## *Operating the XLTEK Trex™ HD Video Ambulatory System*

This guide provides an overview of the steps needed to operate the XLTEK Trex HD video ambulatory system, including starting and terminating an ambulatory study, and uploading EEG and video data. This system is used to record EEG and/or PSG signals in synchrony with high definition (HD) video.

The Trex HD camcorder can be used for ambulatory video recordings only. Video data is recorded to the camcorder's internal memory or SD memory card and uploaded to the acquisition station after the study has ended.

### Main System Components
- XLTEK Trex HD amplifier
- Trex HD video adaptor
- SONY FDR AX100 camcorder
- SONY Infrared light attachment
- SD Memory card for camcorder (256 GB SDXC card)
- Camcorder tripod and clamp
- Carrying case and Trex pouch

### 1.   Preparing Trex HD Amplifier
1. Insert two brand new AA batteries into the Trex HD amplifier and connect it to acquisition station using USB cable.
2. In  **Natus database** select **TOOLS > AMBULATORY MANAGER**:
   a.   For Headbox, select **Headbox Connected to USB.**
   b.   Ensure there are no studies displayed and that **Memory Used** indicates 0%. To erase studies stored in Trex HD, click **Clear Memory**.

### 2.  Preparing Camcorder
1. Plug camcorder into power supply and turn power ON.
2. Insert the **256GB SDXC\*** memory card.
3. With camcorder in **MOVIE** 🎞 mode set the settings using the LCD touch screen panel according to **"CAMCORDER SETTINGS CHECKLIST"** box.
4. Ensure that Infrared Light attachment is connected to camcorder and review settings for NightShot mode indicated under **"INFRARED LIGHT ATTACHMENT"**.
   *\*Only use memory card provided by Natus.*

### 3.  Starting Ambulatory Study with Patient
1. Connect Trex HD and camcorder to acquisition station. Ensure camcorder is powered ON.
2. Verify the camcorder's LCD screen displays **Mass Storage Connected.** If it does not, go to MENU > SETUP > CONNECTION > USB Select > USB Connect.
3. In Natus database, start a new study by selecting **New EEG** or **New Sleep**.
4. Complete **Study Information** form and:
   a.   Under **Headbox Name**, select **Headbox Connected to USB.**
   b.   Under **Video Source**, select **Use ambulatory video**.
5. Click **START** to start acquisition. An **Ambulatory Video Test** will begin (this may take several minutes). *You can also re-start the video test by putting the camcorder in "Mass Storage Connected" display and clicking **CONTROLS > VIDEO TEST**.*
   a.   When prompted, stop USB connection by pressing ☒ **USB Connect** on camcorder's LCD screen. Do not physically disconnect USB cable!
   b.   Follow prompts as requested to complete video test, then disconnect camcorder's USB cable. *If prompted to put the camcorder in movie recording mode, press the camcorder icon on the LCD screen.*
6. Set up patient and perform other startup protocols as described in your NeuroWorks manual (such as Impedance Check).

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### CAMCORDER SETTINGS CHECKLIST[1]

**MENU > IMAGE QUALITY/SIZE**
- ✓ REC MODE > LONG TIME LP
- ✓ Dual Video REC > Off
- ✓ FILE FORMAT>AVCHD
- ✓ FRAME RATE: 60I for N.America /50i for Europe

**MENU > CAMERA/MIC**
- ✓ CAMERA SETTINGS > NIGHTSHOT LIGHT > ON
- ✓ MICROPHONE > AUDIO MODE > 2CH STEREO

**MENU > SETUP**
- ✓ MEDIA SETTINGS > MEDIA INFO > MEMORY CARD
- ✓ MEDIA SETTINGS > FORMAT > MEMORY CARD (follow prompts)
- ✓ MEDIA SETTINGS > FILE NUMBER > RESET
- ✓ CONNECTION > USB CONNECT SETTING > MASS STORAGE
- ✓ GENERAL SETTINGS > BEEP > OFF
- ✓ GENERAL SETTINGS > DEMO MODE > OFF

#### INFRARED LIGHT ATTACHMENT

*MODEL HVL-LEIR1:*
- ✓ Requires two AA batteries
- ✓ **MODE:** IR ON
- ✓ **BRIGHT:** LEVEL 2

*MODEL HVL-HRIL:*
- ✓ **MODE:** IR LIGHT
- ✓ **BRIGHTNESS:** MID-POSITION

7. Start ambulatory mode by going to **CONTROLS > START AMBULATORY STUDY** and only then disconnect Trex HD from acquisition station. To verify that Trex HD is recording in ambulatory mode and that video is successfully paired, ensure:
   a. **Amber light** ● on side of Trex HD is flashing (every 2 sec).
   b. **Blue light** ● on Trex Video Interface is flashing (every 10 sec).
8. Review camcorder operation with patient and provide instructions regarding battery replacement/capacity of Trex HD, camcorder and IR light (model HVL-LEIR1 only). Make sure the patient takes the Patient Guide (009320) with them. *To preserve battery life, the camcorder may be packed in the carry case with the power on but LCD screen closed during transport.*
9. Remind the patient **to not close the LCD screen** when they expect video to be recording.

## Uploading Ambulatory Study

1. Connect Trex HD and SD card to acquisition station where study was started. *You must connect SD card and complete up to step 3.c in order to link video with study data. Video upload may be paused and resumed only after this step!*
2. Video upload options:
   a. **To upload via card reader:** Remove SD card from camcorder and connect to acquisition station via an internal or external USB 2.0 or 3.0 card reader.
   b. **To upload via camcorder:** Connect camcorder using USB cable and verify the screen displays **Mass Storage Connected.** If not, go to MENU > SETUP > CONNECTION > USB Select > USB Connect.

> ### Quick Flow using Multiple SD Cards
>
> You may pause video upload at any time and start a new video ambulatory study with another SD card. You cannot start another study while video is uploading! After initiating video upload ("Uploading Ambulatory Study", step 3.c):
> - Verify that EEG upload is complete by opening the study for Review in Natus database.
> - Open **Ambulatory Manager** and disconnect Trex HD by clicking **Disconnect** and **Yes** to clear memory on Trex HD. Physically disconnect Trex HD and remove batteries to power off completely.
> - In **Video Upload** tab, click **Pause** and disconnect or remove SD card.
> - **Insert another SD card into camcorder** and start a new study by initiating at **Step 1. Preparing Trex HD Amplifier**.
> - After starting a new ambulatory study and disconnecting Trex HD, any incomplete video upload may be resumed. Connect the appropriate SD card and proceed to **Step 4** under **Uploading Ambulatory Study**.

3. In Natus database, select **CONTROLS > AMBULATORY MANAGER**.
   a. For Headbox, select **Headbox Connected to USB**.
   b. Click **END STUDY.**
   c. Click **UPLOAD STUDY.** After EEG data upload is complete (5-10 min for 96hr study), a **Video Upload** tab appears and video upload begins. In the Video Upload tab, you may **Pause** upload at any time and resume later. *See "Quick Flow using Multiple SD Cards" if you wish to pause video upload and start another study.*
4. If video was partially uploaded, resume by right-clicking on the study record in Natus database and selecting **Upload Video**.
5. When video upload is complete, the **Video upload has been completed** message appears.

> ### Notes and Tips
> ✓ When starting a study, only one SD card should be connected via camcorder – do **NOT** connect additional cards through any other device!
> ✓ A new study cannot be started while a video upload is in progress. Pause any video upload and resume it after the new study is started to ensure quicker turnaround of recording equipment.
> ✓ When uploading video, multiple SD cards may be connected via card readers or camcorders – only the video linked to the selected study will be uploaded.
> ✓ Studies with partial video uploaded display the  icon in Natus Database.
> ✓ EEG data may be reviewed before video upload is completed. Video is available for review as it gets uploaded, indicated by the solid blue video recording bar near the top of the review window.
> ✓ Prior to starting any new study, disconnect Trex HD from acquisition station and remove batteries to power off completely.
> ✓ A USB 3.0 card reader connected a USB 3.0 port may provide upload speeds up to 5x faster than a camcorder.