ClearOne.

Beamforming Microphone Array 2
Group Microphone for Professional Conferencing

Quick-Start Guide

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THE BEAMFORMING MICROPHONE ARRAY 2

The Beamforming Microphone Array 2 (BFM2) is a 2nd generation Beamforming Microphone Array product featuring 24 microphones, beamforming and adaptive steering technology designed specifically for the CONVERGE® Pro 2 products: 128, 128D, 128T, 128TD, 128V, 128VD, 120, and 48T. The BFM2 connects with the CONVERGE Pro 2 through a Peripheral Link (P-Link) port. 3 arrays per supported CONVERGE Pro 2 and up to 6 BFM2s can be daisy-chained in one P-Link chain. The Power for the BFM2 is supplied through a Power-Over-Ethernet (PoE) or P-Link connection from CONVERGE Pro 2.

The BFM2 is supported for use as a ceiling-mounted, wall-mounted or tabletop assembly.

> **IMPORTANT:** The BFM2 only can be used with CONVERGE Pro 2 systems. It is not compatible with CONVERGE Pro or first generation Beamforming Microphone Array systems.

The latest version of the CONVERGE Pro 2 firmware can be found on the ClearOne website at:

http://www.clearone.com/resources#professional_audio

The latest version of the BFM2 firmware and the Beamforming Microphone Array 2 Installation Guide can be found on the ClearOne website at:

http://www.clearone.com/resources#professional_microphones

BEAMFORMING MICROPHONE ARRAY 2

QUICK-START OVERVIEW

Installing and using the BFM2 in your CONVERGE Pro 2 site is subject to the following rules:

1. The BFM2 can only be used with CONVERGE Pro 2 systems.

2. You must have a CONVERGE Pro 2 128, 128D, 128T, 128TD, 128V, 128VD, 120, and/or 48T in the site. The BFM2 will not work with standalone 128SR or 128SRD units.

3. You can have up to 3 BFM2s per valid CONVERGE Pro 2 unit up to a total of 6 BFM2s per P-Link chain. More valid CONVERGE Pro units may be added to increase the number of BFM2s per site.
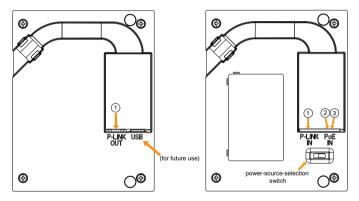
Quick Start Procedures

These steps must be done in the following order to use the BFM2 in your CONVERGE Pro 2 Site:

1. Update the CONVERGE Pro 2 firmware to the latest version using CONVERGE Pro 2 CONSOLE software.

2. Connect the BFM2 to the updated CONVERGE Pro 2 via the P-Link bus.

3. Update the BFM2 firmware using CONVERGE Pro 2 CONSOLE. (The BFM2 firmware can not be upgraded directly without an updated CONVERGE Pro 2.)

4. Test the BFM2

5. Mount the BFM2

CONNECTING THE BFM2

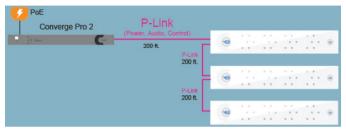Connect the BFM2 units to the CONVERGE Pro 2 via the P-Link connections using CAT6-24AWG solid conductor RJ45 cables.

(for future use)

power-source-selection switch

The BFM2 can be powered via a P-Link[1] from CONVERGE Pro 2 (a single cable carries power, audio and control), a PoE power supply[2] (external or ClearOne; a maximum of three BFM2 units can be powered by one ClearOne PoE Injector),or a standard PoE switch[3].
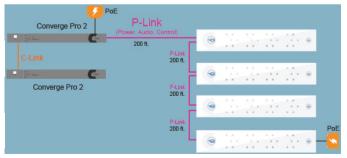
The power-source-selection switch should be set towards PoE if the BFM2 is powered by PoE, or set towards P-Link if powered by P-Link.

Daisychain Examples

Example 1 shows a basic daisychain of three BFM2 arrays to a single CONVERGE Pro 2 unit:

Example 2 illustrates a daisychain of four BFM2 arrays to two CONVERGE Pro 2 units:

UPDATE BFM2 FIRMWARE

1. Connect the P-Link cable between the CONVERGE Pro 2 units and the BFM2s.

2. Connect the CONVERGE Pro 2 units with CONVERGE Pro 2 CONSOLE.

3. Open the Firmware Loader screen.

4. Browse for the bf2_mic.mdo file.

5. Download the BFM2 firmware.

6. The BFM2(s) will default and reboot after the download of firmware.

7. Units are fully upgraded. (All BFM2 units connected via the P-Link on the site are simultaneously updated.)

8. Restore the saved site file to the system using CONVERGE Pro 2 CONSOLE.

TEST THE BFM2

The BFM2 must be added to the site using the CONVERGE Pro 2 CONSOLE software. This software also provides the capability of configuring the beams (enable/disable) and other characteristics available in Configuration mode. Refer to the online help available with the CONVERGE Pro 2 CONSOLE software.

VOLUME & MUTE

These controls are available through the controller configured for your CONVERGE Pro 2 site.

The illuminated microphone indicators at the ends of the BFM2 show blue/red when the microphone array is active/muted. You can set the indicators to remain off by using CONVERGE Pro 2 CONSOLE to change Unit Properties for the BFM2. See the help file for more details.

MOUNT THE BFM2

The array can be ceiling-mounted in either a suspended or solid ceiling, or on a wall-mount assembly with the PoE or P-Link wiring passing through the mounting assembly and plugging into the BFM2 unit.

Tabletop use is also supported with PoE or P-Link cables attached under the unit.

> **NOTE:** 1st Gen BFM mounting kits are compatible with 2nd Gen BFM2 unit and vice versa.

Detailed instructions are included in the BFM2 Installation Guide available on the ClearOne website:

http://www.clearone.com/resources#professional_microphones

COMPLIANCE

Details on compliance can be found on the ClearOne website under "Resource Library".

Part Numbers

Item	White color SKU	Black color SKU
Beamforming Microphone Array 2	910-3200-201	910-3200-201-B
BMF2 Ceiling Mount kit with 12" Suspension Column	910-3200-203-12	910-3200-203-12-B
BMF2 Ceiling Mount kit with 24" Suspension Column	910-3200-203-24	910-3200-203-24-B
BMF2 Ceiling Mount kit with 36" Suspension Column	910-3200-203-36	910-3200-203-36-B
BMF2 Ceiling Mount kit with 48" Suspension Column	910-3200-203-48	910-3200-203-48-B
BMF2 Ceiling Mount kit without Suspension Column	910-3200-203	910-3200-203-B
BFM Ceiling Mount kit with 12" suspension column	910-001-005-12	910-001-005-12-B
BFM Ceiling Mount kit with 24" suspension column	910-001-005-24	910-001-005-24-B
BFM Ceiling Mount kit with 36" suspension column	910-001-005-36	n/a
BFM Ceiling Mount kit with 48" suspension column	910-001-005-48	n/a
BFM Wall Mount	910-001-006	910-001-006-B
PoE Power Supply Kit	910-3200-202	
50 Ft RJ45 CAT6 Cable	910-3200-204-50	
100 Ft RJ45 CAT6 Cable	910-3200-204-100	
150 Ft RJ45 CAT6 Cable	910-3200-204-150	
200 Ft RJ45 CAT6 Cable	910-3200-204-200	

BEAMFORMING MICROPHONE ARRAY

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