



Introducing a complete family of BOSE® L1® portable line array systems

TONE. COVERAGE. PORTABILITY.

A COMPLETELY NEW APPROACH TO LIVE MUSIC AMPLIFICATION

BOSE®



How live music became a victim of its own success

Seen but not heard

How live music became a victim of its own success

3

In essence, the needs of musicians and audiences are simple. As a musician performing live, you want to hear your own instrument and those of your fellow musicians, and to know that everyone can be heard clearly by the audience. As a member of that audience, you wish to hear and see the performers – both as an ensemble and as individuals.

Before the advent of amplified music, this happened as a matter of course. Musicians playing acoustically could hear the natural, uncoloured sounds that they and their colleagues were producing. And, because each sound came directly from its source, the audience enjoyed an automatic connection between the visual and the aural – enabling the source of a particular instrumental sound to be located and fully appreciated.

However, new musical styles evolved, attracting larger audiences to bigger venues. There was increasing reliance on amplification, and live performances were being played at ever higher volumes to ever greater numbers of people. The trouble was, it was getting harder to hear the music...

The seminal Shea Stadium concert by the Beatles in 1965, when few present could actually hear the group at all, highlighted the limitations of amplifying individual instruments and voices. One problem was that conventional speakers were either uncomfortably loud on stage or ineffective at a distance. Another was the re-amplification of sound through mics and pickups, causing feedback. It was time to re-think the setup.



Scram C Baby live at Lowlands, photography by Pim Portegies Zwart

Mismatch of sight and sound

The sound doesn't come from the actual instrument making it, so it is hard to use eyes and ears together. Audiences cannot connect sight with sound, and have to search to work out who's playing.

Loss of artistic control

The onstage sound is different to the sound in the auditorium, and musicians have little control over how they sound to each other or to the audience. The sound engineer can't hear the sound on stage, and the band can't hear the PA mix.

Uneven sound and poor clarity

Audience members hear only what emanates from the closest PA speaker, while band members hear a mix of voices and instruments from their monitors. Musicians and audiences alike report hard-to-hear lyrics and poorly defined or inaudible instruments.

The solution that became the problem

Triple-system amplification

A legacy of the Woodstock era

5

Because there was a need for a new approach to amplification, the triple-system concept was developed (backline amplifiers plus monitor system plus PA speakers). Initially this approach was used for large-scale venues, but during the 1970s the idea of individual instrument amplification was gradually discarded in favour of the triple-system concept. Eventually this setup was used in more modest settings too, and it remains the standard approach today.

We are all familiar with the setup: The backline system for guitars and bass is a leftover from the previous era, as amplifiers are considered an essential part of these instruments' sound. The monitor system – either speakers or in-ear monitors – is there to give each musician his or her own amplified mix. Then there is the PA system, comprising directional speakers aimed at the audience and delivering a single composite signal from an electronic mixing console. And, of course, you need masses of cable to connect it all.

For all its complexity and bulk, triple-system amplification seemed to answer the call for higher sound levels in the auditorium without making things excessively loud for the players. However, research shows that it has actually created a whole set of new problems, both on and off the platform.

Surveying the views of musicians and audiences reveals serious dissatisfaction and frustration with the sound at live performances, and with the equipment producing it. Read below for an overview of the essential problems.

Extreme loudness

When musicians are struggling to hear and be heard, their natural reaction is to turn up the volume. As a result, the music gets louder and louder to the point of discomfort, further diminishing the ability of musicians and fans to hear musical detail or understand lyrics.

Excessive reverberation

PA speakers, monitors and backline amplifiers blast sound in many different directions, flooding the room with reflections that produce reverberation. This ruins the clarity of instruments and the intelligibility of vocals.

Too much equipment

Musicians complain about the time consuming, complicated and arduous task of assembling, transporting, setting up and testing their amplification systems. Audiences dislike big, bulky PA systems obstructing their view.



The BOSE® L1® portable line array system.

The solution to live music amplification problems

From BOSE®, a new type of system – a new level of enjoyment

7

When the BOSE® research teams and engineers – many of them musicians themselves – looked at the downsides of triple-system amplification, they identified several problem areas. A real solution was found by looking at the core benefits of an acoustic performance, and approaching the problems from a different angle.

Our vision at BOSE® was an amplification system that enables musicians to regain control of their sound. That reconnects band members with each other and with the audience. That replaces excessive volume and reverberation with clear, distinct sound for musicians and fans alike. That strips away complexity and bulk, leaving simplicity and portability.

To achieve this, we looked beyond conventional speaker design, where sound intensity rapidly reduces with distance. The challenge was to develop a sound source that meets the needs of both musician and audience without being too loud or too soft for either. The technology we use in our CYLINDRICAL RADIATOR® more than adequately met that challenge: This radically different speaker projects sound across the stage and throughout the venue with little change in tone or level. From the musicians on stage to the fans at the back, everyone can enjoy virtually the same clear, detailed sound.

The L1® CYLINDRICAL RADIATOR® speaker teams with our compact power stand, incorporating an amplifier with sufficient power to fill a typical venue, plus our optional T1 ToneMatch® audio engine. Together they comprise the BOSE® L1® portable line array system. The complete solution to triple-system problems.

With a slim, elegant L1™ system positioned behind each musician, it's "Goodbye" to backline speakers, monitors, PA's and mixing consoles, and "Hello" to a new found confidence in the quality of your sound. This time, you are truly playing together.



The BOSE® L1® portable line array system.

BOSE® L1® systems

Less is more



Until the launch of the BOSE® L1® portable line array system, the tendency with live music amplification was to increase the levels of equipment, volume and complexity. That tendency however, made the experience less satisfying for musicians and audiences alike. We have taken a very different direction, with a minimalist approach. One that neutralises the problems mentioned before, while adding valuable benefits to your sound.

Our L1® systems mark a complete departure from traditional ideas on amplification. So if you are a musician who has never worked with anything but a triple-system setup, it does call for a 'leap of faith'. Are you confident enough to go on stage without a monitor? Can you get the right guitar sound hooking up your guitar amp to the L1® system? Will the people at the back of the club really hear the band without PA speakers? Yes, yes and yes.

Not only does the L1® system mean there's much less gear; you'll interact more with your fellow musicians, plus there is more connection with your audience. Much more artistic control. Much more confidence that you can all be heard clearly throughout the venue. Much more opportunity to enjoy making great music.

And now there's more choice too. Our award-winning L1® model I system is joined by our new L1® model II system. (For more details, see pages 18 and 19.) Whichever L1® portable line array system you choose, it will deliver exciting benefits in terms of Tone, Coverage and Portability.

Less really *is* more, with the L1® system from BOSE®.



In total control of the music

TONE. COVERAGE. PORTABILITY.



11

FULL ARTISTIC CONTROL

With the L1° system, the musicians are in total control of the music, similar to an all-acoustic performance. No longer is your sound at the mercy of an engineer at a mixing console. Each performer can choose to play loudly or softly, controlling his or her tone and volume, confident that the sound will always be delivered faithfully to the audience and isn't being changed into something different from the effect intended. At last, what you put into your performance is accurately reproduced.

NO AUDIBLE DISTORTION

Musicians hear sound from the CYLINDRICAL RADIATOR® speaker that is natural, uncoloured and free from audible, non-intentional distortion. Should intentional distortion be desired, such as from a guitar amp, this is accurately produced.

SMOOTH, CONSISTENT TONE

Conventional speakers – particularly guitar amplifiers – tend to be very directional, sounding harsh and over-bright on axis and dispersing a duller sound off-axis (including up and down). L1° systems spread the sound at nearly 180 degrees, for smooth and uniform tone quality from one side to the other, on stage and off. The L1° model II uses proprietary BOSE® articulated array speaker technology, with individual drivers in the line array angled slightly to the left or right alternately, to deliver even smoother, more consistent tone across the entire listening area.

FLEXIBLE AND COMPATIBLE

The power stand of the L1° model I system houses amplifiers and ToneMatch® electronics that optimises our portable line array speaker for a wide variety of instruments and microphones. For even closer matching of instrument tone and amplification, our new T1 ToneMatch™ audio engine can be used with the L1° model I and model II systems. This versatile device goes way beyond the vague High-Mid-Low scope of ordinary tone controls to offer intelligent zEQ and customised tone presets that bring you instantly closer to the true sound of your voice or instrument.

TONE



ToneMatch™ presets

The proprietary presets optimise the L1™ system to match the natural sound of specific instruments and vocal mics. Presets are organised into quick-access banks and can be assigned to each channel. Free updates can be uploaded through USB connection between your computer and ToneMatch™ audio engine.

zEQ

Proprietary zEQ automatically adjusts the range of tone controls to match your voice or instrument, making it easier to fine-tune your sound. Unlike conventional mixers, zEQ appropriately redefines low, mid and high frequency ranges for different instruments like bass guitar or trumpet.

Audio engine suite

Five reverb types, plus three independently assignable delays and several different modulation effects give you discrete control over designated parameters for each channel. For example, you can select tape delay for your vocal on channel 1 and analog delay for your guitar on channel 2.

tone. COVERAGE. PORTABILITY.



13



TONEMATCH™

Want to sound your very best in live performances? Simply team the powerful T1 ToneMatch™ audio engine with your L1® system. This multi-channel engine expands the input capacity of your L1® system and gives you instant access to our largest library of proprietary sound presets, standard effects and processing.

KEY FEATURES OF THE T1 TONEMATCH™ AUDIO ENGINE INCLUDE:

- Library of customised ToneMatch® presets, designed for specific instruments and microphones when used with L1® model I and model II systems
- Intelligent zEQ tone controls that automatically change to correspond directly with the range of your voice or instrument
- Extensive suite of reverbs, effects and dynamics processing
- Storable scenes
- Large backlit display
- Chromatic tuner
- Three mic/line inputs/outputs
- Two line inputs (L/R)
- USB port connects with your pc for digital recording and software updates

ToneMatch™ audio presets instantly adjust your L1® system to produce the sound a manufacturer intended when they designed the instrument or microphone: Our engineers closely collaborate with several manufacturers on fine-tuning the presets of the L1® system, so you can simply select them with the touch of a button. These different presets can be independently assigned to the T1 audio engine's four channels, with updates easily uploaded through the engine's USB port.

The T1 ToneMatch™ audio engine takes the guesswork out of the equation and generates the sound you want. For great music now and into the future.

tone



L1 Cylindrical Radiator speaker

TONE. **COVERAGE.** PORTABILITY.

15



SIGHT/SOUND CONNECTION

When each musician has a personal L1[®] system, the sound of each instrument or voice comes from the direction of the specific musician, and it is easy to connect sight and sound. Musicians are fully in sync with each other, and can interact more effectively. Musical cues transmit instantly, jamming is a joy, and audiences appreciate the music more when they can use both senses simultaneously.

CONSISTENCY AND CLARITY

With our portable line array speaker, sound is radiated almost equally to the stage and audience areas, so that musicians and audiences hear virtually the same sound. Players report that they hear themselves better, hear their fellow band-members better, and that they are no longer confined to one spot on stage to receive good sound. In the audience, people throughout the venue confirm a clear increase in audio clarity and more pleasure from the performance.

LOWER AVERAGE VOLUMES

As the musicians can hear themselves and each other, and know that the audience can hear them clearly too, they tend to play with more light and shade, and at lower average volumes. The temptation to play with increasing volume levels is removed, along with the associated risks of physical discomfort or uncontrolled feedback.

LESS REVERBERATION

The low, wedge-shaped radiation pattern of the CYLINDRICAL RADIATOR[®] speaker sends very little sound to the upper walls and ceiling, ensuring minimal reverberation. The result is clear, distinct sound for both musicians and audience. Lyrics are easier to understand and instruments have real presence and definition, adding to the experience.

COVERAGE



Our most portable L1[®] system

TONE. COVERAGE. **PORTABILITY.**

LESS EQUIPMENT, LESS EFFORT

BOSE® L1® systems allow you to concentrate on making music, rather than carrying and assembling lots of equipment. With no PA speakers, no monitors, no backline amplifiers, no mixers and only a few cables, the system is very easy to transport and sets up in minutes. There are few electrical connections, and the only audio connections are from the instruments or microphones to the CYLINDRICAL RADIATOR® speaker.



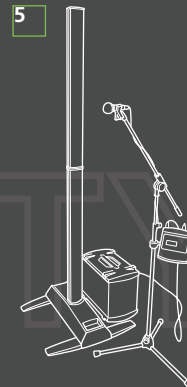
SAVES SPACE, ON STAGE AND OFF

The compact L1® system is visually unobtrusive, occupying little space on stage, in the rehearsal room or in the vehicle. Musicians can move about on stage unhindered by floor-standing monitors and multiple cables, and the absence of PA speakers means there are no obstructions between the musicians and the audience.



A COMPLETE SYSTEM

For many instruments, the L1® model I or model II system – comprising portable line array speaker, power stand, B1 bass module and remote control – is the complete amplification solution for playing to audiences of up to 400 people. Instruments requiring additional low-end output, such as the bass guitar, can be connected to the power stand that will drive one or more highly portable B1 bass modules directly with its built-in amplifiers: No other amplification equipment is required.



PORTABILITY

L1[®] model I

This system delivers wide, horizontal sound coverage, smooth tone, and it's compact and lightweight. Power stand and speaker together weigh in at only 29.7 kg.

The L1[®] model I system consists of the L1[®] model I power stand, the L1[®] model I CYLINDRICAL RADIATOR[®] speaker and the R1 remote control with cable. The L1[®] model I system comes complete with additional carrying bags.



To expand your system and enhance your performance you can add:

- One or two B1 bass modules for bass guitar, kick drum or organ. Each power stand can power up to two B1 bass modules.
- A PackLite™ power amplifier model A1 for adding up to two further B1 modules to your system.
- A T1 ToneMatch™ audio engine for digital signal processing, additional inputs and user-interface control (an additional power supply cable is needed for the T1).

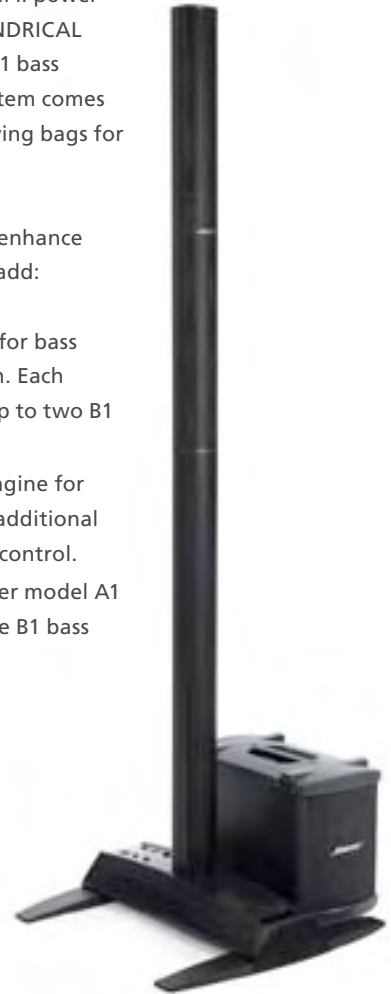
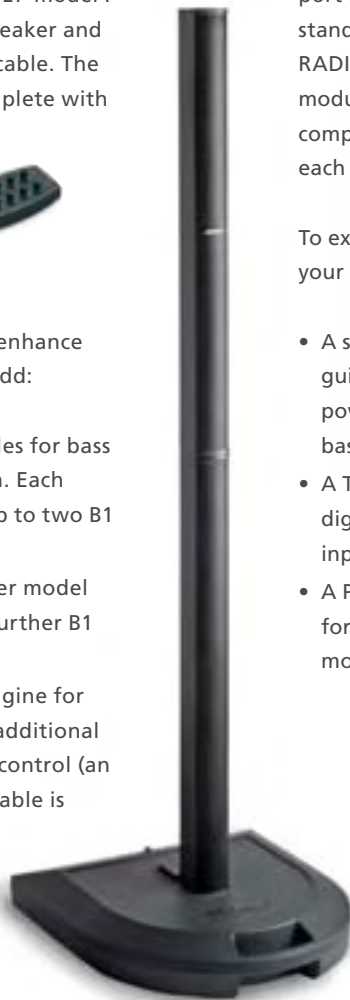
L1[®] model II

This system delivers our smoothest and most consistent sound coverage. Plus it's even lighter and more compact. Power stand and speaker together weigh just 26 kg.

The L1[®] model II system with ToneMatch™ port consists of the L1[®] model II power stand, the L1[®] model II CYLINDRICAL RADIATOR[®] speaker, and a B1 bass module. The L1[®] model II system comes complete with padded carrying bags for each component.

To expand your system and enhance your performance, you can add:

- A second B1 bass module for bass guitar, kick drum or organ. Each power stand can power up to two B1 bass modules.
- A T1 ToneMatch™ audio engine for digital signal processing, additional inputs and user-interface control.
- A PackLite™ power amplifier model A1 for adding up to two more B1 bass modules to your system.



For a complete list of optional equipment and accessories please visit: www.bose.com/musicians.

Product overview

The L1® portable line array systems

T1 ToneMatch™ audio engine

Add this four-channel mixer featuring ToneMatch™ presets, proprietary zEQ and a suite of studio-class effects. Connects to L1® model II system with a single digital cable. The optional T1 ToneMatch™ audio engine power supply is used to power the T1 when it is connected to an L1® model I system or a USB port on your computer.

For convenient access, you can mount the T1 on a CYLINDRICAL RADIATOR™ speaker or on a microphone stand using the optional microphone stand bracket.



B1 bass modules

The output of the power stand can adequately drive one or two B1 bass modules. Up to two more B1 bass modules can be added to your system by using a PackLite™ power amplifier model A1 connected to the output of the power stand.

Single bass module packages are recommended for most voices and instruments. Double bass packages are recommended for bass players, drummers and DJ's.

For adding bass to the double bass package we offer the Extended Bass Package, consisting of one PackLite™ power amplifier and two B1 bass modules, plus cables and protective covers. This package is an unsurpassed combination of power, weight and size. Designed for bass players, drummers, dance music playback, and other musicians who need increased low-frequency headroom and more low-end output, it provides a simple, powerful, scalable solution for adding bass level to your live performance setup.

Packages without a bass module (L1® model I only) are only recommended for upper range voices and instruments.





L1° model I
Without B1
bass module



L1° model I
With 1 B1
bass module



L1° model I
With 4 B1 bass modules
plus PackLite™ power
amplifier

ToneMatch™
T1 ToneMatch™ audio engine



T1 Power supply cable



T1 Microphone stand bracket



L1® packages

Which combination is right for you?



L1® model II
With 1 B1
bass module



L1® model II
With 1 B1 bass module,
T1 ToneMatch™ audio
engine



L1® model II
With 4 B1 bass modules,
T1 ToneMatch™ audio
engine plus PackLite™
power amplifier

Accessories

B1 bass module



PackLite™ power amplifier





Visit your authorised BOSE® dealer

23

PLUG IN

A convincing way of experiencing the benefits of our new approach to live music amplification is the BOSE® Live Experience Wall. This innovative demonstration platform lets you plug in your favourite instrument and enjoy a hands-on personal try-out of what the L1® system can do for you.

The BOSE® Live Experience Wall is available on-site at most of our Music Partners throughout Europe. To find your nearest BOSE® Music Partner, simply visit www.bose.com/musicians, click on the 'Contact us' link on the Musicians homepage, and select the 'authorised BOSE® Music Partners' link for a list of addresses.






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- McKrell borrowing a... - Kings Court (8)
- orgian Bay - Drumm (5)
- Stepping out from behind the microp... - Ted the musician (24)

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-  **Product Demonstration Speciali... (Neil-at-Bose)**

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25

LOG IN

Visit our website at www.bose.com/musicians for more on our unique approach to live music amplification. Here you can find information on the latest additions to the L1® range, including details of our ToneMatch™ audio engine, PackLite™ extended bass package and other great products.

You can also share knowledge and experiences with other musicians. Just click on the 'Musicians Forum' link to swap opinions on the L1® system, report your experiences of using the system on gigs, and have fun as part of the fastgrowing L1® user community.

Wherever quality sound is important, Bose is there

Since our founding in 1964, Bose has been dedicated to setting the standard for innovation in every area of audio technology. Over the years, our passion for excellence and strong commitment to research have earned us a reputation worldwide as one of the most respected names in sound.



At home, many people enjoy movies and music with high performance, elegance and simplicity from a virtually invisible home entertainment system. It's easily expandable to other rooms and even outdoors. The company that engineered this complete solution for home entertainment: Bose



In many of the world's most admired sports and luxury automobiles, all occupants enjoy balanced, lifelike music. A customised audio system is fully integrated with their specific structure and acoustics. The company that creates this concert hall on wheels: Bose



The Cathedral of St. Peter in Rome needs a new sound system. Before work begins, a revolutionary technology allows the planner to judge how the system will sound when installed. The company that made this breakthrough possible: Bose



On stage, a band performs live without the conventional mismatch of a PA system with monitor speakers. A revolutionary new amplification system enables the audience to clearly hear where each musician stands, and the musician plays truly with the band instead of with his monitor speaker. The company that scores a hit with this entirely new approach to live music amplification: Bose



In aviation, pilots demand headsets that help reduce harmful and unwanted noise while allowing them to hear the sound they need to hear. All from an ultra-lightweight design with a comfortable fit. The company that offers the recognised market leading solution: Bose



Inside a space shuttle, U.S. astronauts prepare for launch. Millions of pounds of thrust will soon free the craft from the bonds of Earth, hurling it 185 miles into space in 8 minutes. The company chosen by NASA to design the shuttle's and astronauts communication speakers: Bose

"... a revolutionary concept which could possibly change
the way we will experience live music completely!"

'Gitarist' guitar magazine, the Netherlands*



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* issue 12/2004.