RFP# 45-22
Request for Proposal
Portsmouth School Department

Sound System Installation Services
for
Little Harbour Elementary School

INVITATION

Sealed proposals, plainly marked **"RFP# 45-22 Sound System Installation Services for Little Harbour Elementary School",** will be delivered to the Purchasing Office 3rd Floor S313, I Junkins Avenue, Portsmouth, New Hampshire, 03801, addressed to the Finance/Purchasing Department, will be accepted until **2:00 PM on July 5, 2022**

The Portsmouth School Department seeks a qualified sound system installer to procure and install a sound system upgrade for Little Harbour Elementary School.

Request for proposal forms may be obtained at cityofportsmouth.com/finance/pttrchasjng.htm.

A pre-proposal **mandatory** meeting shall be held on June 28, 2022 @10am at the Little Harbour Elementary School.

Any addenda to this RFP, including written answers to questions, will be posted on the City of Portsmouth website at .cityofportsmouth.com/finance/purchasing.htm under the appropriate project heading. Addenda and updates will NOT be sent directly to contractors.
Check the web site daily for addenda and updates after the release date. Proposers should print out, sign and return addenda with their proposal; failure to do so may result in disqualification.

The City of Portsmouth reserves the right to reject any or all proposals, to waive technical or legal deficiencies, to accept any proposal and to negotiate the terms of any final contract that may be in the best interest of the City.

Sound System Installation Services for
Little Harbour Elementary School

SECTION I - GENERAL INFORMATION

A. Installation Services: The City is requesting proposals from qualified sound system installers to procure and install an upgraded sound system for Little Harbour Elementary School. Installers must have a demonstrated ability to perform the type of work described in the project work scope.

B. Questions: Questions regarding this RFP should be directed to Bridie O'Brien at purchasing@cityofportsmouth.com.

C. Reservation of Rights: The City of Portsmouth reserves the right to reject any or all proposals, to waive technical or legal deficiencies, to accept any proposal and to negotiate the terms of any final contract that may be in the best interest of the City. The City further reserves the right to make inquiries regarding the qualifications and reputation of the proposer. By submitting a proposal, contractor agrees to hold harmless the City and its employees and agents from any and all claims, actions, and damages arising from such investigation. Proposer may be requested to execute releases.

D. Withdrawal: A proposer is permitted to withdraw a proposal unopened after it has been deposited if such request is received in writing prior to the time specified for opening the proposal.

SECTION II - PROJECT WORK SCOPE AND REQUIREMENTS

The Portsmouth School Department is looking to install a turnkey sound system for cafeteria and gymnasium with inputs needed to accommodate small plays, meetings and assemblies. The two rooms that can function as two independent rooms, or one large space when the air wall is open and can be switched with a single wall. The basic operation requires no additional hardware, but the system has the option to be controlled by wall encoder, custom iPad applications and remote fader bank set up to meet the client's needs.

As outlined below in the submittal section, the School Department invites qualified proposers to review carefully the specifications attached and to submit proposals for completing the work. Proposals may include suggested modifications to the proposed specifications however deviations from the attached specifications must be clearly noted. The City shall have sole discretion to determine system specifications.

Installers must be authorized by the manufacturer to install the system components proposed. It is the intention of the School Department to acquire a high-quality system that can be readily operated by trained personnel. Contractor will be responsible for training.

Selected installer will be responsible for removing all existing equipment and acquiring all permits.

SECTION III - SUBMITTAL REQUIREMENTS

Proposals must be submitted in a sealed envelope and shall be addressed to the City at the address and to the attention of the official as outlined in the invitation. All proposals must be submitted prior to the specified date and time. Any proposals received after the specified date and time will not be considered and will not be opened. Proposals delivered via facsimile, e-mail, or any format other that within a sealed envelope shall not be considered.

Proposals shall include in the following order:

1) Cover letter introducing the company and providing a summary of company resources, experience and expertise;

2) Scope of Work to be provided specifically identifying the following:
   A. Installation Services to be provided
   B. Description of sound system components to be procured indicating specifically any deviation or variation from that proposed in the attached specifications.
   C. Description of training to be provided (please note training must include times after school hours).

3) Price Proposal;

4) Proposed Schedule of Work; and

5) At least three (3) references where the Contractor has provided similar services (contact name, address, phone/email); and

SECTION IV - SELECTION

The City may select up to three installers to interview. Selection shall be based on: **(1)** Installer's qualifications, experience and resources (2) scope of work proposed (3) schedule (4) references and background checks and (5) price.

SECTION V - CONTRACT

The highest ranked company will be invited to negotiate a contract with the School Department and which will include a final scope of work, schedule and fee. If the parties cannot agree on contract terms and scope, the City may end negotiations and proceed to next highest ranked proposer or exercise any of its reserved rights.

As part of the contract, installer can anticipate the following provisions:

Contractor will indemnify the City against all suits, claims, judgments, awards, loss, cost or expense (including without limitation attorneys' fees) arising in any way out of the Contractor's negligence or breach of its obligations or warranties under this Contract. Contractor will defend all such actions with counsel satisfactory to City at its own expense, including attorney's fees, and will satisfy any judgment rendered against City in such action.

The Contractor shall secure and maintain, until acceptance of the work, insurance with limits not less than those described below:

Commercial General Liability:
Bodily injury or Property Damage - $1,000,000/$2,000,000
Per occurrence and general aggregate

Including contractual liability and product and completed operations

Automobile and Truck Liability:
Bodily Injury or Property Damage - $1,000,000/$2,000,000
Per occurrence and general aggregate

Workers Compensation Insurance coverage for all people employed by the contractor to perform work on this project sufficient to meet the requirements of the most current laws of the State of New Hampshire.

Sound System Installation Services for
Little Harbour Elementary School

1. PROJECT SCOPE

1. Provide a turnkey sound system for cafeteria and gymnasium with inputs needed to accommodate small plays, meetings and assemblies. The two rooms can function as two independent rooms, or one large space when the air wall is open and can be switched with a single wall. The basic operation requires no additional hardware, but the system has the option to be controlled by wall encoder, custom iPad applications and remote fader bank set up to meet the client's needs.
2. Contractor will be responsible to acquire all necessary permits to complete this project.
3. Contractor to verify and ensure that any additional structural load will not impact existing building structure. Awarding contractor will be responsible to hire structural engineer to verify if necessary.
4. Comply with all NFPA 101 Fire, Electrical, Building, and local codes.
5. Contractor will responsible to provide its own dumpsters for demo materials.
6. Installer to be approved by the manufacturer.
7. Provide two (2) visits to site outside of normal occupancy hours for training purposes without additional cost.
8. Submit three (3) complete packages of written reports, specification submittal's, and drawings to owner once work is 100% complete.

2. PROJECT SUMMARY

1. Owner reserves the right to keep any and all equipment deemed salvageable to be reuse in other schools.
2. Awarding contractor will be responsible for all aspects and relocation of which may include electrical, HVAC, Fire protection, carpentry, and painting to complete sound system installation.
3. Contractor will provide all necessary equipment (including lift) to allow complete installation.
4. Comply with NFPA 70, "National Electrical Code".
5. Any and all material to be used will be certified asbestos free by the manufacturer(s).
6. Asbestos contaminated material does exist within auditorium perimeter. See attached document 3.3. Any disturbance will be completed by a certified contractor which the awarding contractor will be required to hire. This scope of work will need prior approval by the Facilities Director.
7. Owner representative must present prior to performing any demo work and/or temporary removal.
8. Remove all rubbish and debris from the site daily. The premises shall be maintained as clean as practical, consistent with the neatness required for the owner's normal day to day operations.
9. Manufacturer's Field St:rvict:: Eugagt: fadury-authurizt:c.l st:rvict: rt:prt:st:ntalive lo inspect, lest and adjust field assembled components and equipment installation, including connections, and to assist in field testing.

3 ELECTRICAL SUMMARY

I. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

2. Install exposed cables parallel and perpendicular to surfaces or exposed structural members, and follow surface contours. Secure and support cables by straps, staples, or similar fittings so designed and installed to avoid damage to cables. Secure cable at intervals not exceeding 30 inches and not more than 6 inches from cabinets, boxes, or fittings.

3. Separation of Wires: Separate speaker-microphone, line-level, speaker-level, and power wiring runs. Install in separate raceways or, where exposed or in same enclosure, separate conductors at least 12 inches for speaker microphones and adjacent parallel power and telephone wiring. Separate other intercommunication equipment conductors as recommended by equipment manufacturer.

4. Conceal conductors and cables in accessible ceilings, walls, and floors where possible

5. Splices, Taps, and Terminations: Arrange on numbered terminal strips in junction, pull, and outlet boxes; terminal cabinets; and equipment enclosures. Wall-Mounting Outlets: Flush mounted where possible.

6. Identification of Conductors and Cables: Color-code conductors and apply wire arid cable marking tape to designate wires and cables so they identify media in coordination with system wiring diagrams.

7. Ground cable shields and equipment to eliminate shock hazard and to minimize ground loops, common-mode returns, noise pickup, cross talk, and other impairments.

3.2 INSTALLATION SUMMARY

1. Contractor will ensure that his pricing will include all aspect for a complete sound system installation.

2. Complete installation and startup according to manufacturer's written specifications.

3. Verify that electrical wiring installation complies with manufacturer's submittal and installation requirements.

4. Coordinate layout and installation of system components and suspension system with existing construction that penetrates ceilings or is supported by them, including light fixtures, HVAC equipment, fire-suppression system, and partition assemblies.

5. Master Electrician to complete all electrical terminations in electrical panels.

6. Factory-authorized service representative to inspect, test and adjust field assembled components and equipment installation, including connections, and to assist in field testing. Report results in writing. Schedule testing seven days prior to owner's representative and owner's representative will be present.

NONDISCRIMINATION IN CITY CONTRACTS: Any entity that enters into a contract for goods or services with the City of Portsmouth or any of its boards, agencies, and departments and any recipient of city funds shall:

Implement an employment nondiscrimination policy prohibiting discrimination in hiring, discharging, promoting or demoting, matters of compensation, or any other employment-related decision or benefit on account of actual or perceived race, ethnicity, color, religion, national origin, gender, disability, age, military status, sexual orientation, gender identity, gender expression, or marital or familial status.

Not discriminate in the performance of the contract on account of actual or perceived race, ethnicity, color, religion, national origin, gender, disability, age, military status, sexual orientation, gender identity, gender expression, or marital or familial status.

School Administrative Unit No. 52
Little Harbour Elementary School
50 Clough Drive
Portsmouth, New Hampshire

RoomNo.	ACM Description	EPA Category	Approximate Quantity	EPA Assessment	Resp. Action	6-Month Inspect. ChangesY/N
Cafeteria Attic	Gypsum Wall Board Fire Rated	Misc.	1,100 ft²	5	1	N

NOTE: ft² = Square Feet

6-Month Inspector: Stephen McPherson# Al 000204 Date: March 2022

LITTLE HARBOUR ELEMENTARY

Cafeteria *I* Gymnasium Sound System

Contents

1. Scope of Work

Provide a turnkey sound system for cafeteria and gymnasium with inputs needed to accommodate small plays, meetings and assemblies. The two rooms can function as two independent rooms, or one large space when the air wall is open and can be switched with a single wall. The basic operation requires no additional hardware, but the system has the option to be controlled by wall encoder, custom iPad applications and remote fader bank set up to meet the clients' needs.

3. Equipment List

Ca1119oiy	QTY	BRAND	MODEL	DESCRIPTION
"' PA				
PA	4	Bose	AMU208	Speaker
PA		Bose	MB210WR	Subwoofer
PA	2	Bose	RMUBRKT1	pan / tilt mount
PA		Bose	PM8500N	8 chan amplifier
PA		A&H	AHM-32	16x16 matrix
PA		A&H	AH·M·SO-SDante 64	Dante Card
PA	2	A&H	IP1	wall controller
PA		A&H	IP8	remote fader bank
PA		Furman	CN-2400	power sequencer
PA		**Furman**	CN-15P	remote power sequencer
PA		West Penn	WP25210	Speaker Cable 10AWG plenum
PA	2	West Penn	WP 25291	Signal Cable 22AWG / 1 pair
PA		West Penn	WP 254245	Cat5E UTP Plenum
PA		Mid Atlantic	DWR-18·26PD	rack
PA		Mid Atlantic	PDT-2X320	vertical power w j box hardwire
PA		Mid Atlantic	PBL1	1u Blank
PA		Mid Atlantic	UD2 w rf cutout foam	2u Drawer w roam
PA		Mid Atlantic	UD3	3u drawer
PA		Mid Atlantic	UD4	4Udrawer
PA		D Link	DGS·1210-10P	Network Switch
• **Wireless**				
Wireless		Shure	Sl..XD24D/SM58	dual wireless receiver and mic
Wireless	2	Shure	Sl.XD1	bodypack transmitter
Wireless	2	Shure	WL185	lavalier microphone
Wireless	2	Shure	UA834WB	Antenna Booster
Wireless	4	Shure	UA8	Antenna
Wireless	4	Shure	UA505	Wall Mount
Wireless		Shure	UA221	Antenna Combiner 2
Wireless	2	Shure	UABiast-US	Antenna DC
Wireless		West Penn	2598G8BK0500	RGB/U 10AWG 50 OHM COAX
• **Panels**				
Panels		Whirlwind	MIP4	1/4" / RCA console input panel
Panels		Whirlwind	MIPS	1/8" / RCA w volume custom
Panels	2	RDL	DD-BTN44	Dante Bluetooth In
Panels	2	RDL	DDB-BN2M	Dante XLR in
Panels		Whirlwind	LH01-Cutom Panel	Ethercon Panel • NEAFDP
Panels		Whirlwind	ENC2050	Ethercon 50ft
Panels		Whirlwind	pcDI	computer interface w volume
Panels	2	Whirlwind	MST06US	1/8" > 1/8" cable
• **Monitors**				
Monitors	2	Bose	RMU108	Speaker
Monitors	2	**Bose**	RMUBRK1	Pan Tilt Mount RMU 108
Monitors		Bose	PM4500N	Amplifier

4. Equipment Documents

TECHNICAL DATA

ArenaMatch Utility AMU208 small-format foreground/fill loudspeaker

PROFESSIONAL

Product Overview

Built for zone-fill coverage or high-SPL foreground music, Bose ArenaMatch Utility loudspeakers feature similar tonal balance to ArenaMatch array modules but in compact designs. They have the same EMB2S compression driver as ArenaMatch arrays, ensuring consistent sound, and the same direct-exposure outdoor weather rating. Deploy them for zone-fill coverage in sports stadiums, arenas, outdoor entertainment centers, and more. Or use them to provide intelligible, high-level sound in any outdoor area - from niche venues such as breweries and fairgrounds to larger settings like resorts and outdoor shopping centers.

The AMU208 is a small-format ArenaMatch Utility model for outdoor applications that require excellent audio from a compact loudspeaker. It provides wide, even coverage with a go° x 60° constant-directivity high-frequency horn, 70 Hz - 18 kHz frequency response, 126 dB peak SPL, and supports the lowest vocal ranges with two Bose LF8 8-inch woofers.

Key Features

Deploy as zone-fill to support ArenaMatch arrays systems, delivering powerful, intelligible sound and ensuring consistent tonal balance with EMB2S compression drivers in every speaker

Deploy to provide high-level foreground music in any outdoor venue

Install outdoors with an IP55 weather rating, three-layer stainless steel grille, water-resistant woofer cone coating, industrial polyurethane exterior coating, and molded cover to protect inputs

Adapt to a variety of configurations - all models ship standard with 70/l00V transformer inputs and passive crossover with optimized filters for more consistent frequency and polar response

Streamline the design process by combining with complementary Bose Professional products, such as PowerMatch amplifiers and ControlSpace DSPs

Mount easily with Included stainless-steel U·bracket; rear enclosure panel also includes M8 threaded inserts to accept third-party accessory mounting brackets

Provide wide, even coverage with go° x 60° constant-directivity high-frequency horn, which can be rotated for horizontal or vertical installation

Perform in the most demanding applications with 70 Hz - 18 kHz frequency response and 126 dB maximum peak SPL

Support lowest vocal range with 2 x Bose LF8 8-inch woofers featuring a 2-inch extended-excursion voice coil. which extends response to 70 Hz

EN 54-24 Certified: EN 54-24: 2008, Loudspeaker for Voice Alarm Systems for Fire Detection and Fire Alarm Systems for Buildings

RDL®
Radio Design Labs

SPCCIAL/STS IN PRACTICAL PRECISION ENGINE.ER/NG•.·

Model DD-BTN44

Wall-Mounted Bi-Directional Line-Level and Bluetooth® Audio Dante Interface

- Bluetooth Audio Input for Dante Networked System
- Consumer Audio Inputs on Mini-Jack or RCA Jacks
- Return Audio Talk Channel from Dante Network to Bluetooth Connected Device
- Consumer Audio Outputs on Mini-Jack
- Balanced and Unbalanced Audio Line Outputs on Rear Panel
- Intuitive Single Button Bluetooth Pairing with LED Status Indication
- Special Software Not Required for Module Setup
- Customize the Module ID Name and Settings through the Bluetooth Connectioo
- Mono or Stereo Mode for Audio Inputs is Switch-Selectable Behind Cover Plate
- Module is PoE Powered

APPLICATION: The D SERIES-BTN44 modules are wall-mounted user Dante audio interfaces that include bidirectional Bluetooth audio, unbalanced analog stereo or mono audio inputs and outputs, and a balanced or unbalanced line-level output. Stereo audio from a compatible Bluetooth-enabled device feeds two Dante network audio channels. Stereo audio connected to a front-panel Mini-Jack or Land R RCA jacks feeds two other Dante network audio channels.

Stereo audio is available to users through a front-panel Mini-Jack fed from two Dante network channels. A rear-panel terminal block provides either a balanced (+4 dBu) or unbalanced (-10 dBV) output from one Dante network channel. That output may feed a variety of AOL wall panels to provide a specific mic or line level output to users, or it may be used to feed the audio power amplifier in the associated audio zone, One Dante channel may be routed back to a connected device through the Bluetooth interface enabling full duplex communication.

The D SERIES-BTN44 modules are powered from PoE. The installer can customize the module name and programming password through the Bluetooth connection using a smartphone, computer or tablet terminal program, These modules feature studio-quality circuits and analog filters to provide audio performance exceeding expectations from consumer interface technologies. High performance, simplicity of operation and efficiency of installation make RDL the best value in professional Bluetooth interfaces.

RDL • e 9 eth St. • Prescott, AZ, USA 86301 • (928) 44,- oYl • f-AX (Y<8) 440-YoY< • www rdlnet com

TECHNICAL DATA

MB210-WR
outdoor-rated compact subwoofer

PROFESSIONAL

Product Overview

Bose Professional MB210-WR compact subwoofers are designed for outdoor installations of background/ foreground music and small sound-reinforcement systems that require low-frequency extension down to 37 Hz. The MB210-WR subwoofer features two (2) 10-inch high-excursion woofers. derived from the award-winning Bose Professional FI subwoofer, in a compact, exterior-grade plywood enclosure optimized for outdoor, fixed-installation applications. Featuring outstanding performance to size ratio, the MB210-WR is designed to complement Bose Professional loudspeaker lines, in outdoor applications, such as ArenaMatch Utility, Panaray, DesignMax, and Freespace, with additional bass impact.

Key Features

2 x 10" high-excursion woofers for high-output bass in a compact enclosure. Transducers derived from award-winning Bose FI portable, powered subwoofer

500 W long-term power handling for high sound output and reliability

Low-frequency extension down to 37 Hz for impactful, deep-bass music reinforcement

123 dB maximum continuous SPL, 129 dB peak SPL

Exterior-grade plywood enclosure with compact size for installations

Install outdoors with an IPSS weather rating, three-layer stainless steel grille, water-resistant coating on woofer cone, industrial polyurea exterior coating, and molded cover to protect inputs

U-bracket included for easy mounting to walls or ceilings

RoomMatch® Utility RMU208
small-format foreground/fill loudspeaker

8056:::: ®

Key Features

Award-winning RoomMatch sound - now in smaller 2-way point-source designs for high-level foreground music, under-balcony, zone-fill and vocal-range floor monitor applications

Bose EMB2 compression driver - for lower distortion and improved vocal clarity compared to conventional foreground/fill models; also provides consistent mid/high sonic character compared to that of RoomMatch full-range and other RoomMatch Utility models

90° x 60° constant-directivity high-frequency horn - gives wide, even coverage and may be rotated in enclosure

2 x Bose LFB 8-inch woofer - with 2.0-inch extended-excursion voice coil extends response to 70 Hz for lowest vocal range

Quasi-3-way passive crossover with separate filters for each transducer - provides more consistent frequency and polar response compared to conventional crossover designs

70 Hz-16 kHz frequency response and 126 dB maximum peak SPL- deliver the performance required for most demanding applications

Flexible mounting with included LI-bracket- rear enclosure panel also includes **4 x** MB threaded inserts in 5.0" x 2.75" (127mm x 70mm) pattern to accept third-party accessory mounting brackets

Product Overview

The RoomMatch Utility RMU208 small-format sound reinforcement loudspeaker is intended for use in high-quality foreground music, under-balcony, zone fill and vocal-range floor monitor applications. The design features a single Bose® EMB2 compression driver to provide mid/high frequency voicing similar to that of RoomMatch full-range array modules. Dual 8-inch woofers provide full-range output and a multi-angle enclosure increases mounting flexibility.

Technical Specifications

System Parfonnance		
Frequency Response (+/-3 dB)[1]	BO Hz - 16 kHz	
Frequency Range (-10 dB)	70 Hz -16 kHz	
Recommended High-Pass Protection Filler	70 Hz >Mlh minimum 12-dB/oclave filler	
Nominal Coverage Pallern (H x V)	90" x 60" (rolalable high frequency horn)	
Crossover Type	passive; separate bandpass filters per transducer	
	Bosa extended Wacycta test'	**AES transducer test'**
Pov,er Handling, long-term continuous	300 W	400 W
Pomr Handling, Peak	1200W	1600W
Sensilivily (SPL / 1 W@ 1 m)'	94dB	94 dB
Calculated Maximum SPL@ 1 m[3]	119dB	120dB
Calculated Maximum SPL@ 1 m, peak	125dB	126dB
Transducers		
Low Frequency	2 x Bose LF8 high-excursion 8-inch 'M)()fers (2-inch voice coil)	
High Frequency	1 x Bose EMB2 extended-midband high-frequency compression driver (2-inch voice coil)	
Nominal Impedance	BO	
Physical		
Finish	Tm-part spray polyurethane coaling, black or wflile	
Grille	18-gauge (1.2mm) perforated steel, po'M:ler-coated finish, black *or* \-Yhile	
Environmenlal	Indoor use only	
Connectors	2 x Neulriks NL4 and 1 x barrier strip, wired parallel	
Suspension/ Mounting	2 x MS threaded inserts (1 each side) for U-brackel; 2 x M8 lhreaded inserls (1 each side) for ver1ical yoke mount, 4 x MS threaded inserts on rear surtace (127 x 70 mm, 4-boll patlern)	
Dimensions (Enclosure only)	9 3' I-I, 27 o· W x 10 o' D (23G mm H, G8G mm W, 207 0'11 D)	
Nel Weight	37 lbs (16.8 kg)/ 43 lbs (19 5 kg) "'1lh U-brackel	
Shipping Weigh!	49 lbs (22 2 kg)	
Product Coda		
Black	371836-0120	
While	371B36-0220	

AHM-32

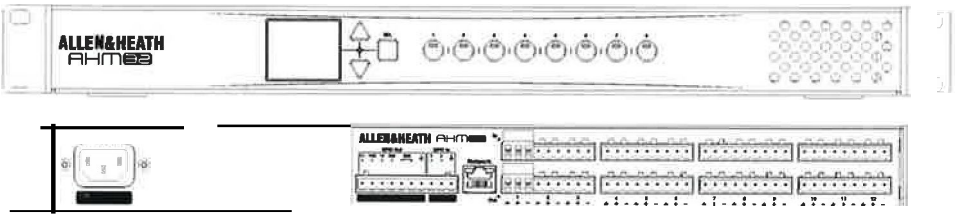
Technical Datasheet

AHM-32 is an audio matrix processor for sound management and installation. It is designed for audio distribution, paging, conferencing and speaker processing in a multitude of environments including corporate, hospitality, education, event and multi-purpose venues, retail, theatres, cruise ships and sports venues.

The AHM-32 processor is complemented by an extended ecosystem of remote audio expanders, remote controllers, interfaces, apps and software.

A family of portable, rack-mountable or wall-mount audio expanders is available with a choice of proprietary point-to-point Layer-2 or Dante transport protocols.

A range of IP remote controllers is available for volume control, music source selection, preset recall and more. **AHM** can also integrate with third party devices over GPIO, TCP/IP, or industry standard control systems. The Custom Control editor and app from Allen & Heath offer more control options and tailored user interfaces for multiple users and device types, with kiosk and BYOD capability.



Features

- 32x32 processing matrix
- 12x12 local analogue 1/0
- 1/0 Port for expansion or audio networking, up to 128x128
- Dante 96kHz optional cards (AES67 and DDM ready)
- 32 configurable processing outputs - up to 32 mono/ 16stereo zones
- Sound management tools
    - 4x Automatic Mic Mixer
    - AEC (Acoustic Echo Cancellation)*
    - ANC (Ambient Noise Compensation)
    - Priority ducking
    - 8-band PEQ, dynamics and delay on every input and zone
    - Speaker processing with x-owir fIltAr, rlAIAy, llmitAr Ann PFC'l

  *with optional module
- 96kHz FPGA core with ultra-low latency
- Compatible with Allen & Heath IP1, IP6, IP8 remote controllers
- 2x2 local GPIO plus networkable GPIO interface
- Front panel screen and 8x programmable SoftKeys
- 16 user profiles
- Event scheduler
- Internal stereo playback

IP8
REMOTE CONTROLLER

The IPB is a next generation, Ethernet L3 based remote controller that can be PoE+ or DC powered and can live on the building IT network,

8 Motorized faders can be set to a range and can control any input or output from a dlive system.

16 RGB LED buttons and 8 color LCD displays provide extensive information and control.

A unique Auto Firmware Matching system keeps the firmware in sync.

IPB is compatible with the dlive product series.

Key Features

- 8 Motorized faders
- 8 Elegant colour LCD displays
- 16 RGB LED push buttons
- Automatic Firmware Matching
- PoE+ or DC powered
- Ethernet compatible

Benefits

- Table top or flush mount
- Up to 32 IPB controllers per system
- 6 layers for expansion
- Ability to set fader level range
- Dimmer for backlight
- Preset recall, Mutes etc.

ALLEN & HEATH LIMITED, KERNICK INDUSTRIAL ESTATE,
PENRYN. CORNWALL, TR10 9LU, UNITED KINGDOM.
www.allen-heath.com

ALLEN&HEATHg

IP 1
REMOTE CONTROLLER (US)

The IP1 is an Ethernet L3 based remote controller and comes in EU and US versions (the US version is shown below, with Decora face plate).

The IP1 is PoE powered and can live on the building IT network.

IP1 is available in white or black and is compatible with Decora face plates, allowing architects to match the remote controllers to the building decor.

Automatic Firmware Matching makes sure that every IP1 is automatically upgraded/ downgraded to match the system firmware.

IP1 range is compatible with the dlive product series.

Key Features

- Push 'n turn
- Elegant colour LCD display
- Preset recall
- Source selection
- PoE powered
- Ethernet compatible

Benefits

- 2 Body colours available (black or white)
  Up to 32 IP controllers

  Decora / MK elements compatible

  Easy operation

  EU and US versions available

  Automatic Firmware Matching

ALLEN & HEATH LIMITED, KERNICK INDUSTRIAL ESTATE,
PENRYN, CORNWALL. TR10 9LU, UNITED KINGDOM
www alien-heath.com

ALLEN&HEATH"

SLXD4D DUAL-CHANNEL DIGITAL WIRELESS RECEIVER

SPECIFICATIONS

(SUBJECT TO CHANGE)

Dimensions **(H•W•D)**	165" 155"5981n (t.2 • J'i'3 • 152mm)
Weight	32\b("SIg) w.::flMMltflI"t,,
Housing	Galvanized Steel
Power Requirements	15 VDC@ 600 mA *Supp/1edbye.1irernal wer-supp/y (1Ippos1t1..-ø*

RF INPUT

Spurious Rejection	>75d8 *TYPICill*
Connedor Type	BNC
Impedance	500

AUDIO OUTPUT

Gain AdJustmenl Range	- I B to +t.2 dBin 1 dB steps
Configuration	I/li"(635mm) Balanct-d {Tip'"audio +, R1ng=audio - Sleeve=ground) XLR Balanced (I"'ground. 2=audKl +, 3'"aud10 -)
Impedance	1/4"(635mm) 13k0(6700 Unbalanced) XLRIfie) LI00 O (200 O Unbalanced) XLR (mt) 150 0
Full Scale Output	I/Li'(635mrnl tl5d8dilferentially (t9 d8V single) XLR (UNE setting) • 15 dBV XLR (MIC setltng) - IS dBV
Mic/line Switch	30dB pad
Phantom Power Protection	I/G'(635mm) Yes XLR Yes

NETWORKING

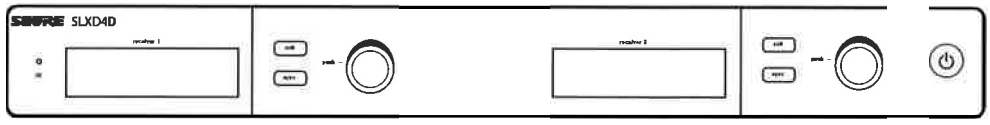
Network Intertace	Single Porl Ethernet 10/100 Mbps
Network Addressing Capability	DHCP or Manual IP addn:iss
MalClmum Cable Length	100 m (32B fl)

OVERVIEW

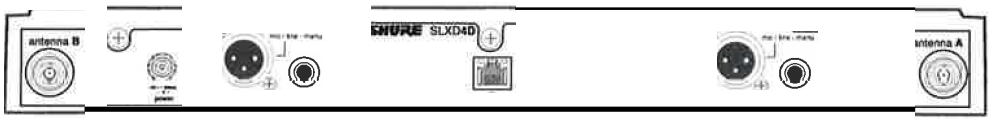
Sl.X-0 Digital Wireless delivers transparent. 24-bit digital audio and rock solid RF per1ormance with easy setup and rechargeability options in a suite of versatile wireless system configurations. Featuring industry-leading digital wireless technology and design, the Sl..XD40 easily syncs wireless transmitters. A variety of interchangeable vocal microphone choices guarantees the right solution for a wide range of applications, from day-long conference to nighttime performances

FEATURES

- Transparent 24-bit digital audio
- Extended 20 Hz to 20 kHz frequency range (microphone dependent)
- 118 dB dynamic range
- Digital predictive switching diversity
- 44 MHz tuning bandwidth (region dependent)
- 32 available channels per frequency band (region dependent)
- Up to 10 compatible systems per 6MHz TV band; 12 systems per 8 MHz band
- Easy pairing of transmitters and receivers over scan and IR sync
- Compatible with Shure Wireless Workbench• control software
- Remote monitoring and control via ShurePlus"" Channels app
- Rugged metal construction



SLXD•D
Front Panel



sLx0,0
Back Panel

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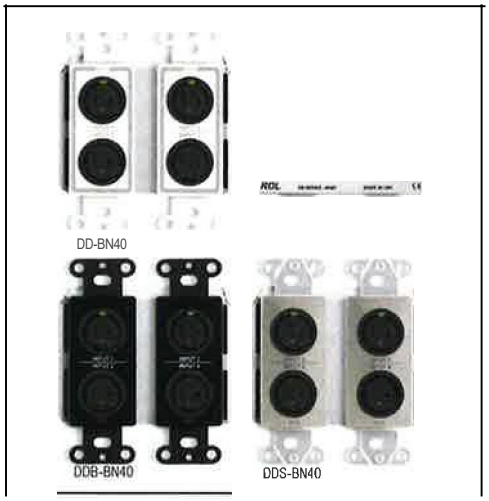
RDL®
Radio Design Labs

SPECIALISTS IN PRACTICAL PRECISION ENGINEERING"

Model DD-BN40

Wall-Mounted Bi-Directional Mic/Line Dante Interface 4x2

- Interfaces Four Dante Inputs and Two Dante Outputs
- Four XLR Front-Panel Inputs
- Converts Four Standard XLR Mic or Line Audio Sources to Dante Network Channels
- Each XLR Input is Switch Selectable for Mic or Line
- Studio Quality Low-Noise Microphone Preamplifiers
- Switch-Selectable Mic Gain: 40 dB, 48 dB or 62 dB
- Switch-Selectable 48 V Mic Phantom (P48)
- Switch-Selectable Line Gain: Unity, 12 dB or 19 dB
- Converts Two Dante Network Audio Signals to Line Level
- Rear Panel Outputs Swilch Selectable Balanced +4 dBu or Unbalanced -10 dBV
- Special Software Not Required for Module Setup
- Studio Quaitty, Low-Noise Pertormance
- High Resolution 24 Bit Analog to Digital and Digital to Analog Conversion
- Legendary RDL AnalogFiltering Enhances Superb Audio Performance



APPLICATION: The DD-BN40 is a complete wall-mounted Dante audio network interface. It features four XLR mic or line inputs on the front panels and two line outputs on a rear-panel detachable terminal block. Special software is not required to configure the DD-BN40. Each input provides three switches that may be set from the front of the unit when the cover plate is not installed. One switch enables or disables P48 phantom for that input; the second switch selects the mic or line gain range; the third switch sets the gain. Each output provides a switch to set the output to balanced professional or unbalanced consumer level. The DD-BN40 fits a standard US dual-gang electrical box or an RDL WB-2 back box for installations in thinner European or equivalent walls. The DD-BN40 is PoE powered, and is available in multiple finishes wrrh optional customized graphics.

The four XLR inputs are each converted to **a** separate Dante network transmrt channel. Three gain settings are switch-selectable for both the mic and line input ranges to match condenser or dynamic mic levels and standard line levels.

Two Dante audio channels are converted to balanced line level. Each output provides +4 dBu balanced for a network digital audio level of -20 dBFS. Each output is equipped wrth a selector to unbalance the audio and attenuate the level to -1O dBV. These switches are located on the top of the chassis and are set by the installer prior to mounting the unit. The outputs are connected through **a** detachable terminal block.

The outputs are intended for connection to RDL AMS connectors mounted in Decora-style plates that match the DD-BN40. AMS audio connectors include RCA, Mini and XLR jacks. The output plate may be located together with the DD-BN40 in a triple gang box or may be mounted remotely in a single box.

Valid PoE power and synchronization to the Dante network are indicated by green LEDs visible from the front of the unit.

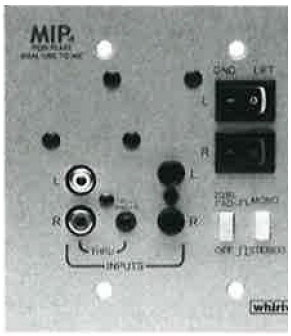
The DD-BN40 is a professional grade product with discrete mic preamplifiers for studio quality fidelrty and low noise performance, coupled through metal XLR jacks housed in a stainless steel chassis with powder-coated or stainless steel Decora front plates.

The DD-BN40's superior performance specifications make it ideally surred to the most demanding installations, and an exceptional value in commercial networked audio systems. This full-featured product is engineered and manufactured in the U.S.Afor continuous duty in demanding installations.Designed to outperform. Built to last.

RDL • 659 6th St. • Prescott, *AZ.*, USA 86301 • (928) 443-9391 • FAX (928) 443-9392 • www rdlnet com

MIP4

MIP4B (Black) MIP4S (Clear)



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WHIRLWIND MEDIA INPUT PLATE
MIP4

The Whirlwind **MIP4** Media Input Plate is **a 2-gang** wall mount version of the popular Whirlwind pcDI for permanent installation in conference rooms, banquet halls, houses of worship, etc. It reduces unbalanced line level signals by 20 dB and balances them for connection to a sound system's microphone inputs.

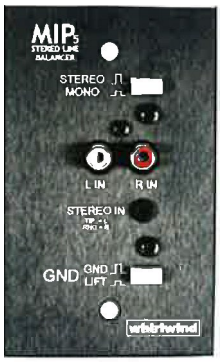
Inputs are via dual RCA, dual ¼" tip-sleeve or single stereo 3.5 mm jacks. The RCA and 3.5 mm jacks are wired in parallel if a through connection is required.

Outputs are on the rear via 3.5 mm screw type removable plugs (Phoenix 1984329 or equivalent).

The MIP4 also features buttons for mono/stereo input combine and a pad for adding an additional 20 dB of attenuation. Ground 11ft switches are provided for each channel.

The plate is brushed aluminum and available in either a black (MIP4B) or clear (MIP4S) anodized finish.

MIP5S (Brushed) MIP5B (Black)



The MIP5 is a stereo line balancing plate. Stereo inputs can be connected to the 3.5mm TRS jack (tip is left, ring is right) or the RCA jacks. Two balancing transformers are provided, one for each channel. Output connections are made via individual 3 pin pluggable screw terminals. A Stereo/Mono switch is provided which combines left and right together and feeds the summed mono signal to both outputs. A Ground Lift switch breaks the ground connection between the inputs and the output screw terminals. Insertion loss Is approximately ·1.2 dB for stereo inputs, 1.7 dB for summed inputs and 7.7 dB for a single mono source, measured into a 2 kOhm load

TIELINE

A&H IP8 Controller Patch