The Polk Audio Magni*Fi* Sound Bar™
Technical Brief

Features & Specifications

3.1 Channel Configuration with wireless subwoofer
Polk Patent Pending adjustable Voice Adjust™ Technology
Polk exclusive Full Complement Bass Drive Technology
Polk Dynamic Balance® Transducers
Polk SmartBar™ learning remote technology
Dolby Digital® 5.1 decoding
Variable Bass output adjustment
Selectable Music and Movie Immersion Modes
Bluetooth Wireless Technology with aptX®
Near Field communication (NFC)
Polk exclusive free DJ Stream app
Slim 2 inch height will not block IR receivers
Sound Bar Speaker Complement: Three 3" x 1" Dynamic Balance™ Drivers with butyl Rubber surrounds
Wireless Subwoofer Complement: One 7" Dynamic Balance™ Bass Reflex Subwoofer
Audio Inputs:
- Optical (Toslink)
- Bluetooth
- Analog (3.5mm stereo)

Satin Charcoal Gray Finish
What's in the accessory box?
- Sound Bar Power supply and cable (8ft)
- Subwoofer IEC cable (8ft)
- Optical cable (6ft)
- Stereo analog cable (6ft 3.5mm)
- Remote control
- Set Up Guide

Power Supply: 110v/240v
Dimensions
- Sound Bar: 38.1" W x 2.1" H x 3.2" D
- Wireless Subwoofer: 12.9" H x 12" W x 9" D

Warranty is 3 years on speakers and 1 year on electronics
MSRP US $499

Basic Hook Up

The most popular and convenient way the Magni*Fi*™ Sound Bar is connected is via optical out from the television. This allows for the TV to provide all switching from audio inputs such Cable, Satellite, Console, Terrestrial TV or Blu-ray player. An additional analog input is provided should that be needed.

The Magni*Fi*™ subwoofer is wireless and is paired with the Sound Bar at the factory. First make sure the Magni*Fi*™ Bar is powered on. Then power on the subwoofer. The LED on the back of the subwoofer will turn from red to solid green indicating that it is connected. In the unlikely event the subwoofer does not connect turn off the subwoofer, press the sync button located on the back of the Bar and hold for 3 seconds. The LED on the back of the bar will blink indicating that they both ready to be connected. Turn on the Subwoofer. The LED on the back will turn solid green.

Both the Sound Bar and included remote control allow for Volume, Voice, Bass, Mute and Source selection. In addition the remote has 2 immersion modes for either music or movies.

The Magni*Fi*™ can also be programmed to respond to your remote control. We call this feature SmartBar™ Technology. For details on the procedure please refer to the set up guide that is included in the box.

To use Near Field Communication (NFC) place your device on top of the Sound Bar where the NFC logo is located. NOTE: With the exception of the new iPhone 6 Smartphone,
Older IOS devices will not support NFC. Android and Windows devices do support NFC.

DJ Stream is a Polk developed app that allows up to 4 connected devices to stream to the Magni*Fi*™. Up to 130 devices can be connected in order to vote on the playlists. It is free and available to down load from the Android and Apple App store.

Design Goals

The Critical Midrange - Since our founding in 1972 Polk Audio has never wavered from our basic principle to provide sound that virtually transports the listener to the scene of the recorded performance. The key to this realization is in the critical midrange of the sound spectrum (200Hz-2KHZ). This is where vocal intelligibility resides along with the vast majority of music and environmental information (Fig 1.) Through painstaking optimization of our transducers we call Dynamic Balance™ along with careful tuning of crossovers and selection of enclosure materials and design, Polk loudspeakers have developed a longstanding reputation of clear, open and uncolored sound regardless of the type of program material being reproduced.

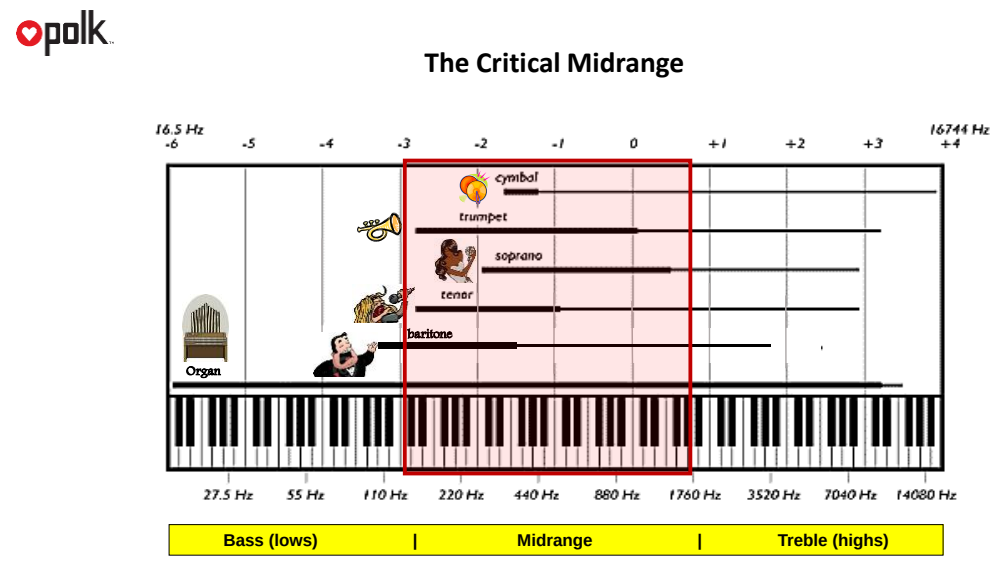


Fig. 1

The challenge of High Vocal Intelligibility in Sound Bars – Polk was the first dedicated loudspeaker brand to enter this category in 2007 and have maintained a leadership position in the market ever since. While Sound Bars are clearly superior in audio performance than the poor quality speakers found in Flat Screen televisions they have had issues with maintaining intelligibility of dialog when there are significant other effects present in the soundtrack. This is particularly the case at moderate listing levels where most users prefer to listen. Extensive ethnographic consumer research performed by Polk has confirmed this to be the case. Through the careful use of complex DSP algorithms that take into account spectral balance, time alignment and amplitude response Polk has developed the 1st Sound Bar that allows the user to adjust the audio output to vastly increase vocal intelligibility regardless of program material or source at any listening level. We call this patent pending technology Voice Adjust™.

Exclusive Polk Technologies Employed:

Voice Adjust™ Technology

A three element line array consisting of identical 25mm x 75mm full-range drivers are configured to provide clear, intelligible center channel program material over a wide range of locations throughout your media space. While the center driver plays full range – up to the high frequency bounds of human hearing – the outer left and right drivers are band limited to ~450Hz via a low-order low pass filter to play in concert with the center driver for greater output capability and lower distortion (Fig 2). "Voice Adjust" further entails not only level adjustment for the center channel but also timbre shaping for improved voice intelligibility of difficult, poorly recorded programs or for late night use when clear, highly intelligible dialogue may enjoyed at lower overall listening levels (Fig. 3).

Patent Pending "Method and System for Optimizing Center Channel Performance…" Brad Starobin inventor; filed Dec 2013

Voice Adjust™ Acoustic Array

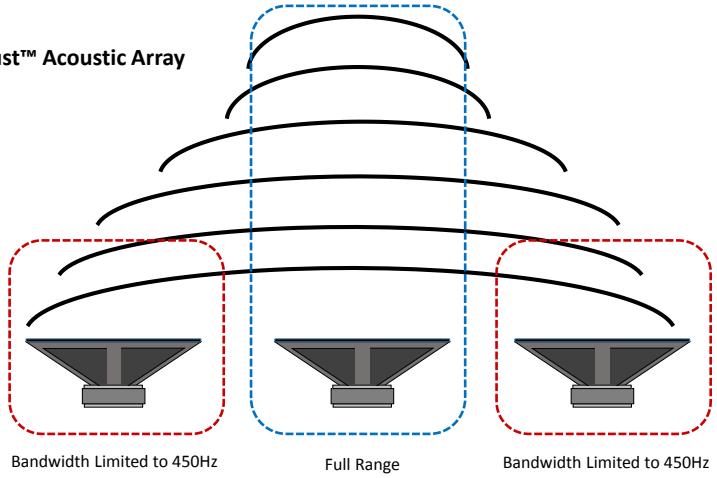


Fig. 2

Magni*Fi* Voice Adjust™ (screen shot from DSP Signal Flow

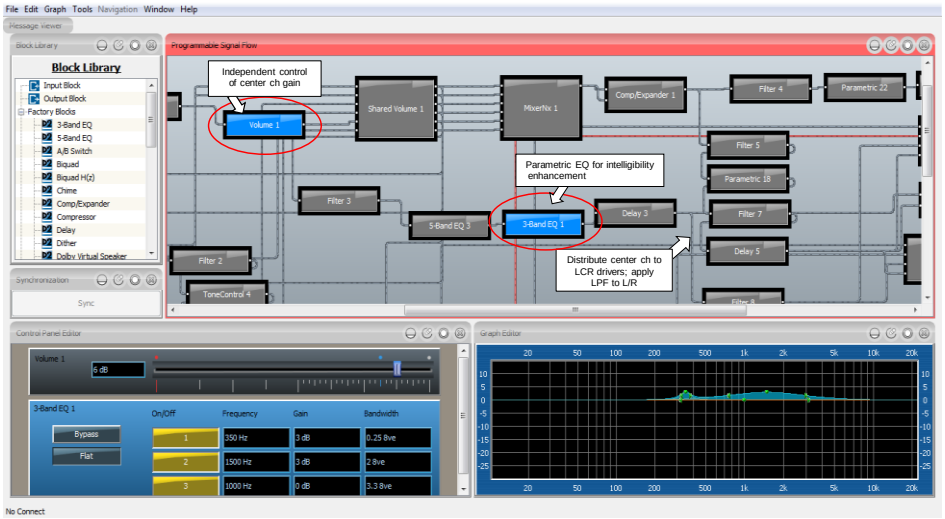


Fig. 3

Full Complement Sub Bass Drive
Full complement sub bass drive a Polk Audio technology that employs all of the drive units in a loudspeaker system to contribute to low-frequency reproduction, thereby improving output capability, in part by eliminating channel to channel phase variations, over the bandwidth which extends over the one octave band bounded by 120 – 250 Hz for the Magni*Fi*™ SoundBar.

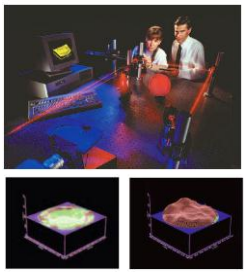
Sound Bar/Subwoofer Time Alignment
Wireless subwoofers, in part due to time-consuming error correction along with other factors, are unavoidably late relative to the sound bar when it comes to delivering sound into the media space. But Magni*Fi*™ recognizes when subwoofer signals are transmitted wirelessly and takes measures to ensure that the SoundBar's and Subwoofer's acoustic output arrive coincidently (time-coherently) throughout the media space for optimal transients and seamless blending through the crossover range.

Music vs Movie Immersion Modes
These immersion modes are optimally configured for a range of program types. MOVIE accentuates exciting surround and emotionally involving low-frequency effects while maintaining clear, intelligible dialog while MUSIC provides smooth, extended bass and subtle, complementary surround effects plus Magni*Fi*'s signature, clearly articulated vocal reproduction.

Adjustable BASS
Depending on placement proximity to boundaries, the program material itself, personal taste and other factors you may choose to adjust relative bass level via the included IR remote or the dedicated rocker key on the SB itself. BASS not only affects subwoofer gain but makes commensurate adjustments to the bar's low-end frequency response for optimal blending through the wide BASS adjustment range

Dynamic Balance®
Beginning in 1988, Polk Audio began an ongoing research project in partnership with the Johns Hopkins University. The result was a full-field heterodyning laser interferometer system capable of revealing the microscopic details of entire vibrating surfaces (such as a loudspeaker cone) in real-time. This research tool enabled us to view and analyze the entire vibrating surface of a driver or tweeter. In particular, we were able to see and understand the resonance that develops on loudspeaker cones as they move. Modal resonance is a major cause of frequency response aberrations and other distortions in loudspeakers.

This new understanding of how resonance develops on speaker components led us to develop a design technique called Dynamic Balance®. Dynamic Balance uses an analysis of the entire Electro-acoustic and mechanical systems to select composite materials and Geometry that reduce resonance. The resulting drive units have unusual clarity, detail and extension. We have continued to evolve and refine this technology through ongoing research and development in our labs in Baltimore MD.



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