



YAMAHA

THR HD_H Utility

Operation Manual

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<http://download.yamaha.com/>

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This Installation Guide assumes that you are already familiar with basic Windows/Macintosh operations. If you are not, please refer to the owner's manual which came with your Windows/Mac OS software before using the THR HD_H Utility.

For information on software and hardware requirements and the interconnection of devices that are required to use the THR HD_H Utility, please refer to the Owner's Manual that came with your THR100HD/THR100H.

The screen illustrations in this manual are mainly taken from Windows (with the THR100HD connected). Differences that exist in the Macintosh version are duly shown and explained.

What is the THR HD_H Utility?

The THR HD_H Utility is a software application that lets you freely adjust on a computer the following settings, which are not available as controllers or switches on the control panel of the THR100HD or THR100H amplifier. The amplifier's internal settings can be overwritten with the settings specified on the computer, allowing the amplifier to be set up with custom specifications.

- Internal booster type (3 types)
- Serial/parallel connection for effect loop
- Internal reverb type (4 types)
- Noise gate setting
- Speaker simulation setting
- Switch the signal path (Separate/Mixed) of the EFFECT LOOP SEND/RETURN.

What is speaker simulation using impulse response?

Impulse Response, or “IR,” is a state-of-the-art speaker simulation technology that improves on previous, less realistic simulations that relied on fairly simple recreations of the EQ frequency curves of specific speakers. At heart, IR is a recording and analysis of a system’s output when a very short input signal called an impulse is released into a cabinet. This creates a digital picture of the cabinet’s linear characteristics such as frequency and phase response, phase cancellation between multiple speakers, edge reflections and other audible signatures of the cabinet’s construction. IR technology is so accurate that it is possible to distinguish between specific cabinet models, the microphones used to capture the IR image, and even different room types with the same microphone/cabinet setup. Additionally, IR does not introduce non-linear distortion or compression characteristics.

The benefits of using IR

This technology offers a wealth of benefits over traditional cabinet mic-ing and previous simulation techniques, giving players access to a wealth of options to craft their ideal sound with gear and acoustic space characteristics that might otherwise be unavailable to them. The ability to run in complete silence means that you can use IR with headphones in your home instead of a recording studio to record guitars that sound like they have been passed through speaker cabinets at high volume. IR also offers immense benefits in a live setup because the rig is feeding directly into the sound system, effectively eliminating feedback from other instruments or microphones, while giving you more control of your overall tone. It also reduces time-consuming microphone placement and setup time, ultimately allowing you to reproduce your sound with greater precision at each new venue. Additionally, the ability to plug directly into a mixer allows clearer sound to be sent to monitor speakers and in-ear monitors, providing a better monitoring environment on stage.



OwnHammer is a third party impulse response developer that provides premium IR content in .wav file format. The libraries offered cover a large range of vintage and modern cabinet and speaker combinations, sampled with the best outboard gear, using the most modern sampling techniques, and include time-tested microphone and microphone combination staples used the world over by high profile engineers and producers and home users alike for both live sound and studio recording. These libraries offer multiple speaker types per cabinet, individual mics in multiple placement positions, as well as pre-made multi-mic and multi-speaker mixes built around techniques used on internationally acclaimed records in various music styles. The wide array of cabinets, speakers, mics, and mixes available enable incredible amounts of tonal possibilities, flexibility, customization, individuality, and replication of guitar tone history’s classic sounds. For more information and product listings, please see the OwnHammer website at www.ownhammer.com/free/cab-irs, where you can try a fully featured FREE library to start your journey in creating the sound that moves you.

Installing the THR HD_H Utility

1. Download the latest version of the “Yamaha Steinberg USB Driver” from the following website, and then install it on your computer.

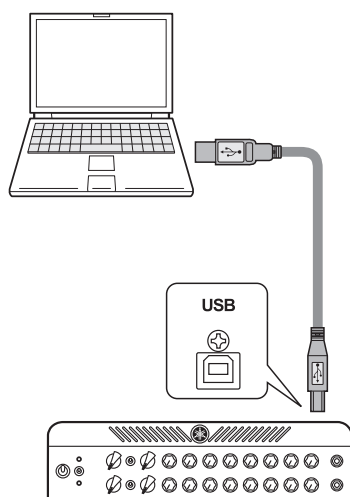
<http://download.yamaha.com/>

* Version 1.9.3 or later is compatible with the THR100HD/THR100H.

2. Download the “THR HD_H Utility” from the following website, and then unzip the compressed ZIP file.

<http://download.yamaha.com/>

3. Connect a commercially available USB cable to the USB jacks of the THR100HD/THR100H and the computer.



Precautions in regard to using the USB jack

Make sure you follow the points below when connecting a computer to the THR USB jack. Failing to do so may result in the computer or the THR freezing or shutting down, as well as corruption or even loss of data. If the device or computer does freeze, restart the application or computer.

⚠ CAUTION

- Use only an AB type USB cable less than three (3) meters in length. USB 3.0 cables are not compatible.
- Without using a USB hub, directly connect the computer and THR100HD/THR100H.
- Be sure to wake the computer from suspended/sleep/standby mode before connecting a computer to the USB jack.
- Always quit all applications that are running on the computer before connecting or disconnecting the USB cable.
- Wait at least 6 seconds between connecting or disconnecting the USB cable.
- Connecting the amplifier to a computer may block the computer's sound input/output. Switch to another device as needed.

4. Double-click the “THR HD_H Utility” installer icon to start it.

The names of the installers for each operating system are listed below.

- English version of Windows installer..... **THR_HD_H_Utility_setup.exe**
- Japanese version of Windows installer **THR_HD_H_Utility_setupJ.exe**
- Mac installer (Japanese and English) **THR-HD-H-Utility.pkg**

5. Follow the on-screen instructions to install the “THR HD_H Utility”.

The “THR HD_H Utility” is installed at the following location for each operating system.

- For Windows (32-bit) **C:\Program Files\Yamaha\THR HD_H Utility.exe**
- For Windows (64-bit) **C:\Program Files (x86)\Yamaha\THR HD_H Utility.exe**
- For Mac **/Applications/THR HD_H Utility.app**

The included IR data, installed at the same time as the “THR HD_H Utility”, is installed at the following location.

- For Windows **C:\Users\<User account name>\Music\THR**
- For Mac **Users/<User account name>/Music/THR**

This completes the installation.

After turning on the THR100HD/THR100H, start the “THR HD_H Utility”.

THR HD_H Utility Settings screens

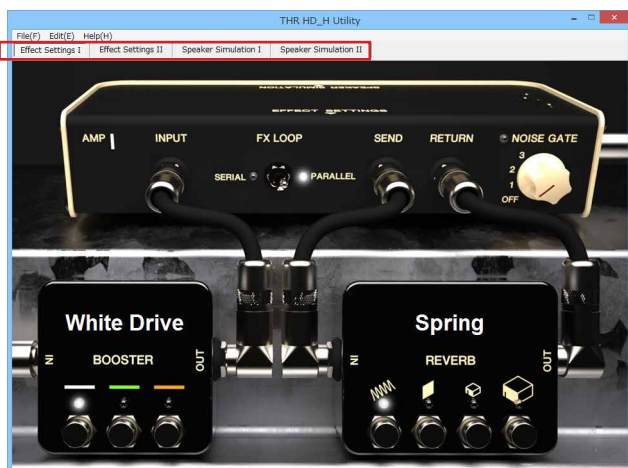
When the THR HD_H Utility starts, the connected amplifier (THR100HD or THR100H) is automatically detected, and then a settings screen for the corresponding amp appears.

The THR HD_H Utility has two settings screens (Effect Settings and Speaker Simulation), and there is one settings screen for each amplifier channel (I and II) with the THR100HD.

Select the desired settings screen by clicking the corresponding tab at the top of the window.

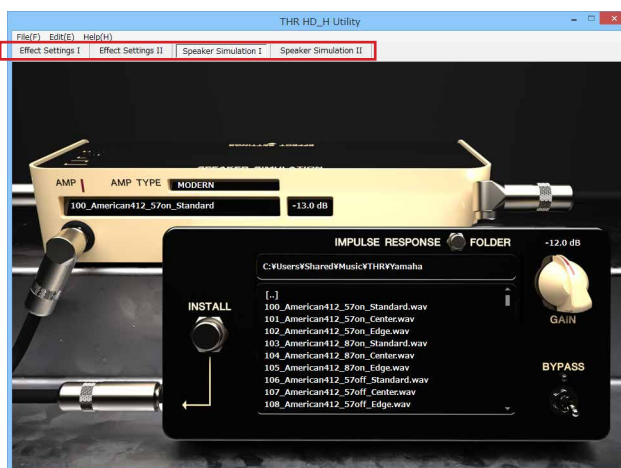
● Effect Settings screen

- THR100HD : Effect Settings I/II
- THR100H : Effect Settings I



● Speaker Simulation settings screen

- THR100HD : Speaker Simulation I/II
- THR100H : Speaker Simulation I



■ THR HD_H Utility Operations

- Click a switch in the window to switch the setting on or off (the indicator lights when switched on).
- Each control knob can be adjusted by clicking the knob in the window, then moving the pointer. You can also set the knob by clicking the desired position of the knob.
- When settings are changed in the THR HD_H Utility, that information is sent in real-time to the THR100HD/THR100H through the USB cable and reflected on the amplifier. Likewise, setting changes made with the THR100HD/THR100H control knobs are reflected in the THR HD_H Utility window.
- Settings changed in the THR HD_H Utility are saved in the THR100HD/THR100H, even after quitting the THR HD_H Utility or turning off the THR100HD/THR100H.

Effect Settings screen



1 AMP I/II channel display (THR100HD only)

Displays the amplifier channel (I/II) whose settings are to be changed. Select the desired channel by clicking the corresponding tab (Effect Settings I/Effect Settings II) at the top of the window.

2 BOOSTER switches

Click one of the switches in the screen to select one of the three booster types that can be specified with the BOOSTER switches/knobs in the control panel of the THR100HD/THR100H. The indicator for the selected type lights, and the type name appears.

White Drive: Based on an overdrive pedal that provides clean boost, maintaining the original tone characteristics.

Green Drive: Based on an overdrive pedal known for its distinctive mid-range boost.

Amber Drive: Based on an overdrive pedal that responds to picking dynamics and touch sensitivity.

3 FX LOOP switch

Switches between SERIAL and PARALLEL for connection of the external effector between the EFFECT LOOP SEND and RETURN jacks on the rear panel of the THR100HD/THR100H.

*** When this switch is set to "PARALLEL," only the wet sound from the external effect is returned to the EFFECT LOOP RETURN jack.**

*** When this switch is set to "SERIAL," no sound is produced from the amplifier when the FX LOOP on the foot switch is turned on and no external effect is connected between the EFFECT LOOP SEND and RETURN jacks. In this case, set this switch to "PARALLEL" or connect an external effect.**

4 REVERB switches

Click one of the switches in the screen to select one of the four reverb types (Spring, Plate, Room and Hall) that can be specified with the REVERB knob in the control panel of the THR100HD/THR100H. The indicator for the selected type lights, and the type name appears.

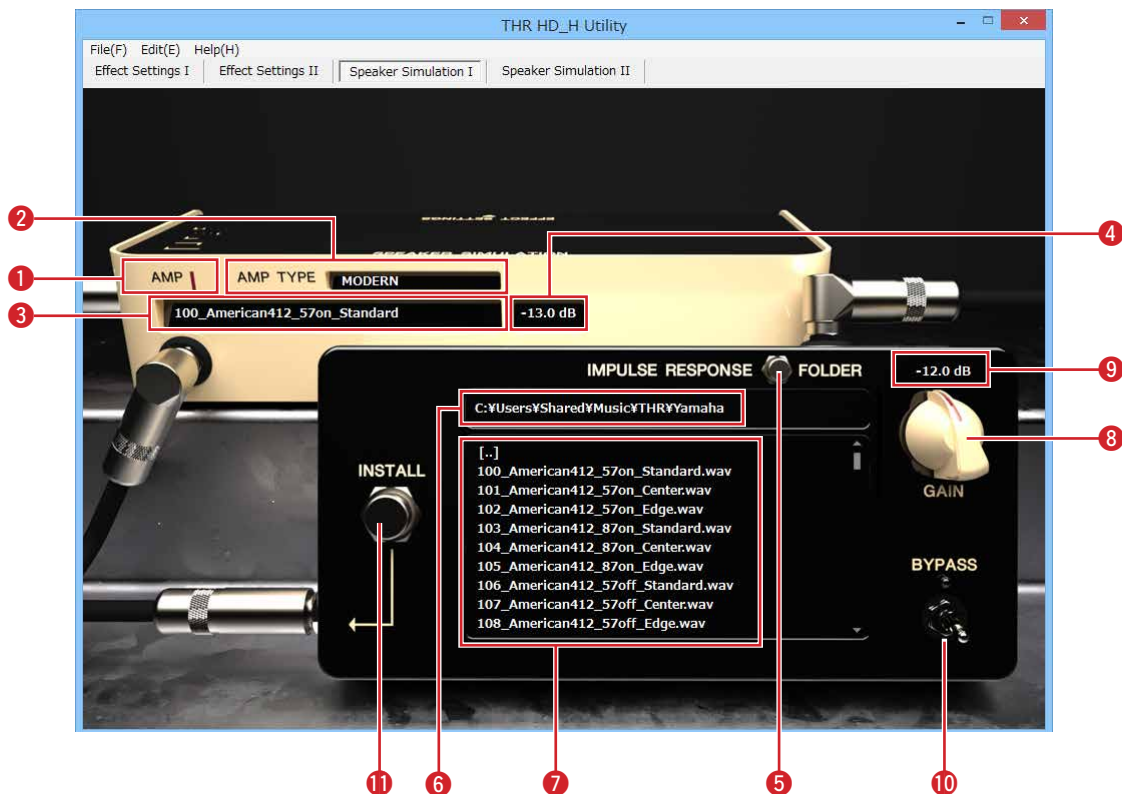
5 NOISE GATE switch

This effect cannot be edited from the control panel of the THR100HD/THR100H. It removes noise by cutting the signal at and below the specified level. The higher the number, the higher the threshold level (the greater the signal level is cut). When set to "OFF", the noise gate function is turned off (indicator off).

Speaker Simulation Settings screen

This function recreates the character and airiness of sound as recorded from a speaker cabinet with a microphone and outputs it from the LINE OUT and PHONES jacks.

By writing IR data (speaker response characteristics) to the amplifier, various speaker cabinet and microphone combinations can be recreated.



① through ④ show IR data settings for the amplifier.

① AMP I/II channel display (THR100HD only)

Displays the amplifier channel (I/II) whose settings are to be changed. Switch the channel by clicking the corresponding tab (Speaker Simulation I/Speaker Simulation II) at the top of the window.

② AMP TYPE display

Displays the type selected for the amplifier.

* If the amp type is changed while the BYPASS switch ⑩ is turned on (indicator lit), the BYPASS switch ⑩ will be turned off (indicator off).

③ IR name display

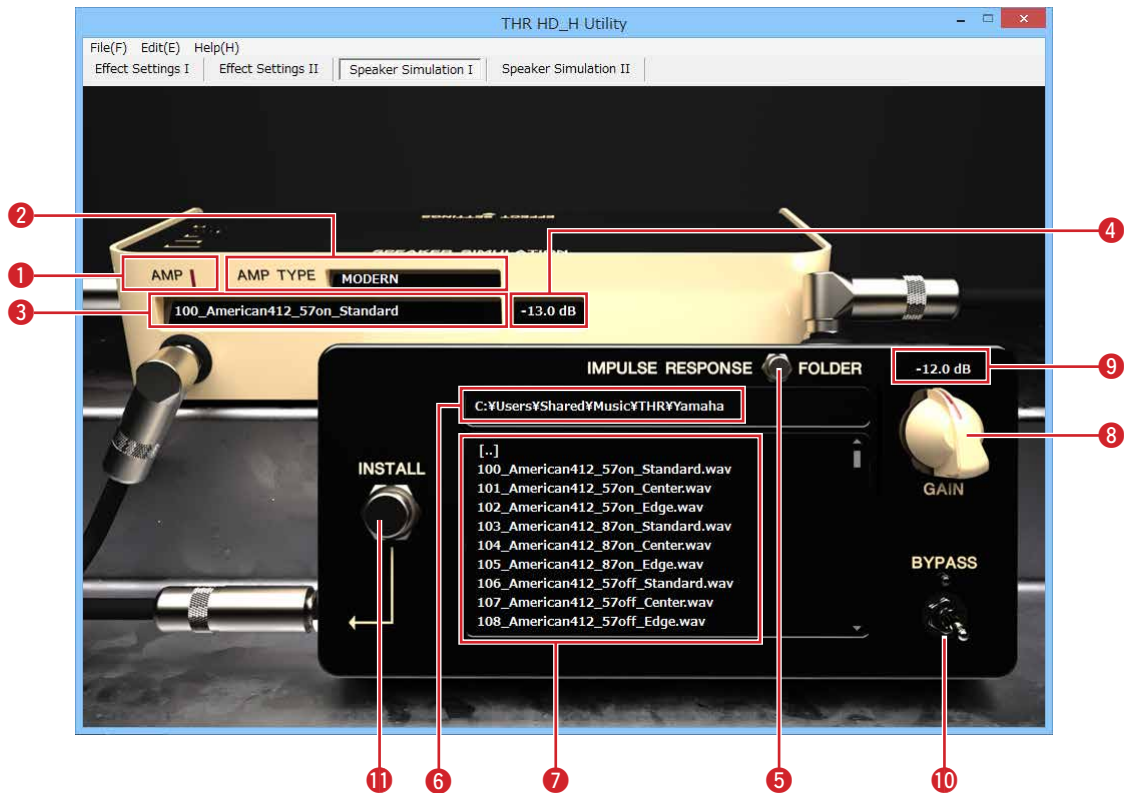
Displays the name of the IR data corresponding with the amp type ②. The IR name can be changed by clicking the text. (maximum 63 characters)

* Single-byte alphanumeric characters can be used in IR names.

* If the IR name contains characters that cannot be used, those characters will appear as “?”

④ IR gain display

Displays the IR gain (dB) corresponding to the amp type ②.



5 through 11 show information on the speaker simulation. Write the specified IR data to the amplifier.

- 5 FOLDER button
- 6 Folder display
- 7 File list
- 8 GAIN knob
- 9 Gain display
- 10 BYPASS switch
- 11 INSTALL button

1. Click the FOLDER button 5, and then from the dialog box that appears, select the folder containing the IR data file. The folder name appears in 6, and the IR files in the folder are listed in 7.

* Only IR files having the extensions ".aif," ".aiff" and ".wav" can be recognized.

Supported formats	Bit depth	16-bit, 24-bit, 32-bit
	No. of channels	Monaural or stereo
	Sampling rate	44.1 kHz
	IR length	2048 samples

* Double-click [..] to move up one folder level.

* Double-click [folder name] to move to that folder.

* Single-byte alphanumeric characters can be used in file names and folder names.

* If the file name or folder name contains characters that cannot be used, those characters will appear as question marks ("?").

2. With the amp selector on the THR100HD/THR100H, select the amp type to be set.

3. Click an IR file from the file list 7 to play a sound using that speaker simulation.

4. If the BYPASS switch 10 is turned on (indicator lights), you can compare the new sound with the one without speaker simulation.

5. When the BYPASS switch is turned on or off, adjust the GAIN knob **8** so that the volume remains the same.
 - * While an IR file is being selected or data is being transferred to the THR100HD/THR100H after the BYPASS switch is operated, the switches and buttons in the window will have no effect. At this time, do not operate the amp type selector on the THR100HD/THR100H.
 - * Since the IR data has not yet been written to the amplifier at this point, changing the amp type reverts the IR data to that prior to changing the settings.
 - * If a stereo IR file was selected, a dialog box for selecting the L ch or R ch may appear, depending on your Utility settings.

6. Click the INSTALL button **11** to write the edited settings to the THR100HD/THR100H. The IR name display **3** and IR gain display **4** change to the file name and gain setting for the edited IR file.
 - * If the BYPASS switch **10** is turned on (indicator lights), data that does not use the speaker simulation is written.

About included IR data

The file names of included IR data are configured as shown below.

● Example: For “100_American412_57on_Standard”

Element	Details
Serial number	100
Cabinet type	American, 4 speakers, 12 inches
Microphone type	57
On Mic/Off Mic	on
Microphone position	Standard

● Cabinet type

Cabinets: American, British, Brown, F100, THRC212_Dual, THRC212_Single
 No. of speakers: 4, 2, 1
 Speaker size (inches): 12

● Microphone type

57	Shure SM57
87	Neumann U87

● On Mic/Off Mic

on	Recreates the direct speaker sound as if picked up from a microphone placed near the speaker.
off	Recreates the speaker sound and airiness of the room as if picked up from a microphone placed far away from the speaker.

● Microphone position

Standard	Recreates the sound of a mix of multiple microphones.
Center	Recreates the sound at the center of the speaker unit.
Edge	Recreates the sound at the edge of the speaker unit.

Menu bars and dialogs

Windows version

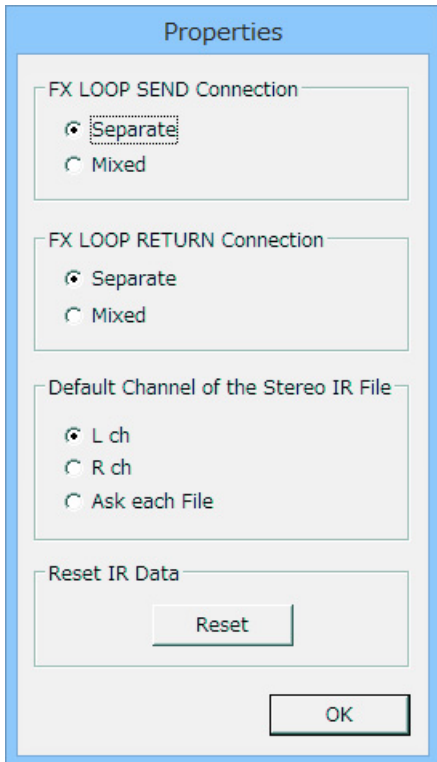
■ File

Exit: Quits the THR HD_H Utility application.

■ Edit

Except for “Properties”, the menu commands are only for editing the IR name in the Speaker Simulation screens.

Properties: Clicking this opens the settings dialog box shown below.



FX LOOP SEND Connection (THR100HD only)

Selects how L and R signals on FX LOOP SEND connection are routed.

- **Separate**.....This sends the Preamp I signal to the SEND L channel and the Preamp II signal to the SEND R channel.
- **Mixed**.....This mixes the Preamp I and Preamp II signals and sends them to the SEND L channel for mono output.

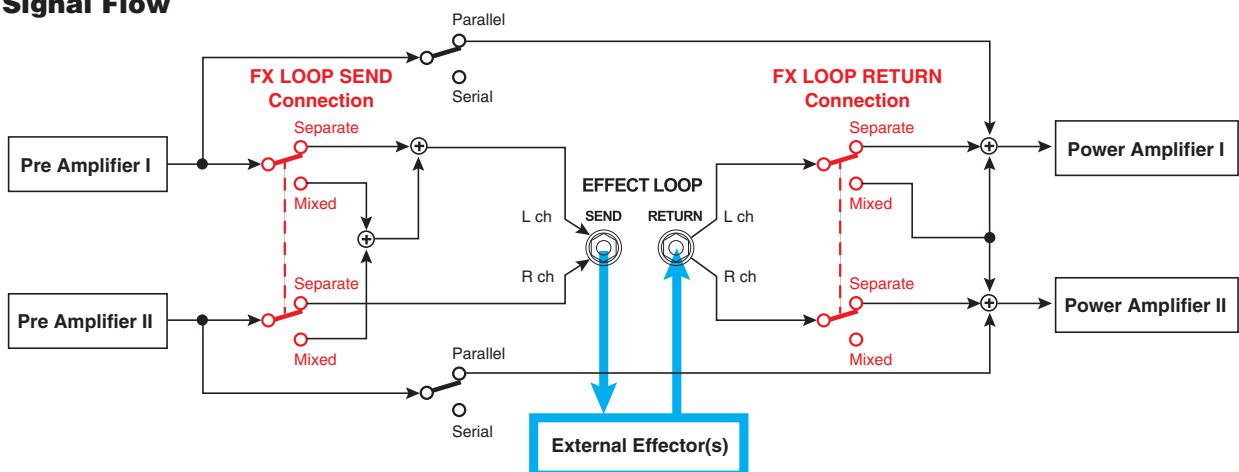
FX LOOP RETURN Connection (THR100HD only)

Selects whether the L/R channel signals received from the FX LOOP’s RETURN jack are sent to Power Amp I/II circuits independently (Separate) or only the L channel signal is sent to both (Mixed).

- **Separate**.....This sends the RETURN L signal to the Power Amp I circuit, and the RETURN R to the Power Amp II circuit.
- * **To use Power Amp I and II for each of the L and R signals from a stereo-out type effect, choose Separate.**
- **Mixed**.....This sends only the RETURN L signal to both the Power Amp I and Power Amp II circuits.
- * **We recommend setting the SEND connection to Mixed as well when using the Mixed setting with the FX LOOP RETURN connection.**

* **FX LOOP SEND and FX LOOP RETURN settings are available in amp firmware V1.10 and later.**

Signal Flow

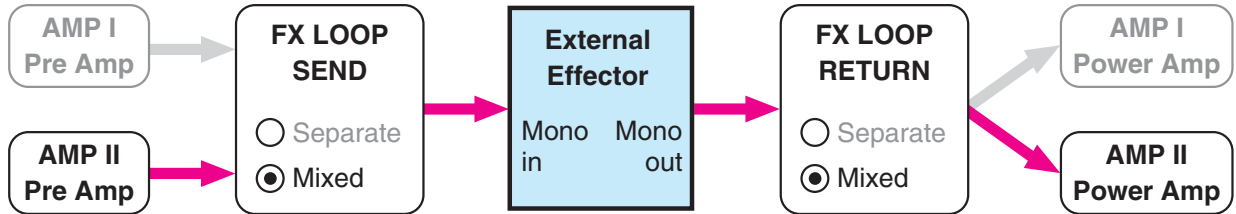


Example of Connection 1

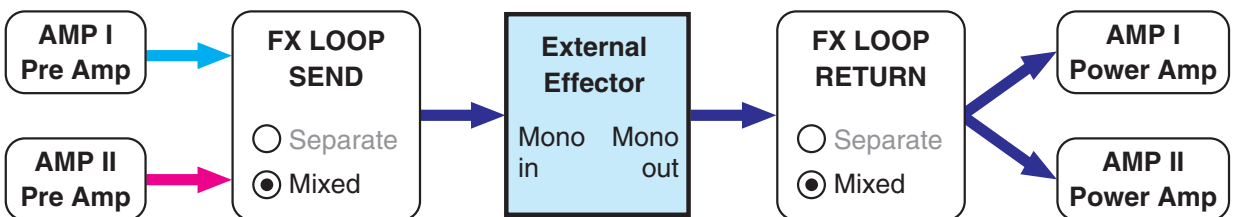
Share Mono in/Mono out effects with AMP I and AMP II

In the example below, the FX LOOP SEND is set to Mixed, and its RETURN is also set to Mixed allowing the AMP II signal to be processed through the external effector loop.

- When the Amp Select Switch is set to AMP II

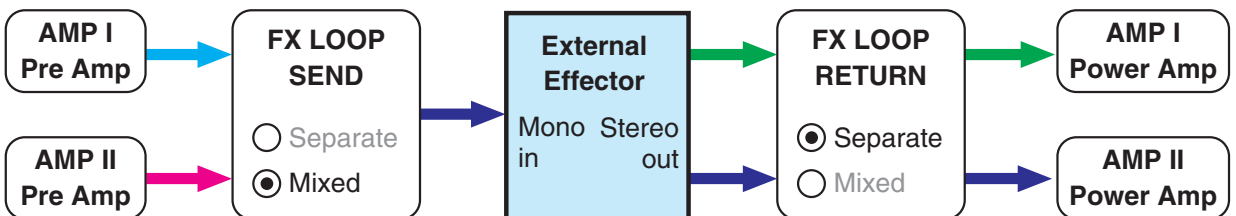


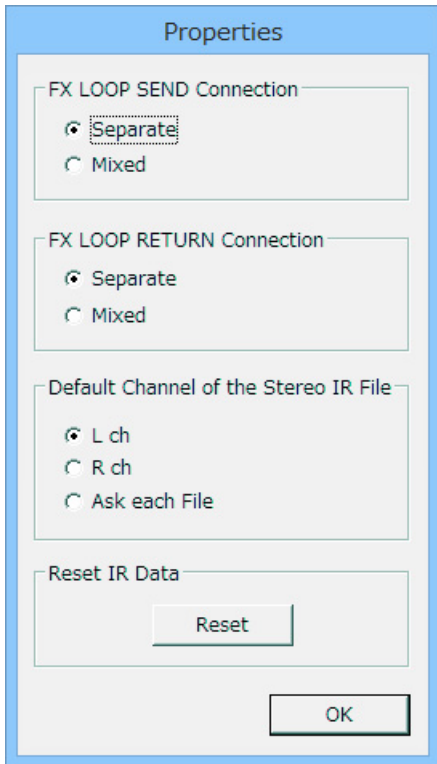
- When the Amp Select Switch is set to Dual (AMP I + AMP II)



Example of Connection 2

When using a Mono in/Stereo out effector with AMP I and AMP II





Default Channel of the Stereo IR File

Determines whether the data for the L or R channel is used when a stereo IR file is selected.

- L chUses L channel data.
- R chUses R channel data.
- Ask each FileWith each file, displays a dialog box requesting confirmation of the channel to be used.

Reset IR Data

Clicking [Reset] opens the “Reset IR Data” dialog box. Click the OK button in that dialog box to revert the IR data for all amp types to the factory defaults.

• Factory default IR data settings

Amp type	IR data	IR gain
MODERN	100_American412_57on_Standard	-13dB
LEAD	200_British412_57on_Standard	-12dB
CRUNCH	300_British212_57on_Standard	-11dB
CLEAN	400_American112_57on_Standard	-10dB
SOLID	500_THRC212_Single_57on_Standard	-11dB

■ **Help**

About : Displays information such as the software version.

Macintosh version

■ **THR HD_H Utility**

About THR HD_H Utility: Displays information such as the software version.

Preferences...: Clicking opens a dialog box with content that is the same as with “Properties” in the Windows version.

Quit: Quits the THR HD_H Utility application.

■ **Edit**

All menu commands are only for editing the IR name in the Speaker Simulation screens.

Troubleshooting

If you experience problems, such as no sound or abnormal operation, first make sure that the THR100HD/THR100H is properly connected to the computer. If the problem persists, please check the following items.

- **The switches and buttons in the window have no effect.**

- Is the latest version of the “Yamaha Steinberg USB Driver” installed?
- Alternately, try replacing the USB cable.

- **An error message appears.**

- Quit the Utility, turn off the THR100HD/THR100H, and then perform the operation from the beginning.

- **A phaser effect can be heard when the FX LOOP switch is set to “PARALLEL”.**

- When the FX LOOP switch is set to “PARALLEL”, return only wet sound from the external effector to the RETURN jack.

- **There is no sound when the FX LOOP switch is set to “SERIAL”.**

- Check the connections of the external effector.

- **When the amp type is changed, the speaker simulation settings revert to those prior to changing the settings.**

- Be sure to click the INSTALL button before changing the amp type.

- **The speaker simulation sound is low. Crackling is produced.**

- Adjust the GAIN knob appropriately.

- **The speaker simulation does not affect the SPEAKER OUT jacks.**

- The speaker simulation affects only the output from the LINE OUT and PHONES jacks.

Manual Development Group
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