

*NimbleTech Digital Inc.*

# *Cast Go!* *(QuattroPod Lite 2)*

## *LT10/LR10* *Specification*



Rev. 1.03

Revision	History	Date
V1.00	Initial Release	2023/Jan.
V1.01	Package content and input timing modification	2023/Jul.
V1.02	Added Tx only package	2023/Jul.
V1.03	Added 4K timing support	2023/Nov.

## Introduction

NimbleTech's Cast Go! (or QuattroPod Lite 2, LT10/LR10) is new WiFi Presentation System product aiming at low cost with high performance market. It contains one receiver (LR10) and one transmitter (LT10) with special type C adapter. It improves wifi display capability to accept 2 split displays simultaneously. It also accepts mirroring from iOS/macOS airplay mirroring, and Miracast/Chromecast from Android devices as well. With the slim size and powerful features, it will be your best meeting companion.

## What's in the box?

### Standard pack

When you open the box, it contains:

- QuattroPod Lite Receiver LR10 (hereinafter called Rx or LR10) x1
- QuattroPod Lite Transmitter LT10(hereinafter called Tx or LT10) x1
- Type C USB power cable x2
- HDMI pairing connector x1
- Quick Start Guide x1

### Transmitter only pack

- QuattroPod Lite Transmitter LT10(hereinafter called Tx or LT10) x1
- Short HDMI extension Cable x1
- Type C USB power cable x1
- Quick Start Guide x1

## System Requirement:

- PC: Any PC or laptops with HDMI or Type C (alt-mode) output
- Apple devices: Compatible with airplay for iOS 15, and macOS Big Sur above
- Android devices: Android 9.0 above for Miracast, or use Google Home to mirror

## Receiver (LR10) Spec:

CPU	Dual Core RISC CPU
Output Resolution	<ul style="list-style-type: none"><li>● 720p@50hz/60hz</li><li>● 1080p@50hz/60hz</li><li>● 2160p@24hz/30hz</li></ul>
I/O	<ul style="list-style-type: none"><li>● HDMI out (HDMI1.4)</li><li>● Reset/ADFU Button</li><li>● DC 5V</li></ul>
WiFi	802.11ac 2T2R, max. bandwidth 866Mbps (5Ghz)
WiFi Module Frequency	5Ghz: 5.150Ghz~5.825Ghz
Power	DC 5V, 1.5A max.
HDCP	HDCP1.4 for Wired, HDCP 2.x for Miracast
LED Indication	Red/Blue bi-colors, Power and Status indication
Power Consumption	<ul style="list-style-type: none"><li>● Standby: 5W approx., Casting: 7.5W approx.</li></ul>

Working Temp.	0~40°C
Storage Temp.	-20~70°C

### Transmitter (LT10) Spec:

CPU	High Performance RISC CPU
Input Resolution	VESA: <ul style="list-style-type: none"> <li>● 40x480@60Hz</li> <li>● 800x600@56/60/72/75Hz</li> <li>● 1024x768@60/70/75Hz</li> <li>● 1280x720@60Hz</li> <li>● 1280x800@60Hz</li> <li>● 1280x960@60Hz</li> <li>● 1280x1024@60/75Hz</li> <li>● 1600x900@60Hz</li> <li>● 1600x1200@60Hz</li> <li>● 1920x1080@60Hz</li> <li>● 3840x2160@30hz</li> </ul> CEA: <ul style="list-style-type: none"> <li>● 1920x1080p@24/25/30/50/60Hz</li> <li>● 1280x720p@50/60</li> <li>● 720x480p@60Hz</li> <li>● 720x576p@50Hz</li> </ul>
I/O	<ul style="list-style-type: none"> <li>● HDMI in/USB-C in (through Adapter)</li> <li>● DC-in (HDMI only)</li> <li>● Mirror Control Button</li> <li>● Reset/FW Update Button</li> </ul>
WiFi	802.11n 1T1R, max. bandwidth 433Mbps
WiFi Frequency	5Ghz: 5.150Ghz~5.825Ghz
Power	DC 5V, 0.9A
HDCP	HDCP1.4
LED Indication	Red/Blue bi-colors, Power and Status indication
Power Consumption	<ul style="list-style-type: none"> <li>● Standby: 2W approx.</li> <li>● Casting: 2.5W approx.</li> </ul>
Working Temp.	0~40°C
Storage Temp.	-20~70°C

### Dimension and Weight :

#### LR10:

- L 87.5mm x W 32mm x H 12mm (not including HDMI male connector)
- 32g approx..

#### LT10:

- Main: L65mm x W32.5mm x H12mm (not including HDMI male connector)
- 20g approx..
- Converter: L48 mm x W32.5mm x H12mm (not including cable)
- 20g approx..

## Installation Guide:

### LR10:

1. Connect Power with the adaptor
  2. Connect HDMI with HDMI port with the projector or display device.
- \*Due to WiFi signal requires enough space, please DO NOT block the antenna or use the HDMI extension cable to get better installing position.**

### LT10:

1. HDMI:
  - i. Plug USB 5V(required 0.9A above), through adaptors or USB ports of laptops
  - ii. Connect HDMI port with PC, click side button to mirror screen.
2. Over Type C:
  - i. Unplug USB power from LT10, and plug adapter and connect to type C port of PC.
  - ii. Click side button to mirror screen.

**\*Notice: Do not use type C adapter with USB power simultaneously to prevent system error except your source device's type C out requires DC in.**

## Control Behavior:

### LT10:

1. Mirror control button:
  - i. Single click: Mirror on/off
  - ii. Click&Hold: Force full screen
2. Reset: Hold and Power on for ADFU FW download

## LED Indication:

LR10 (Rx)	<ul style="list-style-type: none"> <li>● Blue: Power on/Status ok/Standby</li> </ul>
LT10 (Tx)	<ul style="list-style-type: none"> <li>● Red:               <ul style="list-style-type: none"> <li>■ Slow Flashing: Not connected to Rx</li> <li>■ Fast Flashing: Pairing</li> <li>■ Static: Connected to Rx but no video input</li> </ul> </li> <li>● Blue:               <ul style="list-style-type: none"> <li>■ Slow flashing: Connected with Rx but not casting</li> <li>■ Fast flashing: Cleaning Pairing info.</li> </ul> </li> </ul>

	<div> <div></div> <div>Static: Casting</div> </div>
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### WiFi Channel Table (5Ghz, 20Mhz):

Band range	Operating Channel Numbers	Channel center frequencies(MHz)
5180 MHz~5240MHz	36	5180
	40	5200
	44	5220
	48	5240
5260MHz~5320MHz	52	5260
	56	5280
	60	5300
	64	5320
5550MHz~5700MHz	100	5500
	104	5520
	108	5540
	112	5560
	116	5580
	120	5600
	124	5620
	128	5640
	132	5660
	136	5680
5745MHz~5825MHz	140	5700
	149	5745
	153	5765
	157	5785
	161	5805
	165	5825

**\*please be noted some WiFi channels might be prohibited in different countries.**

## LR10 WiFi RF Parameters (5Ghz):

Feature	Description
WLAN Standard	IEEE 802.11ac 2x2, WiFi compliant
Frequency Range	4.900 GHz ~ 5.845 GHz (5.0 GHz ISM Band)
Number of Channels	5.0GHz : Please see the table <sup>1</sup>
Output Power	802.11a /54Mbps : 13 dBm $\pm$ 1.5 dB @ EVM $\leq$ -25dB
	802.11n /MCS7 : 12 dBm $\pm$ 1.5 dB @ EVM $\leq$ -28dB
	802.11ac /MCS9 : 10 dBm $\pm$ 1.5 dB @ EVM $\leq$ -32dB
SISO Receive Sensitivity (11a,20MHz) @10% PER	- 6Mbps PER @ -88 dBm, typical
	- 9Mbps PER @ -87 dBm, typical
	- 12Mbps PER @ -86 dBm, typical
	- 18Mbps PER @ -83 dBm, typical
	- 24Mbps PER @ -80 dBm, typical
	- 36Mbps PER @ -77 dBm, typical
	- 48Mbps PER @ -72 dBm, typical
	- 54Mbps PER @ -70 dBm, typical
MIMO Receive Sensitivity (11a,20MHz) @10% PER	- 6Mbps PER @ -90 dBm, typical
	- 9Mbps PER @ -89 dBm, typical
	- 12Mbps PER @ -88 dBm, typical
	- 18Mbps PER @ -86 dBm, typical
	- 24Mbps PER @ -83 dBm, typical
	- 36Mbps PER @ -80 dBm, typical
	- 48Mbps PER @ -75 dBm, typical
	- 54Mbps PER @ -71 dBm, typical
SISO Receive Sensitivity (11n,20MHz) @10% PER	- MCS=0 PER @ -88 dBm, typical
	- MCS=1 PER @ -85 dBm, typical
	- MCS=2 PER @ -83 dBm, typical
	- MCS=3 PER @ -80 dBm, typical
	- MCS=4 PER @ -76 dBm, typical
	- MCS=5 PER @ -71 dBm, typical
	- MCS=6 PER @ -70 dBm, typical
	- MCS=7 PER @ -68 dBm, typical
MIMO Receive Sensitivity (11n,20MHz) @10% PER	- MCS=0 PER @ -89 dBm, typical
	- MCS=1 PER @ -88 dBm, typical
	- MCS=2 PER @ -86 dBm, typical
	- MCS=3 PER @ -83 dBm, typical

	- MCS=4 PER @ -79 dBm, typical
	- MCS=5 PER @ -74 dBm, typical
	- MCS=6 PER @ -73 dBm, typical
	- MCS=7 PER @ -71 dBm, typical
	- MCS=8 PER @ -88 dBm, typical
	- MCS=15 PER @ -68 dBm, typical
SISO Receive Sensitivity (11n,40MHz) @10% PER	- MCS=0 PER @ -85 dBm, typical
	- MCS=1 PER @ -82 dBm, typical
	- MCS=2 PER @ -80 dBm, typical
	- MCS=3 PER @ -77 dBm, typical
	- MCS=4 PER @ -73 dBm, typical
	- MCS=5 PER @ -69 dBm, typical
	- MCS=6 PER @ -67 dBm, typical
	- MCS=7 PER @ -66 dBm, typical
MIMO Receive Sensitivity (11n,40MHz) @10% PER	- MCS=0 PER @ -87 dBm, typical
	- MCS=1 PER @ -85 dBm, typical
	- MCS=2 PER @ -83 dBm, typical
	- MCS=3 PER @ -80 dBm, typical
	- MCS=4 PER @ -76 dBm, typical
	- MCS=5 PER @ -72 dBm, typical
	- MCS=6 PER @ -70 dBm, typical
	- MCS=7 PER @ -69 dBm, typical
	- MCS=8 PER @ -85 dBm, typical
	- MCS=15 PER @ -66 dBm, typical
SISO Receive Sensitivity (11ac,20MHz) @10% PER	- MCS=0, NSS1 PER @ -86 dBm, typical
	- MCS=1, NSS1 PER @ -84 dBm, typical
	- MCS=2, NSS1 PER @ -82 dBm, typical
	- MCS=3, NSS1 PER @ -79 dBm, typical
	- MCS=4, NSS1 PER @ -75 dBm, typical
	- MCS=5, NSS1 PER @ -70 dBm, typical
	- MCS=6, NSS1 PER @ -69 dBm, typical
	- MCS=7, NSS1 PER @ -68 dBm, typical
	- MCS=8, NSS1 PER @ -64 dBm, typical
MIMO Receive Sensitivity (11ac,20MHz) @10% PER	- MCS=0, NSS1 PER @ -88 dBm, typical
	- MCS=1, NSS1 PER @ -87 dBm, typical
	- MCS=2, NSS1 PER @ -85 dBm, typical
	- MCS=3, NSS1 PER @ -82 dBm, typical
	- MCS=4, NSS1 PER @ -78 dBm, typical



	- MCS=5, NSS1 PER @ -73 dBm, typical
	- MCS=6, NSS1 PER @ -72 dBm, typical
	- MCS=7, NSS1 PER @ -71 dBm, typical
	- MCS=8, NSS1 PER @ -67 dBm, typical
	- MCS=0, NSS2 PER @ -87 dBm, typical
	- MCS=8, NSS2 PER @ -63 dBm, typical
SISO Receive Sensitivity (11ac,40MHz) @10% PER	- MCS=0, NSS1 PER @ -84 dBm, typical
	- MCS=1, NSS1 PER @ -81 dBm, typical
	- MCS=2, NSS1 PER @ -79 dBm, typical
	- MCS=3, NSS1 PER @ -76 dBm, typical
	- MCS=4, NSS1 PER @ -73 dBm, typical
	- MCS=5, NSS1 PER @ -68 dBm, typical
	- MCS=6, NSS1 PER @ -67 dBm, typical
	- MCS=7, NSS1 PER @ -66 dBm, typical
	- MCS=8, NSS1 PER @ -61 dBm, typical
	- MCS=9, NSS1 PER @ -60 dBm, typical
MIMO Receive Sensitivity (11ac,40MHz) @10% PER	- MCS=0, NSS1 PER @ -86 dBm, typical
	- MCS=1, NSS1 PER @ -84 dBm, typical
	- MCS=2, NSS1 PER @ -82 dBm, typical
	- MCS=3, NSS1 PER @ -79 dBm, typical
	- MCS=4, NSS1 PER @ -76 dBm, typical
	- MCS=5, NSS1 PER @ -71 dBm, typical
	- MCS=6, NSS1 PER @ -70 dBm, typical
	- MCS=7, NSS1 PER @ -69 dBm, typical
	- MCS=8, NSS1 PER @ -64 dBm, typical
	- MCS=9, NSS1 PER @ -63 dBm, typical
	- MCS=0, NSS2 PER @ -84 dBm, typical
	- MCS=9, NSS2 PER @ -60 dBm, typical
SISO Receive Sensitivity (11ac,80MHz) @10% PER	- MCS=0, NSS1 PER @ -81 dBm, typical
	- MCS=1, NSS1 PER @ -78 dBm, typical
	- MCS=2, NSS1 PER @ -76 dBm, typical
	- MCS=3, NSS1 PER @ -72 dBm, typical
	- MCS=4, NSS1 PER @ -69 dBm, typical
	- MCS=5, NSS1 PER @ -66 dBm, typical
	- MCS=6, NSS1 PER @ -64 dBm, typical
	- MCS=7, NSS1 PER @ -62 dBm, typical
	- MCS=8, NSS1 PER @ -58 dBm, typical
	- MCS=9, NSS1 PER @ -56 dBm, typical

MIMO Receive Sensitivity (11ac,80MHz) @10% PER	- MCS=0, NSS1 PER @ -82 dBm, typical
	- MCS=1, NSS1 PER @ -81 dBm, typical
	- MCS=2, NSS1 PER @ -79 dBm, typical
	- MCS=3, NSS1 PER @ -75 dBm, typical
	- MCS=4, NSS1 PER @ -72 dBm, typical
	- MCS=5, NSS1 PER @ -69 dBm, typical
	- MCS=6, NSS1 PER @ -67 dBm, typical
	- MCS=7, NSS1 PER @ -65 dBm, typical
	- MCS=8, NSS1 PER @ -61 dBm, typical
	- MCS=9, NSS1 PER @ -60 dBm, typical
	- MCS=0, NSS2 PER @ -80 dBm, typical
	- MCS=9, NSS2 PER @ -56 dBm, typical
Maximum Input Level	802.11a/n : -30 dBm
Antenna Reference	Small antennas with 0~2 dBi peak gain

## LT10 WiFi Parameters(5Ghz)

Feature	Description
WLAN Standard	IEEE 802.11a/n, Wi-Fi compliant
Frequency Range	5.125 GHz ~ 5.845 GHz (5.0 GHz ISM Band)
Number of Channels	5.0GHz : Band1~Band4, please see the table 1
Modulation	802.11a/n : 64-QAM, 16-QAM, QPSK, BPSK
Output Power	802.11a /64-QAM(R=3/4) : 17 dBm $\pm$ 1.5 dB @ EVM $\leq$ -25dB
	802.11n /64-QAM(R=5/6) : 15 dBm $\pm$ 1.5 dB @ EVM $\leq$ -28dB
Receive Sensitivity (11a, 20MHz) @10% PER	- 6Mbps PER @ -90 dBm, typical
	- 9Mbps PER @ -87 dBm, typical
	- 12Mbps PER @ -86 dBm, typical

	- 18Mbps	PER @ -80 dBm, typical
	- 24Mbps	PER @ -78 dBm, typical
	- 36Mbps	PER @ -76 dBm, typical
	- 48Mbps	PER @ -74 dBm, typical
	- 54Mbps	PER @ -72 dBm, typical
Receive Sensitivity (11n,20MHz) @10% PER	- MCS=0	PER @ -90 dBm, typical
	- MCS=1	PER @ -87 dBm, typical
	- MCS=2	PER @ -85 dBm, typical
	- MCS=3	PER @ -82 dBm, typical
	- MCS=4	PER @ -80 dBm, typical
	- MCS=5	PER @ -76 dBm, typical
	- MCS=6	PER @ -74 dBm, typical
	- MCS=7	PER @ -73 dBm, typical

## Port usage

### 1. Airplay:

Port Number	Type	Protocol	RFC	Used by
80	TCP	HTTP	2616	AirPlay
443	TCP	HTTPS	-	AirPlay
554	UDP / TCP	RTSP	2326	AirPlay
3689	TCP	DAAP	-	iTunes Music Sharing / AirPlay
5297	TCP	-	-	Bonjour
5289	TCP / UDP	-	-	Bonjour
5353	UDP	MDNS	-	Bonjour / AirPlay
49159	UDP	MDNS (Windows)	-	Bonjour / AirPlay
49163	UDP	MDNS (Windows)	-	Bonjour / AirPlay

### 2. Quattro Tx↔Rx:

2.1 Port 2425

2.2 Port 63630

### 3. Web Setting Http server:

3.1 Port 80

3.2 Port 8080

### 4. FW OTA:

4.1 Port 80

4.2 Port 443