

TesiraFORTÉ X 400/800/1600

Installation & Operation Guide



Product Description

The TesiraFORTÉ X 400/800/1600 products are conference room DSPs featuring multiple network and analog audio connection points. With four, eight and 16 channels of Acoustic Echo Cancellation (AEC) respectively, users can choose the model that meets the number of microphones required for the room.

FORTÉ X is designed to be used primarily with Biamp's beam-forming microphones, PoE amplifiers and speakers. A system including these elements and a UC-room system, display and camera will provide a complete technology solution for a UC-enabled conference room.

The function of the FORTÉ X is to process local Biamp microphone input and speaker output signals in support of audio-only and audio/video conference calls from dedicated conference rooms. The information provided by this manual relates to physical connections and device setup.

Setup and Use

FORTÉ X works out-of-the-box and requires no configuration nor is Tesira software required. An embedded, intuitive web interface is provided for setup and programming. FORTÉ X also offers a programmable platform that requires an experienced professional to configure.

Biamp Launch

Biamp Launch technology offers automatic device discovery and tuning without the need for custom programming. In addition, FORTÉ X provides the user with a full performance report for the meeting space upon completion.

The Launch may be initiated from the Launch button on the Audio page of the embedded user interface or from the Launch button on the front of the device itself. See [here](#) for more information on launching the FORTÉ X.

Devices

The FORTÉ X will discover connected devices, configure itself accordingly and supports the following:

- TCM-1, TCM-1A, TCM-1EX
- TCM-X, TCM-XA, TCM-XEX
- TTM-X, TTM-XEX
- EX-UBT
- AMP-450P, AMP-450BP
- HD-1



TesiraFORTÉ X Installation

The FORTÉ X may be installed in almost any location that is convenient for the room design, requirements, etc. This includes installation on a wall behind a typical conference room display or under a table. Be sure to allow for adequate airflow on the ventilation grilles.

Install away from heat sources such as vents, radiators, heat registers and stoves. Also avoid installing near water or steam. Do not exceed the maximum ambient operating temperature of 32-104° F (0-40° C).

Optional Wall-Mount Bracket

A wall-mount bracket comes installed on the device and may easily be removed.

The following hardware is included for mounting the FORTÉ X with the attached bracket:

- Screws (x4)
- Drywall Anchors (x4)



Figure 1. - TesiraFORTÉ X with Bracket

Remove the four screws that secure the mounting bracket to the FORTÉ X as shown in Figure 2 if required.

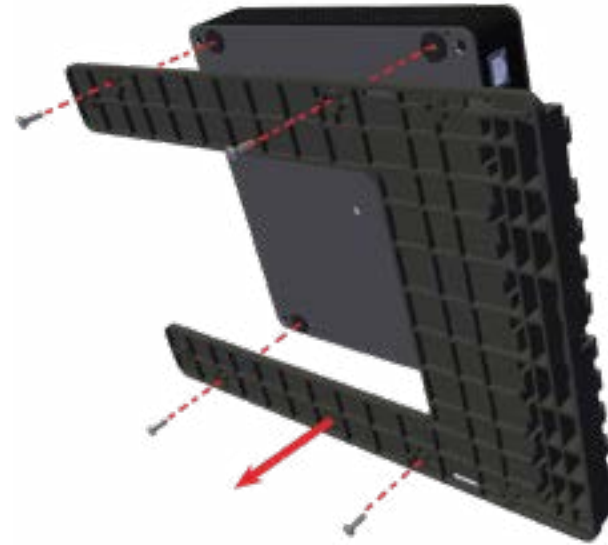


Figure 2. - Bracket Removal

1. Determine the location where the FORTÉ X is to be installed.
2. Position the FORTÉ X for optimal airflow. Shown in Figure 3.

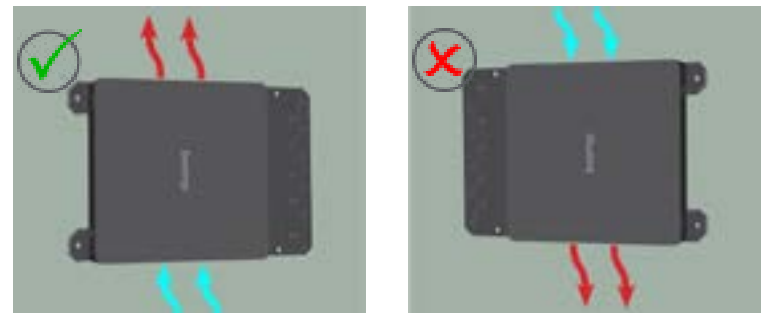


Figure 3. - Proper Airflow

TesiraFORTÉ X Installation Continued

3. Install the FORTÉ X with attached bracket at the desired location. Shown in Figure 4.
4. Use the Cable Management Tray to secure the power supply and cables as required. Shown in Figure 4.
5. Use the strap (included) to secure the power source to a surface as shown in Figure 4.

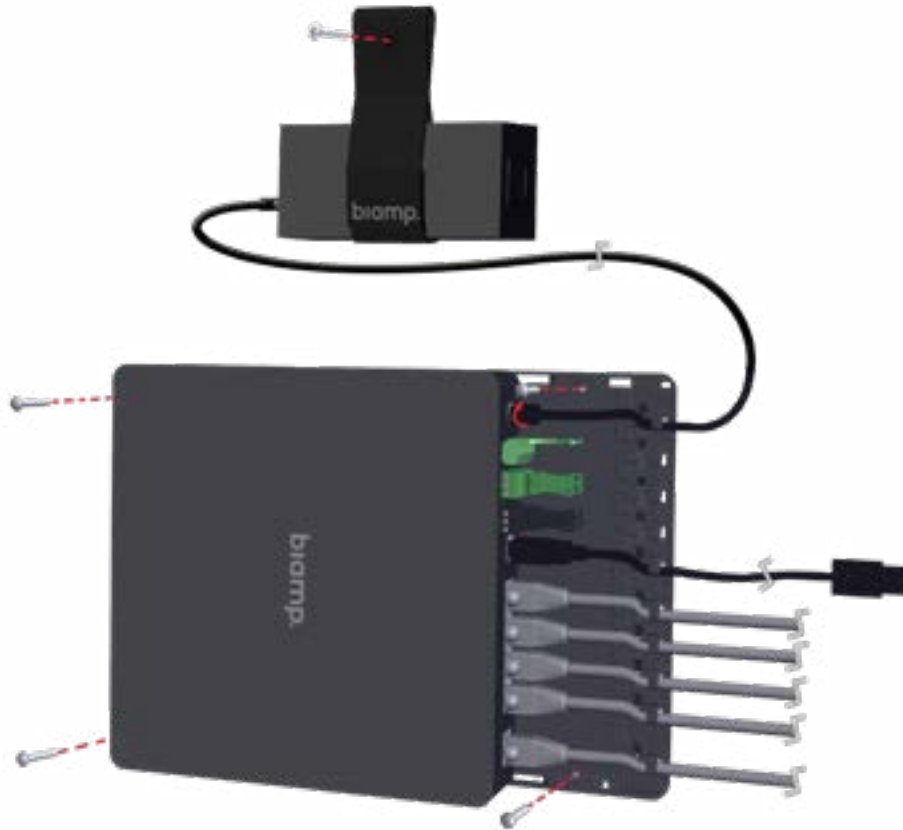


Figure 4. - TesiraFORTÉ X with Cable Management Tray

6. Install the Cable Management tray cover onto the device as shown in Figure 5.



Figure 5. - TesiraFORTÉ X Cable Management Tray Cover

7. Attach the screw to secure the cover as shown in Figure 6.



Figure 6. - TesiraFORTÉ X Cable Management Tray Cover

TesiraFORTÉ X Installation Continued

Biamp Launch is an intuitive easy-to-use feature that automatically identifies devices and adjusts audio settings and parameters based on measurements taken during the Launch process.

Biamp Launch may be initiated from the Launch button on the Audio page of the embedded user interface or from the Launch button on the front of the device itself. See the following steps to Launch the FORTÉ X:

1. Connect all devices making sure that the speaker(s) and microphone(s) are at least three feet apart.

- To Launch from the FORTÉ X device, press the Launch button at the front panel. The speakers will request for the button to be pressed again. A recorded announcement (English language) advises the user that the automated process is about to begin and when the process is finished.
- The device IP is required to access and Launch the FORTÉ X from the embedded web interface. Click [here](#) to download the Biamp Discovery tool and access the IP address.

Choose the Target SPL dB and UC Vendor from the drop down and click Launch:

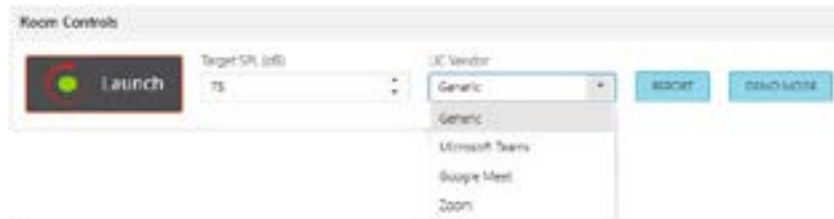


Figure 7. - Launch

2. A recorded announcement (English language) advises the user that the automated process is about to begin and the Launch button indicates that the Launch is in progress:

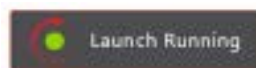


Figure 8. - Launch Running

3. During the Launch process the speakers will emit numerous chirps/sweeps to indicate the FORTÉ X is measuring the following:

- Room acoustics
- Distance between mics and speakers
- Speaker frequency response
- Audio level (SPL) for listeners in the room

4. Once the launch process is successful, the FORTÉ X will use the measurements to adjust various system parameters, including the output volume level to achieve the desired target SPL. The parameters adjusted are listed below:

- Output (speaker) level control - to achieve target SPL
- Output (speaker) limiter - to prevent exceeding max SPL
- Parlé processing block parameters
- Room acoustics (fair/good/great)
- NLP level
- Noise reduction

5. If Biamp Launch fails, the block parameter adjustments may not be applied. In either case another recorded announcement will be played at the end of the process providing status information:

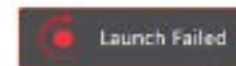


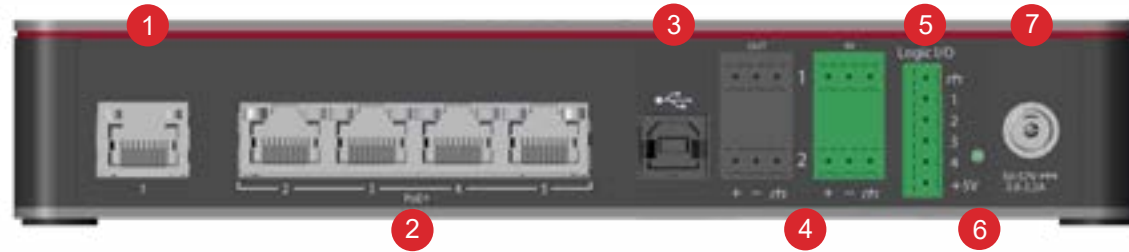
Figure 9. - Launch Failed

6. Upon successful launch, a report card is generated that gives information about the room acoustics and adjustments made during the Launch. Click the Report button to review the report card



Figure 10. - Launch Report

TesiraFORTÉ X 400 Back Panel



Connections

The FORTÉ X enclosure is a combination of steel and molded plastic components. It is designed to be installed on a wall behind a typical conference room display or under a table. A wall-mount bracket comes included with the device.

1. Ethernet

(1) RJ-45 network port

2. Ethernet (PoE+)

(4) RJ-45 ports which provide PoE+ to power attached peripheral devices.

3. USB

The FORTÉ X includes a single USB type-B connector which provides connection to the UC room system.

4. Analog I/O

FORTÉ X includes two channels of mic-line input and two channels of line level output. These connections are supported through pluggable terminal blocks.

5. Logic I/O

FORTÉ X includes four channels of logic I/O. These connections are supported through pluggable terminal blocks.

6. Reset

A recessed push-button to reset back to factory defaults.

7. Power

The power connector uses a 2.5 mm barrel-type. The threaded lock prevents the power cable from getting pulled out and prevents the power supply from being plugged into other, lower-voltage devices which also use a 2.5 mm barrel.

Port Status LED Indicators

RJ45 AVB Ports (PoE+/non-PoE+)

Status	LED Indicator
Ethernet link is down	Both LEDs Off
Ethernet link is up	Right LED Green Solid
PoE is delivering power	Right LED Orange Solid
Data activity	Left LED Green Flashing
No data activity (with link up)	Left LED Green Solid

NOTE: Port 1 does not provide PoE+.

TesiraFORTÉ X Front Panel

Front Panel LEDs

There are nine multi-color LEDs on the front panel of the FORTÉ X which give various information to the user:



1. Power Indicator

Status	LED Indicator
No power	Off
Device is powered	Green Solid

2. Device Status

Status	LED Indicator
No power	Off
Device is booting (no configuration?)	Yellow Solid
Device is fully booted/ready	Green Solid
Device is in Locate mode (triggered from the software)	Green Flashing

3. Alarm Status





Status	LED Indicator
No alarm condition present	Off
Unit has a one or more major alarms present	Red Solid
Unit has one or more minor alarms present*	Yellow Solid

*Only if no major alarms present. Major alarms override minor.

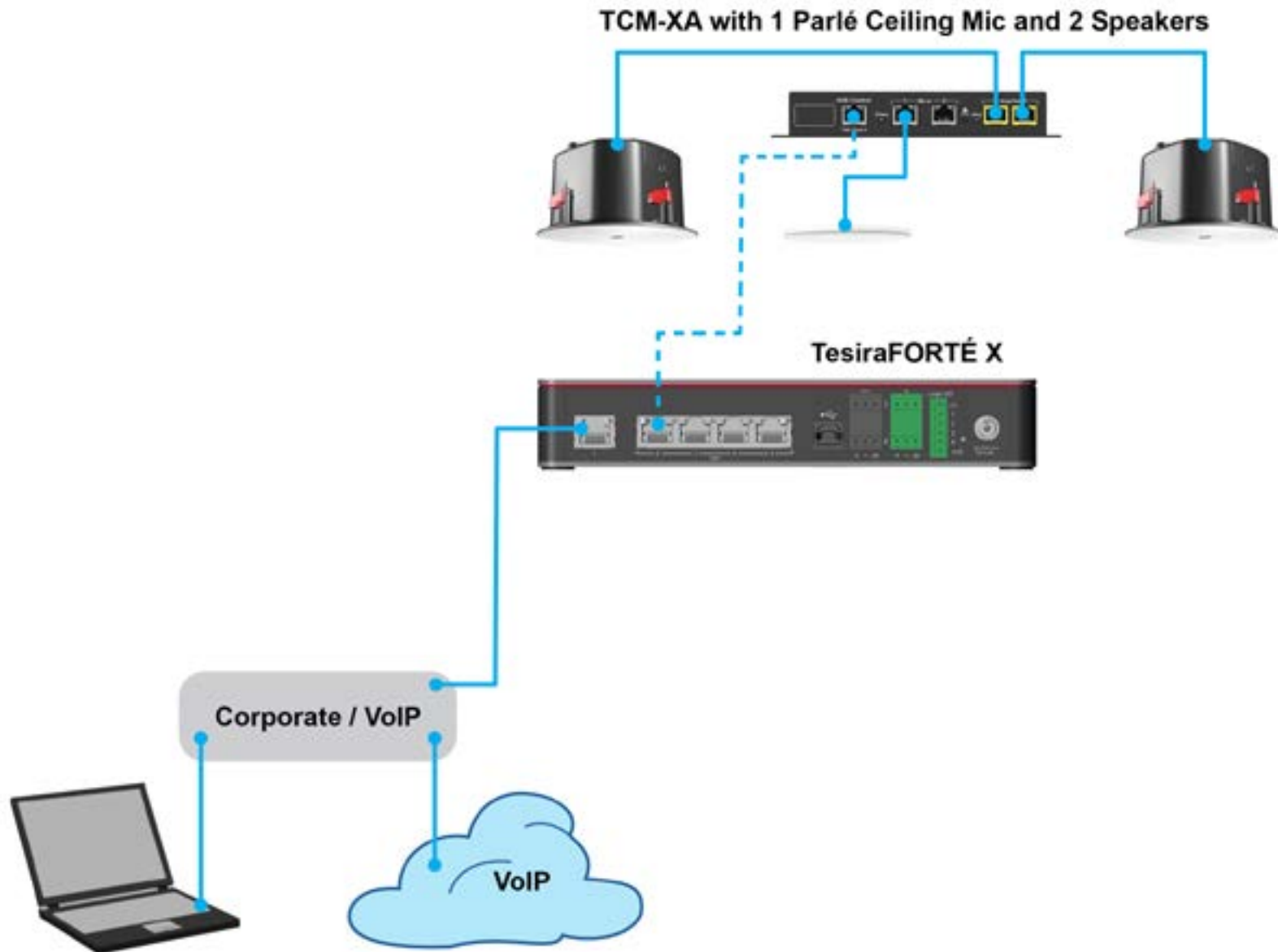
4. RJ45 Port Status

Status	LED Indicator
Ethernet link is down	Off
Ethernet link is active	Green Solid
Device is in Locate mode (triggered from the software)	Green Flashing

5. Launch

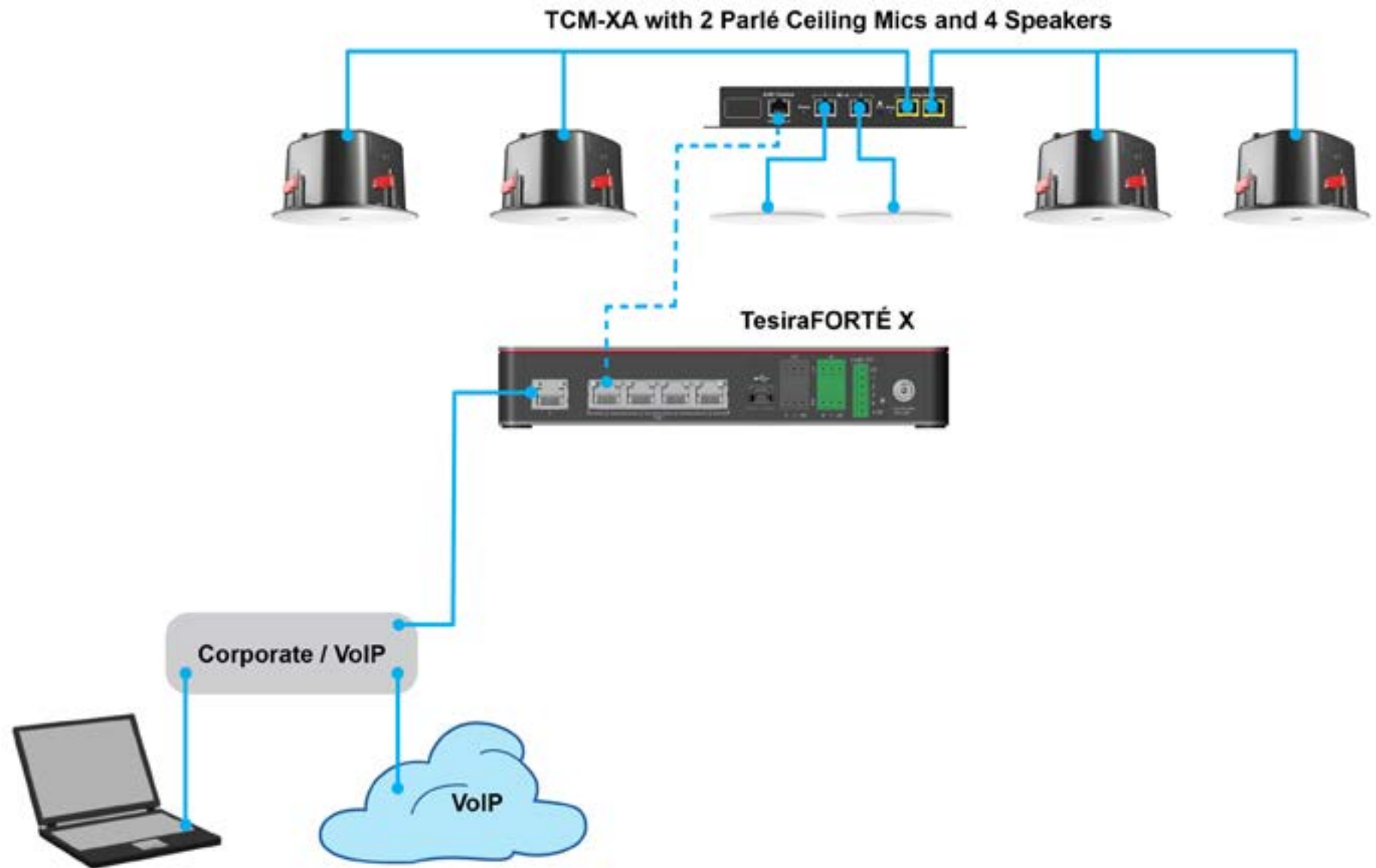
LED Indicator	Status
	Launch Required (Green Pulsing)
	Launch in Progress (Red/Green Pulsing)
	Launch Succeeded (Green Solid)
	Launch Failed (Red Solid)

TesiraFORTÉ X System Deployment Examples



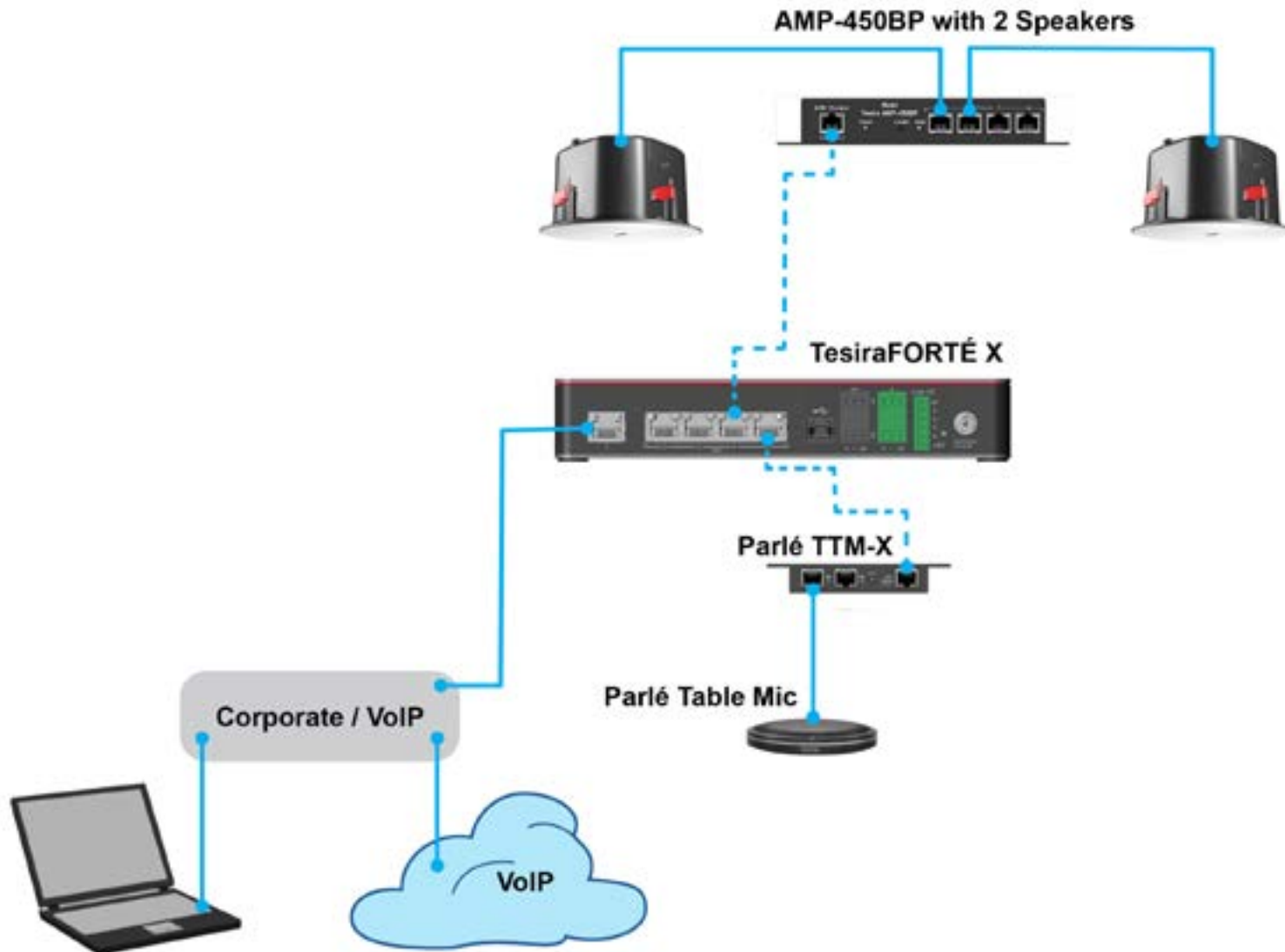
TesiraFORTÉ X 400 Medium Meeting Room with One Ceiling Mic

TesiraFORTÉ X System Deployment Examples Continued



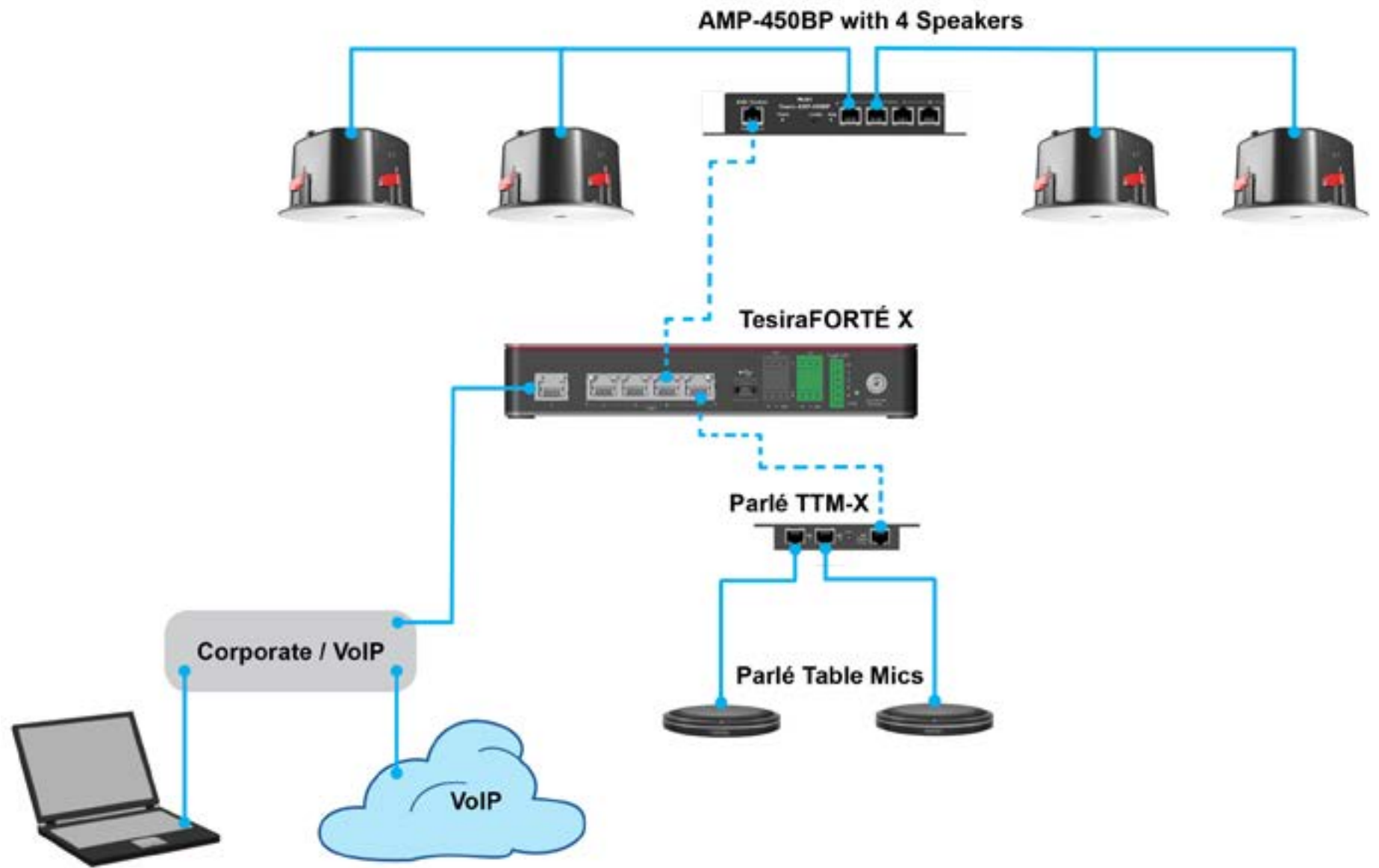
TesiraFORTÉ X 400 Large Meeting Room with Two Ceiling Mics

TesiraFORTÉ X System Deployment Examples Continued



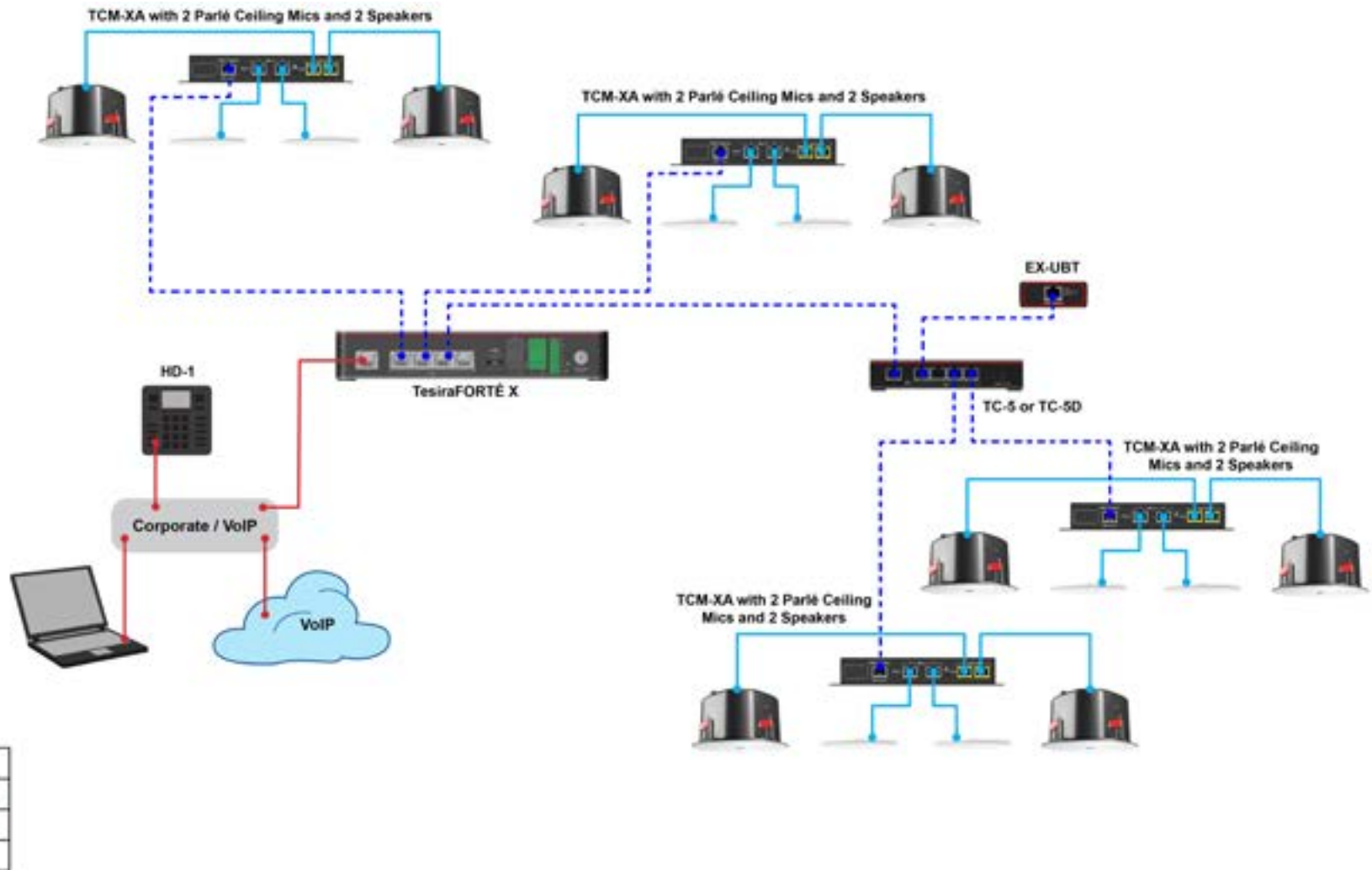
TesiraFORTÉ X 400 Medium Meeting Room with One Table-Top Mic

TesiraFORTÉ X System Deployment Examples Continued



TesiraFORTÉ X 400 Large Meeting Room with Two Tabletop Mics

TesiraFORTÉ X System Deployment Examples Continued



TesiraFORTÉ X 800/1600 Large Meeting Room with Eight Ceiling Mics

NOTE: This example supports up to eight microphones. A FORTÉ X 1600 is required to use 9-16 microphones.



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