

SUNDIAL

THE ORIGINAL TIME-LAPSE DESKTOP

CREDITS

Producer and Macintosh Programming: John M. Neil

Windows Programming: Will Koehler

Photography: Todd Pickering

Image Enhancement: Tom Sicurella Post-Production: Nate Silverman

Package Design: Mari Nakamura Design

Technical Writing: James Ferraro

Icons: Kris Wainscott

Astronomy Consultant: Dr. Woodruff T. Sullivan, III

Test Manager: Kirsten E. Lawing

Testers: Ted Bissell, Mike Bitz, Fran Blackman, Fred Bowen, James Bucanek, Bay-Wei Chang, Jeff Chunko, Michele Cinq Mars, Kumar Desai, Joseph Dreitler, Rick Ehrlinspiel, Jonathan Goldstein, Nick Greeves, Dan Guggenheim, Ian Hendry, Ludger Hentschel, Ron Hipschman, Bill Innamen, Hans Kim, Keith Kingley, David Kunen, Larry Lai, Tina Macioci, Kirk Martin, Ellen Megson, Graham Megson, Andrew Neil, Chris Neil, Josh Pace, Frank Portillo, Noah Price, Jack Russo, Pat Scandalis, Nate Silverman, Brian Smith, Mike Snedden, Adrian Sonnes, Jeff Southard, Paul Swetnam, Deniz Teoman, Doug Ward, Karl Warschau, Ken Worzel, Steve Yonamine.

PRODUCED AND PUBLISHED BY

John Neil & Associates

P. O. Box 2156

Cupertino, CA 95015 Voice: (415) 905-3000

Fax: (415) 661-2944 Email: sales@jna.com Web: http://www.ina.com/

NOTICE TO USER

Sundial is a commercial software product, subject to the End-User License Agreement printed in the back of this manual. Unauthorized copying or distribution of Sundial software or images is a violation of U.S. law and/or international treaties.

Copyright ©1996-97 John Neil & Associates. All rights reserved. Patent pending. Sundial is a trademark of John Neil & Associates.

TABLE OF CONTENTS

INTRODUCTION	1
WINDOWS 95 INSTRUCTIONS	
STARTING THE PROGRAM FOR THE FIRST TIME	
System Requirements	2
Step 1 – Setting the Date, Time, and Time Zone	2
Step 2 – Installing Sundial	
Step 3 – Setting the Geographic Location	
USING SUNDIAL	
Previewing Scenes on the CD-ROM	3
Displaying Scenes from the CD-ROM	
Installing Scenes on Your Hard Disk	
Reference	
MAC OS INSTRUCTIONS	
STARTING THE PROGRAM FOR THE FIRST TIME	
System Requirements	8
Step 1 – Setting the Date and Time	8
Step 2 – Setting the Geographic Location	
Step 3 – Installing Sundial	
USING SUNDIAL	
Previewing Scenes on the CD-ROM	10
Displaying Scenes from the CD-ROM	
Installing Scenes on Your Hard Disk	
Reference	
SCENIC CALIFORNIA PORTFOLIO	
Death Valley	14
Golden Gate Bridge	14
Marin County Farm	14
Mount Shasta	15
Mount Whitney	15
Northern California Coast	15
Pigeon Point Lighthouse	16
Santa Cruz Marina	16
Yosemite Valley	16
Zabriskie Point	17
HOW THE SUNDIAL SCENES WERE DEVELOPED	17
SOFTMADE LICENSE ACDEEMENT	Pack Cover

INTRODUCTION

Sundial is a software program that displays time-lapse photography on your computer desktop, behind all windows and icons. After you install and configure Sundial, it will automatically display an image from the scene you selected every time you start your computer, and update it periodically over the course of the day. The exact image displayed at any moment depends on the current time of day, the date, and your geographic location. Sundial calculates the time of sunrise, sunset, dawn and dusk at your location and arranges for these events to occur at the same time on your computer. Sundial can also display still pictures on your desktop that do not change with the time of day.

Please read "Starting the Program For the First Time" for your operating system before using Sundial. This section describes how to set the time-of-day clock and geographic location on your computer so that Sundial works properly.

WINDOWS 95 INSTRUCTIONS

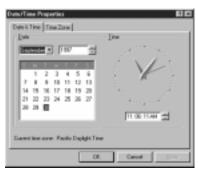
STARTING THE PROGRAM FOR THE FIRST TIME

SYSTEM REQUIREMENTS

Sundial for Windows 95 requires a color monitor and a CD-ROM drive.

STEP 1 - SETTING THE DATE, TIME, AND TIME ZONE

Sundial needs the date, time, and time zone set accurately to calculate when sunrise and sunset occur to synchronize time-lapse movies properly.



Open the Date/Time properties in the Windows 95 control panel and click the Date & Time tab. Check that the current date and time are correct.

Click the Time Zone tab and check that the current time zone is correct.

STEP 2 - INSTALLING SUNDIAL

Insert the Sundial CD-ROM into the CD-ROM drive. Open the Add/ Remove Programs properties in the Windows 95 control panel. Click the Install/Uninstall tab and click the install button. Click the Next button in the dialog that appears. When the Sundial "Setup.exe" program is located, click Finish. Follow the setup instructions.

During installation or when you use the software for the first time, you may be asked for the Sundial product serial number. This is located on the CD-ROM sleeve.

While Sundial is installing, please take a moment to fill out and mail the enclosed product registration card. This information will allow us to notify you about software updates, new Sundial volumes, and other related Sundial offers from time to time.

STEP 3 - SETTING THE GEOGRAPHIC LOCATION

Sundial needs to know your geographic location to calculate when sunrise and sunset occur.

If the Sundial properties dialog is not visible, open it by double-clicking on the Sundial taskbar icon or selecting Sundial from the Programs folder in the Windows 95 Start menu. Click the Your Location tab.



Click on the arrow to the right of the location field and type the first few letters of the city nearest you. If you see your city in the scrolling list, click on it to select it.

If you do not see your city in the scrolling list, your location is not in the Sundial geographic database. Enter your latitude and longitude by hand.

If you do not know your latitude and longitude, you can look it up on the Internet by clicking the Web Site button. If

you do not have access to the Internet you can contact our Technical Support department (see inside front cover) to have someone look up your latitude and longitude for you.

USING SUNDIAL

PREVIEWING SCENES ON THE CD-ROM

You can easily preview all the Sundial scenes before deciding which one to display on your computer.

Make sure Sundial is properly installed (see "Starting the Program for the First Time") and the Sundial CD-ROM is in the CD-ROM drive.

Find the "Previews" folder in the "Scenes" folder on the Sundial CD-ROM. Double-click on a scene to open it in the QuickTime Movie Player and click the play button to preview it. When you are finished previewing scenes, quit the QuickTime Movie Player.

You can now display the scene on your desktop directly from the Sundial CD-ROM (recommended for users short on hard disk space) or install the scene on your hard disk (recommended for users with plenty of hard disk space).

DISPLAYING SCENES FROM THE CD-ROM

To display a Sundial scene from the Sundial CD-ROM, open the Sundial properties by double-clicking on the Sundial taskbar icon or selecting Sundial from the Programs folder in the Windows 95 Start menu. Click the Scene Selection tab and click on the Select Scene button. The Select Scene dialog will appear:



Using this dialog, open the Sundial CD-ROM, open the "Scenes" folder, open the "Movies" folder, and open the folder with the pixel dimensions (width and height in dots) that match your display. Double-click a scene name to select it.

If you do not know the pixel dimensions of your display, this information is listed in the Display section under the Scene Selection tab of the Sundial properties. If your display dimensions do not match one of the provided dimensions, open the folder with the closest dimensions. Larger versions of the scenes are available from John Neil & Associates for a nominal fee.

IMPORTANT: When displaying a Sundial scene directly from the CD-ROM, you will have to disable Sundial in order to eject the Sundial CD-ROM. To avoid this problem, enable the "Close scene between frames" option in the Advanced tab of the Sundial properties or install the Sundial scene on your hard disk before selecting it (see below).

Installing Scenes on Your Hard Disk

Copy the desired scene from the Sundial CD-ROM to your hard disk. Eject the CD-ROM when the copy has completed.

Open the Sundial properties by double-clicking on the Sundial taskbar icon or selecting Sundial from the Programs folder in the Windows 95

Start menu. Click the Scene Selection tab and click on the Select Scene button. The Select Scene dialog will appear. Select the Sundial image you copied to your hard disk.

REFERENCE

SCENE SELECTION



This button turns on context-sensitive help. If you need help on a particular properties item, click this button and click the item in question.

ENABLE/DISABLE These buttons determine whether Sundial displays the selected scene on the desktop or not. To temporarily revert to the regular desktop, click the Disable button. To return to the Sundial desktop, click the Enable button.

ABOUT Click this button to see information about the people who worked on the Sundial software.

SCENE This area displays the name of the currently selected scene. Sundial displays the selected scene on your desktop when your computer starts up unless it is disabled (see ENABLE/DISABLE above). Below this area Sundial displays the pixel dimensions and color depth of the selected scene for comparison with the display pixel dimensions and color depth (see below). If the disk containing the selected scene is ejected, Sundial will display the message "(ejected)". If there is not enough memory to display the next image in the scene, Sundial will display the message "(waiting for memory)".

SELECT SCENE Click this button to select a different scene. Sundial can display either Sundial movies or still images on the desktop. Only Sundial movies change with the time of day.

SCENE CREDITS Click this button to see information about the currently selected Sundial scene.

SIZE MISMATCH WARNING Uncheck this box to disable the warning that normally appears if you select a scene size that does not match your display size.

STILL IMAGE WARNING Uncheck this box to disable the warning that

normally appears if you select a still image.

DISPLAY This area shows the pixel dimensions and color depth of your display. When you select a scene, choose the size that most closely matches your display size. For best image quality, set your display color depth to High Color (16 bit) or True Color (32 bit). You can adjust your display pixel dimensions and color depth by opening the Display properties in the Windows 95 control panel and clicking on the Settings tab.

SCALE IMAGE TO FILL DISPLAY This button is used when the pixel dimensions of the currently selected scene do not match your display pixel dimensions. If you check this box, Sundial will expand or shrink the selected scene to fill the display, possibly cropping some portions of the image. If you leave the box unchecked, Sundial will not expand or shrink the image, possibly leaving some sections of the regular desktop exposed.

YOUR LOCATION



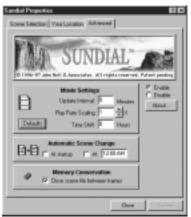
LOCATION This field displays your current location selected from the Sundial geographic database. To select a new location, click on the arrow to the right of this field.

LATITUDE & LONGITUDE

These fields display the geographic coordinates of the currently selected location. If your city is not in the Sundial geographic database, you can enter your latitude and longitude by hand.

WEB SITE If you need to enter

your location by hand but do not know your latitude and longitude, click this button to look this information up on the Internet.



UPDATE INTERVAL This setting specifies how often Sundial updates the desktop with a new image from the currently selected scene. The default value of 0 allows Sundial to update the desktop whenever appropriate. To limit how often Sundial updates the desktop, increase the update interval time to the desired interval between updates. Note that the longer the update interval, the less realistic the Sundial desktop will be.

PLAY RATE SCALING This setting specifies how fast Sundial should display the currently selected scene. The default value of 1 displays the selected scene at the appropriate rate for the date and geographic location. To play the selected scene faster, increase the play rate scaling. Note that when the play rate scaling is greater than 1, the Sundial desktop is no longer synchronized to the current time of day.

TIME SHIFT This setting specifies which portion of the currently selected scene Sundial displays. The default value of 0 displays the correct portion of the selected scene for the current time of day. To see an earlier portion of the selected scene, set the time shift to a negative value. To see a later portion, set the time shift to a positive value.

AUTOMATIC SCENE CHANGE These checkboxes allow Sundial to automatically change the selected scene. If the AT STARTUP box is checked, Sundial will change the selected scene upon startup. If the AT box is checked, Sundial will change the selected scene at the specified time. If the computer is off at the specified time, Sundial will change the selected scene upon startup. When Sundial changes the selected scene, it chooses the next alphabetical scene in the same folder as the currently selected scene. If the selected scene is installed on your hard disk, you will have to install additional scenes in order for this feature to work.

CLOSE SCENE BETWEEN FRAMES When this box is checked, Sundial closes the selected scene between frames, saving memory at the expense of a longer delay drawing new frames. Checking this box also allows you to eject the Sundial CD-ROM while Sundial is using it. When you do this, the selected scene will remain a still picture until you re-insert the Sundial CD-ROM.

MAC OS INSTRUCTIONS

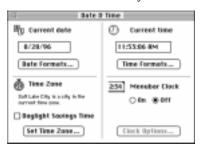
STARTING THE PROGRAM FOR THE FIRST TIME

System Requirements

Sundial for Mac OS requires a color monitor, CD-ROM drive, and System 7.0 or greater. Sundial also requires a certain amount of memory, typically between 1 and 2Mb, to store the desktop image. The exact amount depends on your display pixel size and color depth.

STEP 1 - SETTING THE DATE AND TIME

Sundial needs the date and time of day set accurately to calculate when sunrise and sunset occur to synchronize time-lapse movies properly.



Open the Date & Time control panel (General Controls on System 7.0). Check that the current date and time are correct.

IMPORTANT: If your Date & Time control panel has a "Daylight Savings Time" check box, you should temporarily uncheck this box before proceeding to the next step of Setting the Geographic Location. Because of a bug in the Apple Map control panel, leaving Daylight Savings Time checked could result in the Map control panel adjusting its hours offset to Greenwich Mean Time ("Time Zone") incorrectly, causing Sundial to display sunrise and sunset images at the wrong time. After completing the next step of Setting the Geographic Location, restore the Daylight Savings Time checkbox to its correct setting for your location.

STEP 2 - SETTING THE GEOGRAPHIC LOCATION

Sundial needs to know your geographic location to calculate when sunrise and sunset occur.

Make sure the Daylight Savings Time box is unchecked in the Date & Time control panel (see "Setting the Date and Time").

Open the Map control panel and check that the location is correct:



If the location is incorrect, type in a major city close to you and click the Find button. The latitude, longitude and hours offset to the Greenwich Mean Time ("Time Zone") should appear. Click the Set button to switch to the new location.

If the Map control panel settings do not change and the control panel beeps when you click Find, the location you entered is not in the Map control panel database. Enter your city name, latitude,

longitude, and hours offset to Greenwich Mean Time ("Time Zone") by hand. Click the Add City button to store this information in the Map control panel database. Click the Set button to switch to the new location.

If you do not know your latitude and longitude, you can look it up on the John Neil & Associates web site at http://www.jna.com/. If you do not have access to the Internet you can contact our Technical Support department (see inside front cover) to have someone look up your latitude and longitude for you. To determine your hours offset to Greenwich Mean Time ("Time Zone"), ask your long-distance telephone operator.

When finished setting the geographic location, restore the Daylight Savings Time box in the Date & Time control panel to its correct setting (see "Setting the Date & Time"). If you have System Software version 7.1 or earlier, your system does not support Daylight Savings Time. You will have to adjust the Map control panel hours offset to Greenwich Mean Time ("Time Zone") manually whenever you adjust the Macintosh clock for Daylight Savings Time.

STEP 3 - INSTALLING SUNDIAL

Insert the Sundial CD into the CD-ROM drive. Open the Sundial Disk and double-click the Installer icon. Follow the installer instructions.

During installation or when you use the software for the first time, you may be asked for the Sundial product serial number. This is located on the CD-ROM sleeve.

After installation, the installer will ask you to register Sundial. If you have not already done so, please take a moment to type in the requested information and send it to us. This information will allow us to notify you about software updates, new Sundial volumes, and other related Sundial offers from time to time.

USING SUNDIAL

PREVIEWING SCENES ON THE CD-ROM

You can easily preview all the Sundial scenes before deciding which one to display on your computer.

Make sure Sundial is properly installed (see "Starting the Program for the First Time") and the Sundial CD-ROM is in the CD-ROM drive.

Open the Sundial control panel and click the Select button. The Quick-Time Standard File dialog will appear:



In this dialog open the Sundial CD-ROM, open the "Scenes" folder, open the "Movies" folder, and open the folder with the pixel dimensions (width and

height in dots) that match your display.

If you do not know the pixel dimensions of your display, this information is listed in the Display section of the Sundial control panel. If your display dimensions do not match one of the provided dimensions, open the folder with the closest dimensions. Larger versions of the scenes are available from John Neil & Associates for a nominal fee.

To preview a scene, click once on a Sundial file in the Standard File dialog box scrolling list. After a short delay a preview thumbnail movie will appear on the left hand side of the dialog box. Click the play button below the thumbnail to see the preview.

You can now display the scene on your desktop directly from the Sundial CD-ROM (recommended for users short on hard disk space) or install the scene on your hard disk (recommended for users with plenty of hard disk space).

DISPLAYING SCENES FROM THE CD-ROM

To display a Sundial scene from the Sundial CD-ROM, after previewing the scenes (see "Previewing Scenes on the CD-ROM"), simply select the desired scene in the Standard File dialog box and click the Open button.

IMPORTANT: When displaying a Sundial scene directly from the CD-ROM, you will have to turn off Sundial in order to eject the Sundial CD-ROM. To avoid this problem, enable the "Close scene between frames" option in the Sundial control panel or install the Sundial scene on your hard disk before selecting it (see below).

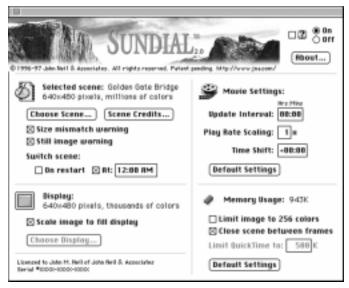
INSTALLING SCENES ON YOUR HARD DISK

After previewing and deciding on a Sundial scene in the Standard File dialog box (See "Previewing Scenes on the CD-ROM") hit the Cancel button.

Using the Finder, copy the desired scene from the Sundial CD-ROM to your hard disk. Use the Put Away command in the Finder to eject the CD-ROM when the copy has completed.

Open the Sundial control panel again and select the Sundial image you copied to your hard disk.

REFERENCE



This checkbox turns on Balloon Help. If you need help on a particular item in the control panel, check this box and move the cursor over the item in question. Uncheck this box to turn off help.

ON/OFF These buttons determine whether the Sundial displays the selected scene on the desktop or not. To temporarily revert to the regular desktop, click the Off button. To return to the Sundial desktop, click the On button.

ABOUT Click this button to see information about the people who worked on the Sundial software.

SELECTED SCENE This area displays the name of the currently selected scene. Sundial displays the selected scene on your desktop when your

computer starts up unless it is disabled (see ON/OFF above). Below this area Sundial displays the pixel dimensions and color depth of the selected scene for comparison with the display pixel dimensions and color depth (see below). If the disk containing the selected scene is ejected, Sundial will display the message "(ejected)".

CHOOSE SCENE Click this button to select a different scene. Sundial can display either Sundial movies or still images on the desktop. Only Sundial movies change with the time of day.

SCENE CREDITS Click this button to see information about the currently selected Sundial scene.

SIZE MISMATCH WARNING Uncheck this box to disable the warning that normally appears if you select a scene size that does not match your display size.

STILL IMAGE WARNING Uncheck this box to disable the warning that normally appears if you select a still image.

SWITCH SCENE These checkboxes allow Sundial to automatically change the selected scene. If the ON RESTART box is checked, Sundial will change the selected scene upon startup. If the AT box is checked, Sundial will change the selected scene at the specified time. If the computer is off at the specified time, Sundial will change the selected scene upon startup. When Sundial changes the selected scene, it chooses the next alphabetical scene in the same folder as the currently selected scene. If the selected scene is installed on your hard disk, you will have to install additional scenes in order for this feature to work.

DISPLAY This area shows the pixel dimensions and color depth of your display. When you select a scene, choose the size that most closely matches your display size. For best image quality, set your display color depth to thousands or millions of colors. You can adjust your display pixel dimensions and color depth in the Monitors or Monitors & Sound control panel.

SCALE IMAGE TO FILL DISPLAY This button is used when the pixel dimensions of the currently selected scene do not match your display pixel dimensions. If you check this box, Sundial will expand or shrink the selected scene to fill the display, possibly cropping some portions of the image. If you leave the box unchecked, Sundial will not expand or shrink the image, possibly leaving some sections of the regular desktop exposed.

CHOOSE DISPLAY This button is used to select which monitor Sundial will display on when you have more than one monitor connected to your computer. If you only have one monitor, this button is disabled.

UPDATE INTERVAL This setting specifies how often Sundial updates the desktop with a new image from the currently selected scene. The default value of 0:00 allows Sundial to update the desktop whenever appropriate.

To limit how often Sundial updates the desktop, increase the update interval time to the desired interval between updates. Note that the longer the update interval, the less realistic the Sundial desktop will be.

PLAY RATE SCALING This setting specifies how fast Sundial should display the currently selected scene. The default value of 1 displays the selected scene at the appropriate rate for the date and geographic location. To play the selected scene faster, increase the play rate scaling. Note that when the play rate scaling is greater than 1, the Sundial desktop is no longer synchronized to the current time of day.

TIME SHIFT This setting specifies which portion of the currently selected scene Sundial displays. The default value of 0:00 displays the correct portion of the selected scene for the current time of day. To see an earlier portion of the selected scene, set the time shift to a negative value. To see a later portion, set the time shift to a positive value.

MEMORY USAGE This area displays the current amount of memory (RAM) consumed by Sundial. The larger your display pixel dimensions and color depth, the more memory Sundial uses. You can reduce the amount of memory used by enabling one of the memory saving options below or by temporarily disabling Sundial (see ON/OFF above).

CLOSE SCENE BETWEEN FRAMES When this box is checked, Sundial closes the selected scene between frames, saving memory at the expense of a longer delay drawing new frames. Checking this box also allows you to eject the Sundial CD-ROM while Sundial is using it. When you do this, the selected scene will remain a still photo until you re-insert the Sundial CD-ROM.

LIMIT IMAGE TO 256 COLORS If your display is set to thousands or millions of simultaneous colors, checking this box will reduce the amount of memory (RAM) used by Sundial at the expense of image quality. For maximum image quality, leave this box unchecked.

SCENIC CALIFORNIA PORTFOLIO



DEATH VALLEY

The bleak sand dunes of Death Valley in southern California are both spectacular and forbidding. Aptly named by a party of settlers looking for shortcut to the California Gold Rush in 1849, temperatures often soar past 120° Fahrenheit in the summer.

This location is near the north entrance of the Death Valley National Monument near Stovepipe Wells, a moniker coined by early inhabitants who used stovepipes to mark water wells in shifting sands. The dunes cast shadows that ebb and flow throughout the progress of another dry, hot day. At night, the crystal clear sky is filled with galaxies of stars. The high mineral content of the rugged peaks in the background turns the ancient mud flats into rainbows of phosphorescence.



GOLDEN GATE BRIDGE

This aerial view from high atop the Marin Headlands overlooks the shining city by the bay, San Francisco. The bridge, opened in 1937, is named after the natural "gate" to the wide Pacific Ocean and spans nearly 4200 feet.

Tiny Kirby Cove, nestled in the foreground, is illustrative of the beaches that pocket the Northern California coast. The forested Presidio National Park frames the picture on the right. The famous San Francisco fog sweeps in and out the bay as does the stream of boats. The night sky is sprinkled with airplanes and helicopters that complement the star trails that float above the city's famous hills.



MARIN COUNTY FARM

Humankind's relationship with nature is captured in this scene of pastoral Northern California life. This sturdy farmhouse and its outbuildings are typical of the coastal canyon farms that once covered the area north of San Francisco in picturesque Marin County.

California poppies, the state flower, blanket the foreground of the scene while chestnut-colored horses lazily graze and roam the grassy fields. Like a Maxfield Parrish painting, soft colors blend as the day passes and another night arrives. Close to Point Reyes on the Pacific coast, the farm is a look into a bygone era.



MOUNT SHASTA

Mighty Mount Shasta towers above the horizon in far northern California. A sacred and magical place to early peoples of the Modoc, Achumawi and other tribes, the mountain has become a place of pilgrimage for modern-day hikers and skiers.

Covered in snow for most of the year, at 14,162 feet Shasta and the slightly smaller Mount Shastina to the right are replete with glaciers and hot springs. The seasonal wetlands in the foreground reflect both the majesty of the mountains and the ever changing wisps of cloud cover. Located an hour's drive north of Redding, Shasta dominates the windy, high desert landscape for hundreds of miles around.



MOUNT WHITNEY

The master of this silver-gray rugged range, Mount Whitney is viewed here from across the floor of the sagebrush-studded Owens Valley. This Southern California valley is still littered with flinty arrow heads from ancient inhabitants.

The dusty sedimentary rocks of the Alabama Hills in the middle of the scene were the location of many early Hollywood westerns. At 14,495 feet, the sheer granite wall of Whitney is the highest point in the lower 48 states. Rising out of the bone-dry Mojave Desert near the small roadside town of Lone Pine, Whitney is 200 miles north of Los Angeles.



NORTHERN CALIFORNIA COAST

The green cliffs of the Pacific's rocky coastline and the crashing surf below combine to create this dramatic view. Near the quiet community of Stinson Beach, migrating whales are often seen making their way north to chilly Arctic waters. Local seals and sea lions come

ashore to sunbathe and socialize in the quiet coves. An occasional fishing boat drifts by, making its way down the coast to San Francisco Bay.

Lichen-covered granite boulders complete the verdant landscape located along Highway 1. This solitary view of sky, sand and pounding surf is only a 30-minute drive north of San Francisco.



PIGEON POINT LIGHTHOUSE

This view is on the Pacific Ocean just south of Half Moon Bay along Highway 1, which runs down much of the California coastline. Near the bucolic agricultural town of Pescadero, this historic lighthouse, built in 1872, was named after the sailing ship *Carrier Pigeon*

that wrecked on nearby rocks.

Seabirds and beachcombers follow the tidal flows that reveal jagged rocks which were once fatal to many ships. The lighthouse beacon still shines through the black nights and heavy fogs that are common here. The constant moisture helps sustain lush greenery and varied wildlife.



SANTA CRUZ MARINA

Tucked into a natural water inlet, a forest of masts belies a whirl of activity. Users of the marina range from commercial fisherman piloting their trawlers to weekend sailors setting out in their gleaming craft, from fully outfitted boat racing crews to simple mariners in sea

kayaks.

The marina is in the Central Coast town of Santa Cruz, a funky beach locale known for its colorful inhabitants and an old-time boardwalk filled with family amusements. It acts as the water passage out to breezy Monterey Bay and the Pacific Ocean beyond.



YOSEMITE VALLEY

Viewed from the Wawona Tunnel, the Yosemite Valley is an emerald jewel of California. An inspiration to naturalist John Muir and photographer Ansel Adams, Yosemite still evokes spiritual epiphanies in visitors today.

The distant Half-Dome in the center is framed by the majestic monolith El Capitan on the left and by the spray of Bridal Veil Falls on the right. Part of Yosemite National Park located in the Sierra Nevada mountains in the central-eastern portion of the state, the valley was carved by the steady scouring of ancient glaciers. The alpine groves of Ponderosa Pines create a cathedral-like atmosphere. Weather changes are rapid in Yosemite, going from bright sun to deep clouds in a few moments.



ZABRISKIE POINT

This broad desert view encompasses the richly textured and arid hills of broiling Death Valley. Zabriskie Point itself was named after a local miner who plied the area for borax in the late nineteenth-century.

Sediment lines the salt flats of the ancient lake bed outside Furnace Creek. Part of the Death Valley National Monument that runs along the border of Southern California and Nevada, the desert is surrounded by the pink and gold shades of the Panamint mountain range which appear though the high desert haze. At night, the clear sapphire skies are filled with stars as the bright moon rises in the East.

HOW THE SUNDIAL SCENES WERE DEVELOPED

PHOTOGRAPHY

Nearly 300 photographs were taken over the course of 24 hours for each Sundial movie. All the scenes were photographed with a Canon EOS A2 35mm still camera set on a weighted tripod. An attached Canon TM-1 interval timer took each picture automatically every five minutes, allowing the photographer to rest between film changes and camera adjustments. Fixed length lenses ranging from 20mm to 70mm were selected, depending on the shot. For many shots a polarizing filter or split screen neutral density filter was attached. Kodak color print stock film was used, 200 speed during the daytime, and 400 speed at night. The camera was enclosed in a tent at night to protect against frost and moisture.

MOVIE PRODUCTION

Transforming the photographs into Sundial time-lapse movies started with developing each roll of film onto a CD using the Kodak Photo CD system. The images were then enhanced using Photoshop from Adobe Systems. QuickTime movies were created from the images using a custom utility created by John Neil & Associates.

JOHN NEIL & ASSOCIATES SOFTWARE LICENSE AGREEMENT

Please read this License agreement before using the accompanying software. This is a legal agreement between you and John Neil & Associates. By using this software, you agree to be bound by the terms of this agreement. If you do not agree to the terms, return the software and accompanying materials to place of purchase for a full refund.

- 1. Grant of License. This License permits you to use one copy of the enclosed software product ("the Software") on any single computer; provided that the Software is in use on only one computer at a time. If the Software is a site-licensed version, you may make and use as many copies of the Software as allowed by the site-license. If you have multiple Licenses for the Software, then you may make and use as many copies of the Software as you have Licenses.
- 2. Copyrights. The Software and accompanying materials are owned and copyrighted by John Neil & Associates or its suppliers and is protected by United States copyright laws and international treaties. You may not copy the Software except a) you may make one copy of the Software for backup or archival purposes, and b) you transfer the Software onto a single hard disk provided you keep the original solely for backup or archival purposes. You may not copy the printed materials accompanying the Software.
- 3. Other Restrictions. You may not rent or lease the Software. You may permanently transfer the Software provided that you transfer this License, the Software, and all accompanying materials; do not retain any copies of the Software; and the recipient agrees to the terms of this License. You may not reverse-engineer, de-compile, or disassemble the Software. Any transfer of the Software must include the most recent update and all prior versions.
- 4. Limited Warranty. John Neil & Associates warrants for a period of ninety (90) days from the date of receipt that the media containing the Software shall be free from defects.
- 5. Remedies. John Neil & Associates entire liability and your exclusive remedy shall be either a) to repair or replace the Software, or b) to return the price paid. Defective software must be returned to John Neil & Associates with a copy of the purchase receipt.
- 6. No Other Warranties. John Neil & Associates disclaims all other warranties, either express or implied, including but not limited to implied warranties of merchantability and fitness for a particular purpose, with respect to the Software and accompanying materials. This limited warranty gives you specific legal rights. You may have other rights, which vary from jurisdiction to jurisdiction.
- 7. Limit of Liability. In no event shall John Neil & Associates be liable for any damages whatsoever (including but not limited to damages for loss of business profits, business interruption, loss of business information, or other pecuniary loss) arising out of the use or inability to use the Software, even if John Neil & Associates has been advised of the possibility of such damages. Because some jurisdictions do not allow such limitations of liability, some of the above limitations may not apply to you.