LX-50IR

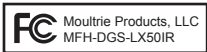## GAME SPY DIGITAL CAMERA
Instruction Manual

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MFH-DGS-LX50IR

Warnings & Regulations

CE RECYCLED
RECYCLABLE ♻

Table of Contents

To Turn Photo Sequences Into Time Lapse Video

Reasons you may want to create a video with your images:
* Makes it easier to e-mail your image sequences.
* Allows you to select the range of images you want included, to eliminate uninteresting images.
* Allows you to store the images as a video rather than a large number of images.

To assemble images into a Video
1. Download time lapse images to Time Lapse Software. (see section on Downloading Images).
2. Click on File. You will see the following screen image.
3. Choose a starting image (frame) and an ending image (frame).
   Note: The frame limit is 300.
4. Choose the frame rate. Options include 1, 5, 10, 20, and 30 frames per second (fps).
   Note: The frame rate says how many images of a video are displayed every second a video is played. The higher frame rate a video has the smoother movement appears in the video. However, a higher frame rate video will create a larger file and will require more memory.
5. Choose the frame size (resolution):
   Note: the higher the resolution, the sharper the image. However, higher resolutions create a larger file and will require more memory.
   VGA (640x480) / 720p / 1080p
6. Choose frame filter; None, Low, Medium, or High.
7. Click on (Save the Video As). Name the video and choose the location file folder you wish to save it in.
8. Click (Start Video Export). The program will start to convert the images to video based on the settings chosen above. The green bars will advance until the conversion is complete.
   Note: Click on (cancel) to abort the transfer.

To View Time Lapse Video
1. Find the video in the file you save it to.
2. Click on the video.
3. The video will be open up automatically in QuickTime player. To install a free version of QuickTime, follow the on screen instructions at **www.apple.com/quicktime/download**.
4. Press play to view your time lapse video.

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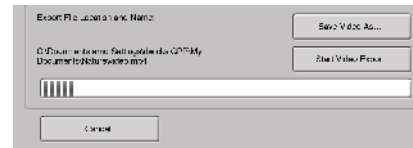
5.2 Search Region

   A. Click on (Set Search Region) Button.

   B. Minimize Search Settings screen.

   C. This allows you to define a specific search area, rather than the whole photo. Just Drag the red outline to the area you want to search. This allows you to focus on a very precise area if required.

5.3 Search Steps

   A. This allows for even faster scans by skipping the selected amount of images (1-50) The higher this setting, the lower the search results as it is ignoring selected photos. You may find this option helpful if you have a very large quantity of photos to scan.
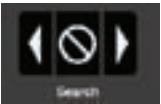
   B. Click (OK).

   C. Click on Motion Search Advance button.

Introduction

Thank you for your purchase of Moultrie LX-50IR Infrared Surveillance Camera.

Your LX-50IR camera is a compact high performance digital surveillance camera that uses infrared detection. Your game camera uses an infrared detector to sense heat changes in the surrounding environment. When movement from people or animals are detected, the camera will trigger and take a picture or video clip. The LX-50IR also features Time Lapse photography. It is a rugged camera that is an ideal tool for spotting game or general surveillance.

Please enjoy this quality product and follow these sample instructions, to keep your camera working properly and pay attention to the following care and caution Information:

Important Care & Caution Information

• Do not attempt to open the camera for any unauthorized service. This will void the warranty.

• Keep the memory card out of the reach of children in order to avoid any risk of it being swallowed.

• When the camera is not in use, please remove the memory card.

• Please don't subject this camera to a strong shock or pressure. It can cause a loss in the weather resistant performance.

• Do not touch the lens with fingers. Use a soft lens cloth to clean lens.

Important Battery Information

• Please use Alkaline batteries.We recommend the use of Duracell® or Energizer® batteries.

• Do not mix old and new batteries. Always replace ALL the batteries at the same time.

• When the camera is not in use, please remove the batteries.

Moultrie Limited Warranty

This product has been thoroughly tested and inspected before shipment. It is guaranteed from defects in material and workmanship from the date of purchase for 1 year. Under this limited guarantee we agree to replace or repair free of charge any part or parts which have been found to be defective in original material or workmanship. Should you require in-warranty service, call our Customer Service Department. If your problem cannot be addressed over the telephone, we may need you to send us your defective product plus proof of purchase.

Quick Start Guide

Use the steps below as a guide to quickly set up your camera so it will function using the factory default settings.

STEP 1
Open camera cover. Press the Battery Chamber Release button. Install 6 C-Cell Alkaline batteries. Recommended for use: Duracell® or Energizer® batteries.

STEP 2
Insert SD Memory Card until you hear an audible click. *Camera will not operate without SD Card.* Turn the power ON. Press the (Menu) button to switch the camera to (Setup) and set the time and date.

STEP 3
Mount Camera in desired Location using mounting straps. Switch camera to IR Aim.

STEP 4
Aim camera using motion detection to determine target area. Turn the power ON. Close cover. The camera will operate using factory settings.

Viewing Time Lapse Images

- This easy-to-use software allows you to advance through the series of images a number of different ways:

  1. Manually - by moving the scroll bar to either view the image series or to go quickly to a specific frame (frame 125, for example).

  2. Click Begin/End - regardless of what pictures you are viewing, clicking on these buttons will take you directly to the beginning or to the end as you prefer.
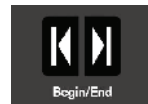
  3. Click Frame Advance - this will allow you to view each image in turn, one image at a time.

  4. Click Rewind/Pause/Play - this is the (Play) button; this will allow you play the images in sequence as well as to pause the play or rewind.
  Note you can set speeds 1 to 8X by clicking the arrows.

  5. Search - This function allow quick scanning of images foreword and back. The scan pauses when the software detects a change in pixel content from the last photo viewed. We detect change based on averages so it will not be as accurate as a manual frame by frame search.

5.1 Sensitivity
A. Set to High, Medium or Low - This sets the level of pixel change the program will detect. Note; a pixel change will occur with a color, intensity, lighting or movement so this setting is critical to obtain the desired results.

Time Lapse

In time-lapse photography a series of still images is taken at regular time intervals and then played back faster - giving the illusion that time is passing quickly. This instruction manual provides you with the general information you need to start using the Time Lapse Software to view and assemble images into a video. For more detailed instructions relative the operation of your camera, please refer to the instruction manual

Main Screen Description
1. File
2. Search Settings
3. Help
4. About
5. Image Screen
6. Status Indicator
7. Begin/End
8. Picture Advance
9. Rewind/Pause/Play
10. Quick Search
11. Zoom In/Out

Download Software
1. Insert the software CD into your computer.
2. After a few minutes, a main window will appear on the screen for installing the software.
3. Install the Time Lapse Imaging Software.
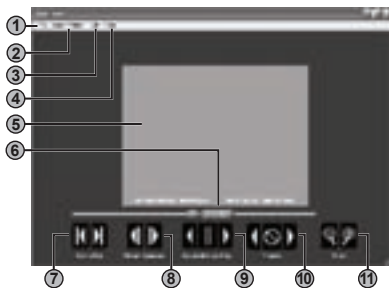4. There will be several window prompts. Click the desired default setting options to finish the installation.

Downloading Time Lapse

Download Images
1. Double click on (Time Lapse Software) to open the software.
2. Click on File Open
3. Browse through your files to the folder where the time lapse images you wish to open are stored.
4. Once the file is selected, click OK.
5. The images saved in the file are now available to view through the Time Lapse Software.

Default Settings

Factory Settings			
TIME LAPSE INTERVAL:	1 HOUR	DAILY SLEEP:	11 PM
PHOTO OR VIDEO:	PHOTO	IMPRINT INFO:	NO
PHOTO QUALITY:	FINE 2560x1920	DATE/TIME:	01/01/99 12:00am
MULTI-SHOTS:	1 Shot	CAMERA NAME:	MINI DGC
DAILY WAKE UP:	MIDNIGHT	TV OUT Region:	NTSC

System Requirements

OS:	Microsoft® Windows® XP with Service Pack 2 (Service Pack 3 recommended); Windows Vista® Home Premium, Business, Ultimate, or Enterprise with Service Pack 1; or Windows 7
Hard disk space:	100MB or above
CPU:	Intel® Pentium® 4 or AMD Athlon® 64 processor or above
Memory:	1GB of RAM

Specifications

Operational Mode	Game Detect / Time Lapse / Hybrid
Resolution	5.0 MP
Still Resolutions	JPG (PIR) Low 640x480, Med 2048x1536, High 2560x1920
Video Resolutions	AVI - 640x480 at 30FPS
Response Time	1.2/1.5seconds
Housing	Weather-resistant and lockable
Display	Liquid Crystal Display (LCD)
LCD Status Display	Countdown, Picture Count, Battery
Status LED	IR Aim - Blinks when motion is detected / Time Lapse - Flashes regularly
Sensor	2 Megapixel
SD Memory Card	Up to 32 GB SD card (optional)
Format	JPEG – Still pictures / AVI – Video clips
Image Output	USB OUT, TV OUT, SD Card
USB Output	Requires PC / MS Window XP / Vista / 7
Picture Delay	Variable 10sec, 30sec, 1, 5, 10, 30 minutes
Sequential Delay	10 seconds between 1, 2 and 3 shots
Time Lapse Interval	10 sec, 30 sec, 1, 5, 10, 15, 30 mins, 1, 3, 6, 24 hrs
Time Lapse ON/OFF	
Programs	4
Standby Time	250 Days
Run Time	90 days
Time Lapse Run Time	180 hours / (30sec 9hr)
Focus	5' - Infinity
Infrared Sensor	Passive
Infrared Range	Variable 15', 30', 45'
Flash Type	18 LED's 850nm
Flash Range	5' - 30'
Easy Read Bar	Moon Phase / Delay Setting / Camera Name / Date / Time
Power Supply	6 C-Cell Alkaline or Lithium batteries (not included)
External Power port	12V
Size	5.5" x 4.75" x 2.5"

Product Overview

1 Cover Latch
2 Security Lock Hole
3 Front Cover
4 IR Aim / Power Switch
5 LED Infrared Flash
6 Infrared Sensor
7 Lens
8 Menu Button
9 Light Sensor
10 Red Status Indicator
11 Water-Resistant Seal
12 Green Battery Indicator
13 Up / Down Buttons
14 OK / Select Button

15 Left / Right Buttons
16 Battery Chamber
   Release Button
17 LCD Display
18 Tripod Mount
19 Battery Chamber Holder
20 12V Power Panel Plug
21 Cord Strain Relief

22 USB Out Port
23 SD Card Slot
24 TV Out Port
25 Tree Mount
26 Mounting Strap Slot

Connecting to TV

To connect the camera to TV, connect the TV cord between the TV out port and the TV. Turn the camera ON, the camera will enter TV Playback mode. Photo or Videos will be displayed on TV. Use the (Up/Down) button to navigate. When the TV cord is disconnected, the camera will go back to SETUP mode.

Playback Video on TV

Following the instruction on connecting to TV to enter TV Playback mode. Use the (Up/Down) button to navigate. To play the video, press the (Right) button.

Deleting Photo/Video on TV

In TV playback mode, use the (Up/Down) button to navigate. Press the (Left) button on the selected Photo/Video, DELETE PHOTO will be appear on LCD. Yes to delete the selected Photo/Video. No for no change. Press OK button to confirm.

Downloading & Viewing Images

There are a number of ways for you download and view the pictures, videos in the field or at another location.

In the Field
You can download the pictures, videos, and time lapse pictures with the aid of external devices. To download use an external player or card reader that is supported by 12V DC or Mini USB Jack.

Removing
To remove the SD Memory Card open the camera cover and push gently on the SD card and it will pop out slightly allowing you to remove it. Load the SD card into the player or card reader to view or move stored images to another location.

Important
Make sure that the camera is in the OFF position before removing SD card.

See the full line of Moultrie camera accessories at www.moultriefeeders.com

Connecting to Computer

Remove the entire camera and transport to another location to download images. To connect the camera to a PC computer, turn the camera ON, press the MENU button once to change to SETUP Mode. Connect the USB cord (not included) between the USB out port and the PC computer. The computer will recognize the camera as a removable drive. The unit works with Windows XP/Vista/7. Copy the images and videos from the camera onto your PC for further editing or printing. When the USB cable is disconnected, the camera will go back to SETUP mode.
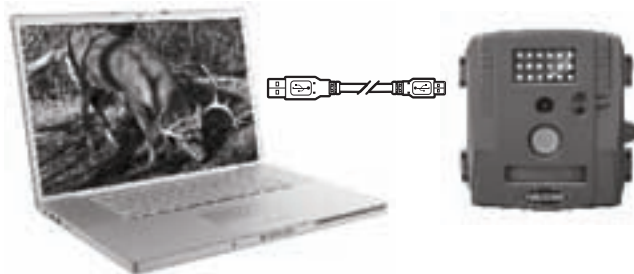
Definitions

4   IR Aim / Power Switch
This switch has two functions. It will assist in aiming your camera with the use of infrared detection. The Status light will flash red when motion is detected. It will also turn the camera power ON and OFF.

6   Infrared Sensor
Detects motion and instructs the camera to activate using the preferences setup by the user .

5   LED Infrared Flash
In low light situations the LED flash will activate using infrared technology.

8   Menu Button
The (Menu) button is used to turn on the (Setup Selection) screen so the operator can run the camera in (Auto) mode or to customize the cameras different feature settings.

9   Light Sensor
Detects the amount of ambient light available and tells the camera if the infrared flash will be needed.

10   Status LED Indicator
The LED Indicator will blink red when motion is detected in the IR Aim function or flashes regularly during time lapse photography.

11   Water-Resistant Seal
Helps keep moisture out of the unit during wet conditions.

12   Battery LED Indicator
Turns green to Indicate batteries are low and need to be replaced.

13   Up / Down Buttons
The up or down buttons are used to move up or down to change the values for each setting.

14   OK / Select Button
Used to select the settings for the camera.

15   Left / Right Buttons
Used to move forward or backward when changing the values of the settings or moving to the next setting.

16   Battery Chamber Release
Press the button to release the battery holder.

17   LCD Display
Shows important operational information such as battery level, picture count, and camera features and setting options.

18   Tripod Mount
Is used to mount your camera to a tripod when necessary. Sold separately, visit us at **www.moultriefeeders.com** for more information.

19   Battery Chamber Holder
Is used to store batteries. Note: make sure that your (+ or −) polarities match the polarities indicated inside the battery chamber.

22   12V DC Power Panel Plug
Is used to connect an external power source. Accepts Moultrie accessories. Visit us at **www.moultriefeeders.com** for more information.

22   USB Out Port
Is used to connect your camera to a computer or external device to download, view, or delete pictures and videos off the camera.

23   SD Card Slot
Will accept SD cards up to 32 GB. To extract SD card gently push the card inward and let go, the card should pop out enough to remove.

24   TV Out Port
Is used to view stored pictures or videos on an external monitor.

25   Tree Mount
Is used to mount your camera to a tree or pole using tree mount tripod accessory.
Sold separately, visit us at **www.moultriefeeders.com** for more information.

Camera Setup

Battery Installation
Open the camera cover. Press the Battery Chamber Release button. Install 6 C-Cell Alkaline batteries. Make sure that the (+ and −) polarities match the polarities indicated inside the battery chamber holder.

Note: Anytime you load or unload batteries, make sure that the camera is OFF.

Warning: If using 12V DC Power Panel Plug, do not attempt to install or remove batteries.

Insert SD Card
You will need to open the front cover to insert a SD memory card. You can insert a SD Card up to 32 GB. Insert the SD Card in the direction indicated on the card.

Note: Camera will not operate without SD memory Card installed.

Power ON
Slide the (IR Aim/Power) switch to the ON position. The LCD will show the last setting. Press the (Menu) button. (Setup) will appear. Choose between (General, Game Detect or Time Lapse) to setup settings in different modes. Use the (Up/Down) buttons to navigate. Press the (OK) button to confirm.
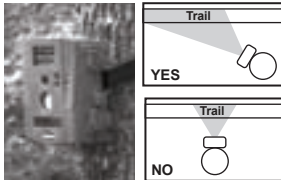
Note: (General) is for General settings.

Mounting with Straps
Close cover and place camera on a tree or pole approximately 3 ft. high. Thread the mounting strap through the mounting strap slots on the back of the camera and secure.

Note: Angle camera downward slightly and down the path.

Setting Photo Quality
Press the (OK) button. Use the (Up/Down) buttons to choose between 3 image quality settings.
1. High: 2560 x 1920
2. Med: 2048 x 1536
3. Low: 640 x 480

Press the (OK) button. Press the (Right) button.

Camera Capture Modes

After programming and aiming the camera, according to your preferences. You will see one of three status screen displays after you slide the (IR Aim / Power Switch) to the ON position. After 15 seconds the camera will enter sleep mode and wake up when motion is detected.

Auto Photo Mode
When the camera has been programmed for (Auto Photo) Mode, the camera will take still images during Game Detect. The following will be displayed on the Status Screen.

Auto Video Mode
When the camera has been programmed for (Auto Video) Mode, the camera will record video clips during Game Detect. This camera will record 10 second video clips at 30 Frames Per Second. The following will be displayed on the Status Screen.

Time Lapse
When the camera has been programmed for (Time Lapse) photography, the camera will observe a full day of activity in the field during (Time Lapse) mode. This camera will record a block still images following the Time Lapse program setting. The following will be displayed on the Status Screen.

Memory & Storage

Your camera supports external SD memory card ONLY and will accept up to a 32GB card. Using large memory cards can slow the camera response. The camera cannot capture any photo or video without external memory. Please inserts a SD memory card to operate camera. Estimates are based on the most common types of memory cards that can be purchased at electronic stores, office supply stores, or online. Estimates may vary based on camera settings or environmental conditions.

Important
Always turn the unit off when inserting or removing an SD memory card to avoid damage and ensure that the camera properly updates the memory information.

Auto Mode		
SD Card:	2 GB	16 GB
HIGH 2560 x 1920	534	4,353
MED 2048 x 1536	1,374	11,195
LOW 640 x 480	10,894	89,567
Video Mode		
SD Card:	2 GB	16 GB
AVI 640 x 480	274	2,239

Actual capacity will vary based on image properties.

Setting (IR) Infrared Flash
Press the (OK) button. Use the (Up/Down) buttons to choose between
AUTO-(IR flash will fire depending on light intensity)
OFF-(IR flash is permanently off).
Press the (OK) button. Press the (Right) button.

Setting Camera Name
Press the (OK) button. Use the (Up/Down) buttons to select an identity for your camera. For example you can use a name or a location but, the identity you wish to use is up to you. Press the (OK) button. Press the (Right) button.

Upgrade Firmware
The firmware version is displayed. Press (Up/Down) to choose setting.
(YES) - *To upgrade firmware.*
(NO) - *Keep current firmware.*
Make sure that a SD card with the new firmware is inserted into the camera. Press the (OK) button to make selection. Make sure the process is completed before pressing other buttons or powering the camera Off. Press (Right) button to go back to (Setup Selection) screen.

Setting Time Lapse Features
When you choose (Time Lapse) the LCD Display will automatically start showing the different features within (Time Lapse). Using the navigation process, set the features to your desire.

Interval Time Setting
Press the (OK) button. Use the (Up/Down) buttons to choose between 10, 30 seconds / 1, 5, 10, 15, or 30 minutes / 1, 3, 6, or 24 hours. When your selections has been made, press the (Right) button.

Setting Multi-Program
Press the (OK) button. Use the (Up/Down) buttons to choose between 4 available settings:
1 PROGRAM, 2 PROGRAM, 3 PROGRAM or 4 PROGRAM. This indicates the number of cycles the camera will operate within a 24 hours period. Press the (OK) button. Press the (Right) button.

Setting Program Wakeup
Press the (OK) button. Use the (Up/Down) buttons to choose between 24 different settings: any hour from MIDNIGHT to 11 PM. This will determine what time the camera will wake up during the program and begin its time lapse program. Press the (OK) button.

Setting Program Sleep
When wakeup time is set, the camera will automatically move to the (Sleep) option. Set the sleep time after the wakeup time you already set. This will set the wake up and sleep during the time lapse photography. Press the (OK) button. Press the (Right) button.

Aiming Camera
After the camera has been mounted, open the cover and slide the (Mode) Switch to (IR Aim). Close Cover. Stand in front of the camera. The (Status) LED will flash red when it detects movement. Use this process to guide your camera to cover the desired target area.

Moultrie Accessories

Using a Tripod
Set the Tripod facing up or down the trail approximately 3 ft. high. Screw the camera onto the Tripod head in a clockwise direction. Lock the tripod into place.
Hint: Place something heavy around the legs of the tripod to help hold the tripod in place. Camouflage the tripod with local brush.
Note: Make sure that the brush does not interfere with the camera.

Using a Tree Mount
The camera can also be mounted directly to a tree using a mounting bracket that attaches directly to a tree or pole. Strap the tree mount to the tree and secure, then attach the camera to the tree mount using the tree mount socket located on the back of the camera.

Using Power Panel
Place near the tree where the camera is mounted. Place for best exposure to sun. To attach to a tripod secure the power panel to the tripod angled upward for best exposure. Plug the power panel to the 12V Power Panel Plug. This will extend the life of your camera in the field.
*Note: Leave batteries in the camera installed during use.*

Setup and Programming

When the cameras power is turned ON, (Auto) will show on the top left corner of the LCD Display. At this time, the picture count and the estimated battery life will also be displayed. If no buttons are pressed within 10 seconds the LCD screen will enter sleep mode to conserve battery life. It will

Default Screen

then enter PIR detection (Game Detect) mode and activate when motion is detected. To wake the camera manually, press and hold the menu button until you see the default screen on the display.
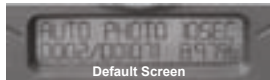
Setup Selection Setting
After the camera is turned (ON) the LCD display will indicate the default screen. Press the (Menu) button and the (Setup Selection) screen will appear. Press the (OK) button, the selection will start to flash. Press the (up/down) buttons to change the settings. Press the (OK) button again to lock in selection. Press the (right) button to move to the next setting. Using this method you can customize your camera's feature settings.

Setting Game Detect Features
When you choose (Game Detect) the LCD Display will automatically start showing the different features within (Game Detect). Using the navigation process, set the features to your desire.

Event Delay Setting
Press the (OK) button. Use the (Up/Down) buttons to choose between (10 seconds, 30 sec., 1 min., 5min., 10min., or 30 minutes). When your selections has been made, press the (Right) button.

Setting Photo or Video
Press the (OK) button. Use the (Up/Down) buttons to choose between Photo or Video. Press the (OK) button. Press the (Right) button.

Setting Photo Quality
Press the (OK) button. Use the (Up/Down) buttons to choose between 3 image quality settings.
1. High: 2560 x 1920
2. Med: 2048 x 1536
3. Low: 640 x 480
Press the (OK) button. Press the (Right) button.

Setting Multiple-Shots
Press the (OK) button. Use the (Up/Down) buttons to choose between settings. Choose how many pictures you would like to be taken in a sequence when the camera is triggered (1, 2, or 3).Press the (OK) button. Press the (Right) button.

Setting PIR Sensitivity
Press the (OK) button. Use the (Up/Down) buttons to choose between 3 settings, (High, Medium, or Low). Press the (OK) button. At this point the (Game Detect) settings are complete. Press the (Menu) button to return to the (Setup Selection) screen. Press the (right) button to move to the next setting.

Setting Additional Features
There are additional camera features that apply to the general operation of the camera. Use the navigation procedure stated in the (Setup Selection Setting), to adjust the features.

Setting Date and Time
Press the (OK) button. Use the (Up/Down) buttons to move from one value to the next. Press the (OK) button to lock in selections. When all your selections have been made, and the date and time has been set, press the (Right) button.

Erase Images
Press the (OK) button. Use the (Up/Down) buttons to choose between (Yes) - erase all images, or (No) - does not change stored images. When your selections has been made, press the (Right) button.

Setting Capture Mode
Press the (OK) button. Use the (Up/Down) buttons to choose between operating modes. This camera has 3 modes.
1. Game Detect - Capture photo or video
2. Time lapse - Capture photo based on the Time Lapse program setting.
3. Hybrid - Uses a combination of Time Lapse and Auto modes at different times of the day.
Press the (OK) button to lock in selection. Press the (Right) button to move to the next setting.

Reset to Default settings
You can reset your camera to the factory default settings. Press (Up/Down) to choose (YES) - all setups restored to factory default or (NO) - keep custom settings. Press the (OK) button again to make selection. Press (Right) button to go to the next menu.