

January 17th, 2025

Attn: Mr. Casey Conway
Livonia Public School District
15125 Farmington Road
Livonia, MI 48154

PROPOSAL

Livonia Public Schools

High Schools Sound System Upgrades For the Football Field, Gym & Pool Areas

Please accept this letter along with the additional information enclosed within this proposal as an introduction to SoundCom Systems. This is a valued opportunity for SoundCom and let me start by saying that we would like to earn your business.

We have been performing comparable work for over 45+ years and are proud to call many of the region's top performing companies our clients. We have completed countless projects over the years including hundreds that integrate sound, video, and communications systems for a wide range of clients.

In fact, we have recently deployed comparable Audio Sound System for clients in the region including Plymouth-Canton Community Schools, Novi Public Schools, Lincoln Park Public Schools, Trenton Public Schools, Woodhaven-Brownstown Public Schools, Farmington Public Schools, West Bloomfield Public Schools, Grand Blanc Community Schools, Genesee ISD, Flint Community Schools, Davison Community Schools, Reese Community Schools, Kearsley Community Schools, Chelsea Public Schools, Warren Woods Public Schools, & Fraser Public Schools just to name a few.

Our highly trained and certified staff is singularly focused on delivering world-class sound, video, and specialty communications solutions with an acute attention on quality and service.

On behalf of our over 145 full-time employees, I would like to personally thank you for the opportunity to continue to earn your business and we look forward to discussing this project with you in greater detail soon.

Please feel free to contact us with any questions.

Sincerely,

Joe Samborski
Account Executive





About SoundCom Systems



SoundCom is ranked among the top 25 systems integration firms in the U.S. by Systems Contractor News, and has ranked among the top 50 since 2004.

For over 40 years, SoundCom Systems has been providing cutting-edge sound, video, and communications solutions for businesses and institutions of nearly every size. Headquartered in Cleveland, Ohio with offices in Detroit, Pittsburgh, Columbus, Grand Rapids, Flint, Lansing, and Cincinnati, SoundCom has the knowledge, experience, and scalability to meet virtually any project scope and deadline with an attention to detail and focus on quality that is unrivaled in the industry.



COMPLETE TURN-KEY SERVICES

As a full-service integration firm, SoundCom offers complete turn-key services for any project of any size including:

- Consulting & Design
- Engineering & CAD
- Shop & Fabrication
- Project Management
- Installation
- Programming
- Training
- Technical Support

WE'RE ALWAYS OPEN

SoundCom prides itself on providing our customers with world-class support before, during, and after the sale. Our service department is never closed delivering critical services to customers when it is needed most.

We're here when you need us!

24/7/365

CERTIFIED INDUSTRY EXPERTS

SoundCom's engineering and technical teams are some of the most experienced and well-trained in the industry. Our engineering department collectively has over 130 years of experience and our installation and service teams have an average tenure over 10 years with SoundCom and over 230,000 hours of available man-power annually. Our technical staff carries many of the industry's major certifications so you can be assured that your project will be done right and on-time.





Detailed Project Narrative

SoundCom Systems will provide & install the following:

Churchill, Franklin & Stevenson High School Football Audio Systems

The Churchill Football audio system is designed to deliver a clear and powerful sound for stadium announcements, music, and game-day commentary. At its core is a **Shure Microphone Dual System**, providing reliable wireless audio transmission with dual microphones for enhanced flexibility. The system includes dual **antennas** and a **25ft cable** for optimal signal reception and placement.

Audio mixing is managed by a **Shure OFE Mixer**, ensuring seamless integration of multiple audio sources. Additionally, an **Aux Audio Input** is provided for external devices, connected to a **Symetrix OFE** processor for refined audio control.

Amplification is handled by a **VT112 AMP** and multiple **VT2210 AMP** units, ensuring sufficient power for the speaker system. The venue is equipped with **VT2210 Speakers**, strategically positioned to deliver even coverage throughout the field area.

This system ensures high-quality audio performance, making game-day experiences engaging and immersive for both players and spectators.

Churchill Gym Audio System

The Churchill Gym features an advanced audio system designed to accommodate various events, including sporting activities, assemblies, and performances. Wireless connectivity is enabled through an **OFE Bluetooth** module, allowing for seamless streaming of music and announcements.

At the heart of the system is a **Shure SCM826OFE ROLLS Input**, providing professional-grade audio mixing and integration. A **DBX DRIVERACK 360** ensures optimal sound processing and speaker management.

The system is powered by multiple **HDA2210-P AMP Modules**, delivering robust amplification to the **SM2110-P Speakers**, which are evenly distributed to provide consistent audio coverage throughout the gymnasium.



A **Shure Microphone Dual System** with dual antennas and a **25ft cable** is included for wireless voice projection, making it an ideal solution for addressing large audiences.

Churchill & Stevenson Pool Audio Systems

The Churchill Pool's audio system is designed to withstand the unique acoustic challenges of an indoor aquatic environment. Wireless audio streaming is supported via an **OFE Bluetooth** module, with an **extended antenna** ensuring optimal reception.

The system includes a **Shure BLR4R (OFE) wireless receiver**, paired with a **Shure SCM800OFE iRACK Input**, which provides professional-grade audio mixing. Sound processing is managed through a **DBX 220i (OFE)** processor, delivering precise equalization and feedback control.

Amplification is provided by **HDA2210-P AMP Modules**, powering multiple **SM2110 Speakers** strategically placed for even sound distribution.

Franklin High School Pool Audio System

The Franklin Hill Pool's audio system is built to deliver high-quality sound in a wet and acoustically challenging environment. Wireless connectivity is provided through an **OFE Bluetooth** module and **antenna**, ensuring seamless streaming capabilities.

The system features a **Shure SCM826OFE ROLLS Input** for high-fidelity audio mixing and a **DBX DRIVERACK 220i (OFE)** for advanced sound processing. Amplification is handled by **HDA2210-P AMP Modules**, powering a set of **SM2110 Speakers** for broad sound coverage.

A **Shure Microphone Dual System**, equipped with dual antennas and a **25ft cable**, ensures reliable wireless voice projection. Additionally, a series of **CS651 Ceiling Speakers** are included, driven by a **BRC1 + BRC1-600 system**, providing discreet yet powerful sound reinforcement.



Franklin High School Gym Audio System

The Franklin Hill High School Gym is equipped with a state-of-the-art audio system designed for clear and dynamic sound reproduction. An **OFE Bluetooth CD Player** and **Bluetooth Antenna** allow for seamless music and audio playback.

Central to the system is a **Shure SCM262 (OFE)** audio mixer, ensuring smooth integration of multiple audio sources. The **DBX DRIVERACK 360** provides advanced processing, optimizing sound quality and speaker performance.

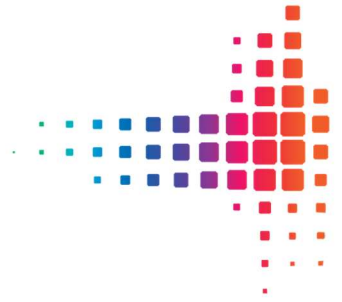
The system is powered by **HDA2210-P AMP Modules**, driving an array of **SM2110-P Speakers** for comprehensive sound coverage. A **Shure Microphone Dual System**, complete with dual antennas and a **25ft cable**, ensures wireless microphone capabilities for events and presentations.

Stevenson High School Gym Audio System

The Stevenson High School Gym audio system is built to deliver high-fidelity sound for sports events, assemblies, and school functions. Wireless streaming is facilitated through an **OFE Bluetooth** module with an **antenna** for improved reception.

The system incorporates a **Shure SCM262 (OFE) mixer**, enabling seamless audio management. A **DBX DRIVERACK 360** is utilized for sophisticated sound processing, ensuring balanced and distortion-free output.

Amplification is provided by **HDA2210-P AMP Modules**, which power a set of **SM2110-P Speakers**, strategically positioned to ensure uniform audio distribution. A **Shure Microphone Dual System**, complete with dual antennas and a **25ft cable**, enhances voice clarity for announcements and performances.



About SoundCom and ISP

All sites are equipped with **ISP Speakers**, a premier audio solution designed and manufactured **locally in Michigan**. ISP Technologies has built a reputation for delivering **high-performance professional audio solutions**, combining **cutting-edge engineering with exceptional clarity and control**. With commitment to **sonic excellence**, ISP has become a trusted name for **premium sound reinforcement**, ensuring that each venue is equipped with speakers that provide **superior performance, reliability, durability & unmatched 5-year manufacture warranty on the ISP Speakers & a 3-year warranty on the ISP amplifiers**.

This project has been developed and integrated by **SoundCom Systems**, a leader in professional AV solutions. With their expertise, each facility is equipped with state-of-the-art audio systems tailored to meet the **unique needs of schools, gyms, pools, and stadiums**. Their **dedication to quality and precision** ensures a seamless audio experience for every event and performance.



SoundCom Systems Custom Design Proposal

SoundCom Systems is proud to present this proposal for the High School Sound System Upgrades Project.

This summary is intended to provide a simple and brief overview of our approach to the project ... **Quote is to provide and install a new Audio Sound System for the Pool, Gym & Football Field for Livonia Churchill High School, Livonia Franklin High School & Livonia Stevenson High School. A one-year installation warranty is included with a 5-year ISP manufacture warranty. Quote is based on PEPPM consortium pricing.**

January 18, 2025

SoundCom Proposal # **FJ-24-3557157-H**

Client

Livonia Public Schools

15125 Farmington Road

Livonia, MI 48154

Project

High School Sound System Upgrades

All Prices USD

Quantity	Description
Quote is based on PEPPM consortium pricing.	
1	Installation of a new Football Field Sound System at Churchill, Franklin & Stevenson High Schools.
1	Installation of a new Gym Sound System at Churchill, Franklin & Stevenson High Schools.
1	Installation of a new Pool Sound System at Churchill, Franklin & Stevenson High Schools.

Installation, Commissioning, Shop Fabrication, and Programing Services
Design, Documentation, Training, and other Professional Services

PROJECT TOTAL \$194,450.00

Proposal Originating Office

SoundCom - Office

24600 N. Industrial Dr.

Farmington Hills, MI 48335

248-960-3700

Proposal Created By:

Joe Samborski

Account Exutive

Joe.Samborski@Ametek.com

Mobile (248) 787-2317

Client Acceptance

Company Name

Printed Name

Signature

Date

This proposal is subject to SoundCom System's Standard Payment Terms & Conditions of Sale - available at: <http://www.soundcom.net/info/terms-conditions.asp>



Proprietary & Confidential

CLEVELAND ■ DETROIT ■ PITTSBURGH ■ COLUMBUS ■ GRAND RAPIDS ■ CINCINNATI

800.628.8739 | [SoundCom.net](http://www.SoundCom.net)



Scope Overview

Every project is unique and we strive to deliver clear definitions of scope for every project. Our project managers are highly trained to clearly understand where scope breaks occur between trades on any given project so that the installation runs smoothly and on time while keeping the customer accurately informed, removing any mystery about our delivery commitment.

Engineering

Drawings

All drawings are engineered in AutoCAD and delivered in electronic (PDF) format and are archived at lcomm. *All D/C drawings require accurate floorplan files (backgrounds) delivered to SoundCom in AutoCAD format (DWG with applicable X-refs). ** Specialty detail drawings may require source files supplied by a third-party.

		SoundCom	N/A
Functional	Engineered technical drawing(s) showing the schematic design of the system including device connections, signal types, and equipment parts.		X
Device & Cable* D/C	Engineered technical drawing(s) detailing the wiring and locations of all devices and equipment racks outlined on a floor plan.		X
Rack Elevation	Engineered technical drawing(s) detailing the layout of any equipment racks,		X
Plate Details	Engineered technical drawing(s) detailing any connection plates for the project to		X
Specialty Details**	Engineered technical drawing(s) detailing any custom or specialty work, including but not limited to custom mounts, rigging, console design, lectern layout, furniture, etc.		X
Trade Coordination	Engineered technical drawing(s) most often detailing conduit, rough-in, blocking, etc. requirements for the project for use by other trades in coordination with the system(s) being provided by SoundCom.		X
As-Builts	A complete set of all SoundCom engineered drawings reflecting the complete system as installed, which may have varied from the originally engineered set of drawings based on unique changes/adds/deletions during the installation period.		X

Documents

All engineering documents are delivered in electronic (PDF) format and are archived at SoundCom Systems.

Submittals	A complete set of data/cut-sheets for all primary/major pieces of equipment being supplied for the project showing brand/make & model along with the detailed technical specifications submitted prior to project deployment.		X
O/M's	A complete set of manufacturer's operation and/or owner's manuals for all primary / major pieces of equipment submitted during the closeout period of the project.	X	

Additional Scope Clarifications





Scope Overview Installation Services

Field Installation		SoundCom	E.C.	G.C.	Owner	Existing	N/A
Demolition	Removal of any existing equipment and/or wire as specified and required for the project. Any wire and/or equipment to be reused must be properly protected by others during demo.	X					
Power	Provide power as specified at all required locations including equipment racks and field devices.		X		X		
Rough-In & Conduit	Provide rough-in and conduit (with pull string) as specified at all required locations including equipment racks and field devices, plate locations, floor boxes, etc.		X		X		
Backboxes	Provide backboxes as specified at all locations as required for the project. Unless otherwise noted backboxes are assumed to be installed by E.C.		X		X		
Floor Boxes	Provide floor boxes as specified at all locations as required for the project. Unless otherwise noted backboxes are assumed to be installed by E.C.		X		X		
Table Interfaces	Specialty interface boxes and/or "cubbies" designed to accommodate AV connections, & other cables including data & AC power. Unless otherwise noted any required table cutting or modification is by others.			X			
Lift / Scaffolding	If necessary, provide a lift and/or scaffolding capable of safely reaching and lifting required personnel and equipment to correct mounting/wiring positions.		X				
Provide Wire	Provide all cable for complete and functional system as required for the project.	X					
Pull (Install) Wire	Pull (install) and tag (label) all cable for complete and functional system as required for the project and as directed by D/C drawings.	X					
Blocking	Provide appropriate blocking and/or structural support for wall mounted equipment cabinets and/or specialty field devices like LCD flat panels, large format speakers, projectors, etc. as specified and required by the project						X
Cutting & Patching	Cutting, patching, and painting of walls and/or ceilings, including ceiling tiles and grid.	X					
Install Field Devices	Install all field devices including, but not necessarily limited to speakers, cameras, projectors, screens, displays, TV's, custom plates, etc.	X					
Install Headend	Install system headend which could include floor standing equipment racks, wall mounted equipment cabinets, plywood backboard mounted headends, etc.	X				X	

Additional Scope Clarifications



Scope Overview Specialty Services

Shop & Fabrication		SoundCom	E.C.	G.C.	Owner	Existing	N/A
Rack Assembly	The assembly of, and equipment loading of any and all equipment racks, cabinets, lecterns, podiums, and/or furniture as required for the project.				X	X	
Rack Plate Fab	The fabrication and labeling of any connection plates to be installed in an equipment rack, cabinet, lectern, podium, and/or furniture as required for the project.	X					
Setup & Programming							
Programming & Configuration	Configure system equipment and develop and test any custom system programming for proper operation as coordinated with customer and/or specifications.	X					
Testing & Commissioning		SoundCom			N/A		
System Commissioning	Verification of system functionality, operation, completeness, and system configuration including verification of software version(s).	X					
Configuration Backup	Backup and archive of all system programming, configuration settings, and setup files as specified and required by the project.	X					
Training & Support		SoundCom			N/A		
On-Site Training	Provide on-site training with key customer personnel as specified and required by the project.	X					
Off-Site Training	Provide off-site training with key customer personnel as specified and required by the project.				X		
Online Training	Provide online training, either self-paced or instructor-guided as specified and required by the project.				X		
Training Materials	Provide comprehensive user training materials, typically in electronic (PDF) format, as specified and required by the project.	X					
Information Technology (IT)		Yes			No		
Network Connectivity	Data network drops are required to be provided by the owner or others at locations as directed by SoundCom. This proposal assumes the client's IT staff will coordinate network access and configuration closely with SoundCom field technicians and engineers. This includes configurations for remote access where possible.	X					
Advanced Network Configurations	Additional pre-installation coordination with the client's IT staff may be required for specialized system integrations involving video conferencing, audio conferencing (VoIP), control systems, streaming, digital signage, and other similar technologies.	X					

Additional Scope Clarifications

Estimate: 3557157 Livonia Schools - Sound Systems

Material List

Description	Quantity	Unit	Part Number
Livonia Chuchhill Football			
VT 2210 Speakers Weatherized	4.00		
UA8-174-216:1/4-wave receiver antenna	2.00		UA8-174-216
UA506:Rack Hardware for Single ULX Receiver, P2T, P4M, P4T, DFR11EQ5, DP11EQ, SCM262 or SCM268	1.00		UA506
VT112:2-way1 x 12 inch high sensitivity, 500 Watt RMS, reflex loaded1 x 1.4 inch Titanium compression driver, horn loaded	2.00		VT112
HDA VT112 Amplifer	1.00		
ISP Custom U Braket	4.00		
MISC \$\$	1.00	EA	
SLXD24D/SM58-G58:Dual Wireless Vocal System with SM58	1.00		SLXD24D/SM58-G58
AQC227GY1000:1P 12G STRD UNSHLD WBLOCK	1.00		AQC227GY1000
Livonia Chuchhill Gym			
MISC \$\$	1.00	EA	
SLXD24D/SM58-G58:Dual Wireless Vocal System with SM58	1.00		SLXD24D/SM58-G58
UA505:Mounting Bracket and BNC Adapter for Remote Antenna Mounting (Contains one)	2.00		UA505
UA8-174-216:1/4-wave receiver antenna	2.00		UA8-174-216
HDDS SM2110-P	12.00		HDDS SM2110
CUSTOM U BRACKET:Custom U brackets available for certain boxes only	12.00		CUSTOM U BRACKET
DBXVENU360-V:3X6 Loudspeaker Management System	1.00		DBXVENU360-V
HDA2110 Amp Module	2.00		
Livonia Chuchhill Pool			
HDDS SM2110-P Weatherized	8.00		
Custom U Brackets Weatherized	8.00		
SCM800:Eight-Channel Microphone Mixer with EQ per Channel, AC only, One Rack Space, Single and Dual Mount	1.00		SCM800
MISC \$\$	1.00	EA	
HDA2110 Amp Module	1.00		
4246IOBK1000:4PR 23G CAT6 IN/OUTDOOR	1.00		4246IOBK1000
Livonia Franklin Hill Football			
VT112:2-way 1 x 12 inch high sensitivity, 500 Watt RMS, reflex loaded 1 x 1.4 inch Titanium compression driver, horn loaded	2.00		VT112
ISP Custom U Braket	2.00		
VT 2210 Speakers Weatherized	2.00		
HDA VT112 Amplifer	1.00		
HDA VT2210 Amplifer	4.00		
MISC \$\$	1.00	EA	
AQC227GY1000:1P 12G STRD UNSHLD WBLOCK	1.00		
Livonia Franklin Hill Gym			

Description	Quantity	Unit	Part Number
HDA2110 Amp Modules	2.00		
SLXD24D/SM58-G58:Dual Wireless Vocal System with SM58	1.00		SLXD24D/SM58-G58
MISC \$\$	1.00	EA	
HDDS SM2110-P	12.00		HDDS SM2110
DBXVENU360-V:3X6 Loudspeaker Management System	1.00		DBXVENU360-V
UA505:Mounting Bracket and BNC Adapter for Remote Antenna Mounting (Contains one)	2.00		UA505
UA506:Rack Hardware for Single ULX Receiver, P2T, P4M, P4T, DFR11EQ5, DP11EQ, SCM262 or SCM268	1.00		UA506
Custom U Brakets	12.00		
Livonia Franklin Hill Pool			
HDA2110 Amp Module	1.00		
SLXD24D/SM58-G58:Dual Wireless Vocal System with SM58	1.00		SLXD24D/SM58-G58
UA825:25' UHF Remote Antenna Extension Cable, BNC-BNC, RG8X/U Type	4.00		UA825
MISC \$\$	1.00	EA	
UA506:Rack Hardware for Single ULX Receiver, P2T, P4M, P4T, DFR11EQ5, DP11EQ, SCM262 or SCM268	1.00		UA506
BRC1 + BRC1-600 to drive CS651	1.00		
HDDS CS651 Non Plenum Weatherized	5.00		
HDDS SM2110-P Weatherized	6.00		
SCM268:Four-Channel Transformer Balanced Microphone Mixer with Phantom Power, AC only, Half Rack Space, Single and Dual Mount	2.00		SCM268
DBXVENU360-V:3X6 Loudspeaker Management System	1.00		DBXVENU360-V
4246IOBK1000:4PR 23G CAT6 IN/OUTDOOR	1.00		4246IOBK1000
Stevenson Football			
HDA VT112 Amplifer	1.00		
UA8-174-216:1/4-wave receiver antenna	2.00		UA8-174-216
UA825:25' UHF Remote Antenna Extension Cable, BNC-BNC, RG8X/U Type	2.00		UA825
VT112:2-way 1 x 12 inch high sensitivity, 500 Watt RMS, reflex loaded 1 x 1.4 inch Titanium compression driver, horn loaded	2.00		VT112
UA505:Mounting Bracket and BNC Adapter for Remote Antenna Mounting (Contains one)	2.00		UA505
MISC \$\$	1.00	EA	
AQC227GY1000:1P 12G STRD UNSHLD WBLOCK	1.00		AQC227GY1000
Stevenson HS Gym			
UA505:Mounting Bracket and BNC Adapter for Remote Antenna Mounting (Contains one)	2.00		UA505
UA825:25' UHF Remote Antenna Extension Cable, BNC-BNC, RG8X/U Type	2.00		UA825
UA506:Rack Hardware for Single ULX Receiver, P2T, P4M, P4T, DFR11EQ5, DP11EQ, SCM262 or SCM268	1.00		UA506
DBXVENU360-V:3X6 Loudspeaker Management System	1.00		DBXVENU360-V
SCM268:Four-Channel Transformer Balanced Microphone Mixer with Phantom Power, AC only, Half Rack Space, Single and Dual Mount	1.00		SCM268

Description	Quantity	Unit	Part Number
HDA VT2210 Amplifer	2.00		
CUSTOM U BRACKET:Custom U brackets available for certain boxes only	12.00		CUSTOM U BRACKET
HDDS SM2110-P	12.00		HDDS SM2110
MISC \$\$	1.00	EA	
Stevenson HS Pool			
MISC \$\$	1.00	EA	
HDA2110 Amp Module	1.00		
Custom U Brackets Weatherized	4.00		
BRC1 + BRC1-600 to drive CS651	1.00		
HDDS CS651 Non Plenum Weatherized	5.00		
ISP HDDS SM2210 Weaherized	4.00		
4246IOBK1000:4PR 23G CAT6 IN/OUTDOOR	1.00		



VT2210 DUAL ELEMENT LINE ARRAY SPEAKER

Main Features

Dual Element Line Array cabinet with 85V X 90H pattern
2-way bi-amped internally powered design
1200W RMS 2400W PEAK internal or external amplifiers
Remote Power Amplifier option available
U Style mounting bracket or 3/8 inch Eyebolt rigging
LF, 2x 10" High performance 800 watt woofer
HF, dual 1.4" HF compression driver on 45 x 90 horns
136dB peak, 132dB long term output level
24"W x 23.5"H x 15"D 75LBS



VT2210 SHOWN WITHOUT GRILL

Application

The VT2210 was developed in collaboration with SoundCom System for outdoor football stadium applications. The dual element line array design allows a single speaker to provide a down firing element to cover near-field bleachers and an upper element to cover across the field bleachers. By incorporating both the near-field and long throw across the field element into one cabinet we eliminate the interaction and phase problems associated with separate cabinets. This greatly improves fidelity, clarity and definition of the sound system. The VT2210 is a flyable high output dual element line array speaker providing high fidelity sound that ISP has become so well known for. The VT2210 is available with dual external remote amplifiers allowing separate level adjustment for the near field down firing element and higher SPL Level for the upper "across the field" element of the line array system. When used with dual external amplifier modules the available system power increases to 2000 watts RMS, 4000 watt Peak. The VT2210 also works excellently for Front of House systems, foreground and background music plus music-plus-paging systems. These speakers are also ideally suited for a wide variety of applications including church installs, nightclubs, restaurants and any installation requiring a low profile high output cabinet. The VT2210 is also available in a weatherized version for outdoor applications. Many church applications require a low profile cabinet due to low ceiling heights. Choices are limited for a speaker capable of a wide vertical pattern providing high output high definition with excellent clarity. The VT2210 is the perfect answer and ships with available internal fly-points on top including a lower pull-back rig point or custom U Style mounting bracket. The VT2210 has excellent vocal clarity and dynamic impact. Combined with a subwoofer the VT2210 provides a very high performance line array audio system. The VT2210 is also available with external single rack space remote power supply module DAA-VT2210-PS2.



VT112 POWERED SPEAKER

ISP TECHNOLOGIES VT112

KEY FEATURES:

- Compact high output powered cabinet
- 2-way bi-amped internally powered design
- 1000 watts RMS internal power amplifier
- Internal fly-points for easy rigging
- Designed to fly horizontally or vertically, ideal for low ceiling installs
- LF, 12" High performance 500 watt woofer
- HF, 2" HF compression driver on 90° x 80° horn
- 132dB peak, 129dB long term output level
- 25-1/4" H x 17-5/8" W x 15" D 60LBS

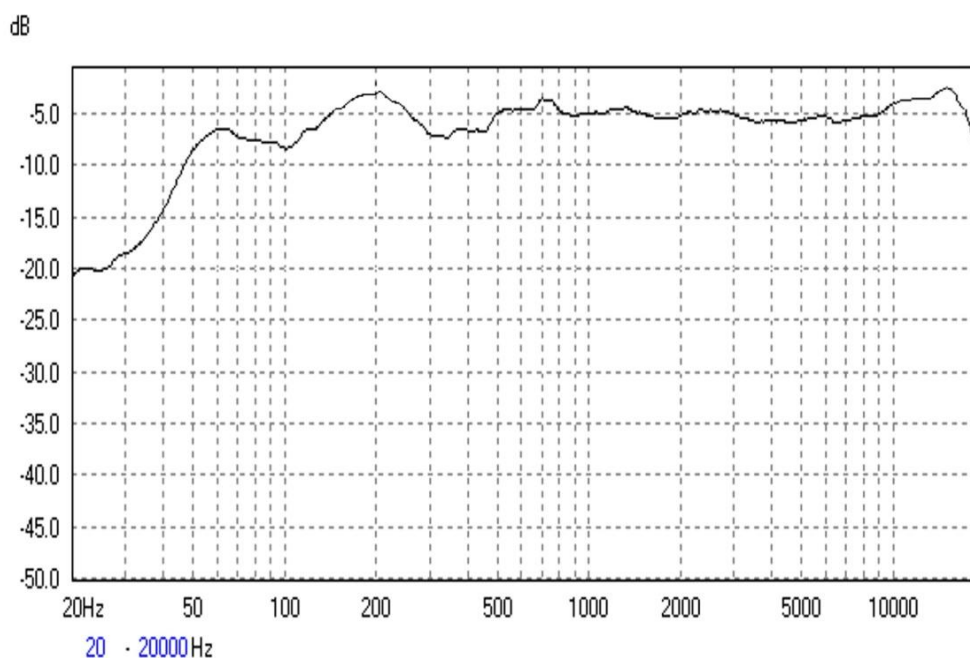


APPLICATION:

The VT112 is a flyable high output speaker providing high fidelity sound that ISP has become so well known for. The VT112 works excellently for Front of House systems foreground and background music plus music-plus-paging systems. These speakers are ideally suited for a wide variety of applications including church installs, nightclubs, restaurants and any installation requiring a low profile high output cabinet. Many church applications require a low profile cabinet due to low ceiling heights. Choices are limited for a speaker capable of high output high definition with excellent clarity. The VT112 is the perfect answer and ships standard with internal fly-points on top and also includes a lower pull-back rig point. This cabinet can be ordered with either a vertical or horizontal orientation. The VT112 has excellent vocal clarity and dynamic impact. Combined with a subwoofer the VT112 provides a very high performance audio system.

ISP TECHNOLOGIES VT112 SPECIFICATIONS

Configuration:	2-way
LF Driver:	1 x 12 inch, high sensitivity, 800 WATT RMS, reflex loaded
HF Driver:	1 x 2 inch Titanium compression driver, horn loaded
Pattern:	90° x 80° HF Horn:
Frequency Resp:	55 Hz to 18 KHz -3bd
Construction:	Baltic Birch Plywood
Dimensions:	25-1/4" H x 17-5/8" W x 15" D
Weight:	60 lbs.
Amplifier:	1000 W RMS, 2 channel, high current DAA™, fan cooled
Power Required:	6 Amps x 120 VAC
Crossover:	Internal 4 th order Linkwitz-Riley 24db per octave
Peak SPL:	132db peak output level



ISP Technologies 5479 Perry Dr, Suite B. Waterford, MI 48329

Phone # (248)673-7790 Fax # (248) 673-7696

www.isptechnologies.com

VM/VT Series may be covered under one or more patents
Other Patents Pending

HDA SERIES RACKMOUNT POWER AMPLIFIER

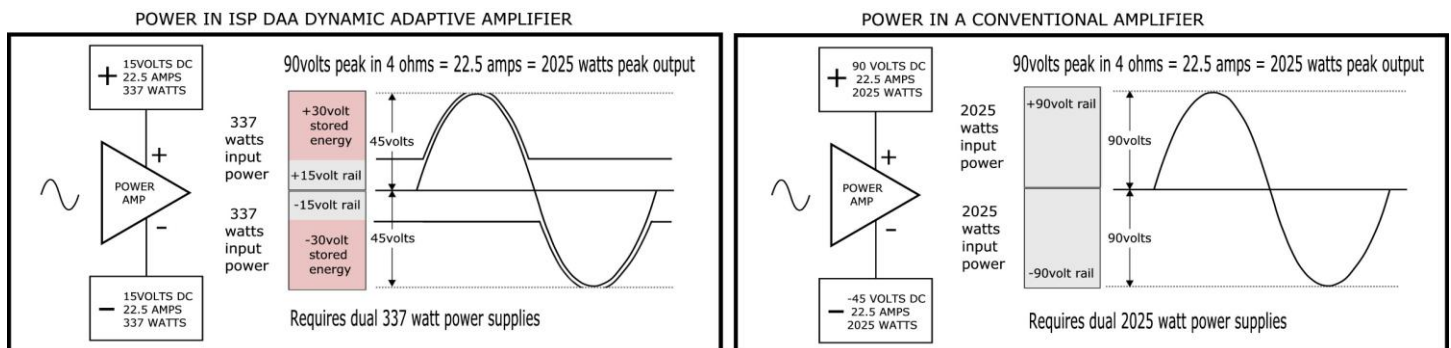


HDA 2502 MODEL SHOWN

Main Features

- Patented Dynamic Adaptive Amplifier technology with super HI-FI performance, superior to Class D
- Application specific power amplifier matched to the speaker cabinet
- 2-way or 3-way built in precision cross-over and equalization specific to the actual speaker
- 1150 to 2500 watts RMS 2200 to 5000 watts Peak Dynamic Adaptive Amplifier
- Class A/B topology with adaptive tracking rails delivers super HI-FI performance vs. Class D amps
- Higher efficiency power line consumption (watts IN vs. watts OUT) than Class D amplifiers
- 2U Rack 19" W x 3.5" H x 16" D 25lbs

The Patented (HDA) High Definition Amplifier Series represents a new generation of high performance power amplifier technology. While virtually all other amplifiers have moved to Class D topology the HDA Series delivers higher performance than any Class D amplifier. Class A/B amplifiers deliver higher fidelity but with lower efficiency. The Dynamic Adaptive Amplifier technology is covered under three newly issued US patents and can rival the efficiency of Class D amplifiers for heat. The DAA amplifier technology also delivers higher efficiency for power line consumption by use of stored energy available to modulate the power supply to precisely track the audio signal only a few volts above the audio signal as seen below.



By using stored energy available to lift the power supply rails when needed, the required wattage from the power supplies and AC line is dramatically reduced. This not only saves power consumption but also reduces heat and increases reliability by reducing the voltage across the output power devices. The HDA amplifier module includes all signal processing required for precision matching to each specific speaker cabinet being powered, further improving sonic performance of the system. On board active crossover with 24db per octave Linkwitz-Riley response, time alignment and precision equalization for cabinet tuning is built in, taking the guess work out of system tuning and alignment. Output connections to the matching speaker cabinet are via SPEAKON NL4 or NL8. Power ON / OFF mute, thermal protection and short circuit protection is also incorporated in each HDA Series amplifier.

Specifications:

Rated Output Power all channels driven at cabinet load impedance :	1150 watts RMS / 2500 watts RMS HO version
Sensitivity for full rated power	: +4 dbu / 0dbu = .775 volts RMS
Signal to Noise Ratio dB, below rated 1kHz power, A-weighted)	: greater than 110db
Total Harmonic Distortion (THD)	: less than 0.05%
Input Impedance, balanced	: 20k ohms
Regulated switching power supply efficiency	: 92%

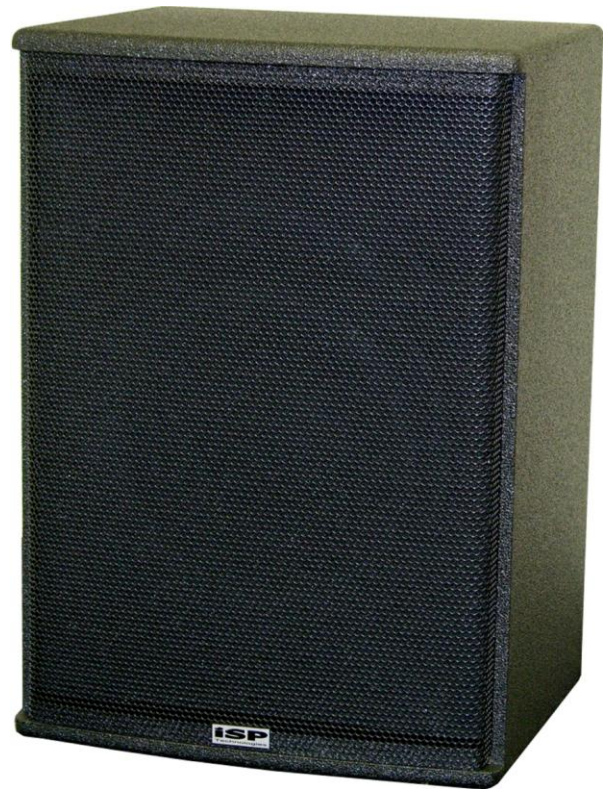
DAA Amplifier Technology covered under US patent # **9,402,128**, **9,641,133** and **9,853,602**

ISP Technologies 5479 Perry Drive Suite B Waterford, MI 48329 www.isptechnologies.com



Main Features

- Easy to install using dual Cat6 connections
- 2-way active design
- Easily controlled with Master Control Module along with Remote Level Controls.
- 220 Watts maximum output
- Self powered with built in bi amplifier
- LF, 10" Cone Speaker
- HF, 1.3" titanium diaphragm compression driver
- Frequency Response (+-3 dB): 50 Hz - 19 kHz
- Ships with bracket for wall mounting



Application

The HDDS SM2110 is a wall mountable Speaker providing full, high fidelity sound that ISP has become so well known for. The SM2110 works excellently for foreground and background music plus music-plus-paging systems. These speakers are ideally suited for a wide variety of applications, from restaurants and specialty retail stores to professional offices and airports. Low frequency output can be augmented with the addition of our HDDS subwoofer, the SB400. Installation of the SM2110 is quick and easy, only requiring dual Cat6 cables to be run from the Master Control Module. The loudspeaker is packaged with a bracket for easy wall mounting. The SM2110 cabinet is made of Baltic Birch plywood and is coated with a durable, rubberized coating. The SM2110 cabinet and grille are paintable to match any color scheme.



HDDS SM2110 Speaker

Specifications:

Type: 2-way active

Low Frequency: 10" cone

High Frequency: 1.3" titanium diaphragm compression driver

Crossover: 4th order LR high pass and low pass

High Pass Filter: Switchable 40 Hz or 90 Hz - for use with a subwoofer

Maximum SPL: 122 dB peak, 116 dB long-term

Nominal Coverage Angle: 80 deg. H x 70 deg. V

Frequency Range (-10 dB): 42 Hz - 20 kHz

Frequency Response (+-3 dB): 50 Hz - 19 kHz

Amplifier Power: 150 WRMS continuous LF, 40 WRMS continuous HF

Backplate: Dual RJ45 Connectors, Remote level input control, High Pass filter selector switch

Size: 20.2" H x 12.2" W x 12.25" D

Weight: 25 lbs

Enclosure: Baltic Birch Plywood with rubberized polyurethane finish

Grille: Powder Coated Steel

Mounting Hardware: Included wall mounting bracket

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www.isptechnologies.com

The Science of ISP Technologies Speaker

- Midrange Clarity
- Critical Driver Selection to avoid frequency response errors
- Custom designed waveguides to optimize smooth frequency response
- Design based on Computer analysis using ISP's proprietary Linesim software
- ISP Technologies patented Dynamic Adaptive Amplifier technology
- Precision signal processing to optimize performance

Not all speakers are created equal. There are a number of reasons why ISP Technologies speakers outperform the competition. Midrange Clarity is one of the most critical aspects for speakers. All of the clarity of both vocal and instruments are in the midrange of the audio spectrum. Most speaker designs simply do not consider the importance of the midrange performance. ISP Technologies speakers provide superior performance in this critical band by design. Careful selection of the drivers used to avoid any dips in this critical band is the first step. Any required boost in power to compensate for a dip in the speakers response will greatly decrease headroom. For example a 3db required boost will require two times the amplifier power at this frequency. The Next critical aspect is the cabinet and waveguide design. Critical waveguide and horn design through mathematical analysis eliminates both phase and frequency response errors in the speaker. ISP speakers are designed using ISP Technologies proprietary Linesim software. Linesim is a mathcad based speaker analysis software which allows mathematical simulation of all aspects of the final speaker. This allows simulation of the performance of the speaker design before even building a prototype. ISP Technologies Linesim is amazingly accurate providing nearly identical simulated performance to that of the final product. This allows all critical aspects of the design to be optimized before building a first prototype. The next advantage of the ISP Technologies speakers is the performance of the power amplifier technology. Nearly all speakers today are active with built in power amplification. This allows separate channels of power amplifiers to be matched to the individual bands of the speaker. ISP Technologies Dynamic Adaptive Amplifier technology is covered under 3 recently issued US patents and delivers state of the art power amplifier performance with higher efficiency and lower manufacturing cost than any other power amplifiers available today. ISP Technologies further enhances performance with superior signal processing including the crossover between the multiple bands and precision equalization and phase correction. The final result is a higher level of speaker performance than even the best speakers available and with reduced manufacturing cost due to the multiple patents covering the ISP Technologies speakers and the critical analysis due to ISP Technologies proprietary Linesim software.

ISP TECHNOLOGIES WARRANTY AND SERVICE

The Internal Circuitry is fully guaranteed to be free of defects under normal use and service for a period of three years from the date of purchase. The Speakers and Cabinet that are used in this product are fully guaranteed to be free of defects under normal use and service for a period of five years.

Any damage resulting from the misuse or the failure to follow the precautions and instructions will void the warranty.

In the event that the unit needs to be repaired, please return the unit to ISP Technologies directly. Simply repack the unit, send a copy of the original receipt, a note stating the problem, and send it to:

ISP Technologies, LLC
5479 Perry Drive, Suite B
Waterford, MI 48329
Attn: Repair Dept.

All shipping charges must be fully prepaid.

ISP will not be responsible for any damages incurred in shipping of any unit. Any claim will need to be settled with the shipping company.

The warranty will be voided if the serial number has been tampered with in any way. The warranty card must also be filled out and returned in order to activate the warranty.

Should you have any questions for the repair department prior to returning the product please call 1-(248)-673-7790



ISP TECHNOLOGIES, LLC
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WATERFORD, MI. 48329
248-673-7790

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SoundCom Systems 12 Month Warranty



SoundCom operates 24 hours a day, 7 days a week, 365 days a year to service our customers with mission and life-critical support systems and is staffed by veteran technicians trained to troubleshoot virtually any system and situation quickly minimizing downtime.

Today's technology and communications systems are complex, often requiring careful integration of hardware and software from a multitude of manufacturers. SoundCom engineers carefully research equipment selection and work closely with manufacturers and our installation technicians to make sure every system functions as expected.

Our installation technicians are highly-trained, experienced, and carry numerous industry certifications meeting manufacturer's installation guidelines and our industry's demanding installation standards.

Many systems require custom software development and our programmers are some of the best in the industry, keeping up with the latest trends and platforms while delivering easy to use control interfaces our customers can rely on.

Because our engineering, installation, and programming teams consistently deliver world-class quality systems for our customers, we are proud to offer an *industry-leading twelve (12) month warranty* on all SoundCom provided equipment, materials, and labor, effective upon substantial completion of the project as outlined in our standard terms and conditions.



To obtain warranty service, contact SoundCom's Service Department at +1 (800) 628-8739.

Severity	Description	On-Site Response Time
Level I Critical	Catastrophic or total system failure System is in a complete non-functional state.	Within one (1) business day during normal business hours.
Level II Minor	Erratic, sporadic system performance System is still functional, but minor problems exists.	Within two (2) business days during normal business hours.
Level III Routine	Routine system maintenance or fixes System is generally functional, however minor programming or firmware updates may be needed to resolve a system issue.	Within three (3) business days during normal business hours.

CUSTOMER SERVICE HOURS

While our service department operates 24/7/365, our standard service department business hours are, Monday through Friday (excluding holidays) from 8:00 AM to 5:00 PM EST.

Customers placing service calls during normal business hours will receive a phone response immediately or within two (2) hours.

Customers placing after-hours service calls will be connected with an answering service who will contact an available on-call technician. If classified as a Level I – Critical service disruption, the technician will call-back within two (2) hours and be on-site within four (4) hours*. Unless specifically requested, Level II and Level III classified service disruptions placed during after-hours periods will be responded to the next business day.

***After-hours emergency service is for Level 1 – Critical issues specific to life safety only.**

Unless specifically outlined in a SoundCom Performance Maintenance Agreement, after-hours emergency service is typically limited to healthcare facilities with life-safety related systems.