

Lightware Lab summary of Logitech Rally Kit Plus validation



TABLE OF CONTENTS

- 1. INTRODUCTION 3**
 - 1.1. TEST CASES 3
 - 1.2. TEST ENVIRONMENT 4
 - 1.3. TESTED CABLES 4
- 2. SCENARIO 1 – ONE UCX..... 5**
 - 2.1. OVERVIEW 5
 - 2.2. WIRING 5
 - 2.3. CABLE NUMBERING 6
 - 2.4. RESULTS..... 7
- 3. SCENARIO 2 – TWO UCX UNITS 8**
 - 3.1. OVERVIEW 8
 - 3.2. WIRING 8
 - 3.3. CABLE NUMBERING 9
 - 3.4. RESULTS – TABLE UCX 10
 - 3.5. RESULTS – DISPLAY UCX..... 11
- 4. CONCLUSION 12**

Version	Comment	Date
1.0	Initial version	May 26, 2023



1. Introduction

The Logitech Rally Kit Plus is a modular video conferencing system with a 4K camera. The Lightware Taurus UCX extends the functionality of the Logitech Rally Kit, enabling BYOD mode for up to multiple clients, while also providing charging and networking for them.

Our customers need confirmation that the UCX interoperability with Logitech Rally Kit has been tested, validated, and recommended by Lightware.

1.1. Test cases

Since the Rally Kit itself provides an extension service, we have excluded test cases with extenders and AMAF cables, and we focused primarily on expansion of functionality for laptops and RoomPCs.

For testing, a videocall was initiated by Zoom and MS Teams software clients running on own laptops described below.

During calls, we tested the quality and reliability of the audio/video and shared content that was being sent to the far end, and we tested the video and audio received from the far end. In addition to the above, the laptops were dis- and reconnected ten times to check the video/USB auto switching feature of Taurus UCX.

Taurus UCX was set to the default settings, auto-select on the input ports, using last-detect, and we used manual input selection, when it was needed.

We distinguish the following test results:

- **Passed** – The peripheral (camera, speaker and microphone) signal is reliable, and redirection of the peripheral signal works by the video/USB auto switching.
- **Failed** – The peripheral signal is unstable or not presented at all.
- **Not tested** - The test case cannot be interpreted in the given configuration, e.g. due to lack of HDMI port.

1.2. Test environment

Unit	Type	FW/OS version
Peripheral	Logitech Rally Kit Plus	v1.1.167
HDMI/USB matrix switcher	Lightware UCX-4x2-HC30	v2.10b2
Display	Samsung QB50B	1090.2
Teams Rooms PC	NUC11TNK	Win10 Pro 21H2
Touch	Logitech Tap	
Laptop 1	Lenovo Yoga7	Win10 Pro, Build:19045.2546
Laptop 2	Lenovo T14	Win10 Pro, Build:19045.2546
Laptop 3	Dell Latitude 5520	Win10 Pro, Build:19044.1620
Laptop 4	Asus VivoBook	Win10 Pro, Build: 19044.2364
Laptop 5	MacBook 2020 M1	MacOs Monterey, 12.6

1.3. Tested cables

Unit	Type
Lightware CAB-USBC-T100A	1m Type C – Type C
Lightware CAB-USBC-T200A	2m Type C – Type C
Lightware CAB-USBC-T300A	3m Type C – Type C
Lightware CAB-USBC-T400B	4m Type C – Type C
Lightware CAB-USBC-T500B	5m Type C – Type C
Lightware CAB-USBC-AOC800K	8m Type C – Type C
Lightware CAB-USBC-AOC1000K	10m Type C – Type C
Unitek AWM2725 3m	3m Type A – Type B
Unitek AWM2725 5m	5m Type A – Type B

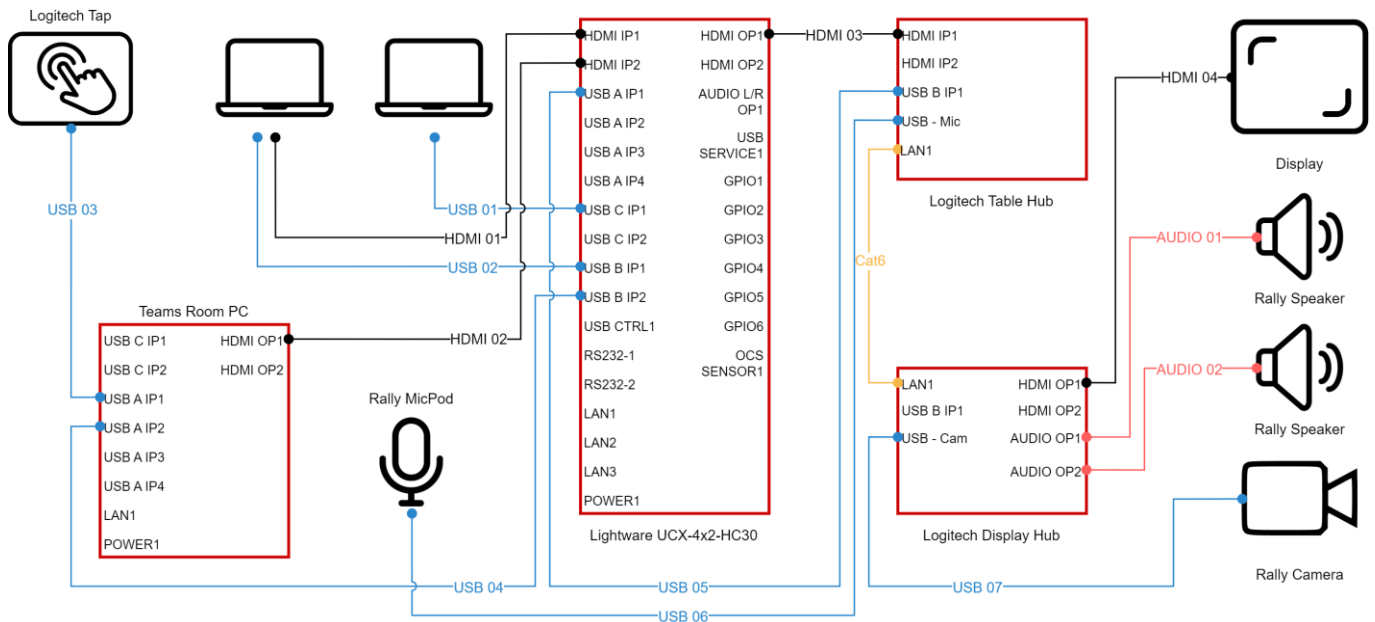
2. Scenario 1 – One UCX

2.1. Overview

The first test scenario contains one Taurus UCX and Logitech Rally Kit Plus in a Logitech MTRoW setup. This setup is usually preferred for up to medium meeting rooms. In this scenario we use the Rally Kit extender capabilities and peripherals only, the BYOD is covered by the Taurus UCX.

2.2. Wiring

For clarity, only USB, HDMI, audio and extension Cat6 connections are shown.



2.3. Cable numbering

Nr	Type
USB 01	<i>See tested cable list – USB Type C-C</i>
USB 02	<i>See tested cable list – USB Type A-B</i>
USB 03	Logitech 10m StrongUSB USB3.1 Type A-C
USB 04	<i>See tested cable list – USB Type A-B</i>
USB 05	Logitech 2m USB3.1 Type A-B
USB 06	Logitech 3m own standard hardwired 12pin
USB 07	Logitech 2m USB3.1 Type A-C
HDMI 01	Lightware CAB-HDMI20-PHS200F
HDMI 02	Lightware CAB-HDMI20-PHS200F
HDMI 03	Lightware CAB-HDMI20-PHS200F
HDMI 04	Lightware CAB-HDMI20-PHS200F
AUDIO 01	Logitech 3m MiniXLR
AUDIO 02	Logitech 3m MiniXLR

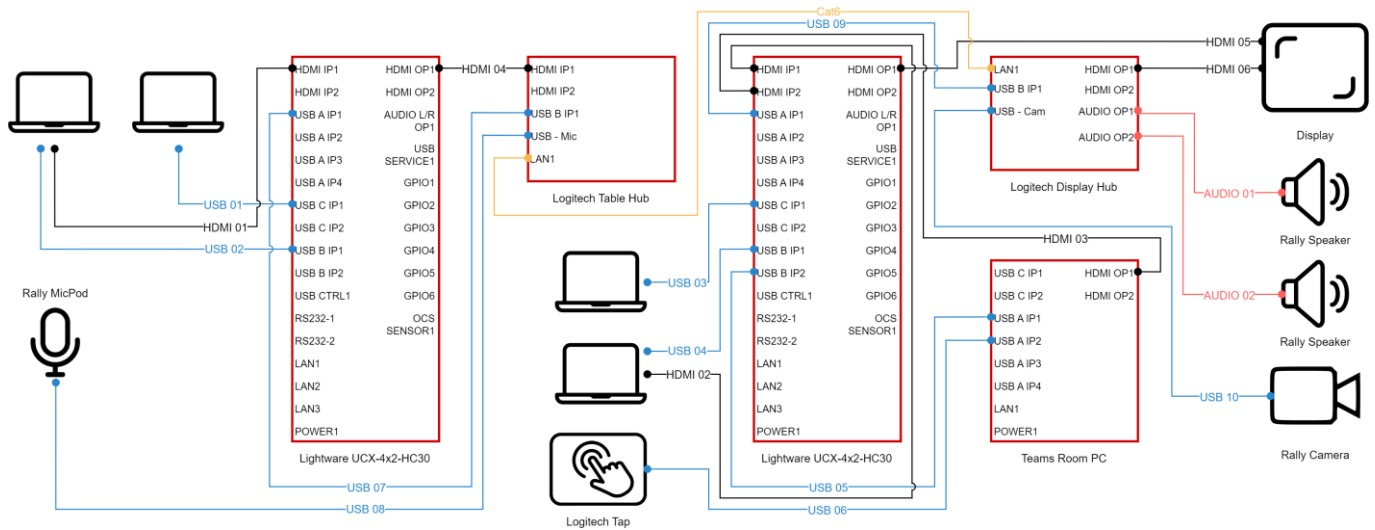
3. Scenario 2 – Two UCX units

3.1. Overview

This configuration contains two Taurus UCX units and a Logitech Rally Kit Plus. This setup is usually preferred for medium or large meeting rooms, where the first UCX is placed on the part of the table away from the display and the second one is closer to the screen. In this scenario we use the Rally Kit extender capabilities and peripherals only, the BYOD is covered by the Taurus UCX units with a customized Lara configuration. The Room PC could be connected to both UCX units, up to customer needs.

3.2. Wiring

For clarity, only USB, HDMI, audio and extension Cat6 connections are shown.



3.3. Cable numbering

Nr	Type
USB 01	<i>See tested cable list – USB Type C-C</i>
USB 02	<i>See tested cable list – USB Type A-B</i>
USB 03	<i>See tested cable list – USB Type C-C</i>
USB 04	<i>See tested cable list – USB Type A-B</i>
USB 05	<i>See tested cable list – USB Type A-B</i>
USB 06	Logitech 10m StrongUSB USB3.1 Type A-C
USB 07	Logitech 2m USB3.1 Type A-B
USB 08	Logitech 3m own standard hardwired 12pin
USB 09	Logitech 2m USB3.1 Type A-B
USB 10	Logitech 2m USB3.1 Type A-C
HDMI 01	Lightware CAB-HDMI20-PHS200F
HDMI 02	Lightware CAB-HDMI20-PHS200F
HDMI 03	Lightware CAB-HDMI20-PHS200F
HDMI 04	Lightware CAB-HDMI20-PHS500P
HDMI 05	Lightware CAB-HDMI20-PHS200F
AUDIO 01	Logitech 3m MiniXLR
AUDIO 02	Logitech 3m MiniXLR

3.4. Results – Table UCX

Platform:	BYOD – Lenovo Yoga7								
USB 02:	Unitec USB A-B 3m	Unitec USB A-B 5m	-	-	-	-	-	-	-
USB 01:	-	-	CAB-USBC-T100A	CAB-USBC-T200A	CAB-USBC-T300A	CAB-USBC-T400B	CAB-USBC-T500B	CAB-USBC-AOC800K	CAB-USBC-AOC1000K
Test results:	Not tested	Not tested	Passed	Passed	Passed	Passed	Passed	Failed	Failed

Platform:	BYOD – Lenovo T14								
USB 02:	Unitec USB A-B 3m	Unitec USB A-B 5m	-	-	-	-	-	-	-
USB 01:	-	-	CAB-USBC-T100A	CAB-USBC-T200A	CAB-USBC-T300A	CAB-USBC-T400B	CAB-USBC-T500B	CAB-USBC-AOC800K	CAB-USBC-AOC1000K
Test results:	Passed	Passed	Passed	Passed	Passed	Passed	Passed	Failed	Failed

Platform:	BYOD – Dell Latitude 5520								
USB 02:	Unitec USB A-B 3m	Unitec USB A-B 5m	-	-	-	-	-	-	-
USB 01:	-	-	CAB-USBC-T100A	CAB-USBC-T200A	CAB-USBC-T300A	CAB-USBC-T400B	CAB-USBC-T500B	CAB-USBC-AOC800K	CAB-USBC-AOC1000K
Test results:	Passed	Passed	Passed	Passed	Passed	Passed	Passed	Failed	Failed

Platform:	BYOD – MacBook 2020 M1								
USB 02:	Unitec USB A-B 3m	Unitec USB A-B 5m	-	-	-	-	-	-	-
USB 01:	-	-	CAB-USBC-T100A	CAB-USBC-T200A	CAB-USBC-T300A	CAB-USBC-T400B	CAB-USBC-T500B	CAB-USBC-AOC800K	CAB-USBC-AOC1000K
Test results:	Not tested	Not tested	Passed	Passed	Passed	Passed	Passed	Failed	Failed

4. Conclusion

During our tests, we recognized, that the length of the used Lightware CAB-xxx cables itself does not affect the signal and connection quality as we expected. Either USB and Video signals were present, or they were not present at all. We did not find any states between.

However, in a system design the USB standard's specifications, and USB tree structure should be considered. The maximum layer count, or levels of the tree must not exceed 7. (Layer of the USB tree is also called tier.) It is important to note that the Rally Kit includes an USB 2.1 and 3.2 hubs, which by definition means additional tiers.

In this regard, we need to mention MacBook computers, because they also have an additional layer in the USB structure, leading to quick consumption of the available USB tiers. Since the 8m, and 10m long USB-C cables are using active optical technology, it also adds to the tiers.

We highly recommend to design the AV system taking into account the above considerations, and choose the peripherals, and extenders wisely. Counting the USB tiers, and designing the system consciously reduces the risk of an unstable system.

Our tests show that by using UCX, the functionality of the Logitech Rally Kit Plus can be expanded in a stable way to multiple clients, either in BYOD or MTRoW environments.