

**LEGALTEK**  
TECHNOLOGY MADE EASY



# LEGALTEK LX OPERATING MANUAL



LXII Digital DVD Recording System

**LegalTek** A division of Gulen, Inc.

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# IMPORTANT

This LX recorder contains the most recent hardware and firmware release.

The installed USB primary memory exhibits excellent data transfer speed and is more robust being less susceptible to file corruption due to mishandling.

New USB flash memory must be pre-formatted for the FAT32 file system by a Windows based computer (refer to manual) before installation into the LX. **Be sure to select Allocation Unit Size: DEFAULT.** Once the formatted USB thumb drive has been installed, access the LX menu and touch the “Format SD” button on the control console. This will initiate formatting of USB installed memory device by the LX. The “FORMAT SD” button is also used to erase recordings from the LX flash memory prior to initiating a new recording.

**LX II Users: The portable external hard drive has been formatted FAT32 by the factory. DO NOT ATTEMPT TO REFORMAT THE DRIVE**

Files stored on the LX II external hard drive can be individually transferred or deleted when connected to a Windows based computer. Large external hard drives cannot be formatted by the LX.

Not all USB devices are compatible with the LX. Transcend black Jet Flash 300 USB 2.0 drives are recommended for use in all LX recorders. The drives must be capable of at least Class 10 data transfer speed to work properly in an LX recorder. We suggest that you purchase additional memory devices directly from Legaltek to ensure compatibility.

The LX utilizes sophisticated DSP processors, as well as Secure Digital and USB removable memory, much as a computer. Before removing or installing USB or SDHC memory, always power off the recorder using the RED “Power” switch, on the left rear chassis.

Failure to do so may cause the firmware to be corrupted, resulting in system malfunction and the possible loss of recorded data.

Once memory is installed, boot up the recorder using the RED “Power” switch. This procedure will initialize all memory blocks and ensure proper recording.

**When not in use, always power down both the LX monitor and recorder. This procedure will guard against firmware corruption due to power interruption or inappropriate memory handling.**

**All LX recorders are shipped with a firmware restoration packet. Please consult the factory before initiating a firmware restoration.**

If you cannot play LX MPEG-2 video in your media player, the answer is simple; the player cannot find a suitable **decoder** for the file. It is possible that your media player may try to download an appropriate codec to play back the file however. Assuming that doesn't happen, you will have to install some software on your computer to play MPEG-2 video, such as VLC Media Player.

VLC is a free and open source cross-platform multimedia player and framework that plays most multimedia files. To download VLC Media Player, go to: <http://www.videolan.org/>

On the task bar, click on VLC. Then select and download the appropriate player for your operating system.

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## About Us

Legaltek is a unique group of law enforcement technical professionals, established equipment providers and manufacturers, that create products and offer services based on the needs and requirements of our core customers, law enforcement and the legal community.

Through research, innovation and purpose driven design, Legaltek merges technology with accepted standards and methodology, to develop specialty equipment that is simple to use and reasonably priced.

Legaltek has become an established technical resource by providing assistance with equipment selection, system design and audio/video laboratory services.

Welcome to the leading edge of law enforcement technology.

## Introduction

Thank you for purchasing the new LX digital DVD recording system by LEGALTEK. Purpose driven engineering has resulted in a versatile, simple to use recorder that will provide years of maintenance free service. The LX represents a new standard in digital interview recording systems specifically designed for law enforcement interrogation documentation.

The LX brings together both the stable LINUX operating system and universally compatible MPEG2 recording standard. Files generated by the LX may be viewed on virtually any DVD player, or by a computer media player with a suitable decoder.

Standard design features, coupled with our specialty line of accessory products, offer the law enforcement professional a simple yet powerful solution to record and archive video information.

## Important

Before removing or installing SDHC or USB memory, always power off the recorder using the RED "Power" switch located on the left rear chassis. Failure to do so may cause the firmware to be corrupted resulting in system malfunction and possible loss of recorded data.

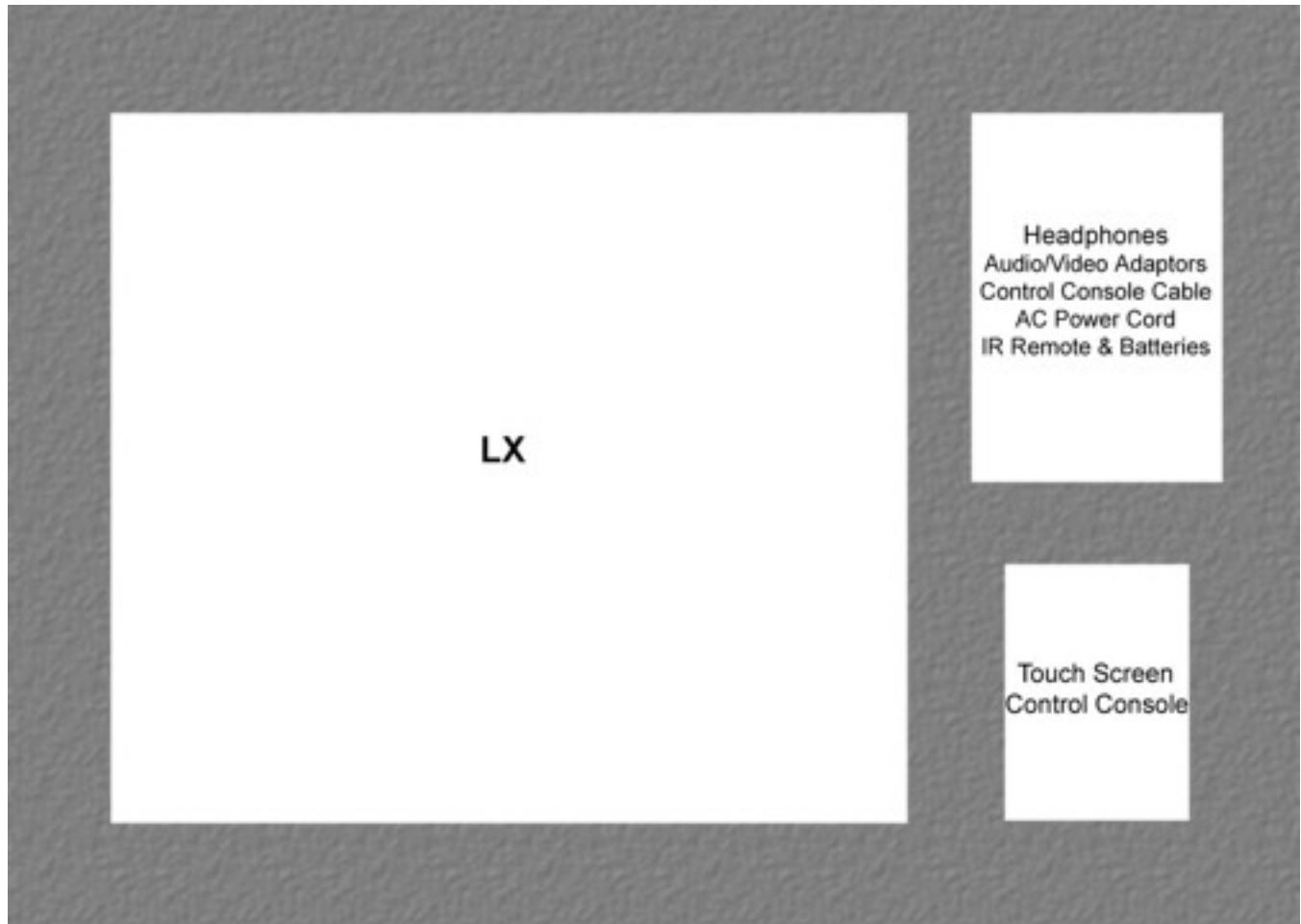
Once memory is installed, boot up the recorder using the RED "Power" switch located on the left rear chassis. This procedure will initialize all memory blocks and ensure proper recording.

**ALWAYS POWER DOWN THE LX MONITOR AND RECORDER WHEN NOT IN USE. This procedure will guard against firmware corruption due to power interruption or inappropriate memory handling.**

## System Unpacking

Legaltek ships the LX digital video recording system in a double wall container featuring a custom cut foam insert. **Please save this container should you need to transport the unit safely.**

Please refer to the illustration below to identify the packing configuration of the LX and supplied accessories.



## IR Remote Functions Remote Controller

### 1. POWER( )

Turn the power ON or OFF. There will be a few seconds delay before the display appears.

### 2. SOURCE

Select pc or video(AV1/AV2/S-Video/Component/HDMI/DVI/PC) sources.

### 3. AUTO

Auto geometry adjustment in PC Source.

### 4. HOLD

Stop the Trigger & Auto switching functions.

### 5. MUTE

Mute the sound.

### 6. MENU

Activates and exits the On Screen Display.

### 7. EXIT

Exit the On Screen Display.

### 8. VOL( )

Increases or decreases the level of audio volume.

### 9. UP/DOWN

Move to OSD menu.

### 10. SOURCE/SELECT

Accept your selection or displays the current mode.

### 11. INFO

Input mode information Display.

### 12. STILL

Stop the picture.

### 13. PIP (Picture In Picture)

Activate PIP mode.

### 14. P.INPUT

Change source of sub picture in PIP mode.

### 15. P.POS

Move the position of sub picture for PIP mode.

### 16. P.SIZE

Change the size of sub and main picture for PIP mode.

### 17. SWAP

Alternates between main and sub picture.

### 18. ARC (Aspect Ratio Control)

Select screen ratio.

### 19. APC (Auto Picture Control)

Select picture mode.

### 20. ACC (Auto Color Control)

Select Colour mode.

### 21. S.SET

Select Sound mode main input or sub input

### 22. PC

Select PC mode(PC, DVI & HDMI).

### 23. AV

Select AV mode.(AV1, AV2 & S-VIDEO).

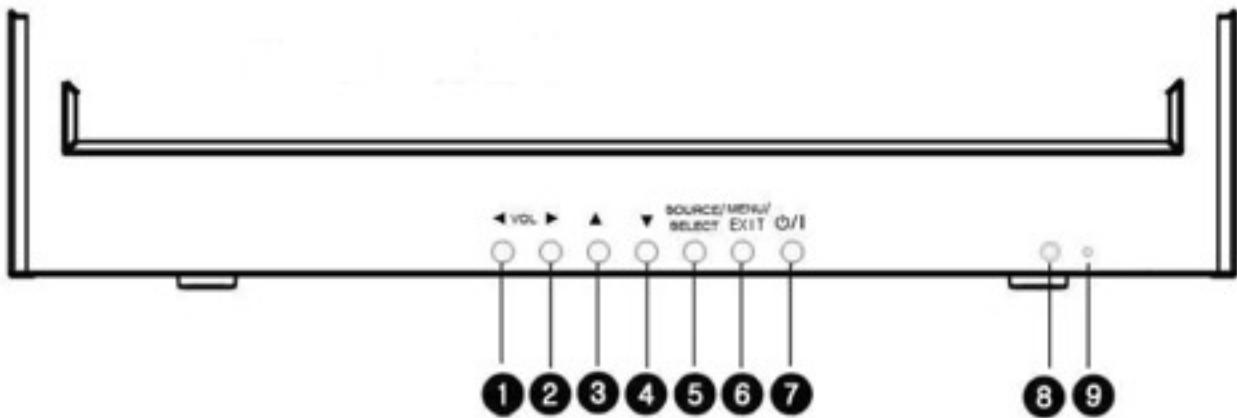
### 24. COMP

Select COMPONENT mode.



## Monitor Control and Functions

### Key Functions



#### 1 / 2. **◀ VOL ▶**

Adjust the volume and menu settings.

#### 3 / 4. **▲ / ▼**

These buttons allow user to enter the sub-menu of the activated function.

The up(▲) button is HOLD function and stop the Trigger & Auto switching functions.

#### 5. SOURCE/SELECT

Select PC or video.

Select On Screen Display menu.

#### 6. MENU/EXIT

Activate and exit the On Screen Display.

#### 7. POWER ON/OFF(**○/I**)

Turns the power ON or OFF. There will be a few seconds delay before the display appears.

#### 8. IR Sensor

Remote controller sensor.

#### 9. POWER LED

The power LED lights with green when the power is turned ON.

The power is turned off by pressing the power switch again and the power LED goes Red.

## **Monitor Control and Function Menus**

### **On Screen Display Menu Description**

#### **1. MENU/EXIT**

Activates and exits the OSD.

#### **2. SOURCE/▼**

Select input source, and move the OSD menu.

#### **3. AUTO/▲**

Move the OSD menu and auto adjustment of RGB source.

#### **4. ▶/SELECT**

Select the OSD menu.

#### **5. ◀**

Move to the previous menu.

#### **6. ⏪/I**

Turns the power ON or OFF. There will be a few seconds delay before the display appears.

The power LED (next to the power switch) lights with green when the power is turned ON.

The power is turned off by pressing the power switch again and the power LED goes Red.

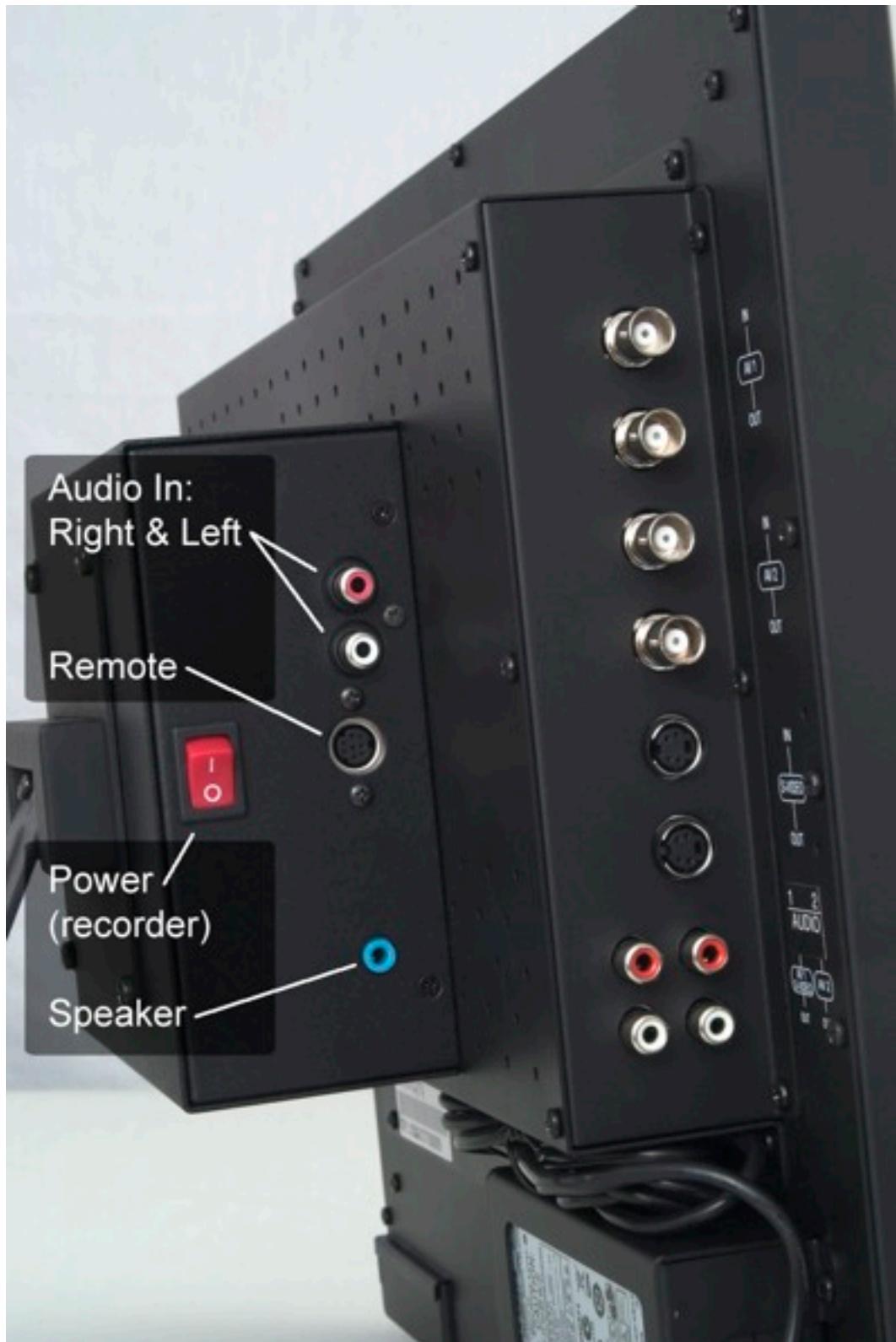
#### **7. LED LENSE**

#### **8. IR RECEIVE LENSE**

## DVD Recorder Control Panels

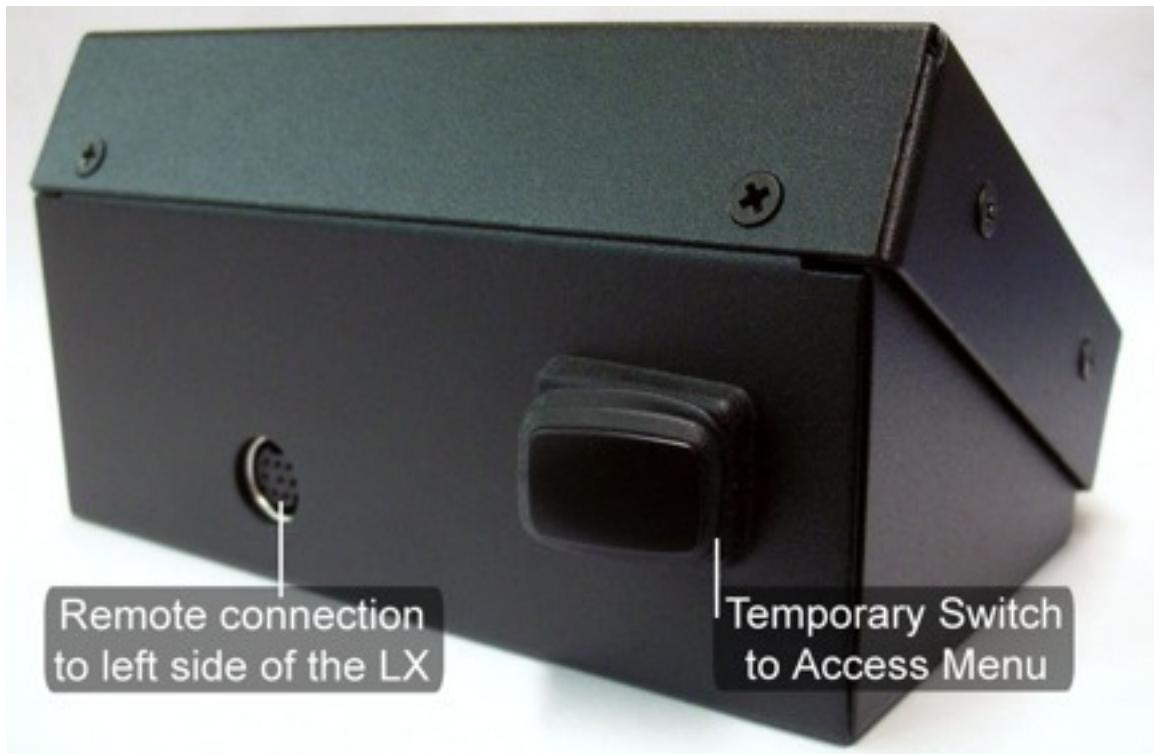


Primary Controls - Right Side



Connections and Recorder Power Switch-Left Side

## Control Console Control Surface and Cable Connection



# System Installation

## Camera Installation

It is important that the camera be adjusted and positioned correctly before permanent installation.

To simplify this process, place the LX on a table in the interview room. You will not require the touch screen control console for this procedure.

Connect one end of the DC/Video cable to the camera and the other end to the LX **AV1 IN** and the 12V regulated camera power adaptor. The LX monitor can now be used to correctly adjust and position the camera before permanent mounting.

Power up the LX monitor by depressing the power switch on the lower front panel. While watching the monitor, position the camera, mark the screw holes or trace the mounting ring for proper cut out.

Legaltek specialty cameras are factory adjusted for optimal performance under normal lighting conditions. However, they may be adjusted electronically via the rear joystick control to accommodate variations. Please refer to the enclosed menu guide.

**\*Important:** If this device is serving as the close up camera for an LX PIP system and is connected to **AV1 IN** (Full Screen Display), please note the following: The camera connected to **AV2 IN** (PIP insert), is both recorded and viewed in the lower right quarter of the video display. Position the close up camera so that the subject is slightly above and to the left of center, as to not be covered by PIP insert.

Disconnect the DC/Video cable and install it in the wall or ceiling from the camera location to the area where the LX recorder will be permanently set up.

Reconnect the DC/Video cable to the camera, secure it to the wall ring with the supplied screws and connect the other end to the LX recorder **AV1 IN (AV2 IN)** and DC 12V regulated camera power adaptor.

The installation is complete.

## Microphone Installation



To mount the LXM ceiling module, carefully drill a  $\frac{3}{4}$ " hole in the tile or plaster, taking care not to damage the immediate surrounding surface. With the supplied allen wrench, loosen the set screw on the machined retaining ring on the microphone body and carefully slide it off. Place the microphone body through the hole, secure with the retaining ring and tighten the set-screw. Connect the female end of the supplied balanced audio cable to the microphone and the male end to the LX pre-amplifier/compressor.

The installation is complete.

## LXM Wall Microphone Module



The LXM wall mount module is shipped with cable connected and mounting hardware. Select a location between the wall support studs and trace the mounting ring for proper cut out. Cut the mounting hole and install the mounting ring. Fish the microphone cable (male connector end) through the mounting ring, up the wall and to the equipment room. Secure the microphone module to the mounting ring with the supplied screws.

The installation is complete.

**Note:** If you cannot fish the cable with male connector up the wall, adhere to the following procedure to remove the microphone cable from the module and fish the bare wires down the wall:



Loosed and remove the two nuts on the module rear cover. Carefully slide the rear cover away from the module exposing the terminal strip. Disconnect the three wires from the microphone terminal strip using a small flat blade screwdriver. Fish the bare end of the balanced audio cable from the ceiling down the wall and through the mounting ring. Route the cable through the rear cover and reattach the three wires to the appropriate connections on the terminal strip. #1(GND) bare copper shield, #2 (AUDIO +) red wire and #3 (AUDIO -) clear wire. Replace the rear cover and tighten the two retaining nuts. Carefully place the microphone into the wall-mounting ring and secure with the supplied fasteners. Connect the male end of the balanced audio cable to the LX pre-amplifier/compressor.

The installation is complete.

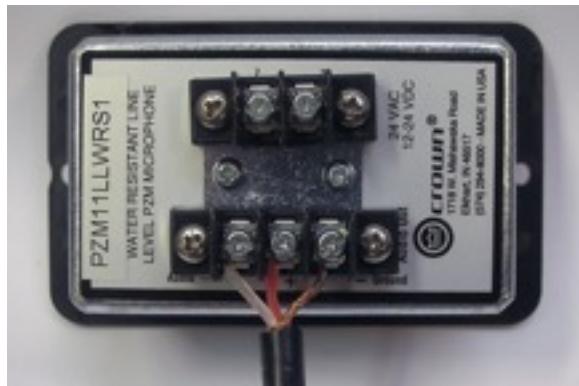
## LXM Wall Security Microphone Module



The LXM wall mount module is shipped with cable connected and mounting hardware. Select a location between the wall support studs and trace the mounting ring for proper cut out. Cut the mounting hole and install the mounting ring. Fish the microphone cable (male connector end) through the mounting ring, up the wall and to the equipment room. Secure the microphone module to the mounting ring with the supplied screws. Install the stainless steel cover with the supplied screws. Make sure to install the cover with the vents facing downward.

The installation is complete.

**Note:** If you cannot fish the cable with male connector up the wall, adhere to the following procedure to remove the microphone cable from the module and fish the bare wires down the wall:



Disconnect the three wires from the microphone terminal strip using a small flat blade screwdriver. Fish the bare end of the balanced audio cable from the ceiling down the wall and through the mounting ring. Reattach the three wires to the appropriate connections on the terminal strip. #1(GND) bare copper shield, #2 (AUDIO +) red wire and #3 (AUDIO -) clear wire. Carefully place the microphone into the wall-mounting ring and secure with the supplied fasteners. Install the stainless steel cover with the supplied screws. Make sure to install the cover with the vents facing downward. Connect the male end of the balanced audio cable to the LX pre-amplifier/compressor.

The installation is complete.

## System Setup

Place the LX on a flat desk or countertop and extend the support leg to achieve the desired viewing angle.

Connect the AC power cord to the power adaptor on the lower rear of the LX and connect the AC power plug to the supplied power strip or UPS.

Locate the Remote Console cable and connect one end into the **Remote** jack on the left side panel of the LX recorder and connect the other end to **Remote Connection** jack on the rear of the touch screen Remote Console.

Unpack the powered speaker system. Plug the DC power adaptor into the supplied power strip or UPS and connect the DC cable to the **12V** jack on the rear of the right powered speaker. Connect the left (attached) speaker cable to the jack marked **To Left Speaker** on the rear of the right speaker. Insert the 1/8" mini plug into the **Speaker** jack on the left side of the LX recorder and into the **Audio Input** jack on the right speaker.

When headphones are used, insert the 1/8" stereo headphone plug into the **Headphone** jack on the front of the right powered speaker. The speakers will be attenuated and audio will be heard in the stereo headphones. Use the volume knob on the speaker to adjust the headphone listening level.

Locate the camera video/DC cables. Connect the end with the male DC 12V plug into the camera's female power jack and the BNC video connector onto the camera's female BNC video jack. Connect the BNC plug on the other end of the cable into the **AV 1 IN** BNC jack on the LX side panel. If a second camera is being used, connect the second BNC plug into the **AV 2 IN** BNC jack on the LX side panel. Insert the DC 12V plug(s) from the camera(s) AC adaptor(s) into the female DC receptacle(s) on the video/power cable(s). Connect the camera AC adaptor(s) to the supplied power strip or UPS.

Locate the microphone preamplifier, power adaptor and 3' stereo audio cable. Plug the power adaptor into the power strip and the DC cable into the **24VDC** jack on the rear of the preamplifier. Plug the 3' stereo audio cable into the **LINE OUT** jack on the rear of the preamplifier and the other end into the two **AUDIO IN** jacks on the left side of the LX recorder.

**The PHANTOM and COMPRESSOR buttons should always be enabled (depressed) on the Microphone Preamplifier.**

(Single channel microphone preamplifier)





(Dual channel microphone preamplifier)

Locate the microphone(s) and microphone cable(s). Connect the microphone(s) to the female connector(s) on the microphone cable(s) and plug the male connector(s) into the **MIC INPUT** jack(s) on the rear of the microphone preamplifier. Begin with the microphone level at about 2 o'clock and adjust up or down as necessary.

If you connecting accessories such as the **Video Server** streaming adaptor, **Digital Audio Recorder**, **Multiple Headphone Distribution Amplifier** or a **Remote Video Monitor**, please use the **BNC AV 1** or **AV 2 OUT** jacks and **RCA AUDIO 1 / 2 OUT** jacks on the left side of the LX chassis.

### Power Up

**The LX LCD monitor and DVD recorder are powered up (and down) with separate power switches. This feature allows continuous room monitoring while powering the recorder up or down when reinserting or removing memory.**

- 1) Turn on the **LCD MONITOR** by depressing the power button on the lower front control panel.
- 2) Turn on the **DVD RECORDER** by depressing the red power button on the rear left side control panel.
- 3) If you are activating the LX for the first time, proceed to the "SETUP" section for system programming.
- 4) If your LX has been programmed, you may begin recording or begin playback of previously recorded files at this time.

## Touch Panel Calibration

To calibrate the touch panel, please follow these steps:

1. Locate the “Menu” button on the rear of the control console.
2. Press the “Menu” button once and the “SETUP” screen will appear.
3. Press the “Menu” button rapidly, several times and the “Touch Panel Calibration” screen will appear.



4. Using a stylus or non-sharp pointed object, touch the tiny white marker at the upper left of the screen. The marker will then move to the upper right of the screen.
5. Repeat step #4 as the marker moves to the lower right, and then, lower left of the screen.
6. Once calibration is complete, the “SETUP” screen will appear.
7. Touch “EXIT SETUP” to return to the video/control mode.
8. Calibration is complete.

## Portable System Setup

The LX portable system is housed in a watertight Pelican case equipped with 2" hard rubber transport wheels, a retractable extension handle and multiple fold- down carrying handles.



Place the case on a table or flat surface and release the top securing latches to open the case lid assembly.



Please refer to the diagram below to identify system components and their proper storage location within the portable case.



## Connections

Place the LX on a flat desk or countertop and extend the support leg to achieve the desired viewing angle.

Connect the AC power cord to the power adaptor on the lower rear of the LX and connect the AC power plug to the supplied power strip.

Locate the Control Console cable and connect one end into the **Remote** jack on the left side panel of the LX recorder and connect the other end to **Remote Connection** jack on the rear of the touch screen Control Console.

Unpack the powered speaker system. Plug the DC power adaptor into the supplied power strip or UPS and connect the DC cable to the **12V** jack on the rear of the right powered speaker. Connect the left (attached) speaker cable to the jack marked **To Left Speaker** on the rear of the right speaker. Locate the 1/8" mini to RCA speaker connection cable. Insert the 1/8" mini plug into the **Speaker** jack on the left side of the LX recorder and the two RCA plugs into the **Audio Input** jacks on the right speaker.

When headphones are used, insert the 1/8" stereo headphone plug into the **Headphone** jack on the front of the right powered speaker. The speakers will be attenuated and audio will be heard in the stereo headphones. Use the volume knob on the speaker to adjust the headphone listening level.

Locate the camera video/DC cables. Connect the end with the male DC 12V plug into the camera's female power jack and the BNC video connector onto the camera's female BNC video jack. Connect the BNC plug on the other end of the cable into the **AV 1 IN** BNC jack on the LX side panel. If a second camera is being used, connect the second BNC plug into the **AV 2 IN** BNC jack on the LX side panel. Insert the DC 12V plug(s) from the camera(s) AC adaptor(s) into the female DC receptacle(s) on the video/power cable(s). Connect the camera AC adaptor(s) to the supplied power strip.

Locate the microphone preamplifier, power adaptor and 3' stereo audio cable. Plug the power adaptor into the power strip and the DC cable into the **24VDC** jack on the rear of the preamplifier. Plug the 3' stereo audio cable into the **LINE OUT** jack on the rear of the preamplifier and the other end into the two **AUDIO IN** jacks on the left side of the LX recorder.

The **PHANTOM** and **COMPRESSOR** buttons should always be enabled (depressed) on the Microphone Preamplifier.

Locate the microphones. Connect the microphones to the female **Mic Input** jacks on the rear of the microphone preamplifier. Begin with the microphone level at about 2 o'clock and adjust up or down as necessary.

### Power Up

The LX LCD monitor and DVD recorder are powered up (and down) with separate power switches. This feature allows continuous room monitoring while powering the recorder up or down when reinserting or removing memory.

- 1) Turn on the **LCD MONITOR** by depressing the power button on the lower front control panel.
- 2) Turn on the **DVD RECORDER** by depressing the red power button on the rear left side control panel.
- 3) If you are activating the LX for the first time, proceed to the "SETUP" section for system programming.

### Camera and Microphone Placement

The microphones should be placed on a flat surface, one facing the subject and the other facing the interviewer.





The cameras are supplied with universal “G-Clips” that can be used as a clamp or stand.



### **Camera Clamp/Stand**

Two metal legs fold up into the spine of the clamp when not in use. When you wish to use the G-Clip as a stand, fold the legs down until they snap into place, expand the clamp screw for appropriate angle.



A spring loaded lock at the bottom of the G-Clip allows you to release the legs when you wish to fold them back out of the way.



The serrated plastic thumb wheel must be tightened down to secure both joints.



Thread the mounting screw into the camera base and tighten the metal thumb wheel.



Adjust the serrated plastic thumb wheel to position the camera vertically and toward the subject.



Adjust the "Zoom" and "Focus" rings on the camera to obtain the desired image size.

Please refer to the camera manufacturer's manual for OSD menu access and programming with the built-in joystick controller.

## USB Removable Drive Memory Pre-Formatting

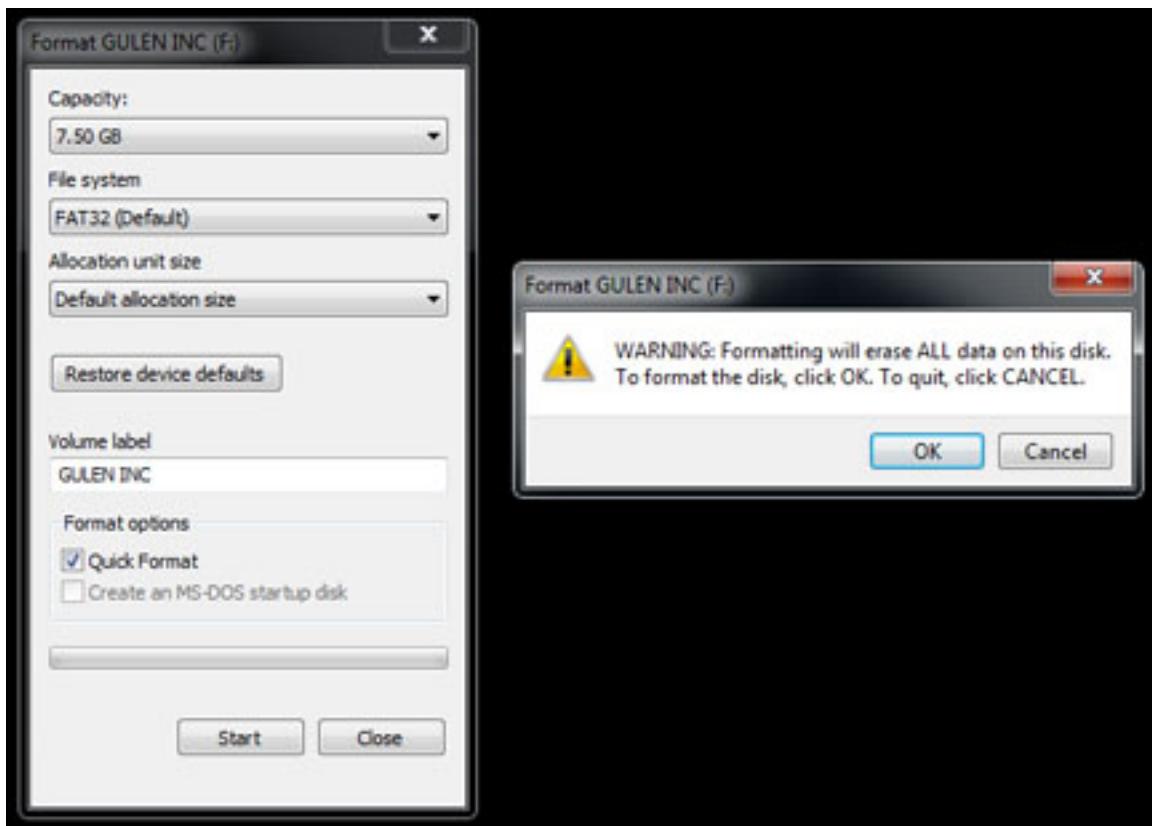
The recorder is shipped with pre-formatted memory installed. Please adhere to the following procedure to format additional memory.

Insert new memory device to be formatted into the appropriate slot on your computer.

Go to Computer (found in the Start menu) and right click on Removable Disk. The Disk menu will appear. Select Format. The Format Removable Disk menu will appear.

**Make sure the file system displays FAT32, Allocation: Default.** Now select Quick Format followed by START. The Format Removable Disk window will appear.

Select OK. The formatting progress green bar will appear.



When formatting is complete, select OK, and then CLOSE.

Remove the memory device.

The pre-formatted memory device must now be formatted by the LX.

Insert the pre-formatted memory device into the **POWERED DOWN** recorder's USB slot. **POWER UP** the recorder and proceed to the Card Formatting section.

## Firmware Update Procedure

### SDHC CARD (Containing Firmware Supplied by the Factory)

Using the red “**POWER**” switch on the left rear chassis, power off the LX CPU and DVD burner component.

Insert the SDHC card containing the firmware update into the LX **SDHC CARD** slot.

**Make sure a new or pre-formatted USB memory stick is installed in the LX **USB** port. Refer to manual page 23 for the pre-formatting procedure.**

Press and hold the “**FW UPDATE**” button on the right side of the LX CPU/DVD burner while turning the power on with the red “**POWER**” switch.

Continue to depress the “**FW UPDATE**” button until the screen on the control console illuminates blue (<30 seconds), then release.

The firmware update will begin automatically. The LX will boot up with the updated firmware (4-5 minutes).

You may be directed to calibrate the touch screen. If so, follow the prompts.

Using the red “**POWER**” switch on the left rear chassis, power down the LX CPU and DVD burner component.

Remove the SDHC memory card containing the firmware upgrade and keep for future use.

Using the red “**POWER**” switch on the left rear chassis, power up the LX CPU and DVD burner component.

Access the “**MENU**” and touch “**FORMAT SD**” to format the primary USB system memory.

Re-enter Time/Date/USERID/Pre-Record/Record Quality then exit menu. Installation is complete.

**When not in use, always power down the LX CPU/DVD burner using the red “**POWER**” switch on the left rear chassis.**

## System Programming

The following sections outline the LX control menu functions and associated programming. Press the MENU button on the left rear of the control console (or LX right rear side panel) to activate the SET UP menu display on the control console.

The SETUP screen will appear.



The touch screen Control Console controls all LX system programming and operational functions.

## User Name

Continuing from the previous step, or press the Menu button on the left rear of the control console. The SETUP menu screen will appear on the Control Console.

Select <USERNAME>.

THIS SELECTION PROGRAMS THE USER NAME INFORMATION THAT WILL BE DISPLAYED IN THE DATA FIELD OF ALL RECORDINGS. THIS IS A COMPONENT OF THE RECORDING WATERMARK THAT CANNOT BE ALTERED.



THE USERNAME ALPHANUMERIC SCREEN WILL APPEAR ON THE CONTROL CONSOLE. USE THE KEYPAD TO ENTER THE USER'S NAME. EXAMPLE: SGTASMITH123

## User Name

continued

If you make a mistake, press the CLR. One character will be erased with each pressing. Re-enter the correct data.

When you are finished, press OK. The entered user Name will be stored.



The SETUP menu screen will reappear on the Control Console.

You will now be prompted to program the USERID.

## User ID



The “ID” alphanumeric screen will appear on the Control Console. Use the keypad to enter the USER ID (Department/Agency name)

Example: ANAHEIMPD

If you make a mistake, press the CLR. One character will be erased with each pressing. Re-enter the correct data.

When you are finished, press OK. The entered user ID will be stored. The SETUP menu screen will reappear on the Control Console. If you are finished, press EXIT SETUP, otherwise continue to the next section.

## Time / Date



Select: <Time / Date>

[THIS SELECTION PROGRAMS THE TIME AND DATE INFORMATION THAT WILL BE DISPLAYED IN THE DATA FIELD OF ALL RECORDINGS. THIS IS A COMPONENT OF THE RECORDING WATERMARK THAT CANNOT BE ALTERED.]



The TIME/DATE alphanumeric screen will appear on the Control console.

Enter the TIME.

Follow the cue, beginning with hours, followed by minutes then seconds. Enter the appropriate digits by pressing the numeric keypad. Press CLR to correct a mistake.

Select a date display format by pressing one of the three format selections.

Enter the DATE.

Enter the appropriate digits by pressing the numeric keypad. Follow the cue. The date entered will be displayed in the previously selected format MM/DD/YYYY, DD/MM/YYYY or YYYY/MM/DD.

Press the CHECK button to confirm the settings and return to the SETUP menu.

## Video Quality



Select <VIDEO QUALITY> the following display will appear.



This selection determines the system recording capacity and recording quality:

## **LX USERS**

Select LOW for 16 hour recording capacity (1 MB/sec. bit rate)

Select MED for 8 hour recording capacity (2 MB/sec. bit rate)

Select HIGH for 4 hour recording capacity (4 MB/sec. bit rate)

## **LX II USERS**

Select LOW for >4,200 hour recording capacity (1 MB/sec. bit rate)

Select MED for >2,100 hour recording capacity (2 MB/sec. bit rate)

Select HIGH for >1,050 hour recording capacity (4 MB/sec. bit rate)

Note: The MED setting yields excellent quality recordings and is recommended for standard use.

Press the desired quality setting. Your selection will be saved and the SETUP screen will appear on the Control Console.



\*Note: Your selection will be displayed in the reminder window on the Video Quality button.

If you are finished, press EXIT SETUP, otherwise continue to the next section.

## Pre-Event Recording

Continuing from the previous step, select <PRE EVENT>. The following display will appear:



This feature determines the duration of pre-recorded activity that you would like to include on the recording prior to pressing the record button on the Control Console.

To disable this feature, press the off button.

To select one minute of pre-recording activity, press <1min>.

To select two minutes of pre-recording activity, press <2min>.

To select three minutes of pre-record activity, press <3min>.

\*Note: Your selection will be displayed in the reminder window on the PRE EVENT button.



Your selection will be saved and the SETUP screen will appear.

If you are finished, press <EXIT SETUP>, otherwise continue to the next section.

## USB/SDHC Memory Formatting

Continuing from the previous step, or press the Menu button on the left rear of the control console. The SETUP menu screen will appear on the control console.



Select FORMAT SD by pressing <FORMAT SD>. The following display will appear on the Control Console:



This feature is used to format a new memory device or completely erase all data from an existing device. \*Note: All new memory must first be formatted on a PC. Please follow the instructions on page 15.



If you wish to continue formatting a new memory device, or if you are certain that all recorded evidence has been archived, select YES. Select YES to continue or NO to abort formatting.



Your selection will be saved and the SETUP screen will appear. Press <EXIT SETUP>.

## NTSC Systems

ALL PREVIOUS SETTINGS WILL BE SAVED. THE CONTROL CONSOLE SCREEN WILL RETURN TO THE VIDEO/CONTROL MODE.



## PAL SYSTEMS



When in the standby or video control mode, the LX touch screen will display the control buttons over a Legaltek graphic rather than live video from the interview room. During file playback, an image of the selected video recording will be displayed. All other control displays remain the same.

## Control Console Display

When in the stand-by mode, **NTSC** systems will display information from **AV 1 IN** on the Control Console. **PAL** systems display the control buttons over the Legaltek graphic.

The Control Console becomes a record confidence display for images just stored on the primary memory while recording is in progress.

Display Information: Stand by mode



Press the  to display the volume increase or volume decrease controls.

Press on the respective controls to increase or decrease the audio level. Press the  control again to store the selected volume settings.

The LX monitor displays video and audio from the source inputs at all times. The user may select **AV 1 IN** or **AV 2 IN** as the full screen display, or activate the picture-in-picture feature to monitor both video sources simultaneously.

Please use the IR remote control and refer to the IR Remote Functions and Monitor Control and Function Menus sections for display set up.

The powered speaker system has its own volume control. We suggest that the Volume on the LX Control Console be set at about two thirds maximum. The volume knob on the powered speaker system should be used for routine level adjustments.

If private monitoring is desired, simply insert the 1/8" headphone plug into the corresponding headphone jack on the front of the powered speaker. The speakers will be muted and audio will be heard in the headphones. Use the volume knob on the powered speaker to adjust the headphone listening level.

## Recording



Press <REC> to begin recording from the primary camera, (**AV 1 IN**).

Press <REC 2> to begin recording from the secondary camera, (**AV 2 IN**). REC 2 information will be recorded as a picture-in-picture insert.

**Note: Line input “live room” audio is heard on the speakers while in the standby mode, “recorded audio” is heard both during the record and playback modes.**

The remaining available recording time is displayed as hours, minutes and seconds in the lower right of the remote console.

Press  to display the volume increase or volume decrease controls. Press on the respective controls to increase or decrease the audio level. Press the  control again to store the volume settings

Press the <STOP> button to end the recording.

**LX I users please proceed to Playback on page 41.**

LX II recorders will display the following screen:



You will have approximately 10 seconds to enter the “CASE ID”, otherwise the LX will automatically assign a sequential case number CASE001, CASE002 etc. for later reference.

## Playback

Once you have made a recording and pressed <STOP> LX I recorders will display the following preview screen on the remote console. **PAL** systems will display the control buttons over the Legaltek graphic.



Press <PLAY> to access the PLAY LIST screen. The PLAY LIST displays the following recording information:



- 1) The # column, (example 001, 002 etc.) identifies the recording number. Recordings are listed in chronological order from the earliest to the most recent.
- 2) The START column identifies the time recordings were initiated.
- 3) The END column identifies the time recordings were terminated.
- 4) The VID2 column identifies that the Video 2 recording feature was activated.
- 5) \*Note: The PLAY LIST only displays recordings contained on the SDHC memory card. Previous recordings deleted by formatting the SDHC card or that were recorded on other SDHC cards are not stored by the LX.

Using UP and DOWN arrow keys, highlight the recording that you wish to review. You may also directly touch a desired recording to select it.

Press <PLAY> to view the highlighted recording on the Control Console screen.

Once playback has been initiated, the following controls will appear on the Control Console screen:



The LX has a selectable review feature that allows 2X (two times), 4X (four times) and 8X (eight times) high-speed viewing in both forward and reverse modes.

Once playback of a file has been initiated, press <FFW> or <REW> to advance to the X2 viewing mode. The FFW or REW buttons will first change color to yellow. The graphic 2X will appear on the Control Console display indicating review in twice normal speed.

If you wish to review in the 4X or 8X mode, press the FFW or REW buttons once again for (4X) and yet again for (8X). The appropriate 4X or 8X graphic will appear on the Control Console display.

You may return to normal playback at anytime by pressing PLAY.

To adjust playback volume, rotate the volume control on the powered speaker system.

## DVD Burning/File Management

When the recording is complete and you have pressed stop, the following screen will appear on the Control Console. After first sentence add: Pal systems will display the control buttons over the Legaltek graphic.



At this point, you have two options: Press <BURN DVD> to open the LX BURNING DVD APPLICATION or:



Remove the memory device and upload the recorded file to an office computer.

**Before removing or installing a memory device, always power off the recorder using the RED "Power" switch, on the left rear chassis.**

## Internal DVD Burning

Place a Premium Archival blank DVD (<http://legalteklx.com/accessories.html>) in the DVD drive on the right LX control panel.



Press the < BURN DVD > button on the Control Console. The following screen will appear.



Press the Yes button. The following screen will appear on the Control Console.

**LX I USERS  
PLEASE SKIP TO  
PAGE 48**





Press the <SELECT AND BURN> button to access all stored files on the hard drive.

Press <BURN ALL> to burn all stored files to DVD. "BURN ALL" would likely be used only if a single file was stored on the hard drive. If this option is selected, please skip to page (48).

Press the <CANCEL> button to abort the DVD burning application.

<SELECT AND BURN> will bring up the DVD FILE SELECTION screen:

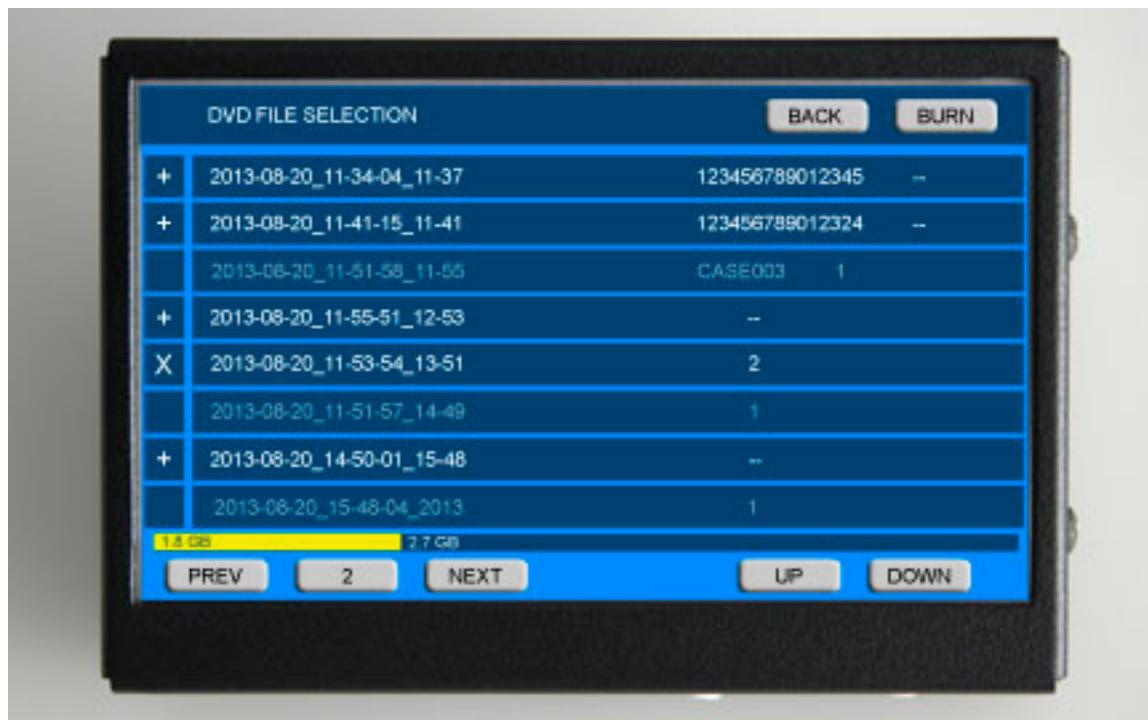


Stored files are listed chronologically beginning with the date of recording, the time of file initiation in hours, minutes and seconds followed by file conclusion in hours and minutes and the assigned case ID.

Files are automatically partitioned into 1GB segments. Therefore, for longer recordings, the CASE ID will appear following the last recorded file segment.

All file segments are initially preceded by a + symbol.

To select a file segment to be burned to a DVD, simply touch the + symbol preceding the desired segment. The + symbol will change to an X indicating that the segment has been selected. In addition, a number 1 will appear following the case ID, indicating that the file will be burnt on disc 1.



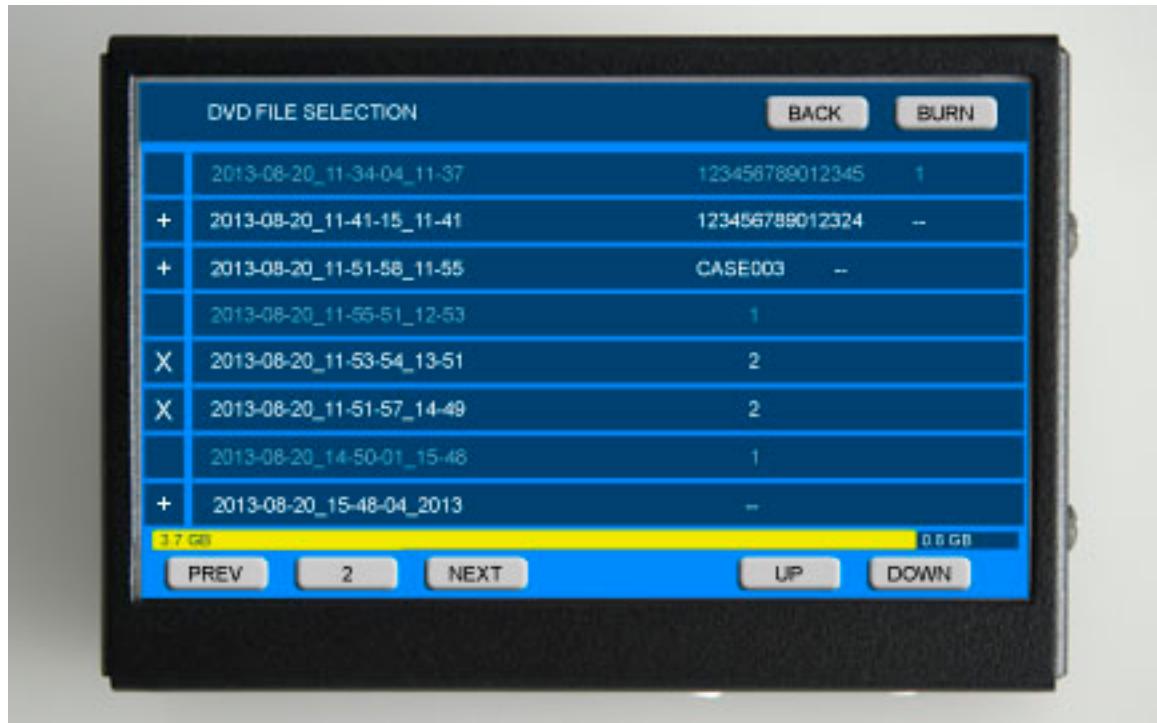
The disc capacity task bar will indicate the selected file size in yellow as well as the remaining disc space in blue.

To select another segment, touch the + symbol preceding the file. The + symbol will change to an X indicating that the segment has been selected.

The disc capacity task bar will indicate the accumulated file size in yellow as well as the remaining disc space in blue.

Touch the UP and DOWN buttons to scroll through the available list of files.

If the accumulated file size exceeds the capacity of the first disc (4.5GB) a number 2 will appear following the case ID, indicating that the file will continue onto disc 2.



The files previously selected for disc 1 will be dimmed on the touch screen and the X will disappear. Files selected for the current session, disc 2, will remain highlighted along with the X indicator.

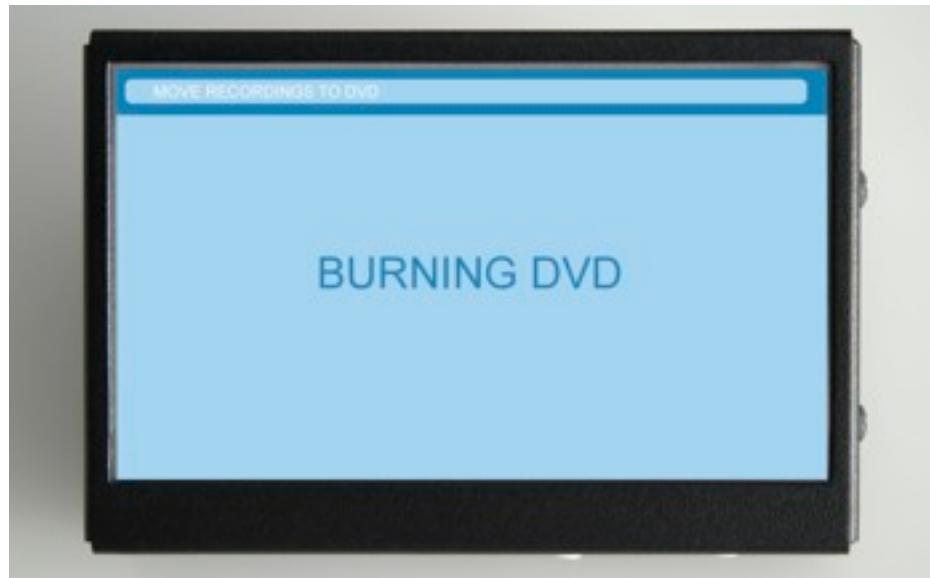
The disc capacity task bar will indicate the accumulated file size in yellow as well as the remaining disc space in blue.

Touch the PREV or NEXT buttons to advance to the next or to return to a previous session. You may edit the selections by selecting or deselecting specific files or touch the BURN button to initiate the disc burning application.

To begin burning a DVD, touch the BURN button, you will be prompted to insert a blank DVD.. Touch the YES button on the subsequent screen and follow the prompts. After the disc is burnt and finalized, you will be prompted to burn a duplicate disc of the current session or exit the application.

To begin burning the second DVD, touch the BURN button. You will then be prompted to initiate burning of the second session or disc 2. Touch the YES button on the subsequent screen and follow the prompts. After the disc is burnt and finalized, you will be prompted to burn a duplicate disc of the current session or exit the application.

At any point you may return to the previous screen or exit the application by touching the <BACK> button.





Press the CONTINUE button. The following screen will appear on the Control Console.



At this point, you have three options:

- 1) Burn a movie DVD. This is an MPEG 2 DVD recording with embedded menu and file system that will allow the DVD to be played on any standard DVD player or computer capable of playing movie DVDs.
- 2) Burn a data DVD. This is an MPEG 2 DVD data recording that does not include the menu and file information. This DVD, which can be burnt and finalized more quickly by the LX, can be played on any computer and some newer DVD players.
- 3) Exit the application.

If you press either the MOVIE DVD or DATA DVD buttons, the following screen will appear on the control console:



The red indicator dot will be illuminated on the selected button and the DVD amber progress bar will appear at the bottom of the screen.

When the DVD has been burned and finalized, the completed disc will be automatically ejected.

**Note:** Files that exceed the capacity of a single DVD will automatically be partitioned for recording on multiple discs. Please follow the prompts on the control console.

\* The LX is not capable of selective file transfer for internal DVD burning. All files stored on the USB memory will be recorded to the DVD. To burn files separately or attach to individual case files, please power off the recorder, remove the memory and upload files to an office computer.

# LX TECHNICAL SPECIFICATIONS

## **VIDEO:**

DVD Recording System	DVD-/+R (Not Region Specific)
Video Recording System	MPEG2
Installed Memory	8GB USB
Operating System	Linux Direct
Record Resolution	720 X 480 D1, 30 FPS
Bit Rate	4MB/sec (4.0 Hour Mode, XP High) 2MB/sec (8.0 Hour Mode, SP Standard) 1MB/sec (16.0 Hour Mode, LP Extended) <11 Min. (1.5 Hour Recording, SP Standard)
DVD Burn/Finalize Time	1-3 Minute Adjustable
Pre-Event Recording	Integral Time/Date/Character Generator
Time/Date Generator	Integral 1/4 Screen: Record Selectable
Picture-In-Picture Inserter	Recorded Files Can Be Viewed, Not Modified
Over Record Protection	Two Composite Video (BNC); 1.0 Vp-p w/loop through
Video Input	NTSC Standard (525 lines, 60 fields)
Video Signal System	PAL Standard (625 lines, 50 fields)

## **AUDIO:**

Audio Sampling	16 Bit, 48Khz.
Audio Input	Two: Line Level (RCA) w/ loop through
Speaker	Stereo: External, Powered
Headphone Jack	1/8" Stereo

## **DISPLAY:**

Viewable Size: Monitor	17" Diagonal w/Protective Glass, Source PIP Selectable
Control Console	5.0" Diagonal Resistive Touch Screen; Rec Confidence Display
Display Type	LCD Active Matrix Flat Panel (TFT)
Contrast ratio	1000:1
Brightness	300/cd/m <sup>2</sup> , Fully Adjustable
Pixel Pitch	0.264mm
Response Time	< 5ms
Filter Type	3D Comb Filter/Deinterlace

## **General:**

Dimensions	(WxHxD) 15.3" x 13.5" x 7.75"
Weight	17lbs.
Power Requirement	120-240 VAC (50/60Hz)
Power Consumption	<42W DC 12V 3.5A
Warranty	One-Year Parts and Labor
Regulations	UL, CB, FCC (A), CE-Emc (LVD) RoHS, TUV-NRTL
Manufactured in the United States	

## **SUPPLIED ACCESSORIES:**

Operation Manual
Power Cord
Headphones

## **OPTIONAL ACCESSORIES:**

DVD Transcription Kit (For PC)
Streaming Audio/Video Interface Kit
Digital Audio Recorders
Custom Disguise Microphones and Cameras
Premium Evidence Archival DVD-R Stock
Magnetic card reader
Extended Factory Warranty Plans

# LX II TECHNICAL SPECIFICATIONS

## **VIDEO:**

DVD Recording System	DVD-/+R (Not Region Specific)
Video Recording System	MPEG2
Installed Memory	Ruggedized sTB External USB Hard Drive
Operating System	Linux Direct
Record Resolution	720 X 480 D1, 30FPS
Bit Rate	4MB/sec 1,050 Hours, XP High 2MB/sec 2,100 Hours, SP Standard 1MB/sec 4,200 Hours, LP Extended

DVD Burn/Finalize Time	<11 Min. (1.5 Hour Recording, SP Standard)
Pre-Event Recording	1-3 Minute Adjustable
Time/Date Generator	Integral Time/Date/Character Generator
Picture-In-Picture Inserter	Integral 1/4 Screen: Record Selectable
Over Record Protection	Recorded Files Can Be Viewed, Not Modified
Video Input	Two Composite Video (BNC); 1.0 Vp-p w/loop through
Video Signal System	NTSC Standard (525 lines, 60 fields) PAL Standard (625 lines, 50 fields)

## **AUDIO:**

Audio Sampling	16 Bit, 48Khz.
Audio Input	Two: Line Level (RCA) w/ loop through
Speaker	Stereo: External, Powered
Headphone Jack	1/8" Stereo

## **DISPLAY:**

Viewable Size: Monitor	17" Diagonal w/Protective Glass, Source PIP Selectable
Control Console	5.0" Diagonal Resistive Touch Screen; Rec Confidence Display
Display Type	LCD Active Matrix Flat Panel (TFT)
Contrast ratio	1000:1
Brightness	300/cd/m <sup>2</sup> , Fully Adjustable
Pixel Pitch	0.264mm
Response Time	< 5ms
Filter Type	3D Comb Filter/Deinterlace

## **General:**

Dimensions	(WxHxD) 15.3" x 13.5" x 7.75"
Weight	17lbs.
Power Requirement	120-240 VAC (50/60Hz)
Power Consumption	<42W DC 12V 3.5A
Warranty	One-Year Parts and Labor
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## **SUPPLIED ACCESSORIES:**

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## **OPTIONAL ACCESSORIES:**

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Digital Audio Recorders
Custom Disguise Microphones and Cameras
Premium Evidence Archival DVD-R Stock
Magnetic card reader
Extended Factory Warranty Plans

LegalTek has a 30-day return policy for all new products purchased from original date of arrival. Specialty orders, memory cards or drives, equipment that includes software and USB foot pedals are not returnable for any reason. Do not return any merchandise without prior authorization or your package will be refused at your expense. For a return merchandise authorization (RMA#), please email [gkulen@legalteklx.com](mailto:gkulen@legalteklx.com). RMA's expire within 10 business days of being issued. All credit/debit card refunds are subject to a 5% credit/debit card transaction fee. We will not ship to UPS stores, shipping/receiving stores, or hotels. Orders over \$200 must be shipped to the billing address as it appears on the credit/debit card billing statement.

#### Returns:

Do not ship any return/exchange merchandise in only the original display carton. The item must be returned in an appropriate shipping container or no refund will be issued. All return merchandise must include supplied accessories and any promotional items. If an item which included free 1-day air or 2-day air shipping is returned, shipping charges incurred by LegalTek will be charged to the customers credit card. LegalTek will not cover any cost of return shipping. All merchandise being returned for refund within return policy must: Be in new resalable condition (free from scratches or any other type of damage). Be complete with all original packaging, manuals, and accessories (all packaging, manuals, and accessories must also be in new resalable condition). Have return merchandise authorization number on shipping label or packaging. All merchandise being returned for exchange within return policy must meet same conditions as units returned for refund.

#### Refunds:

Please allow up to 14 business days to process. (All shipping charges are non-refundable) All refunds are subject to evaluation and must include a copy of the purchase receipt. Refunds will be issued to the original purchaser only, for the value amount of the merchandise after any applicable credit/debit transaction fee. LegalTek is not liable for any bank overdraft fees incurred for any reason.

#### Defective Units/Exchanges:

Defective units returned for replacement are subject to evaluation upon arrival. Exchange merchandise must be returned and received before replacement merchandise can be shipped. Any defects after 30 days from original date of arrival are subject to any applicable warranties and will no longer be eligible for exchange. LegalTek does not provide loaner equipment. Same or similar merchandise ordered while a repair is being done is non-returnable..

#### Warranty Information:

Transfer or sale of the product voids Legaltek's warranty obligations. All merchandise bears a manufacturer's limited warranty and all warranty services should be sent directly to the manufacturer. Products manufactured or modified by Legaltek should be returned to us for service. All returned merchandise should be returned to; Legaltek c/o Martel Electronics 23221 East La Palma Avenue, Yorba Linda, CA 92887

Extended factory warranty plans are available.

#### Cancellations/Signature Required Shipments/Refused Packages:

All order cancellations must be made by phone, before time of shipping. All orders over \$200 will be shipped with delivery confirmation and signature required. If you refuse your package upon delivery or your package is returned to us by UPS for any reason, you will be charged any and all undeliverable package fees incurred by UPS.

Important: We will not be held responsible for any items lost or stolen from your door.

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