Delta Media Server

7thSense 3D Sync Setup using Labjack

User Guide

7THSENSE

7thSense 3D Sync Setup using Labjack : User Guide

This edition is for software version Delta 2.5 and above
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Contents

Setup Instructions for 7thSense 3D Sync

This section describes the configuration of hardware and software used to synchronize multiple servers in a 3D application. Information is provided to allow verification of correct operation. It also describes the additional hardware used to synchronize multiple servers in a 3D application. Wiring information is provided to allow fault finding if necessary.

Hardware Connectivity

USB cable: Connect between USB ports on the LabJack unit and the Leader server.

LabJack 3D Sync Cable Assembly

- 15-way D Plug connects to the LabJack unit.

- Mini-DIN plug marked 'M' to the Leader server graphics card's 3D sync connector.

- Mini-DIN plug marked 'S' to the Follower server graphics card's 3D sync connector. Where more than 1 Follower server is in use, the Mini-DIN plug marked 'S1' goes to the 1st Follower server graphics card's 3D sync connector, the Mini-DIN plug marked 'S2' to the 2nd Follower server, and so on.

- BNC plug to the 3D glasses emitter or projector, as required.

Software Configuration

On the **Leader Server**, open the '7thSense – 3D Sync Fix' Application. This should be running in the taskbar in the bottom right of the Windows desktop (small blue triangle icon with 'SD' in centre).

> If this application is not running in the taskbar, open the location:
> C:\Program Files\7thSense\Delta\Utilities
>
> Create a shortcut for '7th3DSync.exe' and put this shortcut in the following location:
> **C:\ProgramData\Microsoft\Windows\Start Menu\Programs\Startup**

In the 7thSense – 3D Sync Fix application (see DeltaGUI below), please check the following:

1. **LabJack Initialised OK** checkbox should be ticked (this means it has detected the LabJack unit).

2. **Which LabJack port?** should be set to 'EIO' if using the LabJack's 15pin D-Sub connector (otherwise set to 'FIO' if stereo sync signals are connected to the terminals on the sides of the LabJack).

3. **Delta UDP port** should be set to match the UDP port for communicating with the Follower server. You can check this by navigation to *Preferences > EDIT > Communication* on **server.exe** on the

Follower, or by selecting the Follower in DeltaGUI and navigating to *Configure > Preferences > Communication > Ethernet* (in DeltaGUI). In either of these locations, you should see the UDP port value (7780 by default) (see Server Configuration, DeltaGUI below).

4. **Heartbeat enable** should be checked.

5. **Delta Server Followers**: Enter the IP addresses of the Followers with which you want the 3DSync app to sync. Enter the IP address of the 1st Follower server in the top line, if you only have one Follower ignore the other lines. If there are 2 or more Follower units, their IP addresses should be entered in order below the IP address for the 1st Follower server.
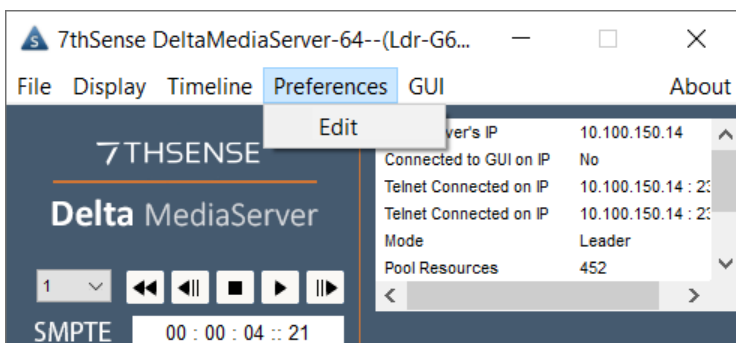

Click **Apply** and then **OK** at the bottom of the screen.

Note: Do not click Exit as this app needs to run in the background.

Restart the server application on both the Leader and the Follower(s).

- Open DeltaServer.

- Click *Preferences > Edit* to open the Server Configuration screen:

- Click 'Communication' and check to ensure that the Telnet Port (UDP) matches the Delta UDP Port number (as set in step 3 above)

- Repeat for each Leader/Follower server:
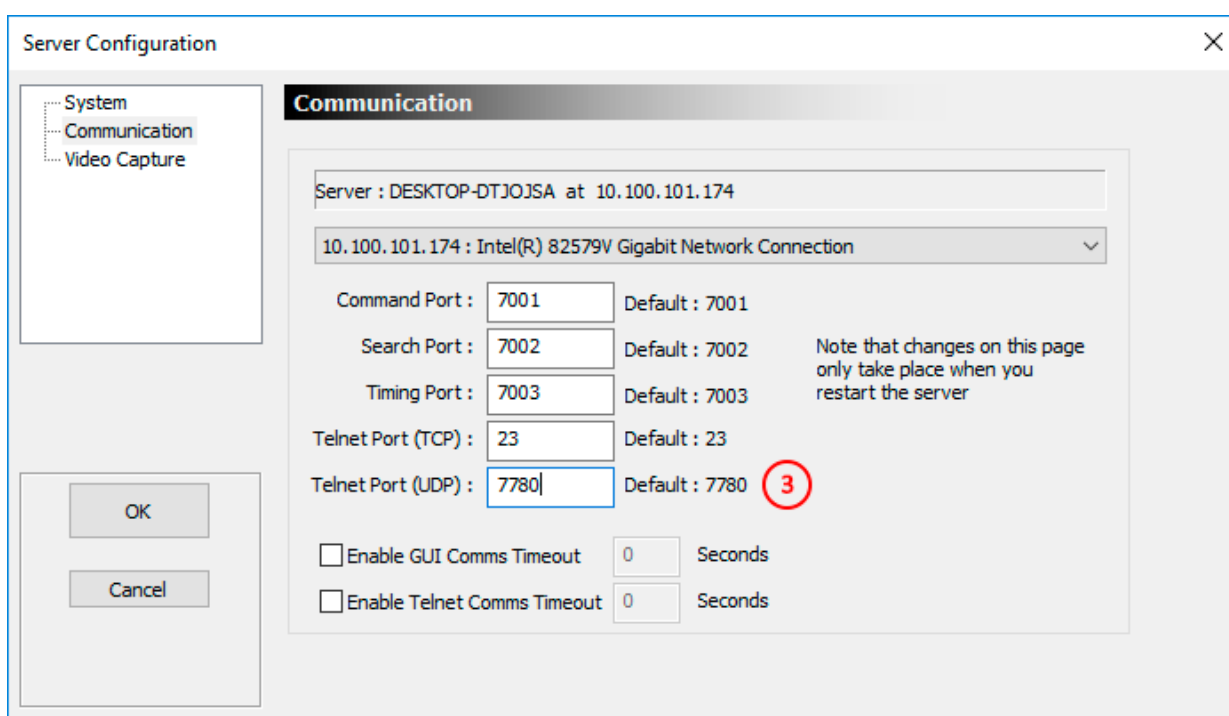
Verifying Operation

Once the server application has restarted, reopen the 3DSync fix application.

Check that the 'Level' column next to the Leader and Follower(s) is changing intermittently. If either of the 'Level' indicators are stuck at '0' or '1' then confirm that the relevant server is operating in a stereo mode and that the LabJack cable assembly is connected to that server as detailed above.

Each Follower Server will be operating in one of 2 modes, either **in phase** or **out of phase** with the Leader Server, this can be verified by looking at the 3DSync fix DeltaGUI and the stats on the Follower server playback window (see illustration below). To view stats on Playback, press S on the Follower

keyboard or select 'Show Stats' from the DeltaGUI toolbar. The mode in use will be apparent as follows:

Leader and Follower Server in phase

- Leader and Follower Levels: Either simultaneously '1' and '1' *or* '0' and '0'.

- Follower 'Inverted' checkbox **un**ticked.

- Follower stats will **not** indicate 'Stereo eyes swapped'.
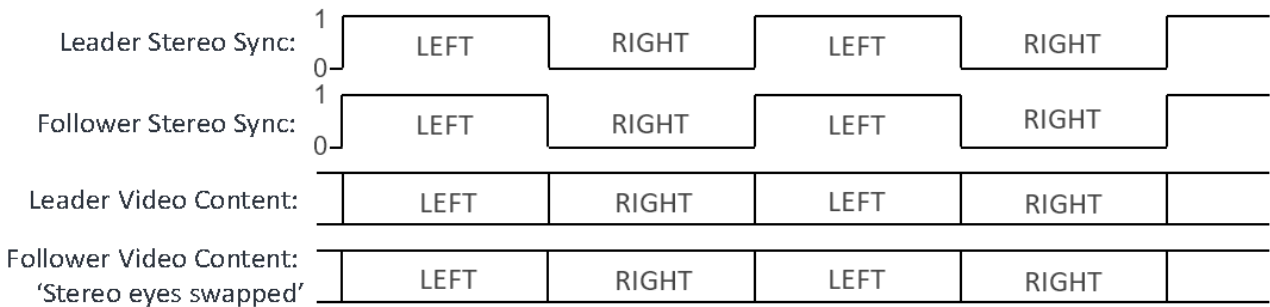
Leader and Follower Server out of phase

- Leader and Follower Levels: Either simultaneously '0' and '1' *or* '1' and '0'.

- Follower 'Inverted' checkbox ticked.

- Follower stats will indicate 'Stereo eyes swapped'.

Where there are multiple Follower servers each Follower Server will have its own phase relationship with the Leader Server. So some Follower servers may be in phase with the Leader server and some out of phase.
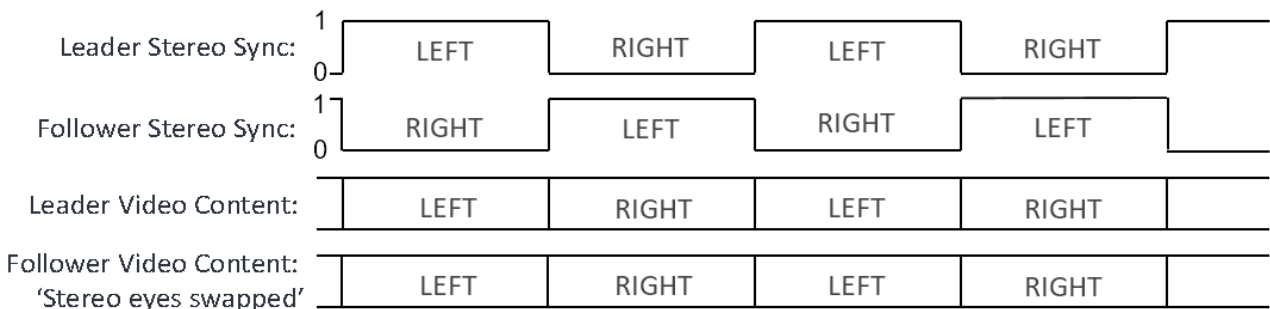
The following timing diagrams illustrate these modes:

Leader and Follower Server in phase
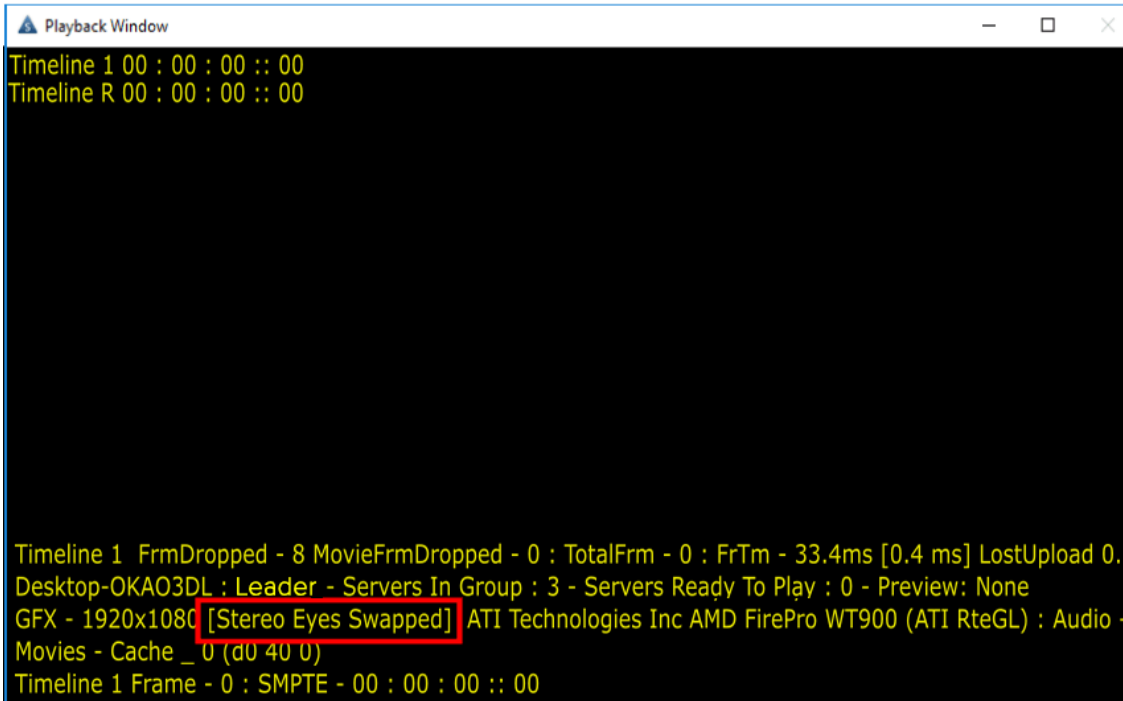(Follower 'Inverted' checkbox unticked)

Leader and Follower Server out of phase
(Follower 'Inverted' checkbox ticked)

When the **Inverted** checkbox is ticked in the 3DSyncFix screen, you will also see the Stereo Eyes Swapped statement in the playback window statistics (press S on the keyboard whilst in the Playback Window) as shown below.

## LabJack 7thSense Pinout and Connections

Parts Required

- **LabJack Package.** Containing:
    - LabJack U3-LV
    - USB cable (1.8m)
- **LabJack 3D Sync Cable Assembly.** A 15-way D plug terminated with cables to:
    - 3 pin Mini-DIN plugs - 1 cable for the Leader server, 1 for each Follower server.
    - BNC plug - Cable to 3D glasses emitter/projector

    The default length for each cable is 1m.
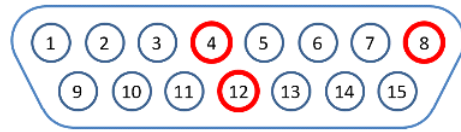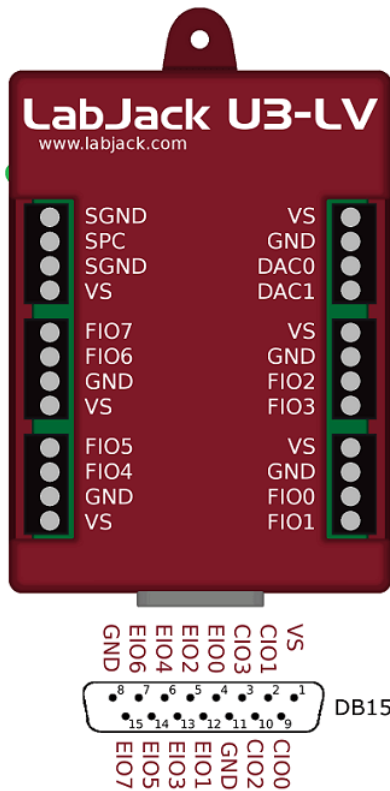
15 pin D Plug mating face
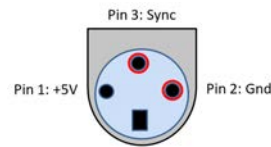
3 pin Mini-DIN Plug mating face

Wiring Information

USB cable: Connect between USB ports on the LabJack unit and the Leader server.

LabJack 3D Sync Cable Assembly (Leader and Single Follower Server)

- 15 Way D Plug connects to the LabJack unit.
- Mini-DIN plug marked 'M' to the Leader server graphics card's 3D sync connector.
- Mini-DIN plug marked 'S' to the Follower server graphics card's 3D sync connector.
- BNC plug to the 3D glasses emitter or projector as required.

Signals (Leader and Single Follower Server)

Signal	Leader Server 3 pin Mini-DIN	Follower Server 3 pin Mini-DIN	LabJack 15-way D	3D glasses emitter BNC
Leader Sync	Pin 3	No Connection	Pin 4	Centre Pin
Follower Sync	No Connection	Pin 3	Pin 12	No Connection
Gnd	Pin 2	Pin 2	Pin 8	Outer Shell

Leader and 2 or More Follower Servers

Additional servers are connected from Pin 3 of their 3 pin Mini-DIN connector to the appropriate LabJack 15-way D connector pin:

Signal	LabJack 15-way D	Follower Server 3 pin Mini-DIN marking
Follower 1 Sync	Pin 12 (EIO1)	S1
Follower 2 Sync	Pin 5 (EIO2)	S2
Follower 3 Sync	Pin 13 (EIO3)	S3
Follower 4 Sync	Pin 6 (EIO4)	S4

All Gnd signals are connected from the Follower Server 3 pin Mini-DIN plugs pin 2 to the LabJack 15-way D connector pin 8.

Document Information

Date	Document edition	Software version	Revision Details	Author/Editor
August 2016	2		Added further diagrams and info to original	John Harding
June 2017	3		Combined documents and revised text	John Higgins
August 2017	4		Added information for systems with more than 1 Follower	John Harding
July 2020	5		Revised server terminology	Andie Davdson

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