SMS1 Business Music System

Applications

SMS1 Soundzone® Music System is a complete business music system for background or foreground music applications such as retail stores, restaurants and other businesses. Fully self-contained with four satellite speakers and the SMS1 base station with power amplification for all speakers, a controller for a music source and for one announcing microphone, and a subwoofer for providing full range, clear natural sound.

SMS1 is a quick-install, easy to use system for businesses with up to 2500 square feet. The SMS1 Soundzone Music System delivers full fidelity music and clear paging with audio quality that customers expect from JBL.

Key Features

- Premium sound quality
- Extremely easy for end-users to operate
- A complete self-contained system*, including:
  - Four mini satellite loudspeakers
  - One subwoofer
  - Self-powered
  - Advanced system controller
- Built-in controller contains advanced features for business applications:
  - Allows one music source and one paging microphone
  - AutoWarmth™ (provides full sound at all volumes)
  - LevelGuard™ (keeps music level in check)
  - Connects to optional wallplate for remote control of volume
- Optional Soundzone paging microphone
- Available in black or white

*Requires a music source

System Components

SMS1-Sub - The SMS1-Sub contains all the amplification for the four satellite speakers and the subwoofer as well as containing the built-in system controller. This subwoofer reproduces the lower frequencies necessary for full range music and audio. Recommended placement in permanent installation is on the wall at a height that is high as is practical, while allowing access to the controls if required. The subwoofer can also be placed on a shelf using the included leg brackets.

Controller

The controller built into the SMS1-Sub provides the following features:

AutoWarmth - Uses a patent-pending signal processing system to add fullness at lower levels and to reduce boominess at higher volumes, providing optimum sound at all levels.

LevelGuard - Automatically keeps the music level in check, selecting the correct amount of sonic compression for best sound quality despite any excessive level changes from the music source.

Stereo or Mono - Stereo capability can add spaciousness to business environments, however the system can also be operated in mono by Y-ing the mono input to both chan nels to provide consistent mono sound content to each listener.

Page Ducking - Automatically low ers the music audio by 12 dB when the microphone is in use and smoothly ramps the music back after the page is complete.

Inputs - The controller allows one music source (such as programmed music, CD player, tuner, or tape player) and one paging microphone to be hooked up to the system. A wide variety of input levels and types are accommodated, including balanced line level (the preferred input, where possible), speaker level, and unbalanced (RCA) line level. If more than one music source is required, see "Using SMS1 with a Soundzone Controller", below.

SMS1-Sat Speakers

Four unobtrusive satellite speakers complete the SMS1 system. Each speaker measures just 5 1/4"x 3 1/4" x 3 1/2" (135 x 84 x 95 mm). These tiny speakers can be located at strategic locations within the business to either augment the visual impact or to be visually unobtrusive. The SMS1-Sat speakers are installed easily using JBL's patented Invisiball™ mounting system, which allows for a wide range of adjustment in a unique theft-resistant design.

Recommended Placement - For a typical rectangular shaped room, recommended satellite placement is in the corners, as high as possible, aimed 2/3rds of the way across the room. For stereo operation, the two left channel satellite speakers should usually be located in corners opposite from each other, placing the two right channel speakers in the remaining opposite corners.

Configurations

SMS as aStandalone System - The primary intended configuration is to use the SMS1 as a standalone system. SMS1 can provide quality audio for businesses up to 2500 square feet.

Using SMS1 with a Soundzone Controller - For sound systems requiring more than one music source, or requiring more advanced engineered capabilities (such as emergency override, music-on-hold send, music priority automatic override settings, etc.), but not requiring additional SPL capability, the SMS1 system can be used in conjunction with the JBL Z32S or Z21S Soundzone Business Music Controllers.

In such an engineered system, all sources and any control systems should be connected to the Soundzone Controller, with the output of the Controller run into the SMS1 input, utilizing the SMS1 as a high-fidelity powered subwoofer/ satellite loudspeaker system. When using multiple zones, SMS1 systems can be used for any zone where the system's coverage and SPL capability are sufficient.

SMS1 Systems in Multiples - Multiple SMS1 systems can be utilized to cover larger areas, simply by paralleling the source and mic (if one is used) to the inputs of the two systems. [See note on specification page discussing long signal lines.] In addition, multiple SMS1 systems can be driven from the zone output of a Soundzone Business Music Controller to cover larger areas simply by running the output of the Controller to the inputs of the multiple SMS1 systems.

SMS1-Sub By Itself - The SMS1-Sub, with included controller and power amplifier, can be utilized without the satellite speakers for augmenting the bass capability of a larger JBL Control Contractor in-ceiling or on-wall speaker system. The bass augmentation system can consist of a single SMS1-Sub, if it provides sufficient bass capability, or multiple SMS1-Subs can be utilized for additional bass capability or to cover a larger area.

Driving Other Satellite Speakers - The SMS1-Sub can be used to instead drive different satellite speakers, such as JBL Control 24 Micro In-Ceiling loudspeakers. When doing so, a switch is provided on the input panel to bypass the SMS1-Sat specific EQ curve, thus driving the satellite speakers with an electrically flat audio signal. It is necessary to observe minimum impedance considerations.

Positioning the SMS1-Sub

The SMS1-Sub is intended primarily for permanent installation onto a wall. It can also be positioned on a horizontal shelf surface using the included leg brackets. [Note: SMS1-Sub should always be used in an upright position for proper air flow to cool the built-in power amplifier.] Positioning of the SMS1-Sub can affect the maximum SPL capability of the system.

Placement vs. Output Level - Placement on the center of the wall, away from ceiling or other wall will usually result in adequate bass output level. As with any subwoofer, however, additional bass level can be attained by placing the SMS1-Sub within 4 feet of the ceiling or another wall. Maximum bass output can be attained by installing the SMS1-Sub in the corner junction of two walls and the ceiling (or two walls and the floor).

Placement for Most Even Subwoofer Coverage - Especially in small rooms, bass levels can vary substantially from place to place within the room due to an acoustic phenomenon called "room modes". Placing the subwoofer in the corner usually results in the most even excitement of room modes, thus resulting in a more even coverage of the room.

It is natural that with a single subwoofer, the bass will be louder to those who are closest to it and softer for those who are farther away. For more even coverage, a second SMS1-Sub can be utilized. In this case, simply wire the music source and paging mic (if used) to both subwoofers. If the first subwoofer is placed in a corner, then the second subwoofer should be placed on the other side of the room, but preferable not exactly in the corner, so that the two subwoofers will excite different room modes, resulting in further improvement to the evenness of coverage. When using multiple subwoofers, placement of multiple subwoofers asymmetrically within a room results in improvements of coverage.

Power and Audio Wiring Options

SMS1-Sub has been designed to accommodate a wide variety of wiring options. Installation and wiring must be implemented in accordance with local building codes and requirements. Following are a few of the installation possibilities. When SMS1-Sub is permanently installed onto a wall, the cleanest way to route the AC and audio signal wires is through the wall, entering the SMS1-Sub through the back of the unit. AC and audio cables can be kept separated via independent cutouts on the back of the SMS1-Sub's wallpanel.

Installing In-Wall Electrical Boxes Electrical boxes can be installed into the wall behind the SMS1-Sub prior to installation of the SMS1-Sub. There are recesses in the back of the SMS1-Sub's wallpanel allowing clearance for small wallbox covers, and there are cutouts in the back of the SMS1-Sub's wallpanel to allow for wiring entrance.

Using Included Internal Boxes - Power wiring can be run through the wall into the included electrical box which mounts onto the inside of the SMS1-Sub's wallpanel. Audio can be run through the wall into the SMS1 using the second cutout in the SMS1-Sub's wallpanel.

Surface Conduit - For locations requiring cables to be run on the surface of the wall, SMS1-Sub has been designed to accommodate both power and audio cabling to enter via two separate 1/2-inch (actual O.D. is .875 inches, 22 mm) conduit. The internal electrical box is provided for terminating the conduit inside the SMS1-Sub and there are cutouts in the top grille piece for running conduit pieces out onto the wall surface. Alternatively, the installer can choose to install a wallbox of their choosing onto the inside of the SMS1-Sub's wallpanel to terminate the conduit.

Wall Installation

Wall installation typically occurs according to the following procedure:
Step 1 - Run the power and audio wiring to the installation location. Install one or two in-wall electrical boxes at this time, if they are being utilized.
Step 2 - Next, the SMS1-Sub wallpanel should be secured onto the wall using screws into the wall structure. Multiple holes are provided to accommodate a variety of building structures.
Step 3 - Complete the wiring: Terminate the wires, if appropriate. Run power cable to the SMS1-Sub's IEC power jack. Connect the audio lines and satellite speaker wiring to the proper jacks. It is optional to use the included electrical boxes for termination.
Step 4 - Tilt the SMS1-Sub front cabinet onto the clips on the wallpanel and secure it using included screws.
Step 5 - Add the grille trim pieces using the included screws.
Step 6 - Adjust the controls on the side of the SMS1-Sub. Once adjusted, attach the plexiglass security cover to prevent tampering, leaving only the Music and Mic volume controls accessible.

Ease of Setup & Ease of Use

Setting Up - SMS1 is very easy for the installer to set up.

SMS1 Complete System - When using SMS1 as a self-contained system, switches are marked with a "normal" position. Adjustments include:
Paging Threshold - Set this to make sure the microphone reliably triggers the music level to duck down during paging.
AutoWarmth - An indicator LED guides in setting this function. It can also be set by ear simply by making sure the music sounds full at low volume levels and doesn't get boomy at higher levels.
Subwoofer Trim - This adjusts the subwoofer volume relative to the satellites.
Crossover - Set to "normal" when using the SMS1 as a complete system.
Subwoofer Polarity - Set to whichever switch position gives the most bass.

Special Situation Settings:
SMS1 By Itself - When using the SMS1-Sub by itself to augment another sound system, the only additional adjustment necessary is to set the Crossover switch to "80 Hz" to avoid muddy overlap with the full-range speakers.
Driving Other Satellite Speakers - When using the SMS1-Sub to drive satellite speakers that are not SMS1-Sats, the only additional adjustment necessary is to set the Speaker EQ switch to "off", bypassing the internal EQ that is specifically set up for SMS1-Sats.

Ease of Use - The end user simply adjusts the music volume and paging volume. Functions such as AutoWarmth and LevelGuard are automatic, and setup controls are protected from tampering. Typically, no special training of end users is required.

Included Accessories

SMS1-Sub Wallpanel
SMS1-Sub Internal Electrical Box
SMS1-Sat Invisiball Ceiling Mount
Extension Arms
Wrench for SMS1-Sat Invisiball Mounting System

Optional Accessories

Paging Microphones
Z-M1 - Specifically designed for use with the SMS1 System. Features include a large push-to-talk switch, weighted base to keep it in place and large, easy to see mic element.
Z-M2 - Paging microphone with a 2-zone selector switch for use with Soundzone Controller in 2-zone systems. Features include a large push-to-talk switch, weighted base keeps it in place, large, easy to see mic element and slide-in write-on labels for zone identification.

Remote Wallplate for Volume Adjustment
ZR-V - This wallplate has a control to adjust the volume of the music. It operates as attenuate-only from the volume setting on the SMS1-Sub control panel. ZR-V connects to SMS1-Sub controller via a common Category 5 cable. Multiple ZR-Vs are required for systems with multiple SMS1 systems, each controlling one system.
Note: ZR-V wallplate is standard U.S. size, mounting onto a standard U.S. electrical box.
ZR-IWB - U.S. size universal in-wall electrical box for use with ZR-V wallplate in countries where U.S. size electrical boxes are not readily available. ZR-IWB installs flush into the wall. Side dogears allow installation to almost any wall surface without requiring access to studs.
ZR-OSB - U.S. size electrical box that mounts on the surface of the wall, for use with ZR-V in countries where U.S. size electrical boxes are not readily available and where an in-wall box is not feasible.

Preliminary Specifications

POWER CAPABILITY

SMS1-Sub:	120 Watts Continuous pink noise 240 Watts Continuous program 480 Watts Continuous peak
SMS1-Sat:	10 Watts Continuous pink noise (x 4 speakers) 20 Watts Continuous program (x 4 speakers) 40 Watts Continuous peak (x 4 speakers)
SPL Capability (1m):	
SMS1-Sub:	107 dB average, 113 dB peak.
SMS1-Sat:	93 dB average, 99 dB peak (x 4 speakers)

INPUT

Music: (use only one of the following):	Pro Line Level Input: +4 dBu nominal, balanced, Euroblock connector Consumer Line Level Input: -10 dBV nominal, unbalanced, RCA connector. (See Note 1, below if using the Consumer Line Input) Speaker Level Input: For 70V or 100V speaker lines, Euroblock connector
Microphone:	Balanced, Euroblock connector, switchable phantom power for condenser microphones. Band limited 200 Hz - 8 kHz.
Internal Crossover:	24 dB/oct low-pass to the subwoofer amp/driver. 24 dB/oct high-pass to the satellite amp/speakers.
Remote Volume Control Jack:	RJ45 connector, for standard UTP Category 5 cable. Uses ZR-V remote wallplate.

SETTINGS:

Protected Controls

Subwoofer Polarity:	Sets the polarity of the input signals so the bass to the subwoofer adds properly. Positions: In Polarity (Normal) Out of Polarity.
Crossover:	Sets the crossover frequency of the subwoofer. Positions: 160 Hz (Normal) - for normal operation of SMS1 system. 80 Hz - When using SMS1-Sub to augment the bass of another speaker system, to avoid muddy overlap with fullrange speakers.
Bass Trim:	Adjusts subwoofer level relative to that of the satellite speakers.
AutoWarmth:	AutoWarmth automatically adjusts tonal balance to sound full at low volumes. Indicator: LED, lights when AutoWarmth is activated. Note: It is normal for AutoWarmth LED to light when there is no signal present.
Page Threshold:	Adjusts threshold at which microphone signal triggers music ducking.
Speaker EQ:	Built-in EQ is specifically set up for SMS1-Sats. Positions: On (Normal), Off

User Accessible Controls:

Music:	Adjusts volume of music source
Mic:	Adjusts volume of the paging microphone

MODELS

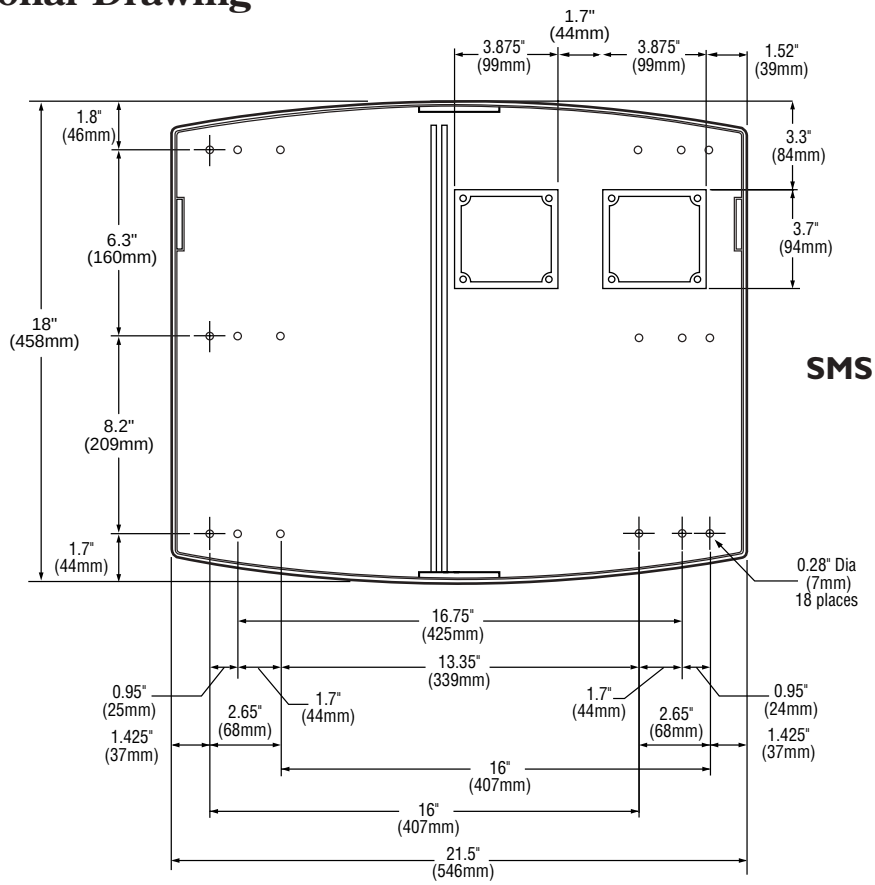
SMS1	Black, 120 VAC
SMS1-WH	White, 120 VAC
SMS1/230	Black, 230 VAC
SMS1-WH/230	White, 230 VAC
SMS1-SUB	Powered Subwoofer, Black, 120 VAC
SMS1-SUB-WH	Powered Subwoofer, White, 120 VAC
SMS1-SUB/230	Powered Subwoofer, Black, 230 VAC
SMS1-SUB-WH/230	Powered Subwoofer, White, 230 VAC

OPTIONAL ACCESSORIES

Z-M1 Paging Microphone:	Dynamic (leave phantom power off), 600 ohms, balanced
ZR-V Remote Wallplate:	Wallplate for remote adjustment of music volume
ZR-IWB In-Wall Electrical Box:	U.S. Size electrical box for use with ZR-V. For countries where U.S. size boxes are not be available. Contains side dogear clamps to clamp onto wall surface.
ZR-OSB On-Surface Electrical Box:	U.S. Size electrical box for use with ZR-V. For countries where U.S. size boxes may not be available. Mounts on the surface of the wall.

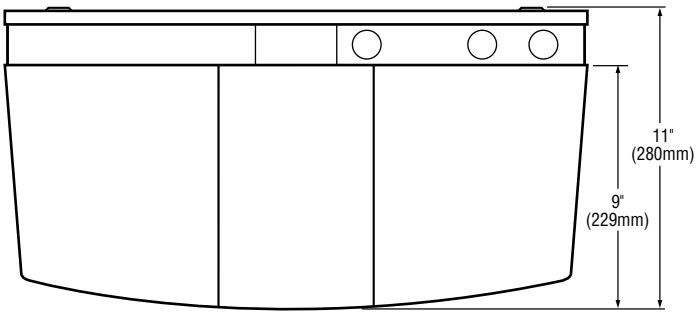
Note 1: If positioning of the subwoofer requires the use of a long unbalanced (RCA) input cable for the music, buffering and/or balancing of the signal via an external device at the source might be necessary in order to make sure the audio fidelity is not compromised before getting to the SMS1 system.

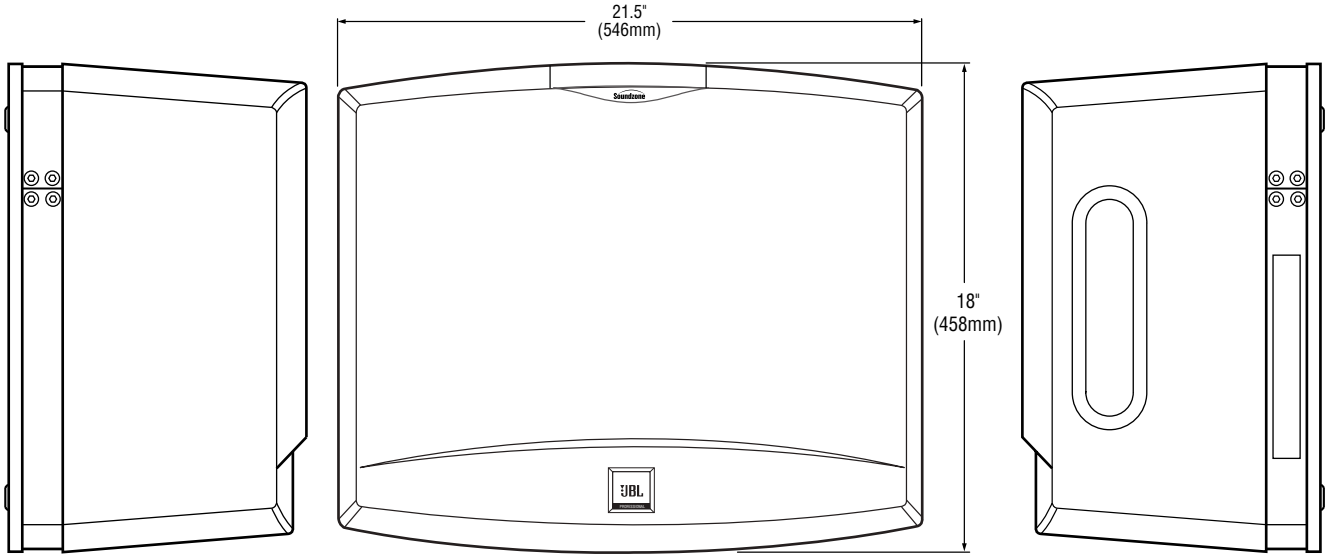
Dimensional Drawing



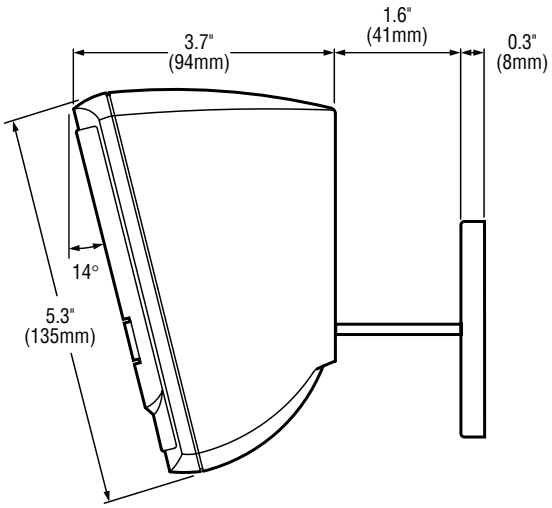
SMS1-Sub Wallpanel

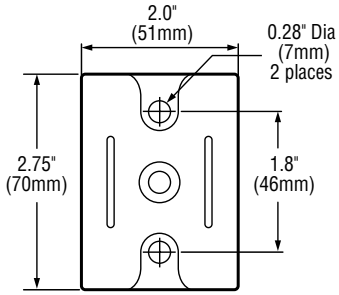
SMS1-Sub Subwoofer

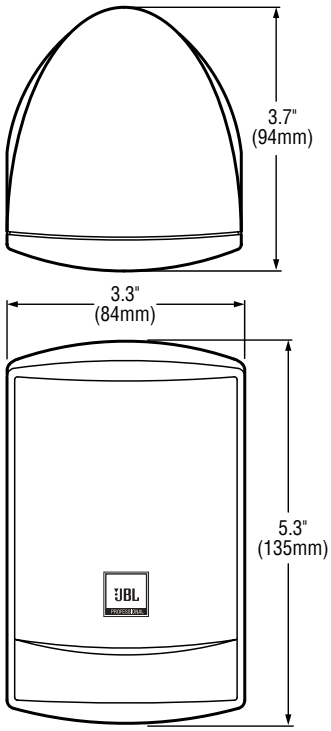




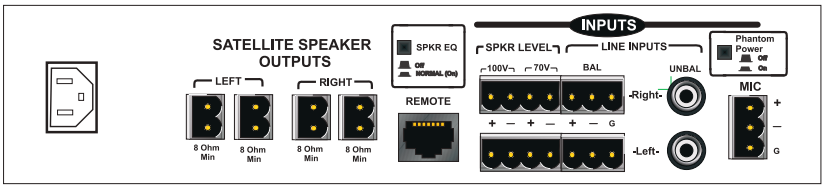
SMS1 Music Business System

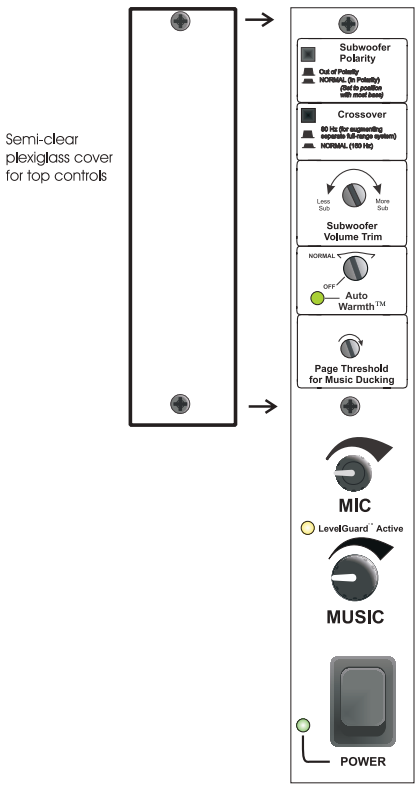






SMS1-Sat Satellite Speaker with Invisiball Bracket Plate





SMS1 Connection and Control Panel

JBL Professional
8500 Balboa Boulevard, P.O. Box 2200
Northridge, California 91329 U.S.A.
www.jblpro.com

A Harman International Company

SSSMS1
CRP 10M
8/00