



ThinkSmart Edition Tiny M920q Configuration Guide for [Zoom Rooms](#)



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ThinkSmart Edition Tiny M920q Configuration Guide
for Zoom Rooms

Note:

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Pre-Deployment Guidance

Zoom Rooms software comes preloaded on the ThinkSmart Edition Tiny M920q for Zoom Rooms (abbreviated in this document as: T.E.T.), and it should be the only application running on the hardware.

Other required deployment components include:

| Type | Recommended | Comments |
|---|--|-------------------------|
| Lenovo ThinkSmart Edition Tiny M920q for Zoom Rooms (T.E.T.) device | - | Included in box |
| T.E.T. power adapter | - | Included in box |
| Windows 10 IoT Enterprise License | - | Pre-installed on device |
| Zoom Rooms software | - | Pre-installed on device |
| Android or Windows Tablet or iPad (see Zoom support site for compatible devices) | - | Customer Provided |
| RJ45 Ethernet Cable | - | Customer Provided |
| Zoom Rooms license | - | Customer Provided |
| External HDMI compliant displays (up to three displays) * | HD display with at least 1 HDMI Input; Commercial grade display is recommended | Customer provided |
| USB Camera * | USB 3.0 compliant camera Microsoft Certified | Customer provided |
| USB Keyboard (only required for initial setup) | | Customer provided |
| USB Mouse (only required for initial setup) | | Customer provided |
| USB Speaker and Microphone | Microsoft Certified | Customer provided |

*If display and camera are not connected, expect error messages to occur. These additional customer-provided devices are required for a successful deployment.

Test Accounts

For testing purposes, Zoom allows a free limited function Rooms account to be leveraged. With this test account you can send and receive video and audio but you will not be able to invite participants, record, or share content. A test account should be used to ensure that prerequisite steps are completed.

More information can be found at <https://support.zoom.us/hc/en-us/articles/360000163266-Test-Zoom-Room-Setup> where the following topics are covered:

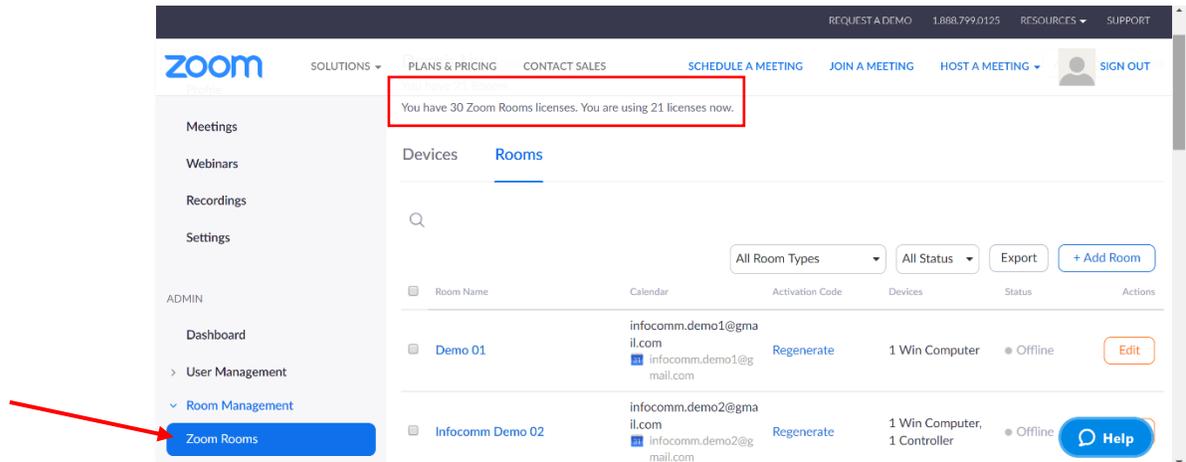
- Setting up a Test Zoom Room
- Starting a Test Meeting

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- Joining a Meeting

Zoom Rooms Licenses

To procure full production Zoom Rooms licenses, either visit the admin console and purchase online, or contact your Zoom account representative.



Firewall Requirements

Similar to other Unified Communication platforms, Zoom Rooms requires select port ranges to be opened:

| Protocol | Port(s) | Purpose |
|----------|------------------|-----------------------------|
| UDP | 3478, 3479, 8801 | ZR to Cloud |
| TCP | 8801, 8802, 443 | ZR to Cloud |
| TCP | 8888 | Client to ZR (Direct Share) |
| UDP | 8889 | Client to ZR (Direct Share) |

Bandwidth Requirements

Zoom recommends the following bandwidth be met for front of room displays. T.E.T. can support up to 3 front of room displays.

| Type | Recommended Download/Upload |
|---------------|-----------------------------|
| Single Screen | 2.0 Mbps / 2.0 Mbps |
| Dual Screen | 2.0 Mbps / 4.0 Mbps |
| Triple Screen | 2.0 Mbps / 6.0 Mbps |

First Time Setup – T.E.T.

Cabling

Connect all applicable peripherals to the T.E.T.—display(s), microphone(s), speaker(s), keyboard/mouse, network and power. Note: A wired connection is always preferred to wireless, but in particular for first time setup, a hard wired connection is a **requirement**.

Power On T.E.T.

After all peripherals are connected, press the Power button.

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Windows Operating System setup

Upon powering up, the standard Windows OS setup steps such as Language and Keyboard will be displayed. Complete the Windows steps.

Initial Zoom Room screen

When the Windows steps are complete, your screen should look like this:



Set Admin Password

Before proceeding, change the default administrator password. A strong complex password provides better protection for your device. Lenovo is not responsible for any results caused by a weak administrator password. To set an admin password (starting from screen shown above):

- 1) On your USB-connected keyboard, Hit Control-Alt-Delete to enter Windows menu
- 2) Select "Switch User"
- 3) Select ZoomRoomsAdmin
- 4) When prompted, enter and confirm a strong complex password

When admin password is set, hit Control-Alt-Delete and return to ZoomRooms profile.

First Time Setup – Controller

Ensure your tablet controller is compatible with Zoom Rooms by checking the support [site](#). In general, Android, Windows and iPads running minimum OS levels will work as a controller.

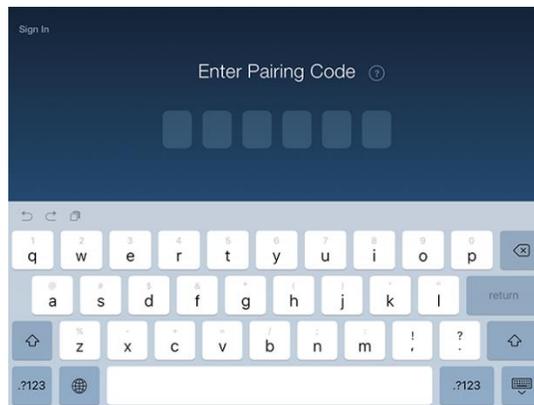
Compatible Room Controllers

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Download Zoom Room Controller app

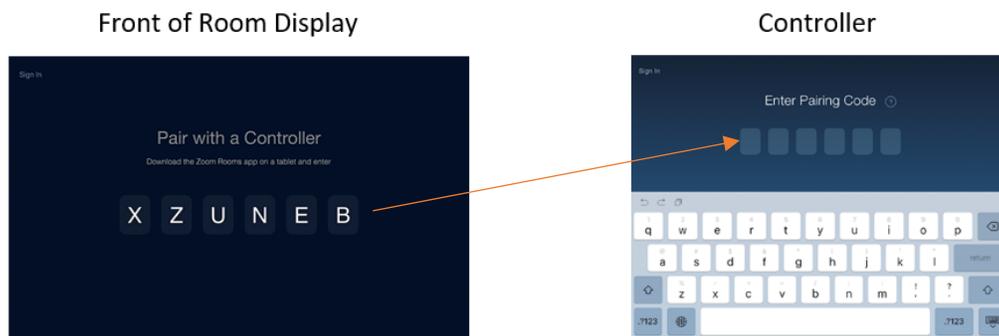
Visit zoom.us/download to identify the correct app for your tablet and download/install on your device. Note: There are multiple Zoom apps. The one required for the tablet is “Zoom Rooms”. When correctly installed, the tablet will show this screen:



Test Controller with T.E.T.

Pairing

Following the onscreen instructions, enter the pairing code shown on the front of room display into the tablet.



Once successfully paired, you should see:

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Front of Room Display



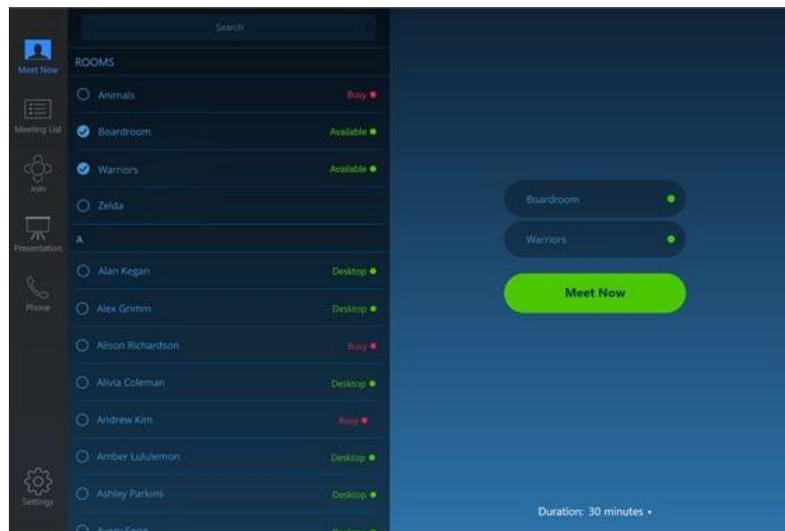
Controller



Select Sign In on the controller. After entering your Zoom credentials; you will be presented with the names of rooms you are authorized to use. Select a room name.

When correctly set up, your controller will display a screen similar to this:

Controller



Your Zoom Room is now ready for use.

Room Setup from Administrator Console

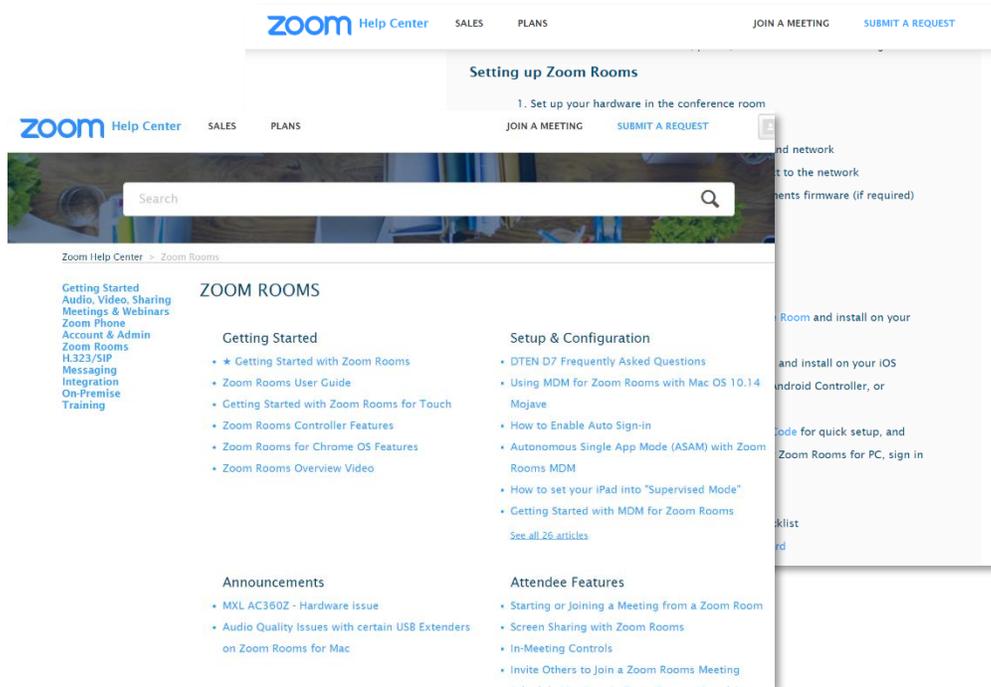
Setting up a Zoom Room with your ThinkSmart Edition Tiny M920q (T.E.T.) is completed in a few easy steps:

1. [Create Zoom Room room name in Zoom Admin Console](#)
2. [Assign a calendar to room](#)
3. Install hardware in room
4. Log into device with Zoom Administrator credentials
5. Use the pulldown list to select room name for device
6. Conduct [Test Call](#)

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Zoom Help Center

Zoom.us hosts a robust site of [support](#) articles for Zoom and Zoom Room usage.



Share Content (Screen Sharing)

Zoom enables content sharing through multiple methods.

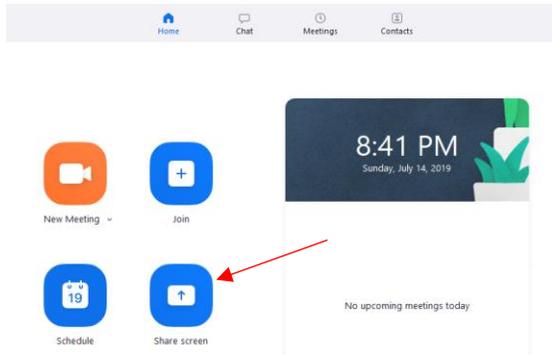
Using Ultrasonic

From within meeting room; on laptop with Zoom desktop client installed

The Zoom Rooms Mac and Windows app allows for ultrasonic sharing. From the desktop app home screen, select "Share Screen". You should be presented with the name of the room you're in, and selecting it will share your screen into the room and the meeting. This allows for content share without the risk of audio feedback, as you do not need to fully join the meeting from the laptop that is sharing.

Note: while a longer list of tablets can be controllers, a smaller subset allow for ultrasonic sharing. See Zoom's [site](#) for compatible tablets for ultrasonic sharing.

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Via Zoom Meeting (Windows, Mac, Android, iOS)

From any device joined into the meeting

During a call, hover over the 'disappearing' toolbar and select "Share Screen".

Via share.zoom.us

An alternative to sharing via ultrasonic is to share via share.zoom.us. By going to this site and entering the Meeting ID (and passcode if needed), it automatically turns off your video, mutes your audio and prompts you to select an application or desktop to share. Similar to ultrasonic, this allows for sharing without risk of audio feedback.

User Data and Privacy

All screen sharing or content sharing happens from client devices such as laptops, smartphones, etc. that are connected via Zoom—this transient data is not stored permanently.

T.E.T. Management

T.E.T. can be managed via standard Mobile Device Management (MDM), in essentially the same way a regular Windows device within an infrastructure is managed. Zoom Room software updates will be available through the Lenovo support page.

Revised FAQ

| Question | Answer |
|---|--|
| Does T.E.T. come with the UC software preloaded? | Yes, T.E.T. comes with factory imaged Windows 10 IoT and installed with the Zoom Rooms software. |
| What is the maximum resolution when using three displays? | Recommended resolution is 1080p. Anything above may cause issues on display. |
| How are the drivers, software, BIOS updates delivered? | All OS updates and driver updates are delivered via Windows Update. BIOS updates are manually downloaded from the Lenovo E-support portal. Zoom Rooms App updates are conducted via the Zoom admin portal. |
| Do I need to install an antivirus on the T.E.T.? | By default, Windows 10 IoT offers Windows Defender. Organizations should choose security software based on their requirements. |

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| Can I manage T.E.T. via Microsoft Operations Management Suite (OMS)? | Please refer to https://docs.microsoft.com/en-us/azure/azure-monitor/insights/solution-office-365 | | | | | | | | | | | | |
|---|---|------------------|-----------------------------|-------------------------------------|---------------------|---|---------------------|---|---------------------|-------------------|--------------|------------|------------|
| Does T.E.T. support PXE boot? | Yes, the T.E.T. supports PXE boot | | | | | | | | | | | | |
| Can the T.E.T. work with HDMI extenders via Ethernet? | Yes, the T.E.T. is a standard HDMI compliant device and should function with industry standard HDMI transmitters and receivers. | | | | | | | | | | | | |
| Does the T.E.T. support network boot? | Yes, the T.E.T. supports network boot via Ethernet (RJ45). Restart the T.E.T. and during the boot press F12 multiple times to load the Startup Device Menu. Based on your infrastructure select the IPv4 or IPv6 option to initiate the network boot. | | | | | | | | | | | | |
| Does the T.E.T. support USB boot? | Yes, the T.E.T. supports USB boot. Insert a USB key in one of the USB ports, then restart the T.E.T. During the boot press F12 multiple times to load the Startup Device Menu. Based on your infrastructure select the IPv4 or IPv6 option to initiate the network boot. | | | | | | | | | | | | |
| Does the T.E.T. support any other UC platforms? | The T.E.T. is available for different UC platforms <i>but are purchased as a separate device</i> . | | | | | | | | | | | | |
| How do I update to the latest audio drivers? | Audio driver updates are delivered via Windows Update. They can also be manually downloaded from the Lenovo E-support portal. | | | | | | | | | | | | |
| Does the T.E.T. support Wi-Fi connection? | Zoom requires a hard-wired connection for first time install. It is their best practice to keep a hard-wired connection, though WIFI is supported/enabled and can be used as backup. | | | | | | | | | | | | |
| What are the account or licensing requirements? | The only licensing requirement is a Zoom Rooms license (different from a Zoom User license). Zoom Rooms licenses are purchased via the Zoom admin console or directly from a Zoom account representative. | | | | | | | | | | | | |
| Does T.E.T. support Consumer Electronics Control (CEC)? | T.E.T. hardware does not natively support CEC. Zoom does support but has specific requirements for CEC. To use CEC on T.E.T. add Pulse -Eight Adapter. <table border="1" data-bbox="812 1417 1185 1533"> <thead> <tr> <th colspan="2">CEC Requirements</th> </tr> </thead> <tbody> <tr> <td>HDMI-CEC Support for Operation Time</td> <td></td> </tr> <tr> <td>Single HDMI display with HDMI output requires Pulse-Eight Adapter</td> <td></td> </tr> <tr> <td>CEC-Less cable required before Pulse-Eight Adapter in all instances</td> <td></td> </tr> </tbody> </table> | CEC Requirements | | HDMI-CEC Support for Operation Time | | Single HDMI display with HDMI output requires Pulse-Eight Adapter | | CEC-Less cable required before Pulse-Eight Adapter in all instances | | | | | |
| CEC Requirements | | | | | | | | | | | | | |
| HDMI-CEC Support for Operation Time | | | | | | | | | | | | | |
| Single HDMI display with HDMI output requires Pulse-Eight Adapter | | | | | | | | | | | | | |
| CEC-Less cable required before Pulse-Eight Adapter in all instances | | | | | | | | | | | | | |
| What are the network bandwidth requirements to have an optimal audio and video performance? | <table border="1" data-bbox="698 1564 1323 1732"> <thead> <tr> <th>Type</th> <th>Recommended Download/Upload</th> </tr> </thead> <tbody> <tr> <td>Single Screen</td> <td>2.0 Mbps / 2.0 Mbps</td> </tr> <tr> <td>Dual Screen</td> <td>2.0 Mbps / 4.0 Mbps</td> </tr> <tr> <td>Triple Screen</td> <td>2.0 Mbps / 6.0 Mbps</td> </tr> <tr> <td>Screen Share only</td> <td>150-300 kbps</td> </tr> <tr> <td>Audio only</td> <td>60-80 kbps</td> </tr> </tbody> </table> | Type | Recommended Download/Upload | Single Screen | 2.0 Mbps / 2.0 Mbps | Dual Screen | 2.0 Mbps / 4.0 Mbps | Triple Screen | 2.0 Mbps / 6.0 Mbps | Screen Share only | 150-300 kbps | Audio only | 60-80 kbps |
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| Screen Share only | 150-300 kbps | | | | | | | | | | | | |
| Audio only | 60-80 kbps | | | | | | | | | | | | |
| What is the list of supported peripherals like cameras, extended microphones/speakers? | https://support.zoom.us/hc/en-us/articles/115005840283-Suggested-Hardware-for-Zoom-Rooms | | | | | | | | | | | | |

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| Does the T.E.T. support wireless display? | T.E.T. supports wireless sharing via the Zoom Room application. See Sharing Content section. The hardware alone does not natively support wireless sharing. | | | | | | | | | | | | | | | |
|--|---|-----------------------------|---------|---------|-----|------------------|-------------|-----|-----------------|-------------|-----|------|-----------------------------|-----|------|-----------------------------|
| What are the TCP/IP ports that must be opened in the infrastructure for Zoom Rooms? | <table border="1"><thead><tr><th>Protocol</th><th>Port(s)</th><th>Purpose</th></tr></thead><tbody><tr><td>UDP</td><td>3478, 3479, 8801</td><td>ZR to Cloud</td></tr><tr><td>TCP</td><td>8801, 8802, 443</td><td>ZR to Cloud</td></tr><tr><td>TCP</td><td>8888</td><td>Client to ZR (Direct Share)</td></tr><tr><td>UDP</td><td>8889</td><td>Client to ZR (Direct Share)</td></tr></tbody></table> | Protocol | Port(s) | Purpose | UDP | 3478, 3479, 8801 | ZR to Cloud | TCP | 8801, 8802, 443 | ZR to Cloud | TCP | 8888 | Client to ZR (Direct Share) | UDP | 8889 | Client to ZR (Direct Share) |
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| TCP | 8888 | Client to ZR (Direct Share) | | | | | | | | | | | | | | |
| UDP | 8889 | Client to ZR (Direct Share) | | | | | | | | | | | | | | |
| How does one configure the network proxy for the T.E.T. with Zoom Rooms? | The Proxy configurations are outlined here, https://support.zoom.us/hc/en-us/articles/201362683-Network-Firewall-or-Proxy-Server-Settings-for-Zoom | | | | | | | | | | | | | | | |
| After unplugging then replugging the RJ45 (ethernet) cable from the T.E.T., why won't my network connection come back? | Please note that after losing LAN connectivity, the Zoom Room app will take several seconds before it updates the screen to show it's trying to reconnect. | | | | | | | | | | | | | | | |

Troubleshooting

Nothing Showing on External (in-room) Display

- Ensure an HDMI cable is properly connected to one of the HDMI OUT **ports** on the back of the T.E.T. (the OUT ports are on the lower row and its cables are secured by the large arm. The IN port is up higher on the backplane and secured by the smaller arm.
- Ensure the HDMI cable is not faulty or loose
- Ensure the external display Video source is set to the correct source HDMI port
- Try to connect the HDMI cable to the other HDMI OUT port in the back of the T.E.T.
- Try another HDMI cable
- Try restarting the T.E.T.

No Content on Second Display (of 2 screen setup)

- Ensure both displays are properly connected to HDMI OUT 1 and HDMI OUT 2 on the back of the T.E.T.



- Ensure the Dual Monitor mode is enabled in settings

Version History

| Date | Version | Comments |
|------------|---------|---|
| 12/03/2019 | v 0.1 | <ul style="list-style-type: none"><li data-bbox="574 352 768 384">• First version |