DN | FORAGING | CHEWING HEAD DOWN |
| HEAD UP | GROOM STANDING | NURSING | DRINKING | CHEWING HEAD UP |
| RUNNING | WALKING HEAD UP | WALKING HEAD DOWN | HORSING | MOUNTING |
| | | | | |
| i | Notes | Timer | Replace Last | |

'Interactor' buttons used to enter 'Age Class'

'Location' buttons used to enter 'Number of Individuals exhibiting behavior'

Activities buttons. Tap one of these to record the behavior, after you have entered an 'Age Class' and the 'Number of Individuals exhibiting behavior'

Notes button. Tap this to open the Trial Notes screen

In the example, above, the Trial Notes screen can be used to record, say, 'Herd Size', or the specific number of individuals exhibiting a particular behavior. For an alternative data-entry screen configuration, see "Example configurations of the Periodic w/Location data-entry screen" (page 48).

Example configurations of the Periodic sampling data-entry screen - continued

Using Events buttons to record the names of variables

Your project may require information on more variables than are supported by the “standard” configuration of the Periodic sampling data-entry screen. If that is the case, you can assign to ‘Interactor’ or ‘Location’ buttons the names of **Variables** (rather than Values). Consider the following example based on a study of food allocation within egret broods.

| Trial: FAE#1-970710-R1 | | | Focal ID: Nest R-1 | |
|------------------------|-------------|----------------------|--------------------|-------------------|
| Species: GREG | | | Events: 9 | |
| New Focal ID | | ELAPSED TIME 7:46 | | Stop |
| Interactors | | | | |
| BOLUS SIZE | BOLUS SHARE | PARTICIPATION | BEG | PARENT |
| Locations | | | | |
| A | B | C | D | LOST |
| Activities | | | | |
| 0 | 1 | 2 | 3 | 4 |
| 5 | 6 | 7 | 8 | 9 |
| 10 | | PARENT 1 (RED) | | PARENT 2 (YELLOW) |
| FULL | ACTIVE | EXCLUDED | ABSENT | NEWBOLUS |
| i | Notes | Timer | Replace Last | |

‘Interactor’ buttons used as variables

‘Location’ buttons used as values for the variable ‘Offspring ID and fate of bolus’

‘Activity’ buttons used as values for ‘Bolus Size’, ‘Bolus Share’, ‘Participation’, ‘Beg’, and ‘Parent’

Notes button. Tap this to open the Trial Notes screen

- Remember, you can use the Trial Notes screen to enter additional information that is specific to the active Trial Record.

The Periodic w/Location data-entry screen

- To open the Periodic w/Location sampling data-entry screen, on the Add Trial Events slip, tap 'Type', and select 'Periodic w/Location'.
- Tap **Add Events**. The Periodic w/Location sampling data-entry screen appears.

Clock. Tap this to toggle between Elapsed Time and Time of Day

Start button. Tap this once you are ready to begin the trial

| | | | | | |
|--------------------------|-------|-----------------------------|--------------|-------------|-----|
| Trial: 970710-R1-01 | | Focal ID: <unknown> | | | |
| Species: Species #2 | | Events: 0 | | | |
| Tap START to begin | | ELAPSED TIME 0:00 | Start | | |
| Interactors | | | | | |
| Mother | Pred | Sib 1 | Sib 2 | Sib 3 | NIL |
| X Location Y Location | | Set Loc | | | |
| Activities | | | | | |
| Bask | Sleep | Slouch | Stand | Alert | |
| Chased | Chase | Groom | Hide | Freeze | |
| Forage | Walk | Run | Play | ? | |
| Alarm | Bite | Tail flick | Chirp | Scan | |
| i | Notes | Timer | Replace Last | Done | |

Location picklists. Tap these to reveal lists of values

Set Location button. Tap this after each change in 'Location'

Input line. You can enter a value by writing it here

Activities buttons. Tap these to record an Event

Done button. Tap this to (1) cancel a trial before it has started, or (2) close the Trial Record after the trial (or observation session) is completed

The Periodic w/Location data-entry screen - continued

Event button categories and data entry

- The Periodic w/Location data-entry screen has all of the attributes of and functions in the same manner as the Periodic sampling data-entry screen, with the exception of the manner in which 'Location' (or alternative variables) is recorded.
- The 'Location' picklists and their input lines enable you to record a variable that has a large number of possible values, or a variable for which you cannot pre-define all or some of the possible values.
- Whether you are using the picklists for 'Locations' or other variables, you do not have to enter values in both fields, and the picklists need not apply to the same variable (values recorded in those fields appear in separate columns in the database).
- To enter 'Location' values on the Periodic w/Location sampling data-entry screen, tap the X Location and/or Y Location picklists and select a preset value, or write the value on the input line. For additional information, see page 36.
- Remember, you must tap the Set Loc button to save the values that you have entered. That can be done before or after you have tapped the Start button to begin the trial.

Example configurations of the Periodic w/Location sampling data-entry screen

Using 'X Location' and 'Y Location' picklists for variables other than 'Location'

In the Elk behavior study example presented earlier (page 43), 'Location' buttons were used to record the number of individuals exhibiting a particular behavior. On the Periodic sampling data-entry screen, the number of individuals exhibiting a particular behavior was assigned to one of 10 classes (buttons). If the variable 'Number of individuals exhibiting the behavior' has more than 10 possible values, the Periodic w/Location sampling data-entry screen is appropriate. In the example shown below, the 'X Location' and 'Y Location' fields are used to record values of the variables 'Number of Individuals Exhibiting the Behavior' and 'Group Size', respectively.

Trial: BAW-NW Herd-97071 | **Focal ID: NW Herd**
Species: Elk | **Events: 16**

New Focal ID | **ELAPSED TIME 10:30** | **Stop**

Interactors

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------|----|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| NEWBORN | JU | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |

X Location

Y Location

Activities

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------|----------|---------|---------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| LAYING DOWN | GROOMING | HEAD UP | RUNNING | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Set Loc

Notes | **Replace Last**

X Location picklist. Used here to enter values of the variable 'Number of Individuals Exhibiting the Behavior'

Y Location picklist. Used here to enter values of the variable 'Group Size'

Tap a 'Location' picklist and select a value

Alternatively, you can enter the value by writing on the input line.

Tap the Set Loc button to save the values that you have entered

- Remember: 'X and Y Location' values are saved when the Set Loc button is tapped after the values have been entered.

Example configurations of the Periodic w/Location sampling data-entry screen - continued

Using a Periodic w/Location sampling data-entry screen to execute multiple sampling methods

In some projects, within an observation session, you may not have time to open and close Trial Records when using more than one sampling method simultaneously. For instance, to record behavior, you may be using both All-occurrence and Fixed-interval Scan sampling methods.

In the following example, which is based on a study of Arctic Tern parental behavior, All-occurrence sampling is used to record parental food provisioning, and Scan sampling is used to record parental behavior at the nest. 'Interactor' buttons are used to record the name of a variable, X Location and Y Location fields are used to record 'Nest ID' and 'Parent ID', respectively. 'Activity' buttons are used to record values of 'Behavior', 'Prey Species', and 'Prey Size'.

The screenshot shows a data-entry interface for a trial. At the top, it displays 'Trial: 1' and 'Focal ID: Seabreeze'. Below this, 'Species: Arctic Tern' and 'Events: 19' are shown. An 'ELAPSED TIME' of 1:42 is displayed in a dashed box. A 'New Focal ID' button is on the left, and a 'Stop' button is on the right. The 'Interactors' section contains a 'BEHAVIOR' button, a 'PREY SPECIES' field, and a 'PREY SIZE' field. Below this, 'X Location' is set to 'AN10' and 'Y Location' is set to 'BreBle'. A 'Set Loc' button is positioned to the right of these fields. The 'Activities' section is a grid of buttons: 'ABSENT', 'BROODING', 'PREENING', 'DEFENDING', 'NEST BUILDING', 'RESTING', 'OTHER', 'HERRING', 'HAKE/ROCKLING', 'POLLOCK', 'SAND-LANCE', 'BUTTER-FISH', 'EUPHASID', 'Bill length', '+1 cm', '+2 cm', '+3 cm', and '+4 cm'. At the bottom, there are buttons for 'Notes', 'Timer', and 'Replace Last'. Annotations on the left and right explain the functions of these elements.

X Location button. Tap this to reveal a list of 'Nest IDs'

Y Location button. Tap this to reveal a list of 'Parent IDs'

Tap a button to record the name of a variable

Set Loc button. Tap this each time you change values of 'Nest ID' or 'Parent ID'

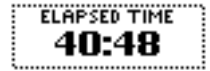
Tapping this records an 'Activity'

Tapping this records a 'Prey Species'

Tapping this records a 'Prey Size'

Displaying the Elapsed Time of a trial

- By default, when a data-entry screen is opened, the Clock displays Time of Day.
- Tap the Clock to reveal the Elapsed Time of the trial, or in the case of Periodic sampling, the observation session (a session of Periodic sampling may contain multiple trials).
- When the Stop button in the upper right corner of the data-entry screen is tapped, the display of Elapsed Time reverts to the "0:00" condition.
- Tap the Clock, again, to display Time of Day.



Using the Audible Timer

EthoScribe's Audible Timer gives you the option of hearing a sound at a preset, fixed interval, which begins when you tap the Start button. On any data-entry screen, to set and activate (or deactivate) the Audible Timer, tap the Timer button in the lower left corner of the screen.

Timer button. Tap this to open the Timer Options slip

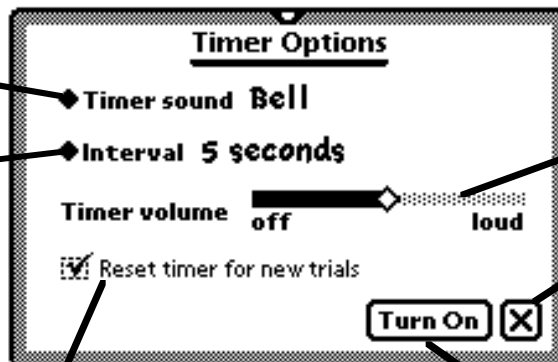


Timer Options slip

Timer sound picklist. Tap this to reveal a list of sounds

Interval picklist. Tap this to reveal a list of time intervals

Reset Checkbox. Tap this to remove the checkmark. If you do so, the timer will not reset with each new trial



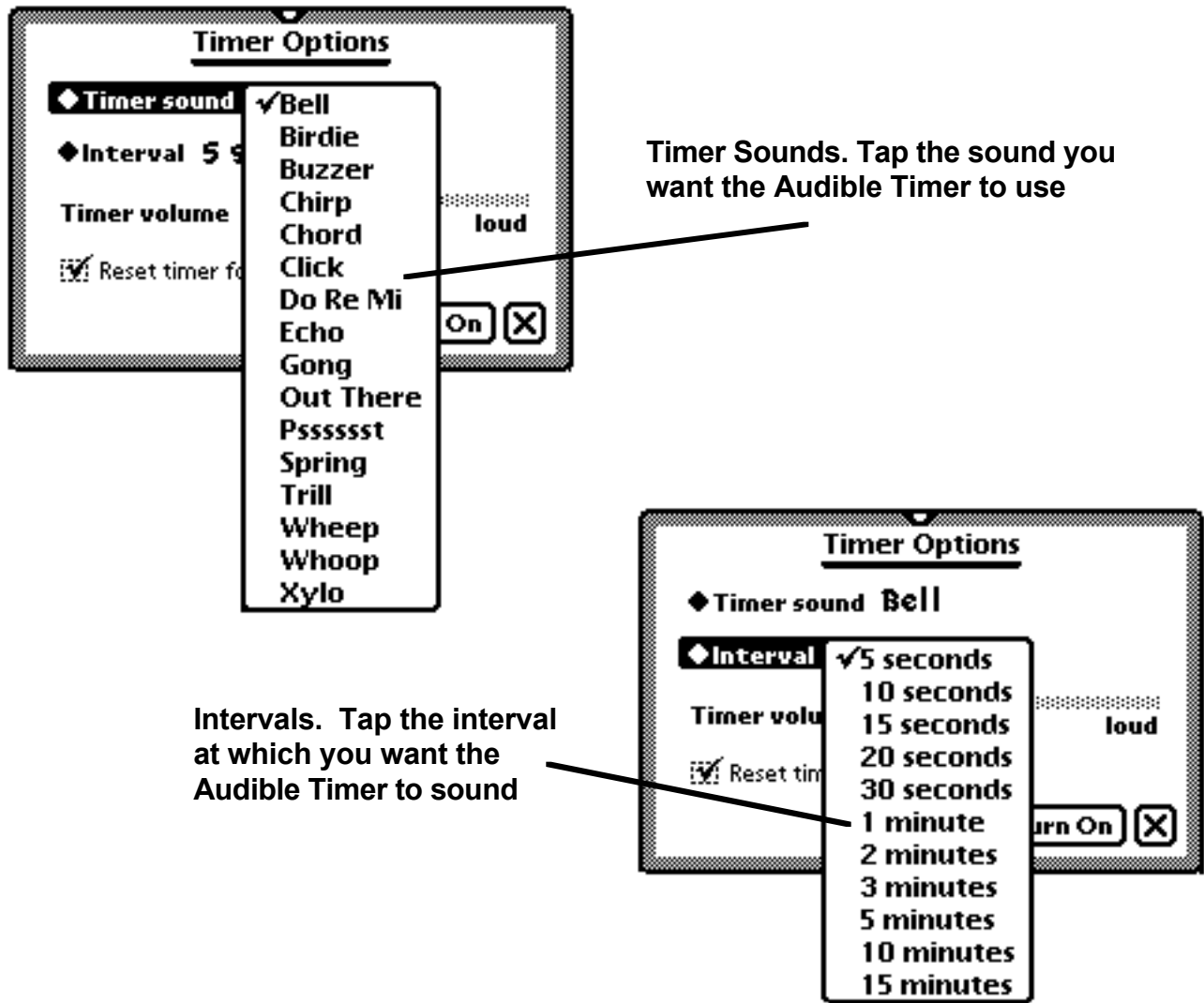
Timer volume slider bar. Tap this to change the volume of the sound

Close box. Tap this when you want to save your options, but do not want to activate the AudibleTimer

Turn On button. Tap this to activate the Audible Timer

Using the Audible Timer - continued

Setting the Audible Timer options



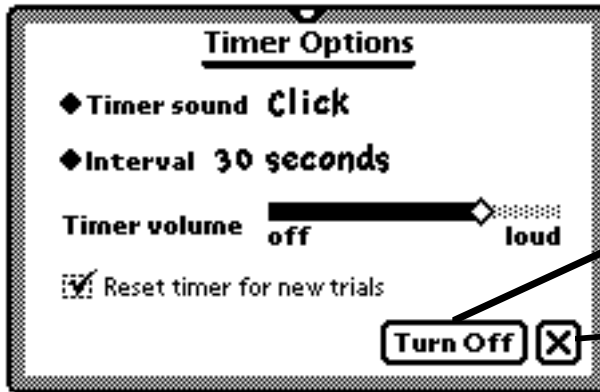
Activating the Audible Timer

- On the Timer Options slip, tap **Turn On** to activate the Audible Timer function; otherwise, tap the Close box.
- The Audible Timer begins sounding once the data-entry screen's **Start** button is tapped.

Using the Audible Timer - continued

Stopping the Audible Timer

- On any data-entry screen, to open the Timer Options slip, tap **Timer**



Turn Off button. Tap this to deactivate the Audible Timer


Close box. Tap this if you wish to keep the Audible Timer on

Updating Trial Information slip variables in the course of a trial





- During a trial, you can open the Trial Information slip by tapping the Trial Info Header at the top of the data-entry screen.



Trial Info Header. Tap this to open the Trial Information slip

- For Continuous sampling data-entry screens, changes made to the Trial Information slip variables are applied to the trial when the Trial Information slip is closed. Changes will apply to the current and subsequent Events, but will not affect Events recorded prior to the opening of the Trial Information slip.
- For Periodic sampling data-entry screens, changes made to the Trial Information slip variables are applied to the trial when the Trial Information slip is closed. Those changes will apply to all Events in the trial.
- Tap the Close box, , in the lower right corner of the Trial Information slip to activate your changes and return to the data-entry screen.


Entering Trial Notes from within a data-entry screen

- To open the Trial Notes screen, tap the Notes button in the lower left corner of the data-entry screen. 
- Tap the Trial Notes screen where you wish the notes to begin. The Newton 'caret' appears on the screen. 
- Enter notes using handwriting or the on-screen keyboard. To open the on-screen keyboard, tap the Keyboard button. 
- To return to the data-entry screen, tap the Close box in the lower right corner of the Trial Notes screen. 
- Trial notes entered from within a data-entry screen, either before, during, or after a trial has been executed, can be accessed from within the Trial Information slip by tapping the Notes button on that slip.

Correcting an erroneous entry

If you tap the wrong Events button on a data-entry screen, you can easily correct your mistake without affecting any other aspect of the trial. That is, you can change the name assigned to the last Event recorded, but calculations of duration and frequency are not affected. The replacement value must be of the same Events category as the erroneous entry, and you cannot eliminate an Event. The procedure to correct an erroneous entry can differ somewhat between Continuous and Periodic sampling data-entry screens.

Correcting an erroneous entry when using Continuous sampling data-entry screens

- Tap the Replace Last button at the bottom of the data-entry screen. 
- The Replace Last button will highlight briefly, and EthoScribe will emit a sound, which indicates that you can proceed to enter the correct value.
- Tap the button that you had intended to tap. The replacement value must be of the same Event category (e.g., replace one 'Continuous Activity' for another). You will hear a sound, which indicates that the change has been made. Then, proceed with the trial.
- On Continuous sampling data-entry screens, the Replace Last function cannot be applied to the Point Activity buttons.
- Remember, if you are using the Continuous w/Location sampling data-entry screen and you have re-entered a 'Location' value, you have to tap the Set Loc button to save the change.

Correcting an erroneous entry - continued

Correcting an erroneous entry when using Periodic sampling data-entry screens

(1) If you tapped the wrong 'Interactor' or 'Location' button and you recognized the error **before** you tapped an 'Activity' button, tap the correct value(s) of 'Interactor' or 'Location'. Values are not recorded until an 'Activity' button is tapped, so you do not have to use the Replace Last button.

(2) If you tapped the wrong 'Activity' button, tap the Replace Last button at the bottom of the data-entry screen. The Replace Last button will highlight briefly, and EthoScribe will emit a sound, which indicates that you can proceed to enter the correct 'Activity'.



Tap the correct 'Activity' button. You will hear a sound, which indicates that the change has been made. Then, proceed with the trial.

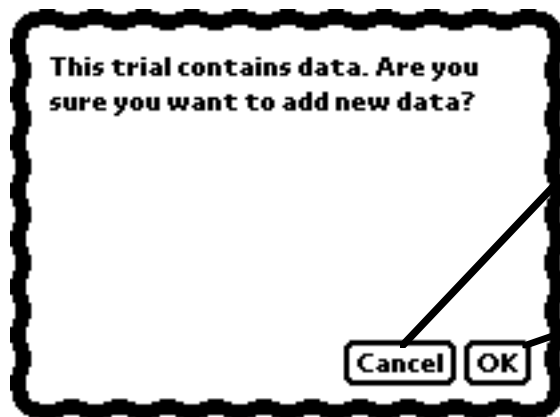
(3) If you tapped the wrong 'Interactor' or 'Location' button, but you did not recognize the error until **after** you tapped an 'Activity' button, tap the Replace Last button at the bottom of the data-entry screen.

Tap the 'Location' or 'Interactor' button that you had intended to tap. Then, tap the 'Activity' button, again (even if the correct 'Activity' was tapped the first time).

Remember, if you are using the Periodic w/Location sampling data-entry screen and you have re-entered a 'Location' value, you have to tap the Set Loc button to save the change.

Stopping a trial

- To stop a trial, tap the Stop button in the upper right corner of the data-entry screen. 
- The Stop button will revert to a Start button, and the Done button will appear in the lower right corner of the screen. 
- The Clock will reset the Elapsed Time to the "0:00" state.
- If you want to re-start and add Events to a trial that has been stopped, you can do so, but you will be issued the following Alert box after you tap the Start button:




Cancel button. Tap this if you do not want to add data to the trial that has been stopped

OK button. Tap this if you want to add data to the trial that has been stopped




- The trial will proceed after you tap the OK button.

Deleting the Events of a Trial Record

Infrequently, perhaps, you will have a reason to delete the Events of a trial that has been stopped, yet, keep the Trial Record otherwise intact. When you delete a trial's Events, the Trial Record returns to the '0 Events' condition, and can be used with any type of data-entry screen.

- To delete the Events of a trial, but retain the Trial Record, tap the name of the Trial Record in which you wish to remove Events. A Trial Information slip appears.
- At the bottom of the slip, the Events button displays the number of Events that will be deleted.
- Tap the Events button. 

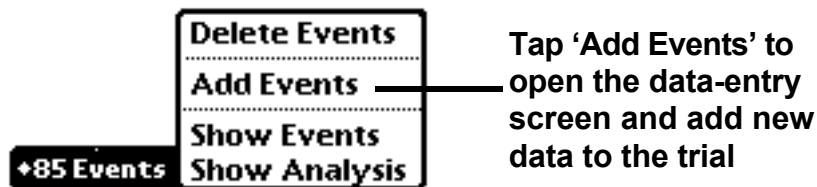





- From within the Events button picklist, select 'Delete Events'.
- Before the Events are deleted, you will be asked to confirm your decision to delete the Trial Record's Events.
- Tap  to confirm your decision, or  to retain the trial's Events.
- If you tap the OK button, the Events button will revert to 

Adding Events to a Trial Record after the trial has stopped

Infrequently, perhaps, you will have a reason to add Events to a trial that has been stopped and the Trial Record has been closed. To add Events to a Trial Record that contains Events:

- Tap the name of the Trial Record in which you wish to add Events. The Trial Information slip appears.
- At the bottom of the slip, the Events button displays the number of Events that exist in the Trial Record.
- Tap the Events button.



- From within the Events button picklist, select 'Add Events'. The relevant data-entry screen opens.
- Tap 
- Before you can add Events to a Trial Record in which Events have been recorded, you will be asked to confirm your decision to add new data.
- Tap  to confirm your decision, or  to leave the trial untouched.
- Once you tap the OK button, the trial proceeds.

Showing the Events of a completed trial

EthoScribe's 'Show Events' option allows you to view a trial's data before you export those data to a desktop computer. To view the Events of a Trial Record:

- From within the Trial Records Overview screen, tap the name of the Trial Record that contains the Events data that you wish to view. The Trial Information slip appears.
- Tap the Events button at the bottom of the Trial Information slip.



- A list of the trial's Events (states of the focal subject) appear on the screen.

Trial Record Name

Duration (s) of the Event

Time of day at which the Event began

Values of the variables, which constitute the Event (state of the focal subject)

Close box. Tap this to return to the Trial Records Overview screen

| Suppl.-970710@1045 Events | | | | | |
|----------------------------------|------|------------|-----------|----------|--|
| Time | Dur. | Activity | Interact. | Location | |
| 10:50:34 | 396 | Bask | None | Burrow | |
| 10:57:10 | 11 | Slouch | None | Burrow | |
| 10:57:14 | -- | Tail flick | None | Burrow | |
| 10:57:17 | -- | Tail flick | None | Burrow | |
| 10:57:18 | -- | Tail flick | None | Burrow | |
| 10:57:21 | 5 | Stand | None | Burrow | |
| 10:57:26 | 4 | Walk | None | Burrow | |
| 10:57:30 | 3 | Walk | None | <1 m | |
| 10:57:33 | 18 | Forage | None | <1 m | |
| 10:57:36 | -- | Scan | None | <1 m | |
| 10:57:38 | -- | Scan | None | <1 m | |
| 10:57:51 | 5 | Groom | None | <1 m | |
| 10:57:51 | 0 | Stand | None | <1 m | |
| 10:57:56 | 3 | Walk | None | <1 m | |
| 10:57:59 | 2 | Walk | None | <2 m | |
| 10:58:01 | 1 | Chase | None | <2 m | |
| 10:58:02 | 4 | Chase | Sib 1 | <2 m | |
| 10:58:06 | 4 | Chased | Sib 1 | <2 m | |
| 10:58:10 | 1 | Stand | Sib 1 | <2 m | |
| 10:58:11 | 6 | Alert | Sib 1 | <2 m | |
| 10:58:12 | -- | Chirp | Sib 1 | <2 m | |
| 10:58:17 | 8 | Play | Sib 1 | <2 m | |
| 10:58:25 | 1 | Play | None | <2 m | |
| 10:58:26 | 3 | Groom | None | <2 m | |
| 10:58:29 | 6 | Chase | None | <2 m | |
| 10:58:35 | 5 | Chase | Sib 3 | <2 m | |
| 10:58:40 | 2 | Chased | Sib 3 | <2 m | |

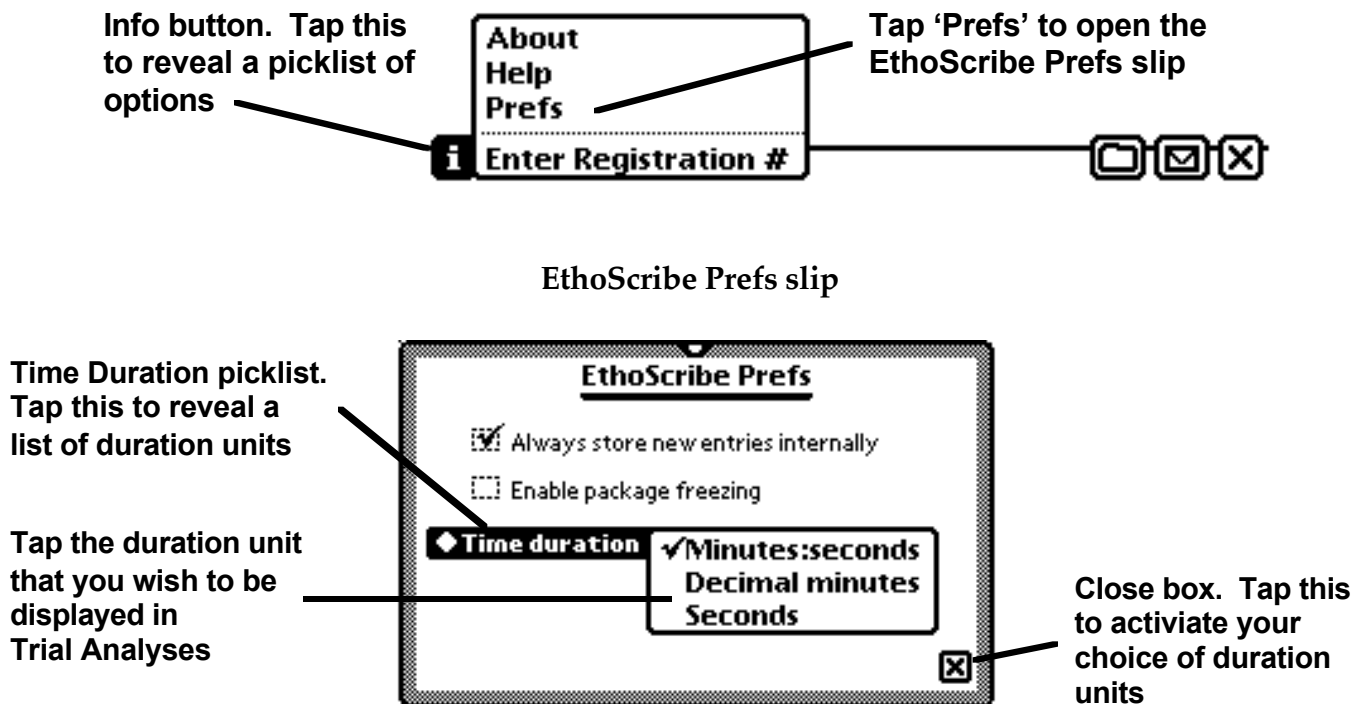
Chapter 6 - Conducting a Trial Analysis

Introduction

Any trial that was based on one of the Continuous sampling data-entry screens can be subjected to EthoScribe's Trial Analysis function. The Trial Analysis calculates the duration and frequency of occurrence of the values of variables used in a trial. Variables can be analyzed in a nested fashion, and you can calculate the percentage contribution of values as a proportion of the entire trial, or as a subset of the trial. The subset is created when the variable is nested according to the values of one or two other variables. You can save your analyses and, later, export those analyses to a desktop computer.

Setting the units in which 'Duration' will be displayed

EthoScribe needs to know the units in which you wish to express the duration of values. You have the choice of **Minutes:seconds**, **Decimal minutes**, and **Seconds**. By default, the time duration is expressed as Minutes:seconds. The unit of time that you choose will effect all projects, but you can change the units at any time. Changing the units in which 'duration' is expressed has no effect on the duration data, per se. To set duration units:



Accessing the Trial Analysis screen

- From within the Trial Records Overview screen, tap the name of the Trial Record on which you wish to perform an analysis. The Trial Information slip appears.
- Tap the Events button at the bottom of the Trial Information slip.

Events button. Tap this to reveal a list of the options for the trial

Tap 'Show Analysis' to open the Trial Analysis screen



The Trial Analysis screen

Trial Information

Show picklist. Tap this to reveal a list of data-entry screen variables

A screenshot of the Trial Analysis screen. The title is 'Suppl.-970710@1045 Analysis'. Below the title is a section for 'Trial Information' with the following details: Focal ID 88, Location Little Meadow East, Date Thursday, July 11 1996, Period 10:50 - 11:00, Events 57, and Duration 601 sec. Below this is a section for 'Show picklist' with a 'Show' button and a '← Select' button. Underneath is a table with three columns: 'Name', 'Duration', and 'Frequency'. The table is currently empty. At the bottom left, there is a checkbox labeled 'Percentages by subset'. At the bottom right, there is a close icon (an 'X' in a square). Arrows from the text labels point to the 'Trial Information' section, the 'Show' button, and the close icon.

| Name | Duration | Frequency |
|------|----------|-----------|
|------|----------|-----------|

Close box. Tap this when you have finished the Trial Analysis

Selecting variables for analysis

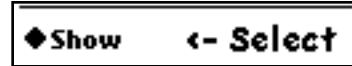
You can analyze sequentially all possible combinations of the four variables entered on a Continuous sampling data-entry screen. A single analysis can include up to three of the four variables. When more than one variable is included in the analysis, the principal (active) variable is nested within a value of another variable, which, in turn, can be nested within the value of a third variable. In other words, the active variable can occur at one of three levels.

- **Level 1** - The active variable is the only variable in the analysis. For the chosen variable, EthoScribe will calculate the duration and frequency of each value that occurred at least once in the trial.
- **Level 2** - The active variable is nested within a value of another variable that was chosen at Level 1. For the active variable, EthoScribe will calculate the duration and frequency of each value that occurred when, in the trial, the Level 1 variable assumed the value chosen at Level 1.
- **Level 3** - The active variable is nested within a value of another variable that was chosen at Level 2, and that of another variable that was chosen at Level 1. For the active variable, EthoScribe will calculate the duration and frequency of each value that occurred when, in the trial, the Level 2 variable assumed the value chosen at Level 2 and the Level 1 variable assumed the value chosen at Level 1.

Selecting variables for analysis - continued

Trial Analysis at Level 1: One variable

- On the Trial Analysis screen, tap the Show picklist.
- A list of the data-entry screen variables appears.



Tap the name of the variable that you wish to analyse

Trial Analysis at Level 1

Suppl.-970710@1045 Analysis

Focal ID 88
Location Little Meadow East
Date Thursday, July 11 1996
Period 10:50 - 11:00
Events 57
Duration 601 sec

Save Analysis

| ◆ Show Interactors | | |
|---------------------------|----------------|-----------|
| Name | Duration | Frequency |
| None | 540 sec (89.9) | 5 (55.6) |
| Sib 1 | 37 sec (6.2) | 2 (22.2) |
| Sib 3 | 12 sec (2.0) | 1 (11.1) |
| Mother | 12 sec (2.0) | 1 (11.1) |

'Interactor' values that were recorded in the trial

Amount of time spent with an 'Interactor'

Amount of time spent with an 'Interactor' as a proportion (%) of the total duration of the trial

The number of times an 'Interactor' was encountered

Encounters with an 'Interactor' as a proportion (%) of all encounters in the trial

Selecting variables for analysis - continued

Trial Analysis at Level 2: One variable nested within a value of another variable

- Tap the Show picklist at Level 1.
- A list of the data-entry screen variables appears.

◆ Show ← Select

◆ Show

| |
|-----------------------|
| Interactors |
| Locations |
| Continuous Activities |
| Point Activities |

Tap the name of the variable in which you wish to nest the Level 2 (active) variable

- Once you tap the name of the variable in which you wish to nest a second variable, the values of the Level 1 variable are listed along with their duration and frequency (as illustrated on the previous page, and below).
- In the list of values of the Level 1 variable, tap the value that you wish to use to create a subset of the Level 2 (active) variable.

Tap the value in which you wish to nest the Level 2 (active) variable

| ◆ Show | Interactors | | |
|--------|----------------|-----------|--|
| Name | Duration | Frequency | |
| None | 540 sec (89.9) | 5 (55.6) | |
| Sib 1 | 37 sec (6.2) | 2 (22.2) | |
| Sib 3 | 12 sec (2.0) | 1 (11.1) | |
| Mother | 12 sec (2.0) | 1 (11.1) | |

- The name of the value that you choose will appear below the name of the variable at Level 1 (see the illustration on the next page).

Selecting variables for analysis - continued

Trial Analysis at Level 2: One variable nested within a value of another variable - continued

Suppl.-970710@1045 Analysis

Focal ID 88
Location Little Meadow East
Date Thursday, July 11 1996
Period 10:50 - 11:00
Events 57
Duration 601 sec

◆ **Level 1 Interactors**
Name Sib 1

◆ **Show**

| Name | Continuous Activities | Frequency |
|------|-----------------------|-----------|
| | Locations | |
| | Point Activities | |

Variable in which the active variable will be nested

Value of the Level 1 variable that will be used to create a subset of the Level 2 variable

Tap the Show button to reveal a list of the variables that can be used at Level 2

Tap the name of the variable that you wish to analyse as a subset of the Level 1 value

Trial Analysis at Level 2

| ◆ Level 1 Interactors | | ◆ Show Locations | |
|-----------------------|--------------|------------------|--|
| Name | Duration | Frequency | |
| | | | |
| <2 m | 23 sec (3.8) | 1 (7.1) | |
| Burrow | 14 sec (2.3) | 1 (7.1) | |

Values of the Level 2 (active) variable when the value of the Level 1 variable is 'Sib 1'

Amount of time spent with 'Sib 1' at a 'Location'

The number of times 'Sib 1' was encountered at a 'Location'

Encounters with 'Sib 1' at a 'Location' as a proportion (%) of all combinations of 'Interactor' and 'Location' in the trial

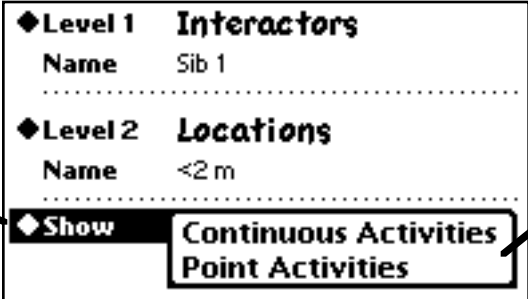
Amount of time spent with 'Sib 1' at a 'Location' as a proportion (%) of the total duration of the trial

Selecting variables for analysis - continued

Trial Analysis at Level 3: One variable nested within the values of two other variables

- Tap the Show picklist at Level 1. A list of the data-entry screen variables appears.
- Tap the name of the variable in which you wish to “nest” a second variable. The values of the Level 1 variable are listed.
- In the list of values of the Level 1 variable, tap the name of the value that you wish to use to create a subset of the Level 2 variable. The name of value will appear below the name of the variable at Level 1.
- Tap the Show picklist at Level 2. A list of the remaining data-entry screen variables appears.
- Tap the name of the variable in which you wish to “nest” a third variable. The values of the Level 2 variable are listed (as illustrated on the previous page).
- In the list of values of the Level 2 variable, tap the name of the value that you wish to use to create a subset of the Level 3 (or active) variable. The name of value will appear below the name of the variable at Level 2.

Tap the Show button to reveal a list of the variables that can be used at Level 3



Tap the name of the variable that you wish to analyse as a subset of the Level 1 and Level 2 values

Trial Analysis at Level 3

| ◆Level 1 Interactors | | |
|-----------------------------|-------------|-----------|
| Name | Sib 1 | |
| | | |
| ◆Level 2 Locations | | |
| Name | <2 m | |
| | | |
| ◆Show Continuous Activities | | |
| Name | Duration | Frequency |
| Chase | 4 sec (0.7) | 1 (2.3) |
| Chased | 4 sec (0.7) | 1 (2.3) |
| Stand | 1 sec (0.2) | 1 (2.3) |
| Alert | 6 sec (1.0) | 1 (2.3) |
| Play | 8 sec (1.3) | 1 (2.3) |

Choosing the level at which percentages are calculated

The Trial Analysis calculates the duration and frequency of each value of a variable. The relative contribution of each value is expressed as either (1) a proportion (%) of the entire trial or (2) a proportion (%) of all values of a variable when the variable is nested within the value(s) of one or two other variables (i.e., as a 'subset' of the entire trial).

Calculations of Proportions: Duration

- When the relative contribution of a value is expressed as a proportion of the entire trial, the duration of each value is divided by the duration of the trial. Consequently, when a variable is nested within the value(s) of one or two variables, the percentages displayed for values of the active variable may not sum to 100%. When a variable is not nested within another variable (Level 1 Analysis), the percentages based on Duration that are displayed for values of the variable will always sum to 100%.
- When the relative contribution of a value is expressed as a proportion of the subset of the trial, the duration of each value in the subset is divided by the sum of the durations of all values occurring within the subset. Consequently, when a variable is nested within the value(s) of one or two variables, the percentages based on Duration that are displayed for values of the active variable will always sum to 100%.

Calculations of Proportions: Frequency of occurrence

- When the relative contribution of a value is expressed as a proportion of the entire trial, the frequency of each value is divided by the total number of combinations of values of each variable that is included in the analysis. When the 'Point Activities' variable is included in the analysis, all Events that have a "Point Activity" value are included in the calculation of the number of combinations of values, regardless of whether those Events occur consecutively. Otherwise, an Event is included only if a given combination of values of each variable occurs nonconsecutively. In all cases, when a variable is nested within the value(s) of one or two variables, the percentages displayed for values of the active variable may not sum to 100%. When a variable is not nested within another variable (Level 1 Analysis), the percentages displayed for values of the variable will always sum to 100%.
- When the relative contribution of a value is expressed as a proportion of the subset of the trial, the frequency of each value in the subset is divided by the sum of the frequencies of all values occurring within the subset. Consequently, when a variable is nested within the value(s) of one or two variables, the percentages based on Frequency of occurrence that are displayed for values of the active variable will always sum to 100%.

Choosing the level at which percentages are calculated - continued

By default, the calculation of proportions (%) of duration and frequency of occurrence is based on the entire trial (as indicated in the illustrations of this chapter). If you wish to view (and, perhaps, save) percentages calculated at the level of the subset, tap the checkbox next in the lower left corner of the Trial Analysis screen. Tapping the checkbox (or text) precipitates the recalculation of '%' values, so you do not have to run the analysis again to obtain values using the alternative setting.

Suppl.-970710@1045 Analysis

Focal ID 88
Location Little Meadow East
Date Thursday, July 11 1996
Period 10:50 - 11:00
Events 57
Duration 601 sec **Save Analysis**

◆ **Level 1 Interactors**
Name Sib 1

◆ **Level 2 Locations**
Name <2 m

◆ **Show Continuous Activities**

| Name | Duration | Frequency |
|--------|--------------|-----------|
| Chase | 4 sec (17.4) | 1 (20.0) |
| Chased | 4 sec (17.4) | 1 (20.0) |
| Stand | 1 sec (4.3) | 1 (20.0) |
| Alert | 6 sec (26.1) | 1 (20.0) |
| Play | 8 sec (34.8) | 1 (20.0) |

When calculations are based on the subset, proportions always add to 100%

Percentages by subset X

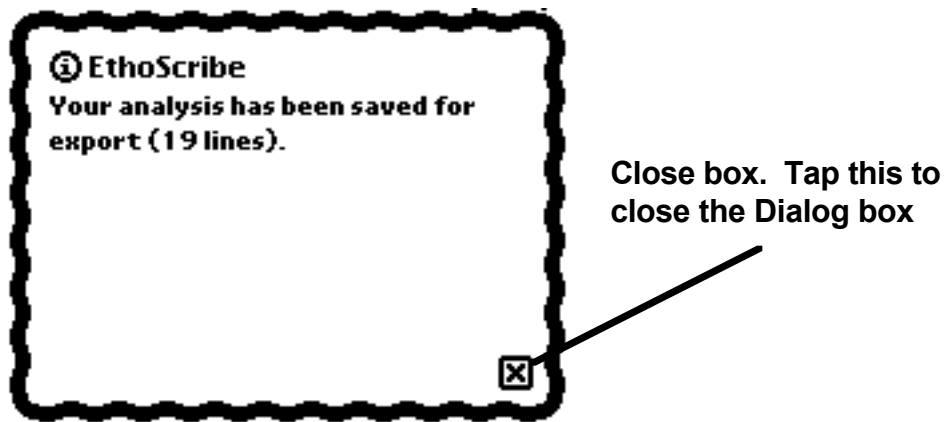
When this box has a checkmark, the calculation of % duration and % frequency is based on the subset created when the active variable is nested within one or two variables

Saving a Trial Analysis

Each analysis that you run on a trial's data can be saved for export to a desktop computer. Each analysis is saved individually, so, prior to running another analysis, you must save the current analysis (or run the analysis again).

To save an analysis:

- Conduct an analysis at any level. The Save Analysis button appears in the upper right corner of the Trial Analysis screen. **Save Analysis**
- Tap the Save Analysis button. An EthoScribe Dialog box appears.



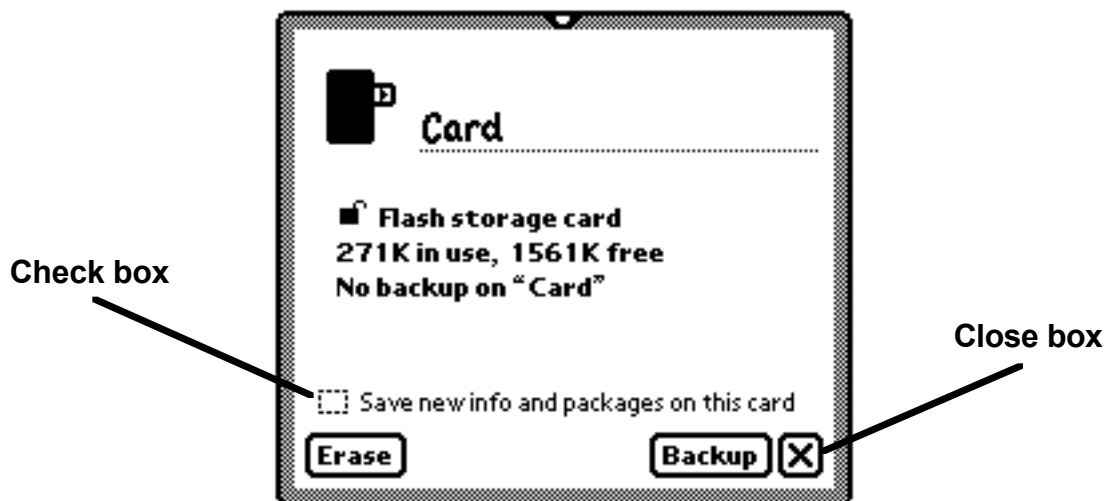
- Close the EthoScribe Alert box. Proceed to your next trial analysis.
- Trial Analyses are stored in the 'EthoScribe Analysis' "soup". The contents of that soup are exported from within each EthoScribe project. For more information on the exporting of Trial Analyses, see Chapter 8, "Exporting Data to a Desktop Computer."


Chapter 7 - Backing Up Data to a Storage Card

Although the probability that you will lose some or all of your original EthoScribe data is very low, you should, periodically, back up your data to a storage card. The frequency with which you back up your data is your decision, but we suggest backing up at least after each observation session. If your sampling method and the nature of your study permit more frequent backing up, you might choose to make a backup between trials. In short, it is best to backup your data whenever your schedule permits you to do so. In that way, you will always have at least two copies of the data (more if you back up to more than one card).


To back up data to a Flash storage card, first, ensure that a card is inserted into the PCMCIA card port. If you do not know how to do that, please open your Newton MessagePad Handbook on page 38 (page 29 of the MessagePad 2000 Getting Started booklet) and read "Using Storage and Application Cards". If you are using a MessagePad 130 (or 120), be sure that you have locked the card in place by pushing the Newton's locking tab.

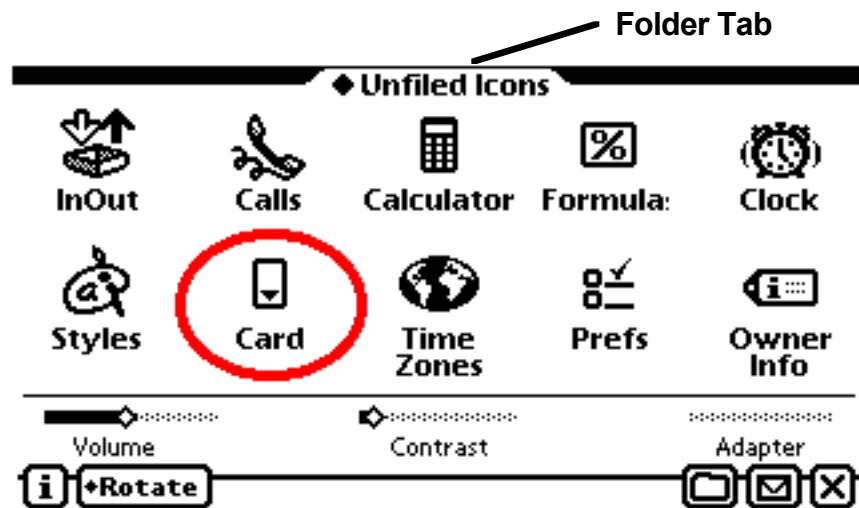
If you have just inserted a card, be patient; it might take a few seconds for the Newton to recognize the card. When it does, a dialog box will appear that tells you how much memory is available in the card. This is what you should see:



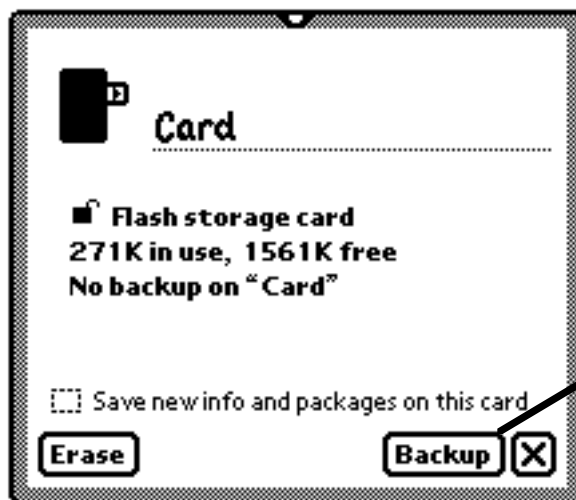
- If a storage card was inserted earlier, say, before you collected data using EthoScribe, to back up your data:
- Open the Extras Drawer by tapping the Extras icon at the bottom of the screen.  Extras

Backing Up Data to a Storage Card - continued

- If the Card icon  is not visible, tap the Folder tab and select the folder that contains the Card icon (if you have not moved the Card icon, it will be in the Unfiled Icons folder).



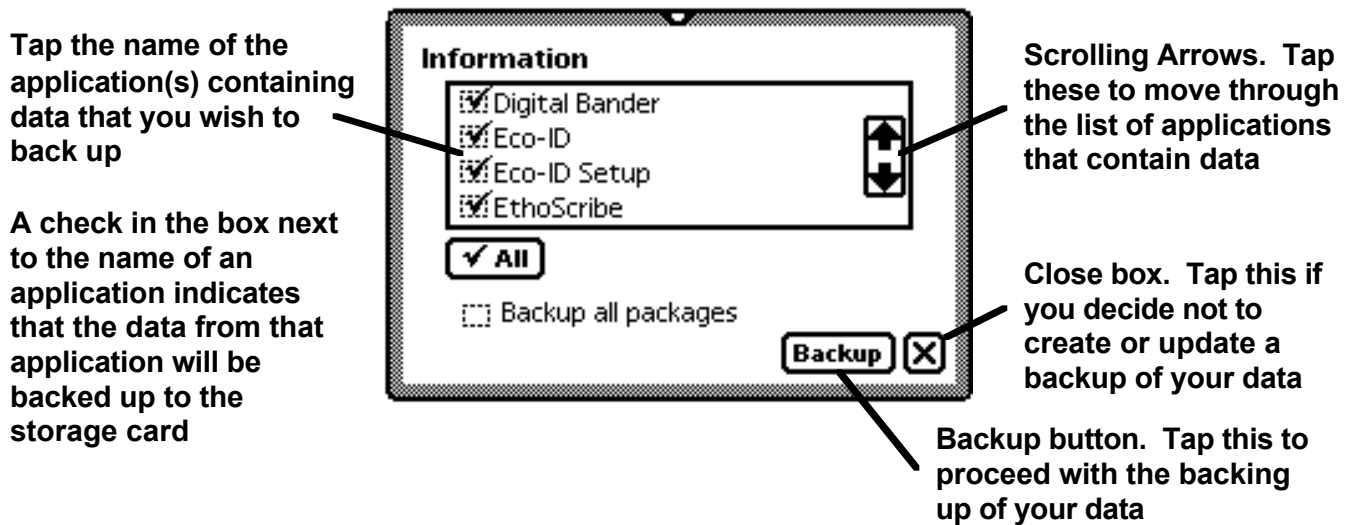
- Tap . The Card slip appears.



Backup button. Tap this to see a list of the applications that contain data that can be backed up.

Backing Up Data to a Storage Card - continued

- Shortly after you tap the Backup button on the Card slip, the Information and Packages Backup slip appears.




- Tapping the Backup button will initiate the backing up process. Once the backing up is completed, the Card slip will return with new information on the status of the card (e.g., amount of memory in use, date and time of the backup).
- Tap the Close box on the Card slip to complete the process of backing up your data.
- For additional information on the use of Flash storage cards, see your Newton MessagePad Handbook or User's Guide.

Chapter 8 - Exporting Data to a Desktop Computer

Common procedure

From within each EthoScribe project, you can export to a desktop computer, (1) Event data (“raw data”), (2) Trial Analyses data, (3) Trial Notes, and (4) Project Notes.

The exporting of each type of EthoScribe data file entails the following common procedure:

- If the Project is not open, in the Projects Overview screen, tap the name of the Project containing data that you wish to export to a desktop computer.
- On the Trial Records Overview screen, tap the Routing button in the lower right corner. 

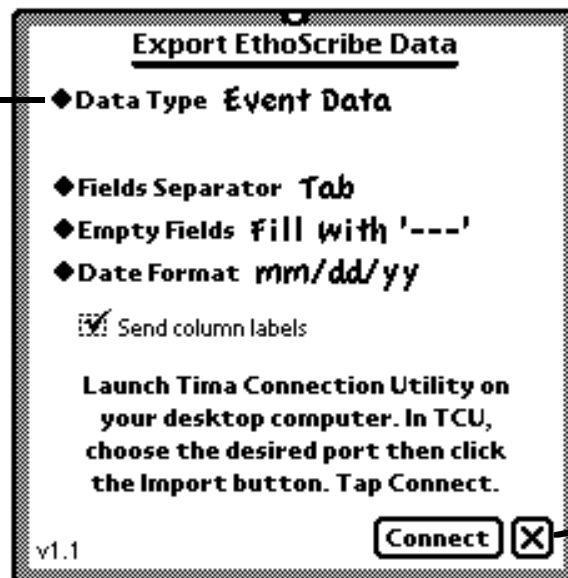
Tap ‘Export Project’ to open the Export EthoScribe Data slip



Routing button. Tap this to reveal a list of the options available for the project

- From the Routing button picklist, select ‘Export Project’. The Export EthoScribe Data slip opens.

Data Type picklist. Tap this to reveal a list of the types of data that can be exported

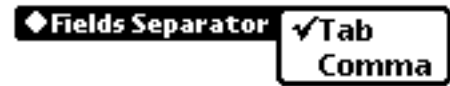


Close box. Tap this to cancel your decision to export EthoScribe data

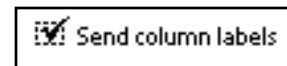
Exporting Event Data

By default, EthoScribe's Export function is set to export Event Data. When you export Event Data, you have several options:

- Tap the Field Separator picklist, then select a delimiter.
- Tap the Empty Fields picklist, then select the manner in which you wish empty fields to be treated.
- Tap the Date Format picklist, then select a date format.



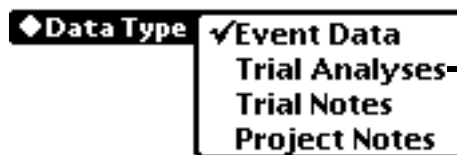
- If the 'Send column labels' option has a checkmark in the box, column headers are sent to the desktop computer as the first record.



- See below for instructions on connecting and sending data to a desktop computer.

Exporting Trial Analyses data

- Tap the Data Type picklist, then select 'Trial Analyses'.



Tap 'Trial Analyses' to proceed with the export of Trial Analyses data

- See below for instructions on connecting and sending data to a desktop computer.

Exporting Trial Notes

- Tap the Data Type picklist, then select 'Trial Notes'.



- See below for instructions on connecting and sending data to a desktop computer.

Exporting Project Notes

- Tap the Data Type picklist, then select 'Project Notes'.

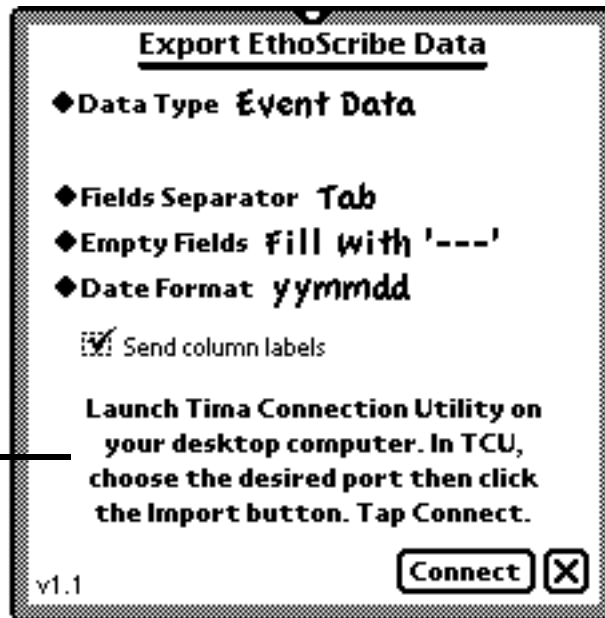


Connecting and sending data to a desktop computer

As with all other Tima Scientific data acquisition software applications, EthoScribe communicates with the desktop computer using a serial cable connection and the desktop application, Tima Connection Utility™. Currently, versions of TCU are available for those using Windows 95, Windows NT, or Macintosh OS 7.0 or higher. Detailed instructions on the use of TCU are provided on the disk, "TCU for Mac OS" or "TCUWin95." Brief instructions are provided in the EthoScribe on-screen Help Book, and on the Export EthoScribe Data slip (illustrated, below).

Before exporting your data, read the instructions that accompany the Tima Connection Utility software

Once you have chosen your export options, follow these instructions to export your data



Working with EthoScribe data files on a desktop computer

Once you have saved to a desktop computer your EthoScribe data files, you can view them using any software application that supports the import of files in ASCII text format. For instance, when imported into a spreadsheet program, **Event Data** from a trial using Continuous sampling will appear similar to those displayed below.

| Marmot foraging project | | | | | | | | | |
|-------------------------|--------------------|----------|-----------------|-----------------|------|------------|------------|----|--------|
| | A | B | C | D | E | F | G | H | I |
| 1 | TRIAL ID | FOCAL ID | SPECIES | LOCATION | TEMP | WIND SPEED | LIGHT INT. | CC | DATE |
| 2 | Suppl.-970710@1045 | 88 | M. flaviventris | Little Meadow E | 20 | 4 | 10 | 50 | 960711 |
| 3 | Suppl.-970710@1045 | 88 | M. flaviventris | Little Meadow E | 20 | 4 | 10 | 50 | 960711 |
| 4 | Suppl.-970710@1045 | 88 | M. flaviventris | Little Meadow E | 20 | 4 | 10 | 50 | 960711 |
| 5 | Suppl.-970710@1045 | 88 | M. flaviventris | Little Meadow E | 20 | 4 | 10 | 50 | 960711 |
| 6 | Suppl.-970710@1045 | 88 | M. flaviventris | Little Meadow E | 20 | 4 | 10 | 50 | 960711 |
| 7 | Suppl.-970710@1045 | 88 | M. flaviventris | Little Meadow E | 20 | 4 | 10 | 50 | 960711 |
| 8 | Suppl.-970710@1045 | 88 | M. flaviventris | Little Meadow E | 20 | 4 | 10 | 50 | 960711 |
| 9 | Suppl.-970710@1045 | 88 | M. flaviventris | Little Meadow E | 20 | 4 | 10 | 50 | 960711 |
| 10 | Suppl.-970710@1045 | 88 | M. flaviventris | Little Meadow E | 20 | 4 | 10 | 50 | 960711 |
| 11 | Suppl.-970710@1045 | 88 | M. flaviventris | Little Meadow E | 20 | 4 | 10 | 50 | 960711 |
| 12 | Suppl.-970710@1045 | 88 | M. flaviventris | Little Meadow E | 20 | 4 | 10 | 50 | 960711 |
| 13 | Suppl.-970710@1045 | 88 | M. flaviventris | Little Meadow E | 20 | 4 | 10 | 50 | 960711 |
| 14 | Suppl.-970710@1045 | 88 | M. flaviventris | Little Meadow E | 20 | 4 | 10 | 50 | 960711 |
| 15 | Suppl.-970710@1045 | 88 | M. flaviventris | Little Meadow E | 20 | 4 | 10 | 50 | 960711 |
| 16 | Suppl.-970710@1045 | 88 | M. flaviventris | Little Meadow E | 20 | 4 | 10 | 50 | 960711 |
| 17 | Suppl.-970710@1045 | 88 | M. flaviventris | Little Meadow E | 20 | 4 | 10 | 50 | 960711 |
| 18 | Suppl.-970710@1045 | 88 | M. flaviventris | Little Meadow E | 20 | 4 | 10 | 50 | 960711 |
| 19 | Suppl.-970710@1045 | 88 | M. flaviventris | Little Meadow E | 20 | 4 | 10 | 50 | 960711 |
| 20 | Suppl.-970710@1045 | 88 | M. flaviventris | Little Meadow E | 20 | 4 | 10 | 50 | 960711 |
| 21 | Suppl.-970710@1045 | 88 | M. flaviventris | Little Meadow E | 20 | 4 | 10 | 50 | 960711 |
| 22 | | | | | | | | | |

| Marmot foraging project Events | | | | | |
|--------------------------------|----------|-------------|-------------|------------|----------|
| J | K | L | M | N | O |
| TIME | DURATION | C- ACTIVITY | P- ACTIVITY | INTERACTOR | LOCATION |
| 10:50:34 | 396 | Bask | — | None | Burrow |
| 10:57:10 | 11 | Slouch | — | None | Burrow |
| 10:57:14 | 0 | Slouch | Tail flick | None | Burrow |
| 10:57:17 | 0 | Slouch | Tail flick | None | Burrow |
| 10:57:18 | 0 | Slouch | Tail flick | None | Burrow |
| 10:57:21 | 5 | Stand | — | None | Burrow |
| 10:57:26 | 4 | Walk | — | None | Burrow |
| 10:57:30 | 3 | Walk | — | None | <1 m |
| 10:57:33 | 18 | Forage | — | None | <1 m |
| 10:57:36 | 0 | Forage | Scan | None | <1 m |
| 10:57:38 | 0 | Forage | Scan | None | <1 m |
| 10:57:51 | 0 | Stand | — | None | <1 m |
| 10:57:51 | 5 | Groom | — | None | <1 m |
| 10:57:56 | 3 | Walk | — | None | <1 m |
| 10:57:59 | 2 | Walk | — | None | <2 m |
| 10:58:01 | 1 | Chase | — | None | <2 m |
| 10:58:02 | 4 | Chase | — | Sib 1 | <2 m |
| 10:58:06 | 4 | Chased | — | Sib 1 | <2 m |
| 10:58:10 | 1 | Stand | — | Sib 1 | <2 m |
| 10:58:11 | 6 | Alert | — | Sib 1 | <2 m |

Working with EthoScribe data files on a desktop computer - continued

Trial Analyses data files appear on a desktop computer as they do in the Trial Analysis module of EthoScribe. When importing Trial Analyses reports, set your spreadsheet application's file format options to "Delimited," with "Tab" as the delimiter.

| Marmot foraging project | | | | | | |
|-------------------------|-------------------------|-------------------------|--------|-----------|--------|--|
| | A | B | C | D | E | |
| 1 | Project: | Marmot foraging project | | | | |
| 2 | Trial: | Suppl.-970710@1045 | | | | |
| 3 | Focal ID: | 88 | | | | |
| 4 | Location: | Little Meadow East | | | | |
| 5 | Date: | Thursday, July 11 1996 | | | | |
| 6 | Period: | 10:50 - 11:00 | | | | |
| 7 | Events: | 57 | | | | |
| 8 | Duration: | 601 sec | | | | |
| 9 | * Percentages of totals | | | | | |
| 10 | ----- | | | | | |
| 11 | Interactors: | | | | | |
| 12 | ----- | | | | | |
| 13 | Name | Duration | | Frequency | | |
| 14 | ----- | | | | | |
| 15 | None | 540 sec | (89.9) | 5 | (55.6) | |
| 16 | Sib 1 | 37 sec | (6.2) | 2 | (22.2) | |
| 17 | Sib 3 | 12 sec | (2.0) | 1 | (11.1) | |
| 18 | Mother | 12 sec | (2.0) | 1 | (11.1) | |
| 19 | ----- | | | | | |
| 20 | | | | | | |

Trial Notes must be exported separately from Events data. When importing Trial Notes, set your spreadsheet application's file format options to "Delimited," with "Tab" as the delimiter. When imported into a spreadsheet program, Trial Notes will appear similar to those displayed below.

| Marmot foraging project | | | |
|-------------------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------|---|
| | A | B | C |
| 1 | Trial: | Suppl.-970710@1045 | |
| 2 | Notes: | Mule deer and offspring moved through the East side of the study area; remained 10 min., left the study area 5 min. before start of trial. | |
| 3 | | At 6 min., GOEA soared at ~20 m, over East side; headed E after 45 s. | |
| 4 | | | |
| 5 | Trial: | Suppl.-970710@1145 | |
| 6 | Notes: | Big horn sheep present on upper bench of study area throughout the trial. Present for approx. 15 min prior to the trial. | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |

Working with EthoScribe data files on a desktop computer - continued

Project Notes are exported in the same fashion as Trial Notes. When importing Project Notes, set your spreadsheet application's file format options to "Delimited," with "Tab" as the delimiter. When imported into a spreadsheet program, Project Notes will appear similar to those displayed below.

| Marmot foraging project | | | |
|-------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------|---|
| | A | B | C |
| 1 | Project: | Marmot foraging project | |
| 2 | Notes: | This project contains a suite of experiments that contribute to a comprehensive study of the role of this species in an alpine ecosystem. | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |

Chapter 9 - Setting Up a Project

Accessing the Project Setup screen

Each Project that you establish can have its own unique configuration, and each trial within a Project can use any of the four types of data-entry screens. The manner in which you access the Project Setup module depends on whether you are setting up a newly-created Project or an existing Project.

Accessing the Project Setup screen at the time a project is created


If you have just created a new Project, the Project Information slip is open. To access the Project Setup module, tap the Setup button in the lower left corner of the Project Information slip.




- The Project Setup screen appears.

Accessing the Project Setup screen of an existing project

If you wish to configure an existing Project, from within the Projects Overview screen, tap the name of the Project that you wish to configure. The Trial Records Overview screen appears.

- Tap the Show button in the Button bar at the bottom of the screen. 

- In the picklist that appears, tap 'Project Setup'. 

- The Project Setup screen appears.

Configuring data-entry screen Event buttons

By default, the Project Setup module displays the screen used to configure Event Types. On that screen, you assign values (or possibly, variables) to each of the Event buttons on the data-entry screens.

Set Up picklist.
Tap this to choose from the list of components of a project that you can configure

Project Setup

◆ Set Up Event Types

Interactors

| | | | | | |
|--------|------|-------|-------|-------|-----|
| Mother | Pred | Sib 1 | Sib 2 | Sib 3 | NIL |
|--------|------|-------|-------|-------|-----|

Locations

| | | | | |
|--------|-------|-------|--------|--------|
| Burrow | <1 m | <2 m | <4 m | <8 m |
| <16 m | <32 m | <64 m | <128 m | ≥128 m |

Continuous Activities

| | | | | |
|--------|-------|--------|-------|--------|
| Bask | Sleep | Slouch | Stand | Alert |
| Chased | Chase | Groom | Hide | Freeze |
| Forage | Walk | Run | Play | ? |

Point Activities

| | | | | |
|-------|------|------------|-------|------|
| Alarm | Bite | Tail flick | Chirp | Scan |
|-------|------|------------|-------|------|

i **Done**

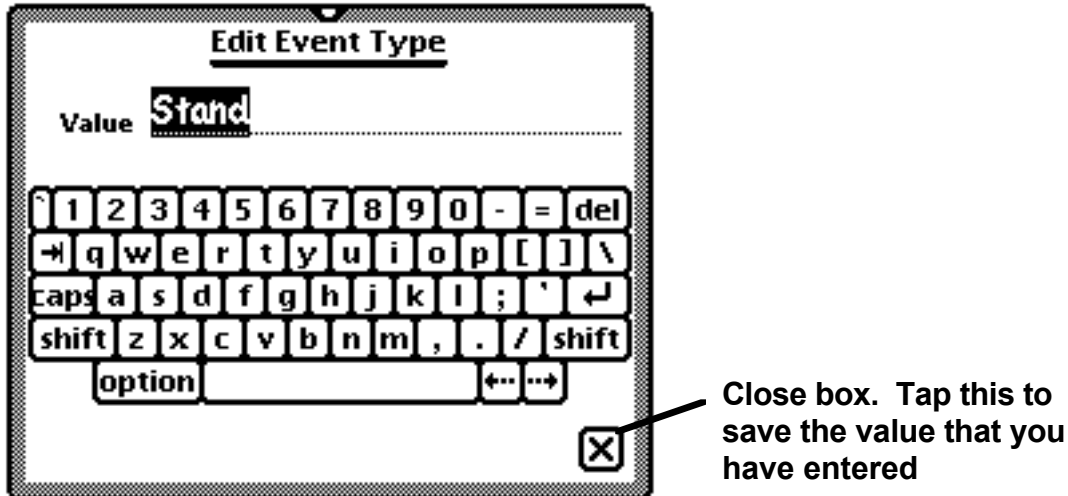
Tap an Event button to assign a new label to that button

Information button

Done button. Tap this only when you wish to leave the Project Setup module

Configuring data-entry screen Event buttons - continued

- To change the label of an Event button, tap the button to which you wish to assign a new value.
- The Edit Event Type slip appears.



- Tap the on-screen keyboard to remove the default value and enter a new value. If you wish, you can leave an Event button blank.
- Tap the Close box of the Edit Event Type slip to save the new value. Repeat this process for all of the other Event buttons that you wish to re-label.
- If you have finished setting up a Project, tap the Done button in the lower right corner of the Project Setup screen; otherwise, tap the Set Up picklist in the upper right corner of the screen.

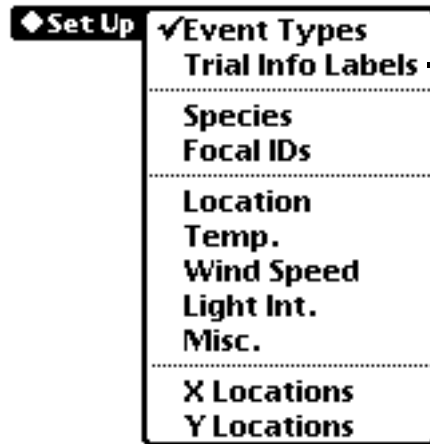
Remember,

- You can use each set of Event buttons for a variable other than “Interactors,” “Locations,” “Continuous Activities,” and “Point Activities.”
- When you choose a Periodic sampling data-entry screen, “Continuous Activities” and “Point Activities” Event buttons are pooled and become “Activities” Event buttons.
- The label assigned to an Event button can be the name of a **variable**, rather than a value of a variable. Using an Event button to record the name of a variable is feasible, particularly when you are not concerned with the duration of individual Events and the trial is based on Periodic sampling. For additional information, in Chapter 5, read the section, “Example configurations of the Periodic sampling data-entry screen.”

Configuring Trial Information slip data Field Labels

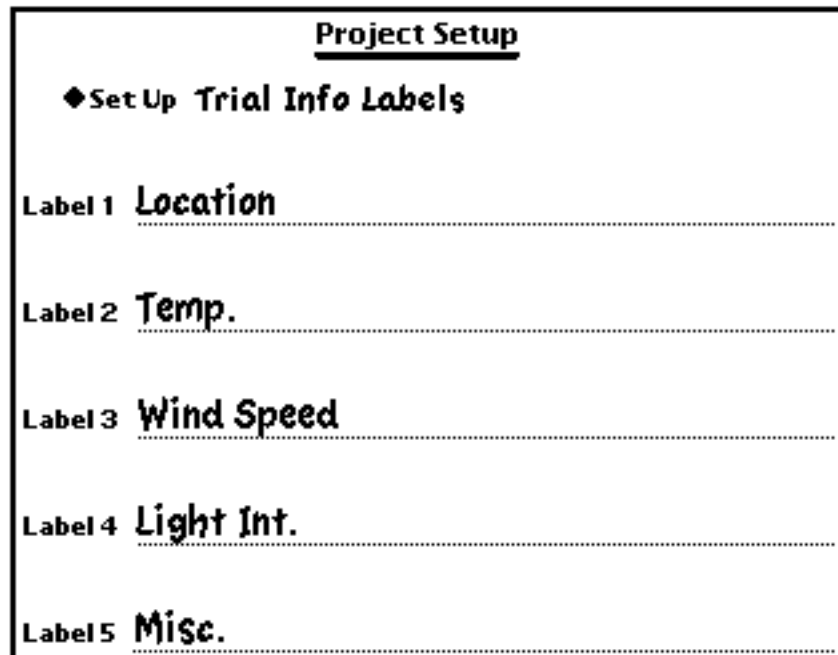
On the Trial Information slip, the bottom five picklists have default Field Labels (Location, Temp., Wind Speed, Light Int., Misc.) that you can change. To change the names of those Field Labels, tap the Setup picklist in the upper left corner of the Project Setup screen.

Setup picklist.
Tap this to view a list of the components of a project that you can configure



Tap 'Trial Info Labels' to assign new variables to the field labels of the picklists on the Trial Information slip

- From within the list, tap 'Trial Info Labels'. The Trial Info Labels Setup screen appears.



- "Scrub out" or otherwise remove those default Trial Info Field Labels that you wish to replace.
- Enter new names by writing, or tap twice on any line to reveal the on-screen keyboard.
- If you have finished the Project Setup, tap the Done button in the lower right corner of the Trial Info Labels slip; otherwise, tap the Set Up picklist in the upper left corner of the screen.

Note: Changes to the Field Labels of the Trial Information slip will appear in the Set Up picklist of the Project Setup screen and, of course, on the Trial Information slip. The name assigned to Label 1 (by default, 'Location') will appear, also, in the header of the Trial Analysis screen.

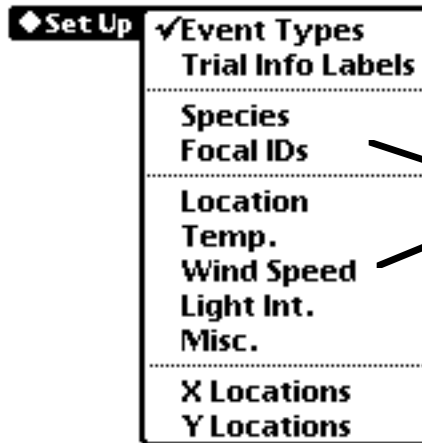
Configuring the Trial Information slip picklists

In the picklists that appear on the Trial Information slip, you can change, delete, and add values.

Changing or deleting values in the Trial Information slip picklists

To change or delete values in the Trial Information slip picklists, tap the Set Up picklist on the Project Setup screen, and select the name of the picklist in which you wish to change or delete a value.

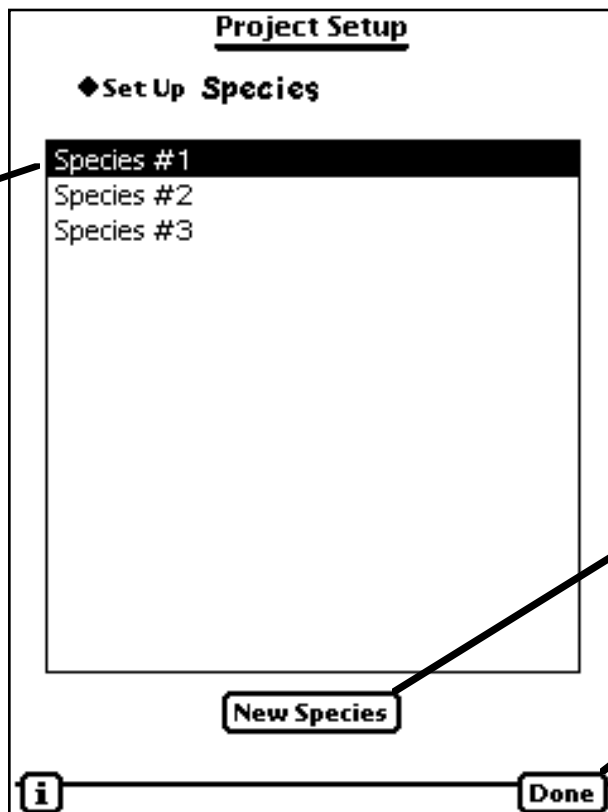
Setup picklist.
Tap this to view a list of the components of a project that you can configure



Tap the name of the Trial Information slip picklist in which you wish to change or delete values

- The appropriate Setup screen appears. For instance, if you tap 'Species', the following Setup screen appears:

To change or delete a value in the Species picklist, tap the value that you wish to change or delete



New Species button.
Tap this to add a value to the list

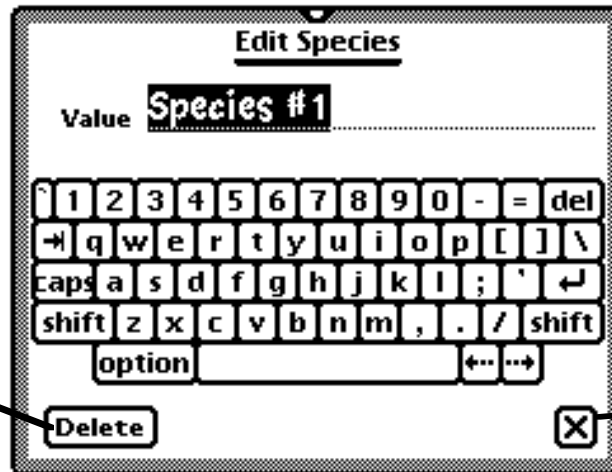
Done button. Tap this only when you wish to leave the Project Setup module

Configuring the Trial Information slip picklists - continued

- Once you tap the species value that you wish to change or delete, the Edit Species slip appears.

You can use the keyboard to remove the existing value and enter a new value

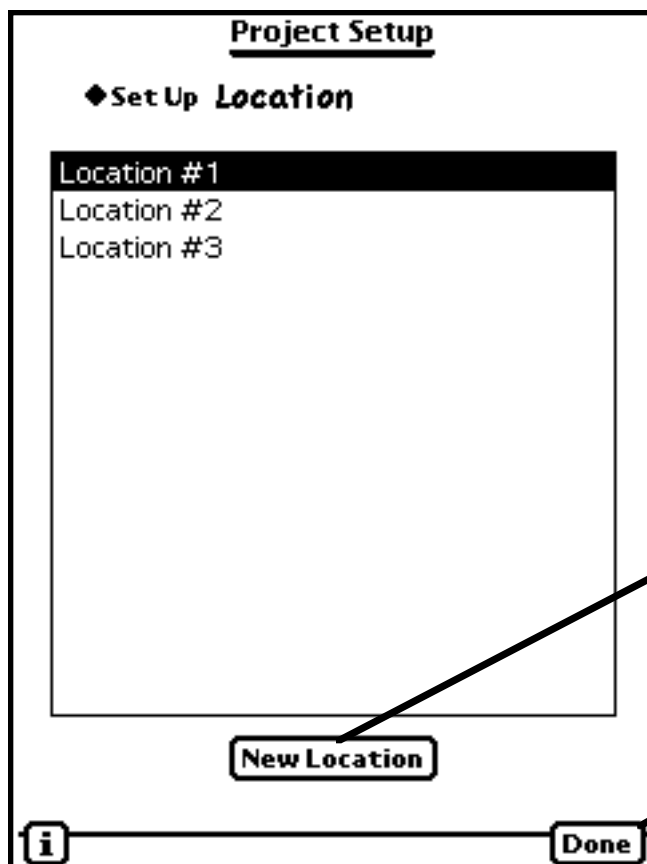
Delete button. Tap this to remove the value from the list



Close box. Tap this to save the value that you have entered

Adding values to the Trial Information slip picklists

To add values to the Trial Information slip picklists, tap the Set Up picklist on the Project Setup screen, and select the name of the picklist to which you wish to add a value. The appropriate Setup screen appears. For instance, if you tap 'Location', the following Setup screen appears:



New Location button. Tap this to add a value to the list

Done button. Tap this only when you wish to leave the Project Setup module

Configuring the Trial Information slip picklists - continued

Adding values to the Trial Information slip picklists - continued

- To add a new value to the picklist, tap the New Location button. The Edit Location slip appears.
- Tap the on-screen keyboard to remove the default value and enter the new value.
- To save the new value, tap the Close box on the Edit Location slip.

To change, delete, or add values to the picklists of other variables on the Trial Information slip, from the Setup picklist on the Project Setup screen, tap the name of the variable for which you wish to modify values in the picklist. Repeat the procedures described and illustrated above.

Configuring the “w/Location” data-entry screen X, Y Locations picklists

In the ‘X Location’ and ‘Y Location’ picklists that appear on the Continuous w/Location and Periodic w/Location data-entry screens, you can change, delete, and add values. Modifications to the values in those picklists are made in the same manner as described above for the Trial Information slip picklists.

Changing or deleting a value in an X- or Y- Location picklist:

- Tap the Set Up picklist on the Project Setup screen, and select either ‘X Locations’ or ‘Y Locations’.
- Tap the name of the Location that you wish to change or delete.
- If you wish to change a value, tap the on-screen keyboard to remove the existing value and enter a new value.
- Save the new value by tapping the Close box in the lower right corner of the Edit Location slip.
- If you wish to delete a value, tap the Delete button on the Edit Location slip.
- Repeat for the other Location picklist by tapping Set Up.

Adding a value in an X- or Y- Location picklist:

- Tap the Set Up picklist on the Project Setup screen, and select either ‘X Locations’ or ‘Y Locations’.
- Tap the New Location button at the bottom of the screen.
- Tap the on-screen keyboard to remove the default value and enter a new value.
- Save the new value by tapping the Close box in the lower right corner of the Edit Location slip.
- To add another value to the picklist, tap the New Location button again.

Note: Location picklists appear on the Continuous w/Location and Periodic w/Location data-entry screens. When executing a trial, you need not use both Location picklists, and the picklists can be used for variables other than ‘Location’.

Chapter 10 - Deleting a Project, Trial Record, or Trial Analysis

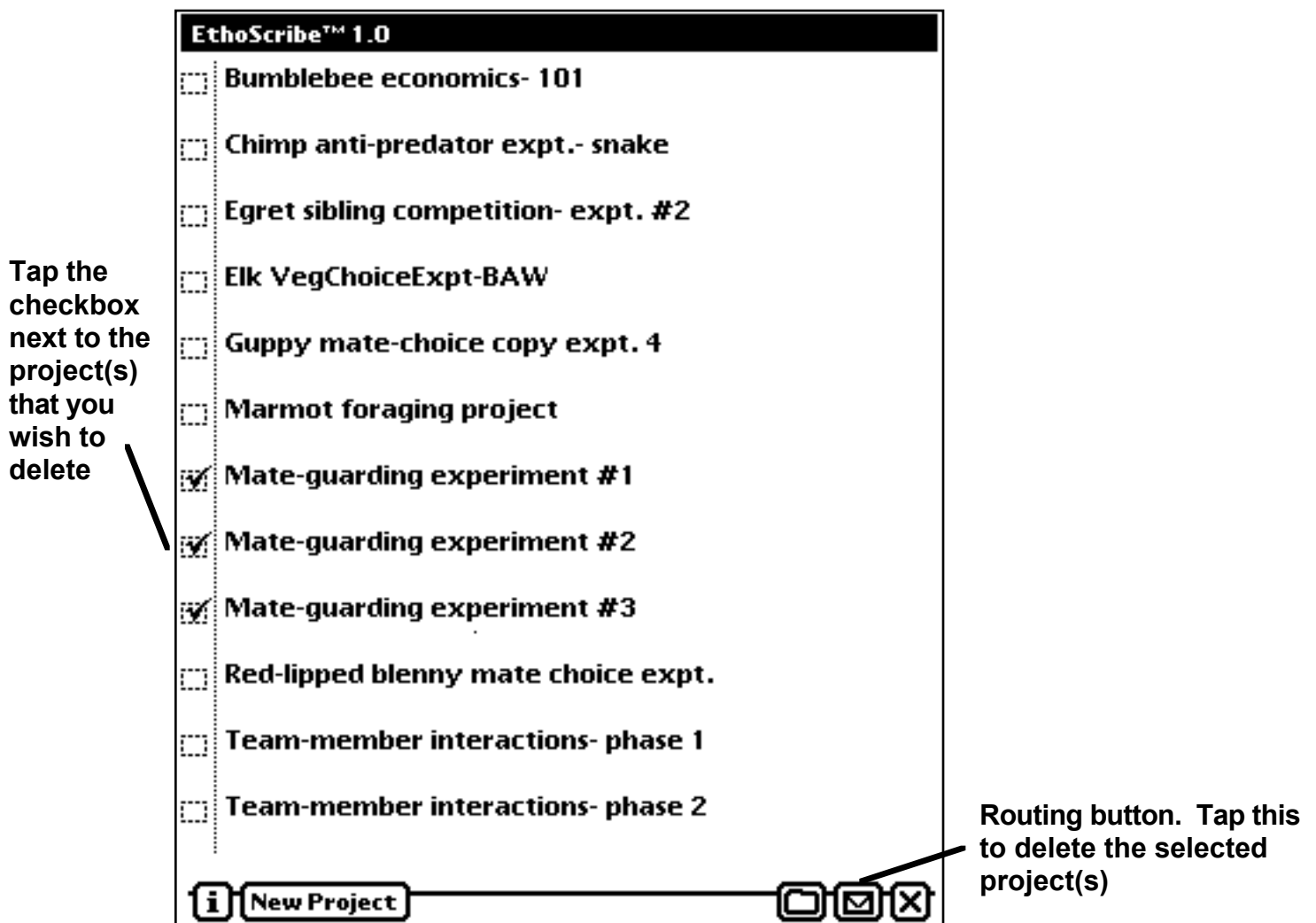
You can delete Projects (and their Trial Records), individual Trial Records, and all Trial Analyses.

Deleting Projects

You can delete Projects in two ways. First, from within the Projects Overview screen, you can delete one or more Projects (and their Trial Records). Second, you can delete an individual Project from within itself.

Deleting Projects from within the Projects Overview screen

To delete one or multiple Projects from within the Projects Overview screen:



- In the Routing button picklist, tap 'Delete Project'.
- On the Dialog box that appears, tap **OK** to confirm the deletion, or **Cancel** to leave the projects and their data intact.

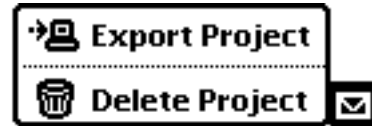
Deleting Projects - continued



Deleting a Project from within the Project

If you are viewing the Trial Records Overview screen of a Project that you wish to delete, to delete the Project:

- Tap the Routing button in the lower right corner of the screen. 

- In the Routing button picklist, tap 'Delete Project'.



- On the Dialog box that appears, tap  to confirm the deletion, or  to leave the project and its data intact.



Deleting Trial Records

If you wish to delete Trial Records, but retain the Project, you must delete Trial Records individually. If the Project is not open, from within the Projects Overview screen, tap the name of the Project that contains the Trial Records that you wish to delete. Then, tap the Trial Record that you wish to delete. A Trial Information slip appears.

- Tap the Routing button in the lower right corner of the Trial Information slip. 
-


- In the Routing button picklist, tap 'Delete'.

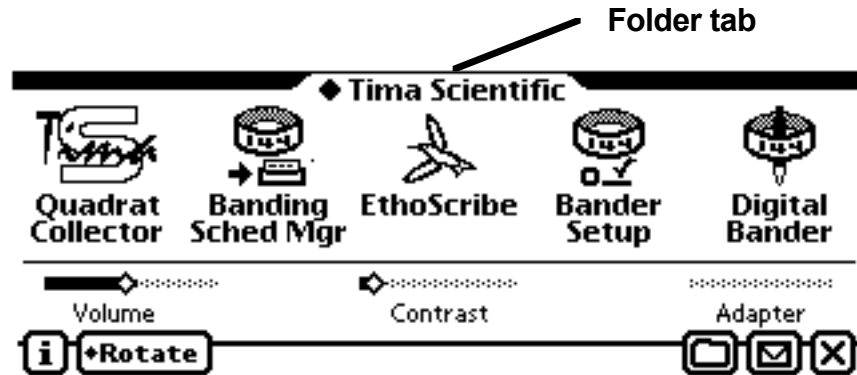


- On the Dialog box that appears, tap  to confirm the deletion, or  to retain the trial record.

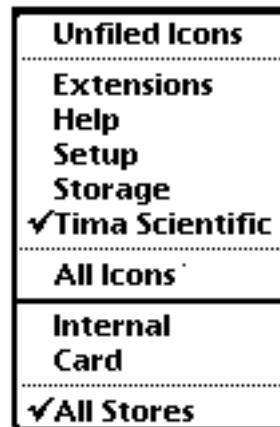
Deleting all Projects and Trial Records

You can delete, simultaneously, all Projects and their associated Trial Records and Events. Doing so will not delete Trial Analyses. To delete all Projects and Trial Records:

- Tap the Extras icon at the bottom of the screen.  Extras The Extras Drawer opens.

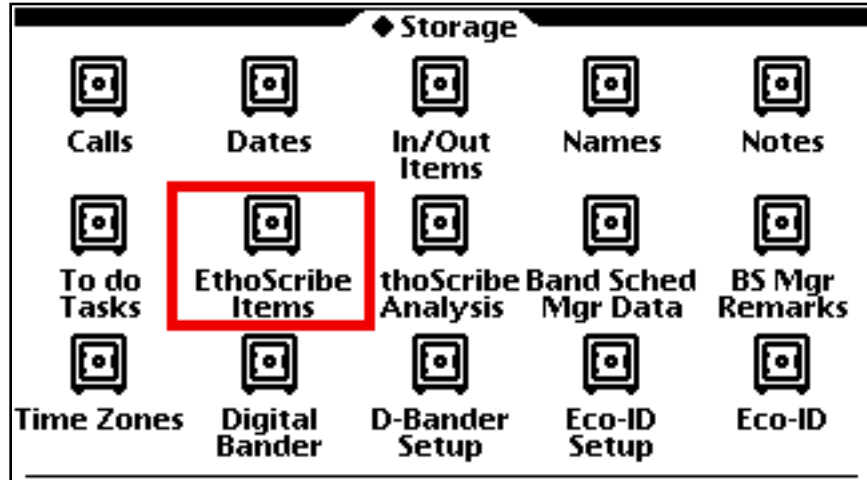


- Tap the Folder tab. The Folders picklist appears.

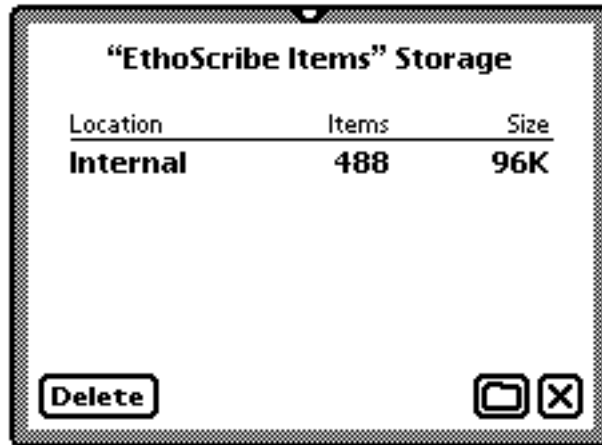


- In the Folders picklist, tap 'Storage'. The 'Storage' Folder opens.

Deleting all Projects and Trial Records - continued



- Tap the EthoScribe Items icon. The “EthoScribe Items” Storage slip appears.



- Tap the Delete button in the lower left corner of the “EthoScribe Items” Storage slip.
- On the Dialog box that appears, tap **OK** to confirm the deletion, or **Cancel** to leave the projects and trial records intact.

Deleting all Trial Analyses

Trial Analyses are deleted en masse. Deleting all Trial Analyses will not delete Projects and their Trial Records. To delete all Trial Analyses:



- Tap the Extras icon at the bottom of the screen. **Extras** . The Extras Drawer opens.
- Tap the Folder tab. The Folders picklist appears.
- In the Folders picklist, tap 'Storage'. The 'Storage' Folder opens.



**EthoScribe
Analysis**

- Tap the EthoScribe Analysis icon.
- The "EthoScribe Analysis" Storage slip appears.
- Tap the Delete button in the lower left corner of the "EthoScribe Analysis" Storage slip.
- On the Dialog box that appears, tap **OK** to confirm the deletion, or **Cancel** to leave Trial Analyses intact.



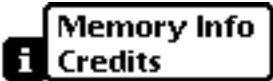
Chapter 11 - Managing Your Newton's Memory

The MessagePad's RAM (Random Access Memory) is used to run the Newton operating system and your software applications (System RAM), and to store software applications and their data (Storage RAM). There are several things that you can do to maximize your MessagePad's RAM and make EthoScribe run as efficiently as is possible. Consider the following:

System RAM

Maximizing the amount of System RAM that is free will permit the operating system and EthoScribe to run efficiently. There are three things that you can do to maximize the amount of System RAM that is free.

1. Reset your MessagePad before each observation session. To do that, depress the Reset button for 2 s. See your Newton User's Guide for instructions on using the Reset button.
2. Install the most recent update of the Newton OS. If you have purchased a Newton from Tima Scientific, the most recent update of the Newton OS has been installed on your Newton. The version of the Newton OS update installed on your MessagePad is indicated on the Memory Info slip. To access that slip:

- Tap the Extras icon in the Button Bar at the bottom of the screen.  Extras
- Tap the Information button in the lower left corner of the screen. 
- In the picklist that appears, tap 'Memory Info'. 
- The Memory Info slip appears.

The version of the Newton OS update used by your MessagePad

| Memory Info | | |
|-----------------------------------------------------------|-------|-------|
| Name | Used | Free |
| Internal | 2475K | 1048K |
| Card | 208K | 1625K |
| ROM Version 2.1 (717145)-1 | | |
| System RAM Installed 916K | | |
| <input type="button" value="Make 'Extras' the Backdrop"/> | | |


Currently, only the Newton OS 2.1, used in the MessagePad 2000, continues to undergo updates. Updates to the Newton OS are free of charge, and can be obtained by pointing your web browser to (http://newton.info.apple.com/product_info/sw/system_updates.html).

Managing Your Newton's Memory - continued

System RAM - continued

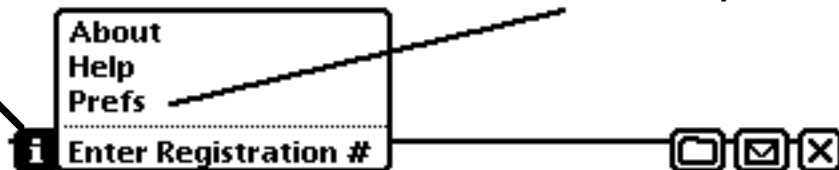
3. You can temporarily “freeze” Newton applications that you are not using. When frozen, the package’s script is not read into the System RAM, which leaves more memory unused and available to the Newton OS and EthoScribe. First, you must enable Package Freezing.

Enabling Package Freezing

- Launch EthoScribe (or any other Tima Scientific software application).
- Tap the Information button. 
- The Information button picklist appears.

Information button. Tap this to access the picklist

Tap ‘Prefs’ to open the EthoScribe Prefs slip



- Once you tap ‘Prefs’, the EthoScribe Prefs slip opens.

Tap here to place a checkmark in the box and enable package freezing



- A checkmark in the box indicates that Package Freezing is enabled.
- Close the EthoScribe Prefs slip.

Managing Your Newton's Memory - continued

System RAM - continued


Freezing Newton applications and info ("soups")



- Tap the Extras icon. **Extras**

- Highlight packages that you wish to "freeze". To do that, tap next to (but not on) the package icon, and hold the pen against the screen until you hear a "squeak;" then, drag the pen across the icon(s). When an icon is selected, there is a black box around the icon title.



- Tap the Routing button in the lower right corner of the screen. 
- In the Routing button picklist, tap 'Freeze'.



- On the Dialog box that appears, tap **OK** to confirm the freezing, or **Cancel** to leave selected applications not frozen.
- The icon of a frozen package appears as a snowflake.






- Restart your MessagePad by depressing for 2 s the Reset button on the back of your Newton.
- Note: to "thaw" frozen packages, tap on the package's snowflake icon.

Managing Your Newton's Memory - continued

Storage RAM

You should keep at least 100K of Storage RAM free. You will not have to concern yourself with monitoring the amount of Storage RAM that is free, unless you are keeping a large number of applications and data on your Newton's internal store. If you notice a reduction in the speed with which the Newton executes tasks, you should check the availability of unused internal Storage RAM.

To obtain information on your Newton's internal memory,

- Tap the Extras icon in the Button Bar at the bottom of the screen.  Extras
- Tap the Information button in the lower left corner of the screen. 
- In the picklist that appears, tap 'Memory Info'. 
- The Memory Info slip appears.

| Memory Info | | |
|-----------------------------------------------------------|--------------|--------------------------|
| Name | Used | Free |
| Internal | 2475K | 1048K |
| Card | 208K | 1625K |
| ROM Version 2.1 (717145)-1 | | |
| System RAM Installed 916K | | |
| <input type="button" value="Make 'Extras' the Backdrop"/> | | <input type="checkbox"/> |

If you discover that your Newton's performance is being compromised by limited free memory on the internal store, you can increase performance by freeing memory space on the internal store. To do that, you can,

- Remove, either permanently or temporarily, applications and info that you do not need (e.g., Newton Tour). You can back up to a desktop computer (or a storage card) those applications and info that you are not using. Later, you can restore to your Newton those applications and info.
- Move applications to a Flash RAM Storage Card.

For information on removing and moving applications and info, see your Newton User's Guide.

Appendices

Technical Support

If you have problems using EthoScribe, we want to help you. Before you contact us, however, we urge you to take a good look at the relevant sections of this manual. We find that most questions can be answered in that way. Also, do not forget to use the on-screen Help Book as a source of quick answers while you are using EthoScribe.

When you do contact Tech Support, please be prepared to provide the following information:

Contact Information:

Your Name
Your Scientific or Professional Affiliation
Your E-mail address and Phone Number
Your EthoScribe Registration Number

Newton information:

Model of Newton (i.e. 130 with 2MB RAM)
Did you buy EthoScribe and a Newton, or the software only, from Tima Scientific?
Is a flash storage card installed?

A brief description of the problem:

Is it a setup problem? a data entry problem? an export problem?

Tech Support is open from 9AM to 6PM Eastern Time.

Contact us by e-mail (support@timasci.com), through our web site (www.timasci.com), by phone (1-888-848-TIMA), or fax (1-506-364-8461).

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