

MASTER DELAY BOX DD740

Home Theater Audio Delay Corrector DD740



Digital Audio Delay Corrector

The **Master Delay Box DD740** is designed to restore perfect lip-syncing to the audio output from your digital satellite receiver and DVD-player. Modern displays, such as plasma screens, LCD screens and projectors use sophisticated imaging processors to produce the best picture possible. This processing takes time and produces a delay in the picture display. This is called a **Lip-Sync Error**. This is particularly noticeable in speech, where the voice comes first and the lips move after. Lip-syncing anomalies may also affect satellite broadcasts and can occur when the transfer of older movie soundtracks to digital surround sound for DVD. The effect can be so pronounced that the film or broadcast becomes difficult to watch. With DD740 you have total control over Audio/Video synchronization and by delaying audio to match the video delay, you can enjoy the Home Theatre Experience.

DD740 has 4 Input Channels and 2 Output Channels. The Delay Box has a total delay of 0 – 680ms @ 32KHz / 48KHz sample rate, or 0 – 340ms @ 96KHz sample rate. The delay can be programmed in steps of either 1ms or 0.33ms (Fine Mode). DD740 allows storage of up to 36 Preset delay settings, 9 for each input channels. All operations can be easily performed either on the stand-alone device or using the remote control provided along with the device.

The device works seamlessly with your audio output from each of your sources connected to the Digital Audio Inputs (A, B C or D). If you are connecting an analog (stereo) audio source, make sure you use a third-party Analog-to-Digital Audio Converter to convert into digital audio before connecting it to the DD740.

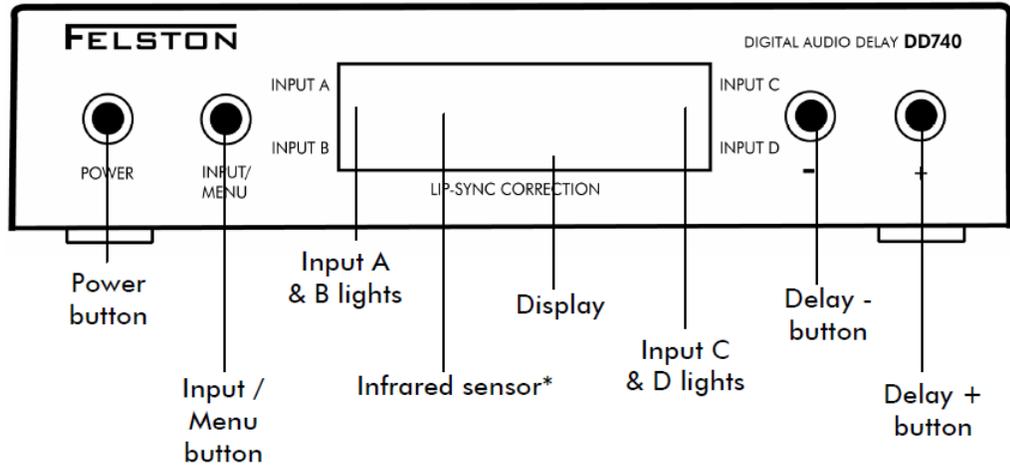
The Delay Box can receive audio inputs either using a TOSLINK (A or C) or COAX (B or D). Connect one of the DD740's outputs TOSLINK (A) or COAX (B) to the corresponding input on AV Receiver. Single connection is sufficient because the DD740 serves as a four input switcher and outputs the selected input (A, B, C or D). However, both the TOSLINK and the COAX outputs can be connected to the receiver. When power is connected between the device and the wall socket, DD740 will enter STANDBY MODE. In standby mode, the digital audio signal on the selected input passes through the DD740 without any delay being applied. Input/Output conversion between COAX and TOSLINK remains active during standby mode. Pressing the POWER button (either on the Front Panel or on the Remote Control), will switch the device to active mode and delay the digital audio by the set amount of time as displayed. To return back to the STANDBY MODE, press the POWER button again, but keep the power adaptor plugged in.

Certain AV processors have corrective circuitry in-built, but experience has shown that these processors work best with a signal that is already synchronized. By inserting the DD740 between source and processor, advanced digital synchronization can be achieved by tiny increments as fine as 0.33ms, which **results in a perfect sound and picture synchronization**.

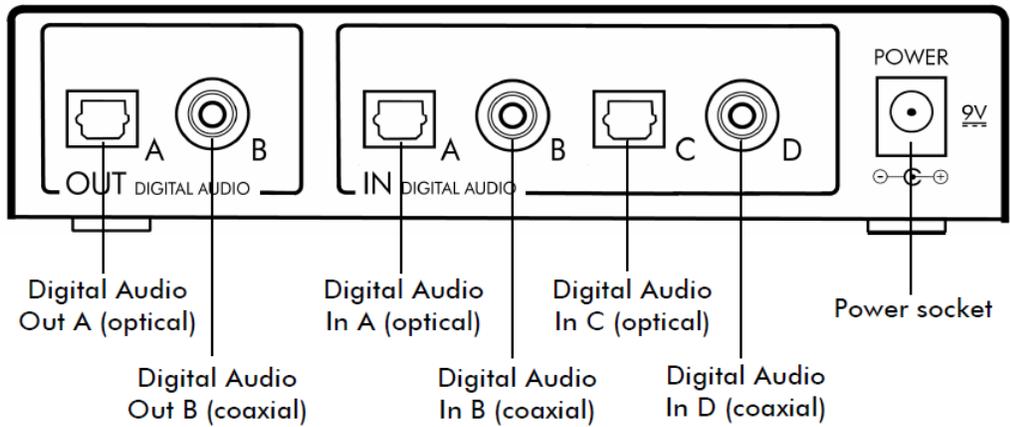
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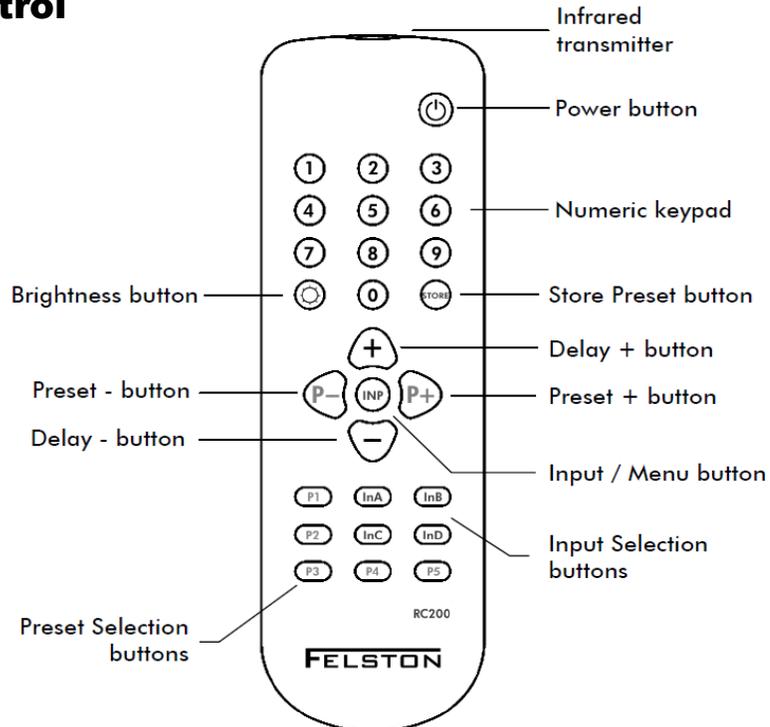
Front Panel



Rear Panel



Remote Control



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Operation

STANDBY MODE

Standby Mode is indicated by a single light – either Input A, B, C or D – being lit while the rest of the Display remains blank. In Standby Mode, the digital audio signal on the selected input passes through the DD740 without any delay being applied. Input/Output conversion between COAX and TOSLINK remains active during Standby Mode.

ACTIVE MODE

From standby mode, pressing the **POWER** button (either on the Front Panel or on the Remote Control), will switch the device to Active Mode and the delay displayed will be applied to the selected input signal before it appears on the DD740's output.

To return back to standby mode, press the **POWER** button again.

SELECTING THE INPUT SOURCE

Input can be selected in either Standby Mode or Active Mode.

METHOD 1 (Remote Control):

Press **InA**, **InB**, **InC** or **InD**. The selected input will appear briefly on the DD740 display and corresponding input indicator light will illuminate and remain lit as long as the input remains selected.

InA

METHOD 2 (Remote Control or Front Panel Buttons):

Press and release **INPUT/MENU**. The current input selection will appear on the display. To change the input, press and release **INPUT/MENU** until the required setting is reached. The input setting will remain selected until it is changed, even if power is lost to the DD740.

InA

SETTING THE DELAY

The delay applied to the selected signal is shown on the DD740 display in milliseconds (ms). Press **DELAY+** button increase the delay and the **DELAY-** button to decrease the delay.

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The delay can be set to any time between 0 – 600ms for 48KHz audio and 0 – 340ms for 96KHz audio. The delay is set independently for each input. If the input is changed the delay will revert back to the setting that was last used for that input.

NUMERIC DELAY ENTRY (Remote Control):

The numeric keypad can be used to set the delay directly. Enter the desired delay by pressing the number buttons in sequence and the delay will be set after a brief pause following the last digit entered.

FINE DELAY ADJUSTMENT MODE (0.33ms INTERVALS):

Delay can be increased in intervals of 0.33ms in Fine Delay Adjustments Mode. To enter Fine Adjustment Mode, press **DELAY+** then **DELAY-** in quick succession.

Following this, delay can be increased by 0.33ms by pressing the **DELAY+** button and can be decreased by 0.33ms by pressing the **DELAY-** button. Although the delay changes by 0.33ms, the display continues to show delay in whole milliseconds.

After 5 seconds, if no buttons are being pressed, DD740 returns to normal mode where the delays are changed in increments of 1ms.

PRESETS

DD740 allows storage of up to 36 delay settings for easy recall, 9 for each input. Each of these delays are held in a preset settings – PA1 through PA9 (for Input A), PB1 through PB9 (for Input B), PC1 through PC9 (for Input C) and PD1 through PD9 (for Input D).

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Presets are stored and recalled using the buttons on the Remote Control. Presets are retained in the internal memory even if the power to the DD740 is lost.

STORING A DELAY IN A PRESET (Remote Control):

Set the required delay (ms) by pressing the corresponding numbers on the remote control.
Press **STORE** button.

The most recent preset setting used for the selected input will appear and start flashing on the DD740 display.

Select the Preset to hold the delay by using the **PRESET+** and **PRESET-** button on the Remote Control.
Press **STORE** button once more.

The Preset will stop flashing, indicating that the delay is stored in the Preset selected.

After a couple of seconds, the delay will reappear on the DD740 display.

RECALLING A DELAY FROM A PRESET (Remote Control):

Stored Presets can be recalled using the Preset buttons, **P1** through **P5** on the Remote. Use Preset stages 1 through 5 for the most common delay setting.

Presets can also be selected by pressing the **PRESET+** or **PRESET-** on the Remote. Release the button when the required Preset setting appears on the screen.

The stored delay for the selected Preset setting will be displayed after a couple of seconds.

CHANGING DISPLAY BRIGHTNESS

Five levels of Brightness are available between **br1** (dimmiest) and **br5** (brightest).

METHOD 1 (Remote Control):

Press and release the **BRIGHTNESS** button until you achieve the brightness required. The new brightness setting will be displayed briefly.

METHOD 2 (Remote Control or Front Panel Buttons):

Press and hold **INPUT/MENU** button for approximately 5 seconds. The current Brightness setting is shown on the display screen.

While the Brightness level is being displayed, change the Brightness using the **DELAY+** and **DELAY-** buttons till the desired Brightness is achieved.

With the required Brightness level selected, wait for approximately 5 seconds to exit the menu. Alternatively, pressing the **INPUT/MENU** button will exit the menu.

Specifications

Audio Delay Capabilities:	0 – 680ms in 1ms or 0.33ms increments (32/48 KHz) 0 – 340ms in 1ms or 0.33ms increments (96 KHz)
Digital Audio Signal Compatibility:	S/PDIF Digital Audio on both COAX and TOSLINK
Connections:	INPUT: 2 x RCA Socket (75Ω, 0.5V _(p-p)) 2 x Optical Socket OUTPUT: 1 x RCA Socket (75Ω, 0.5V _(p-p)) 1 X optical Socket
Power Requirements:	9V DC, < 200mA
Dimension:	5.70" x 4.10" x 1.40"

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Typical Connection

