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Gotham's Guide to the Fostex PD-6 Six Track Recorder

Vocabulary

.BWF – Broadcast Wave File. This is the type of file that the PD-6 records and the industry standard for file based recording. Despite the fact that the file name ends in .WAV, these files follow the Broadcast Wave standard.

iDVD – The internal DVD-RAM Drive of the PD-6

iPXX – Internal Partition Number XX. The 40GB internal hard drive of the PD-6 is divided into 27 equal parts (partitions). Each of these partitions is equivalent in storage capacity to one side of one DVD-RAM disk. "XX" refers to the partition number that you will select.

Format – Erasing the contents of a disk and preparing it for recording.

Important Buttons and Switches

A. **SHIFT** Button – When light next to the SHIFT button is lit up, all of the multi-function buttons to the right are used for the function written in orange below that button. When unlit, the multi-function buttons are used for the function written in white above the buttons.

B. **SETUP** / **UTILITY** Button

C. **PUSH** / **ENTER SEL** Knob – Use this knob to scroll through menus and push it in to make your selections.

D. **DISC FEED** Switches

E. **PFL** Buttons - Pushing the PFL button will temporarily SOLO the signal of that track on the headphones.

F. **|<< SKIP** / **CURSOR >>|** Buttons – Use these to skip between different recorded files or to move back and forth when entering data.

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The Basics

Recording settings – These instructions are the bare minimum to record using the Fostex PD-6

Underneath the lid next to the DVD-RAM Drive of the PD-6 there are a series of knobs and switches, which must be set appropriately in order to record correctly. If you are unsure of the settings, please contact Post Production. If they are not available, follow these guide lines.

REC TR Knob – Set to 6

FS / 24 Knob – Set to 48/16*

CLOCK Knob – Set to INT

FRAME Knob – 30 fps for film, 29.97 for NTSC Video, 23.976 for HD, 25 for PAL Video or European Film**

TC GEN Knob – Set to FREE

AUDIO FILE Switch – Set to BWF

TC OUT Switch – Set to GEN for recording REPRO for playback

PULL UP/DOWN Switch – Set in the middle (neither -0.1% or +0.1%)

*You should only use 48/24 if you have confirmed with post production that they can process 24 bit files.
 **If shooting video, consult with the post production supervisor, editor, or camera operator on whether to set to DF or not. 24p does not always mean HD time code.

Front Panel / Mixer Settings

Just above each mixing pot on the front of the machine is a switch with three positions PRE, (L/R) BUS, and POST. Generally speaking, each switch should be set to PRE / POST. *(See Important Buttons and Switches Diagram - D)*

- **If set to PRE:** That channel will record the pre-fader signal based on the gain knob on the top panel of the PD-6. This allows you to use the PD-6 to do a mix down out of the 10pin output on the left panel.
- **If set to POST:** That channel will record the post-fader signal base on both the gain knob on the top panel of the PD-6 and the fader knob on the front panel. In this setting you have better control on each track but you can not make a mix down.
- **If set to L BUS or R BUS:** That channel will record a "mix down" based on the PD-6 mixer settings.

Headphone Monitoring:

The photo below illustrates the PD-6 headphone matrix. There are two knobs which indicate what the headphones are listening to. The SOLO / ST / MONO switch selects which knob is active. If that switch is in the left or SOLO position, then the knob on the left is active. If that switch is in the center or ST position, the knob on the right is active in Stereo Mode. If that switch is in the right or MONO position, the knob on the right is active in Mono Mode.

If the left knob is active, you will be listening to a mono signal of whichever track is indicated. In the picture below, that knob is set to listen to track 2.

If the right knob is active in Stereo Mode, you will be listening to a stereo signal of the tracks indicated. The track numbers to the left of the + will be heard in your left ear while those to the right will be heard in your right ear. In the picture below, the right knob is set to listen to tracks 1 and 3 in the left ear while listening to tracks 2 and 4 in the right.

If the right knob is active in Mono Mode, you will be listening to a mono signal of the tracks indicated. In the picture below, the right knob is set to listen to tracks 1, 2, 3, and 4 in mono.
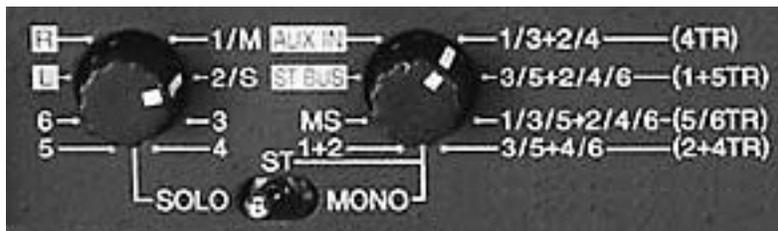
This matrix can be quickly bypassed using the PFL just above the fader pots on each channel. Pushing the PFL button will temporarily SOLO the signal of that track. *(See Important Buttons and Switches Diagram - E)*

The main screen:
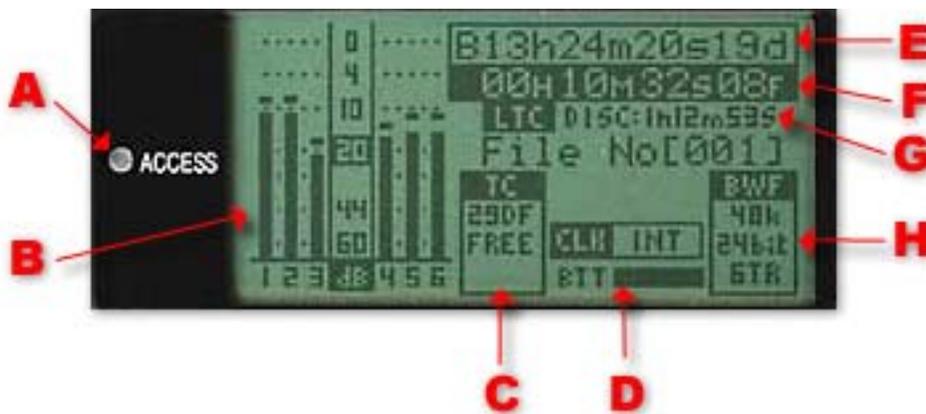
A. **Access light** – Normally green, will change to orange and red when disk is being accessed during recording and playback. The changing color is normal and should not be cause for concern.
B. **Audio Meters** – Indicates your recording levels for each track.
C. **Time Code Settings** – Displays frame rate and setting.
D. **Battery Strength** – Displays the relative battery strength for internal or external battery.
E. **File Name** – This is the name of the file that you have selected or are recording.
F. **Time Display** – Displays one of the following time information*:
   a. *LTC =* Time code on the file
   b. *ABS =* Time from beginning of file
   c. *GEN =* Time code generator clock
   d. *UBit =* User bits
   To cycle through these options, push the TIME button
G. **Record Time Remaining** – Displays how much record time remains on the disk / hard drive partition.
H. **Record Settings** – Displays the sampling frequency, bit depth, and track count.

Navigating Menus

The PD-6 uses a series of buttons above the main screen to drive the menu system. When pressed, these buttons with bring you to the menu / execute the command labeled in white above the button. If you press the SHIFT button and then press one of the buttons you will go to the menu / execute the command labeled in orange below the button.

For example, if you push the third button from the right, you will be in the Setup menu. If you push the SHIFT button and then the third button from the right, you will be in the Utility menu.

To scroll and select an item when in a menu, use the SEL/PUSH ENTER Knob. Turn the knob to scroll through your options and push it to select them. You may use the exit key to get back to the previous menu or main screen.

Getting ready to record

There are two common ways to record using the PD-6. Directly to a DVD-RAM disk and to both a DVD-RAM disk and a Partition on the Internal Hard Drive at same time using "Mirror Mode."

Recording directly to a DVD-RAM
1. Before inserting a disk, push the "Setup Button."
2. Scroll to "Select Drive" and press enter.
3. Scroll to "iDVD" and press enter.
4. Insert the disk – the screen will read "Scan Disk."
    a. If the disk is new:
        i. A screen will appear that says "NON BWFF DISK"
        ii. Push the enter key to format.
    b. If the disk has been used previously:
        i. Push the Shift key and then the Utility key.
        ii. Scroll down to "Format" and push enter.
5. The top line will read "iDVD."
6. Scroll to "Reel Number" and if desired push enter to change the "Reel Number."
    a. Push enter to accept the changes.
7. Format mode should read NORMAL.
8. Physical Format should be off.
9. Scroll to "Execute" and press enter.
10. Press enter again to confirm.
11. Formatting will begin and take about a minute. Once it is finished, push enter to return to the main screen.*
    a. *If an error occurs during formatting, it is recommended to throw the disc away. It is possible to salvage the disk by returning to step 4b and, when you reach step 8, changing "Physical Format" to "On". This process takes approximately 20 minutes.
    b. These disks are double sided and can be preformatted, so format early and format often.

STOP

THIS IS ALL YOU NEED TO KNOW TO MAKE A SUCCESSFUL RECORDING ON THE FOSTEX PD-6.

From here on we will discuss some of the additional features.

There are some helpful tips and tricks at the end of this document.

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Advanced

Recording to DVD-RAM and the Internal Hard Drive "Mirror Mode"

Mirror mode is a simultaneous recording between one side of one disc and one partition of the hard drive. To do this, you must format the side of the disk and the hard drive partition at the same time. This marries that side of that disk to that partition of the hard drive, meaning that, in order to record on either, the other must be inserted and selected. For example, if I format disk 2 side A and partition 4 together and I insert a new disk, I will not be able to record because partition 4 is married to disk 2 side A.

1. Before inserting a disk, push the "Setup Button."
2. Scroll to "Select Drive" and press enter.
3. Scroll to "iPXX" and press enter.
   a. This is the partition of the hard drive to which you will be recording. You should change it every time you format a new disk.
4. Label the side of the disk that you will be formatting with that partition number.
5. Insert the disk – and wait a minute.
   i. Push the Shift key and then Utility.
   ii. Scroll down to "Format" and push enter.
6. The top line should read "iPXX" (the same as you selected in step 3).
7. Scroll to "Reel Number" and if desired push enter to change the "Reel Number."
   a. Push enter to accept the changes.
8. Format mode should read MIRROR.
9. Physical Format should be off.
10. Scroll to "Execute" and press enter.
11. Press enter again to confirm.
12. Formatting will begin and take about a minute. Once it is finished, push enter to return to the main screen.*
    a. *If an error occurs during formatting, it is recommended to throw the disc away. It is possible to salvage the disk by returning to step 4b and, when you reach step 8, changing "Physical Format" to "On". This process takes approximately 20 minutes.
    b. These disks are double sided and can be preformatted, so format early and format often.

File Naming: Before Rolling

To name files on the PD-6 you should decide what they are going to be named before you record the file. To do this, follow these steps:

1. Press the "Setup Button."
2. Scroll to "Default File Name" and press enter.
3. The Fostex PD-6 offers three file naming modes. Press enter to select between the following:
   a. *Date* – The file name will be based on the date and time you hit the record button. This is particularly useful on documentaries and reality television shows.
   b. *Reel* – The file name will be based on the name of the Reel that you are recording on (this is usually specified during the formatting process). Files will be named using this template: REEL_FILE#.wav. Each time you press record, the FILE# increases by one. Here is an example of file names that may be found on a reel named SR4:
      1. SR4_001.wav, SR4_002.wav, SR4_003.wav, etc
   c. *Take* – The file name will be based on the SCENE NAME that you enter below. This method is particularly useful for narrative film. The file will be named using this template: SCENE_TAKE#.wav. Each time you press record, the TAKE# increases. Here is an example of what files from Scene24B would be named:
      1. Scene24B_001.wav, Scene24B_002.wav, Scene24B_003.wav, etc.
      i. To change the SCENE NAME, scroll down to SCENE NAME and press enter. Use either the SEL/ PUSH ENTER knob, the built in keyboard on the PD-6, or a USB keyboard to change the file name and push enter.
         1. When you change the SCENE NAME, the TAKE NUMBER will automatically change back to 001.
      ii. You can also change the TAKE NUMBER by scrolling to TAKE NUMBER, pressing enter, and using the SEL / PUSH ENTER knob to change to the appropriate number. Push enter when done.

File Naming: After Rolling

So what happens if you make a mistake or the script supervisor decides to change the name of the scene from A to B after you've rolled? No problem.

1. Push the FILE SEL.
2. Scroll to the name of the file that you want to change and press ENTER.
3. Press Shift and then Utility.
4. Scroll to EDIT FILE NAME and push enter.
5. Use either the SEL/ PUSH ENTER knob, the built in keyboard on the PD-6, or a USB keyboard to change the file name and push enter.*
   *THIS DOES NOT CHANGE THE DEFAULT FILE NAME – Be sure to check that you have the correct SCENE NAME and TAKE NUMBER entered in the DEFAULT FILE NAME menu mentioned above.

So what happens if the AD calls "Roll sound!" and you roll, but cut is called before they've rolled the camera? Your take information is incorrect with the PD-6 being one take ahead of production and they're most likely going to call for a take relatively quickly. To compensate for this, the PD-6 has a *False Start* function.

1. Push and hold the CLEAR key found in the onboard keyboard and, while holding it, push the STANDBY button.
2. "False Start ?" will appear on the PD-6 screen. Push ENTER to confirm that this is a false start.
3. You will notice that there has been a "~" placed in front of the previous file name. Your take counter has been reset to the previous take number and you are ready to roll.

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Notes / Tips/ FAQs

When the light next to the left of the screen labeled "access" changes color (i.e. turns red), this is not a problem. This means that the PD-6 is accessing or writing data to the DVD-RAM drive. It is actually a sign that the machine is working.

If you power on the machine and you can't see anything on the screen:
1. Wait one minute.
2. Push the CONTRAST button.
3. Turn the PUSH / ENTER SEL knob to the right until you see information on the screen. This may take several turns.
4. Push ENTER to confirm the settings.

When running on external power, the PD-6 prefers 15 Volts. If you insert several new disks and the PD-6 does not read them, it is most likely unhappy with the external power it is receiving. If you can, run on a NP1 internal battery or a 15V external power supply. Gotham Sound always sends out 15 Volt power supplies with the PD-6.

You can not access the PD-6's hard drive directly via the FireWire port. The FireWire port only accesses the DVD-RAM drive in the PD-6. Thus the only way to transfer files from the PD-6 is by having them on a disk, either by recording to a disk directly or copying to them from the hard drive later.

Most computers can not read the DVD-RAM Disks the PD-6 makes directly. We recommend using a *Panasonic Super Drive* either via FireWire or installed directly into your computer. Even with this drive, you may need to install drivers to be able to read these disks. They are available for MAC and PC at:
> http://www.gothamsound.com/client/

To use the DVD-RAM disks in a computer, you must first remove them from their cartridge. To do this, use a pen to remove the safeties from the holes at the bottom of both sides of the disk. Squeeze the two wings on the side of the cartridge and pull on the tab at the bottom in the middle. You can then place the disk in the middle of your DVD-RAM drive.

In post production, there are two common work flows:
1. In telecine, use either the Fostex DV40, Fostex DV824, or Aaton InDaw
2. A DVD-RAM drive can be used to interface directly with a computer to copy files onto its hard drive.
    a. Files can be imported directly into Avid Editing Systems V11 or later including DV Express
    b. If using Final Cut Pro, you must first process the files. You may use these two utilities:
        i. The first utility is the Fostex .BWF Manager.
            1. Available free at:
                http://www.fostexdvd.net/fxdvd_route/docs/techsup/bwf_manager_1.htm
            2. This utility splits the multi-channel files from the PD-6 into separate files containing one track each.
        ii. The second utility is called Sebsky Tools.
            1. Available free at: http://www.dharmafilm.com/sebskytools/
            2. This utility converts the .WAV files to .MOV files that can be imported directly into Final Cut Pro with their timecode.

This utility may also be used to prep files for Final Cut Pro.

        iii. Spherico's BWF2XML.
            1. Trial version available free at:
                http://www.spherico.com/filmtools/BWF2XML/index.html
            2. This utility splits polyphonic BWF tracks into QuickTime files for FCP.