

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 HDR-CX900 camcorder
- SONY Infrared light attachment
- SD Memory card for camcorder (128GB or 256GB SDXC card)
- Camcorder tripod and clamp
- Carrying case and Trex pouch

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%.

Preparing Camcorder

1. Insert the SD* memory card into camcorder.
2. With camcorder in **MOVIE** mode set the settings using the LCD touch screen panel according to "CAMCORDER SETTINGS CHECKLIST" box. 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.

Starting Ambulatory Study with Patient

1. Connect Trex HD and camcorder to acquisition station.
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.** An **Ambulatory Video Test** will begin. *You can also re-start the video test by choosing **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 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).

TIP: With NeuroWorks 8.4 and later, the camcorder can be paired with the Trex HD prior to starting a new study. After preparing the Trex HD and camcorder, go to **TOOLS > OPTIONS > HEADBOXES (tab) > EDIT (with Trex HD headbox highlighted) > ADVANCED.**



Camcorder Settings Checklist

Put camcorder in **MOVIE** mode

MENU > IMAGE QUALITY/SIZE

- ✓ REC MODE > LONG TIME LP

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

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

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Starting Ambulatory Study with Patient *(continued)*

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. If a power pack (p/n 019822) is being used, connect it to amplifier and place it in pouch with Trex HD (do not remove internal AA batteries). When the power pack is used, a green light ● on side of Trex HD remains lit.
9. Review camcorder operation with patient, as well as battery replacement of Trex HD and IR light if needed. Make sure the patient takes the Patient Guide (009320) with them. *To preserve battery life, the camcorder may be packed in carry case with power on but LCD screen closed.*
10. Remind the patient **to not close the LCD screen** when they expect video to be recording.



Uploading Ambulatory Study


1. Remove batteries from Trex HD. Connect Trex HD 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. SD card connection and video upload options:
 - a. **To upload via card reader:** Remove SD card from camcorder and connect to acquisition station using an internal or external USB 2.0 or 3.0 card reader.
 - b. **To upload via camcorder:** Connect camcorder with USB cable and verify the screen displays "Mass Storage Connected".
3. In Natus Database, click **CONTROLS > AMBULATORY MANAGER**.
 - a. For Headbox, select "Headbox Connected to USB".
 - b. Click **END STUDY**.
 - c. Click **UPLOAD STUDY**.
After upload of EEG data (5-10 min for 96hr study), a **Video Upload** tab appears if video is detected and video upload begins. In **Video Upload tab**, you may **Pause** video upload at any time. 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**.

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 a study during video upload! 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** to pause video upload. 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 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**.

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 to a USB 3.0 port may provide upload speeds up to 5x faster than a camcorder.



Natus Medical Incorporated
 DBA Excel-Tech Ltd. (XLTEK)
 2568 Bristol Circle, Oakville
 ON L6H 5S1 CANADA
 1-800-303-0306
 1-905-829-5300
 www.natus.com