



301 East Main Street
Lowell, Michigan 49331
Phone (616) 897-8457
Fax (616) 897-4085

CITY OF LOWELL
DOWNTOWN DEVELOPMENT AUTHORITY
THURSDAY, AUGUST 15, 2019
12 NOON
AT
LOWELL CITY HALL
COUNCIL CHAMBERS
SECOND FLOOR
301 EAST MAIN STREET

1. CALL TO ORDER; ROLL CALL
2. APPROVAL OF THE AGENDA
3. APPROVAL MINUTES OF PREVIOUS MEETING(S)
 - a) April 11, 2019 Information Meeting
4. TREASURER'S REPORT
5. PUBLIC COMMENTS FOR ITEMS NOT ON THE AGENDA
6. OLD BUSINESS
 - a) Riverwalk Sound System
 - b) Monroe Street Update
7. NEW BUSINESS
 - a) Income Tax
8. REPORTS AND MEMBER COMMENTS
9. ADJOURNMENT

**OFFICIAL PROCEEDINGS
OF THE
DOWNTOWN DEVELOPMENT AUTHORITY
OF THE
CITY OF LOWELL
THURSDAY, APRIL 11, 2019**

1. CALL TO ORDER; ROLL CALL.

The Meeting was called to order at 12:20 p.m. by Chair Reagan.

Present: Boardmembers Mike DeVore, Eric Wakeman, Julie DeVoe, Mike Sprenger, Rick Seese and Chair Jim Reagan.

Absent: Boardmembers Brian Doyle and Rita Reister.

Also Present: City Manager Michael Burns, Clerk Susan Ullery, Police Chief Steve Bukala, and City Treasurer Sue Olin.

2. EXCUSE OF ABSENCES.

IT WAS MOVED BY DEVORE and seconded by WAKEMAN to excuse the absence of Boardmembers Doyle and Reister.

YES: 6. NO: 0. ABSENT: 2. MOTION CARRIED.

3. APPROVAL OF THE AGENDA.

IT WAS MOVED BY DEVORE and seconded WAKEMAN to approve the agenda as written.

YES: 6. NO: 0. ABSENT: 2. MOTION CARRIED.

4. APPROVAL OF THE MINUTES.

IT WAS MOVED BY DEVORE and seconded by WAKEMAN to approve the minutes of March 7, 2019 as written.

YES: 6. NO: 0. ABSENT: 2. MOTION CARRIED.

5. TREASURER'S REPORT.

**DOWNTOWN DEVELOPMENT AUTHORITY FUND
FINANCIAL STATEMENT
April 10, 2019**

Beginning Balance:	\$273,118.62
Revenue:	
TIFA Revenue	\$567,947.40
Interest	1,963.16
Total Revenues	\$843,029.18
Expenditures:	
Capital Outlay	\$2,653.00
Salaries	\$34,376.04

Maintenance Supplies			\$37,080.20
Utilities			\$12,136.21
Misc	and	Community	Promotions
\$53,647.08			
Accrued Wages			\$2,454.14
Administration			\$17,572.73
Accrued Payables			\$10,195.92
Transfer to Equipment			\$17,340.00
Transfer to General Fund			\$151,273.00
<i>Total Expenditures:</i>			\$338,728.32
Ending Balance			\$504,300.86

IT WAS MOVED BY DEVORE and seconded by SPRENGER to accept the Treasurer's Report as submitted.
YES: 6. NO: 0. ABSENT: 2. MOTION CARRIED.

6. **PUBLIC COMMENTS FOR ITEMS NOT ON THE AGENDA.**

There were no public comments.

7. **OLD BUSINESS.**

City Manager Michael Burns stated they are working on the specs for the speakers for the Riverwalk sound system and will get that out for bid here shortly.

8. **NEW BUSINESS.**

a. **FY Budget.**

City Manager Michael Burns stated the proposed 2020 Fiscal Year Budget is attached in the DDA packet. This past year, we saw a \$100,000 increase to the DDA Fund which was due to additional expansion of Litehouse Foods, along with Industrial Facility parcels being added to the ad valorem tax roll. This year we budgeted for \$520,000 in new revenue and actually saw approximately \$571,000 for the above listed reasons. For the upcoming year we are projecting approximately \$545,400 in revenue. We are seeing a slight reduction, due to the continued elimination of personal property taxes. There will be a full elimination of the Personal Property Tax in 2023. In the current fiscal year, we proposed \$489,000 in expenditures which gives us an additional \$39,000 in fund balance. Then Burns went over amendments to the current fiscal year budget and also the major appropriations to consider.

IT WAS MOVED BY DEVORE and seconded by WAKEMAN to approve the Fiscal Year 2020 Budget for the Downtown Development Authority.

YES: 6. NO: 0. ABSENT: 2. MOTION CARRIED.

b. **Summer Concert Series.**

City Manager Michael Burns stated we are receiving our annual request for the DDA to sponsor a portion of the costs for the 2019 Lowell Showboat Sizzlin' Summer Concert Series. The DDA has been participating in this for a number of years.

This year's summer concerts begin on June 13, 2019 and ends August 22, 2019. We are being asked to

contribute \$6,000 for these events.

Lorraine Smalligan stated the revenue that was projected is coming in and they are adding the children's activities back in.

IT WAS MOVED SPRENGER and seconded by DEVORE to approve the contribution of \$6,000 for the Sizzling Summer Concert Series.

YES: 6. NO: 0. ABSENT: 2. MOTION CARRIED.

9. **REPORTS AND MEMBER COMMENTS.**

Boardmember Rick Seese asked about the Showboat timeline.

City Manager Michael Burns stated he will be bringing the bid to begin construction to City Council on Tuesday, April 16, 2019.

IT WAS MOVED BY DEVORE and seconded by WAKEMAN to adjourn at 12:29 p.m.

YES: 6. NO: 0 ABSENT: 2. MOTION CARRIED.

Date:

APPROVED:

James E. Reagan, Chair

Susan Ullery, Lowell City Clerk

DOWNTOWN DEVELOPMENT AUTHORITY FUND
FINANCIAL STATEMENT
July 31, 2019

Beginning Balance:	\$461,196.38
Revenue:	
TIFA Revenue	\$5,000.00
 Total Revenues	 \$466,196.38
Expenditures:	
Capital Outlay	
Salaries	\$3,702.43
Maintenance Supplies	\$1,849.15
Utilities	479.51
Misc and Community Promotions	
Accrued Wages	
Administration	\$4,380.27
Accrued Payables	\$948.75
Transfer to Equipment	
Transfer to General Fund	
 <i>Total Expenditures:</i>	 \$11,360.11
 Ending Balance	 \$454,836.27

Check Date	Bank	Check #	Payee	Description	Account	Dept	Amount
Fund: 248 DOWNTOWN DEVELOPMENT AUTHORITY							
04/12/2019	GEN	72649	BERNARDS ACE HARDWARE	STATEMENT OF ACCOUNT	740.000	463	20.87
04/12/2019	GEN	72677	TRACTOR SUPPLY CREDIT PLAN	ACCOUNT STATEMENT	740.000	463	15.96
				ACCOUNT STATEMENT	930.000	463	2.99
				CHECK GEN 72677 TOTAL FOR FUND 248:			18.95
04/22/2019	GEN	72682	AC DESIGN, LLC	REPAINTING E & W CITY WELCOME SIGNS	930.000	463	1,780.00
04/22/2019	GEN	72698	KENT COUNTY TREASURER	TAX REFUND 41-20-03-401-028 DDA	955.000	463	943.57
04/22/2019	GEN	72717	WILLIAMS & WORKS INC.	REC PARK MASTER PLAN	801.000	450	4,064.75
04/26/2019	GEN	72719	PETTY CASH	PETTY CASH	880.000	740	31.77
04/30/2019	GEN	72722	BFG SUPPLY	LANDSCAPE R & M	930.000	463	170.94
05/03/2019	GEN	72754	BEHRENS LIMITED, LCC	MUTT MITTS	740.000	463	84.50
05/03/2019	GEN	72770	LOWELL LIGHT & POWER	ELECTRIC STATEMENTS	920.000	463	548.63
05/16/2019	GEN	72832	SITEONE LANDSCAPE SUPPLY LLC	DDA & CEMETERY IRRIGATION	930.000	463	47.90
05/16/2019	GEN	72836	THORNAPPLE RIVER NURSERY, INC.	PREMIUM WOOD CHIPS	740.000	463	182.00
				WOOD CHIPS	740.000	463	84.00
				CHECK GEN 72836 TOTAL FOR FUND 248:			266.00
05/16/2019	GEN	72838	TRACTOR SUPPLY CREDIT PLAN	ACCOUNT STATEMENT	930.000	463	25.98
05/16/2019	GEN	72840	WILLIAMS & WORKS INC.	REC PARK MASTER PLAN	801.000	450	4,278.19
05/24/2019	GEN	72847	BFG SUPPLY	DDA SUPPLIES	740.000	463	37.12
05/29/2019	GEN	72883	SIGNS WITH DESIGN	REPAINT CITY HALL SIGNS	970.000	450	1,280.00
05/29/2019	GEN	72885	THORNAPPLE RIVER NURSERY, INC.	WOOD CHIPS	740.000	463	210.00
06/13/2019	GEN	72893	BERNARDS ACE HARDWARE	ACCOUNT STATEMENT	740.000	463	19.99

Check Date	Bank	Check #	Payee	Description	Account	Dept	Amount
Fund: 248 DOWNTOWN DEVELOPMENT AUTHORITY							
06/13/2019	GEN	72924	LINCOLN NURSERIES, INC.	DDA FLOWERS	740.000	463	97.50
06/13/2019	GEN	72927	LOWELL LIGHT & POWER	ELECTRIC STATEMENTS	920.000	463	452.92
06/13/2019	GEN	72928	LOWELL LIGHT & POWER	STREET LIGHT POLE BRACKETS	920.000	463	1,114.46
06/13/2019	GEN	72934	MILL CREEK FARM LLC	DDA FLOWERS	740.000	463	7.80
06/13/2019	GEN	72958	WILLIAM BOS GREENHOUSE	DDA FLOWERS	740.000	463	57.30
				FLOWERS	740.000	463	9.40
				FLOWERS	740.000	463	5.90
CHECK GEN 72958 TOTAL FOR FUND 248:							72.60
06/13/2019	GEN	72959	WILLIAMS & WORKS INC.	REC PARK MASTER PLAN	801.000	450	1,262.50
06/27/2019	GEN	72992	GREATER LOWELL CHAMBER FOUND.	DDA GRANT FOR CONCERT SERIES	880.000	740	6,000.00
06/27/2019	GEN	72997	KERKSTRA PORTABLE, INC.	PORTABLE RESTROOMS	802.000	463	210.00
06/27/2019	GEN	73007	PETTY CASH	PETTY CASH	740.000	463	25.38
07/03/2019	GEN	73028	DEJONG, DON	REIMBURSEMENT FOR FLOWERS	740.000	463	43.89
07/03/2019	GEN	73031	LOWELL LIGHT & POWER	ACCESS POINT/BANNERS/ADDORIO	930.000	463	133.00
07/11/2019	GEN	73033	BERNARDS ACE HARDWARE	VARIOUS HARDWARE ITEMS	740.000	463	53.47
				VARIOUS HARDWARE ITEMS	930.000	463	15.49
CHECK GEN 73033 TOTAL FOR FUND 248:							68.96
07/11/2019	GEN	73052	LOWELL LIGHT & POWER	ELECTRIC BILLS	920.000	463	433.19
07/11/2019	GEN	73053	MAG PLUMBING SERVICE LLC	28 BACKFLOR PREVENTION DEVICES TESTED	930.000	463	69.34
				28 BACKFLOR PREVENTION DEVICES TESTED	930.000	463	34.67
				28 BACKFLOR PREVENTION DEVICES TESTED	930.000	463	34.67

08/07/2019 11:25 AM
User: SUE
DB: Lowell

CHECK DISBURSEMENT REPORT FOR CITY OF LOWELL
CHECK DATE FROM 04/11/2019 - 08/07/2019

Page 3/3

Check Date	Bank	Check #	Payee	Description	Account	Dept	Amount
Fund: 248 DOWNTOWN DEVELOPMENT AUTHORITY							
				CHECK GEN 73053 TOTAL FOR FUND 248:			138.68
07/11/2019	GEN	73065	SELF SERVE LUMBER	VARIOUS LUMBER SUPPLIES	930.000	463	23.54
				VARIOUS LUMBER SUPPLIES	930.000	463	7.49
				CHECK GEN 73065 TOTAL FOR FUND 248:			31.03
07/11/2019	GEN	73066	SITEONE LANDSCAPE SUPPLY LLC	SUPPLIES	930.000	463	100.00
07/24/2019	GEN	73112	KERKSTRA PORTABLE, INC.	BOAT LAUNCH RESTROOM	802.000	463	210.00
07/24/2019	GEN	73114	LINCOLN NURSERIES, INC.	DDA PLANTS	740.000	463	5.00
08/02/2019	GEN	73152	LOWELL LIGHT & POWER	ELECTRIC FOR JULY 2019	920.000	463	477.95
				Total for fund 248 DOWNTOWN DEVELOPMENT AUTHORI			24,714.02

LOWELL DOWNTOWN DEVELOPMENT AUTHORITY

MEMORANDUM



DATE: August 14, 2019

TO: Downtown Development Authority Board of Directors

FROM: Michael T. Burns, City Manager MB

RE: Riverwalk Sound System

A request was received from the Lowell Area Chamber of Commerce to install a sound system for the Riverwalk area. This would allow the City to sound in music throughout the year. The music can be incorporated for Riverwalk, summer concert series and Christmas events. In addition, we could have music at the site at any time we wish if this were installed. It would be an enhancement to the area in addition to the Showboat improvements being planned.

The plan would be for the speakers to be placed at certain points throughout the park. We anticipate 700 feet of cable that would be buried in areas along the river walk. This project was amended to the DDA budget in Fiscal Year 2018. However, due me becoming the interim Public Works Director during the late spring and summer, I was unable to complete this last year. It can be carried over into the current fiscal year budget.

I have obtained a quote from Clear Sky Technologies for a system. They originally quoted the project at \$11,349.53. After discussing further with John Wegner, he needs to modify the quote slightly due to observing some things he thought would enhance the proposed system when he was coordinating the sound during the summer concerts and the Riverwalk. Festival. Unfortunately, he has been held up with other events to get the quote to me.

In order to begin construction this fall, I would like to begin commencing with the project. The system can be in place for the Christmas events on the Riverwalk. This can be treated as a preferred vendor as he has the capability locally to meet the needs of the DDA with this project. To be conservative, **I would recommend a cost not to exceed \$14,000 for Clear Sky Technologies to install a sound system for the Riverwalk.**

**Clear Sky Technologies**12400 Grand River Dr SE
Lowell, MI 49331

616-745-1587

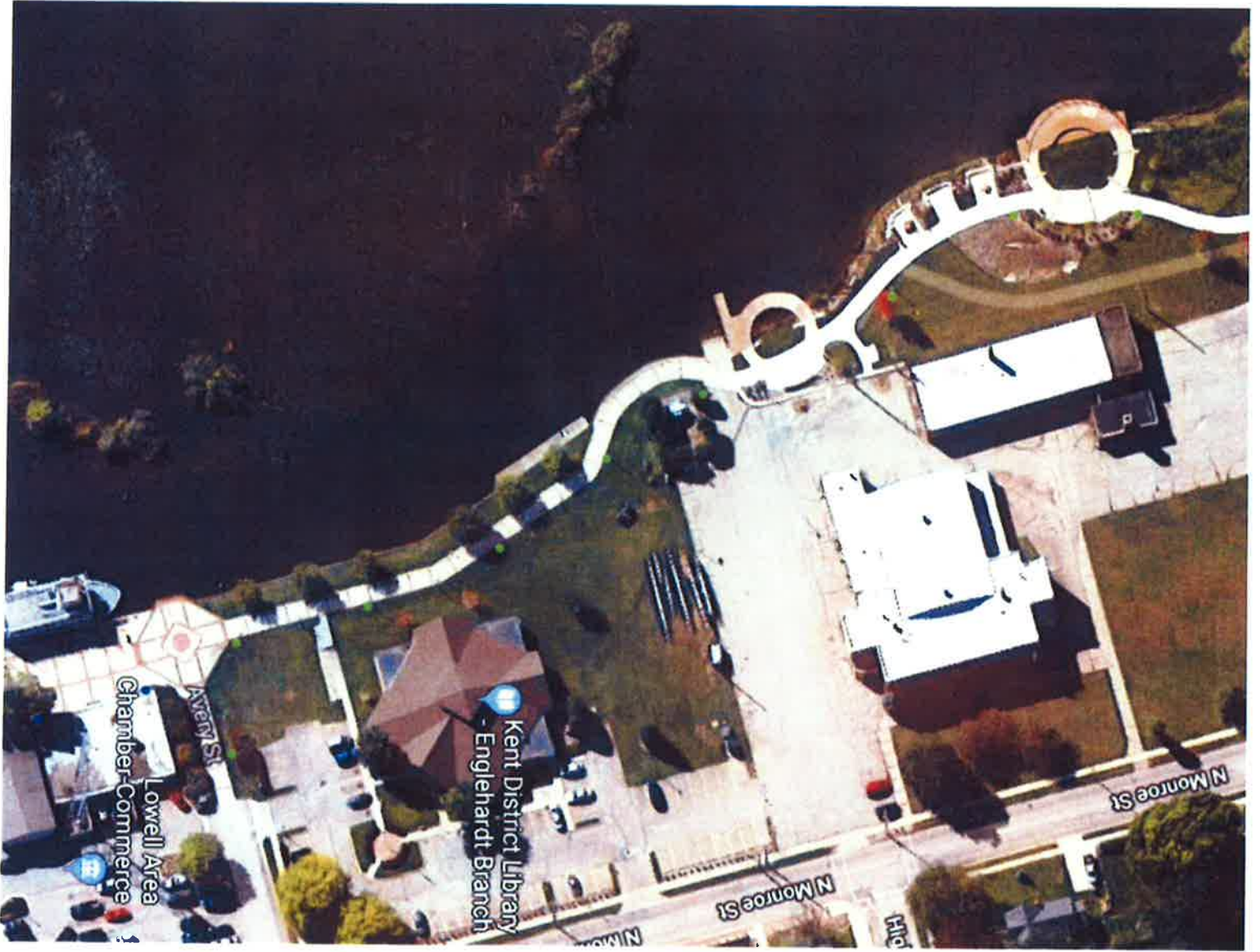
Quotation

Date	Estimate No.
1/14/2019	1061

CustomerLiz Baker, Executive Director
Lowell Chamber of Commerce
113 Riverwalk Plaza
Lowell, MI 49331

		Project	
Description	Qty	Rate	Total
JBL Control 88M Two-Way 8" Coaxial Mushroom Landscape Speaker (for Riverwalk)	9	360.00	3,240.00T
Outdoor UV Protection Rated Professional Speaker Audio Cable 14AWG Direct Burial 14/4	800	0.40	320.00T
Community R.25-94TZ 10" Surface Mount All Weather Speakers (for Chamber Building)	2	789.60	1,579.20T
Crown CDi4000 1200W Amplifier	1	2,434.80	2,434.80T
Shure SCM262 Stereo Microphone Mixer	1	303.74	303.74T
Shure QLXD24/B87A Wireless Microphone and Receiver	1	1,365.60	1,365.60T
Kopul 1/8" Stereo Mini to Dual RCA Y-Cable - 3' (0.91 m)	1	14.34	14.34T
Logitech Bluetooth Audio Adapter for Bluetooth Streaming	1	24.35	24.35T
Install Head End Equipment in Office and Test	2	60.00	120.00T
Bury 700' of cable along Riverwalk	8	30.00	240.00T
Trench cable under 3 sidewalks 2 people 2 hours each	12	60.00	720.00T
Cut pavement at boat launch, install cable, and seal	8	60.00	480.00T
Terminate Cable for (9) garden speakers	2.25	30.00	67.50T
Hang chamber speakers and pull wire	4	60.00	240.00T
Supplies (Driveway Sealer, underground terminations, saw blades, etc.)	1	200.00	200.00T
		Subtotal	\$11,349.53
		Sales Tax (0.0%)	\$0.00
		Total	\$11,349.53

Signature _____





CONTROL 88M

8" x 25" Mushroom-Style Landscape Speaker with 60W Multi-Tap Transformer

Professional Series

Key Features:

- Components:
 - 8" highly weather-resistant driver
 - 1" soft-dome highly weather-resistant tweeter
- 120W Pink Noise Power Handling (240W program) in direct 8Ω setting, plus built-in 60W/70V/100V multi-tap transformer
- Tough polyethylene highly weather resistant enclosure
- Fully isolated center chamber for wiring protection
- High fidelity sound character with broad frequency range of 47Hz - 16kHz

Applications:

The Control 88M Mushroom-Style Landscape Speaker is a two-way highly weather resistant speaker providing 360 degree coverage of the listening space. The extended bass capability and flat spectral response provides exceptionally high fidelity sound quality for music and music/speech program material. Designed to be mounted on or in the ground, the Control 88M can be used in a wide variety of applications including hotels, casinos, pool areas, shopping malls, theme parks, sports venues, resorts, restaurants, hospitality and leisure venues, entranceways, and anywhere a high quality music and/or paging speaker landscape speaker is required.

Its compact size allows the speaker to blend into landscaping and shrubbery, while its tough hunter green polyethylene enclosure resists abuse from lawn care equipment and the elements. The enclosure color extends throughout the material so the speaker will maintain color even when scraped or scratched.

The two part enclosure is designed to open with a twist for wiring and then close securely. The bottom base section of the enclosure can be pre-installed and then wired to the top speaker section of the enclosure. When assembled, the bottom base section becomes a fully isolated chamber, keeping the speaker and transformer (in the speaker section) highly isolated from the possibility of intruding moisture. Multiple locations on the bottom and sides are provided for the mounting of the exterior gland nut (installed by drilling a 22 mm (0.875 in, 7/8 in) diameter hole in the chosen location), and a second gland nut is positioned between the bottom base and the top speaker sections, to keep the speaker system highly weather tight. Included gland nuts maintain a water-tight seal



only when used with round-jacketed cable with outside diameter between 4.0 and 9.0 mm (0.16 and 0.35 inches).

All external hardware is stainless steel, and the powder-coated stainless steel grille resists rusting. The Control 88M can be secured to the ground via third-party ground stakes using the three attachment points that extend out from the bottom section of the speaker.

The 200 mm (8.0 in) diameter low-frequency driver features a Kapton former with 38 mm (1.5 in) voice coil for high power handling and superior long term reliability. The polypropylene cone and polyurethane surround provide high strength and superior moisture resistance. The 25 mm (1.0 in) high frequency driver utilizes a polyetherimide dome, providing high rigidity, strength, and high temperature resistance. The high slope crossover provides natural sonic character and SonicGuard™ protected HF driver ensures long-term reliability from occasional overdriving.

In addition, the speaker contains a high-quality 60 Watt multi-tap transformer for use on 70V or 100V distributed loudspeaker lines, and is switchable for 8 ohm voice-coil direct operation. The speaker handles 120 Watts Continuous Pink Noise (240W Program, 480W Peak) in the 8 ohm mode.

The Control 88M is UL certified, per UL1480.

Specifications:

Frequency Response (-10 dB):	47 Hz - 16 kHz
Frequency Response (±3 dB):	60 Hz - 15 kHz
Power Rating ¹ :	240 W Continuous Program (2 hrs) 120 W (480 W peak), Continuous Pink Noise (2 hrs) 100 W (400 W peak) Continuous Pink Noise (100 hrs)
Maximum Input Voltage:	28.0 V
Sensitivity ² :	87 dB, 1 W @ 1 m (ave. 80 Hz - 16 kHz)
Nominal Coverage Angle:	360° horizontal, 160° vertical (primary listening 10° to 50° up from ground).
Directivity (Q):	2.1
Directivity Index (DI):	3.2 dB
Rated Maximum SPL ³ :	108 dB @ 1 m
Nominal Impedance:	8 Ω (at 8 Ω setting)
Minimum Impedance:	6.6 Ω at 9.5 kHz
Transformer Taps:	70 V: 60 W, 30 W, 15 W & 7.5 W 100 V: 60 W, 30 W, 15 W
Insertion Loss:	<0.5 dB at any tap setting
Thru Setting:	8 Ω nominal
Crossover Type:	2 nd Order LPF on LF and 2 nd Order HPF on HF
Recommended Protective High-Pass:	45 Hz for 8 Ω operation, 24 dB/oct 80 Hz for 60 W tap, 24 dB/oct 50 Hz for 30 W, 7.5 W, and 7.5 W taps, 24 dB/oct
Transducer:	
Low Frequency Driver:	200 mm (8.0 in) diameter LF driver, Kapton [®] former, 38 mm (1.5 in) voice coil, polypropylene cone and polyurethane surround.
High Frequency:	25 mm (1.0 in) diameter HF driver Polyetherimide (PEI) dome.
Physical:	
Enclosure Material:	LDPE Polyethylene plastic, 6 mm wall thickness, UL94V-0 rated.
Grille:	Powder coated stainless steel.
Environmental:	IP-56 rating per IEC 529 (dust protected and protected against strong jets of water). Exceeds MilSpec 810 for humidity, salt spray, temperature & UV. Passes Mil-STD-202F for salt spray. Enclosure UL94V0 rated.
Agency Ratings:	UL 1480 Speakers for Fire Alarm, Emergency, and Commercial and Professional Use, 5th Edition, for outdoor wet locations; UL 1480A Speakers for Commercial and Professional Use, 1st Edition; CSA C22.2 No. 205-12, Signal Equipment, Transformer UL Recognized per UL1876, ROHS compliant.
Terminals:	Bare wire with dielectric-gel-filled wire nuts (internal to top speaker section)
Wiring:	Water ingress protected by two stages of gland nuts, one mounted on outside of enclosure (installed by installer via drilling 22 mm (0.875 in, 7/8 in) hole in any of multiple provided locations) and one between the bottom base and top speaker sections. Included gland nuts require round-jacketed wire with outside diameter between 4.0 mm and 9.0 mm (0.16" in and 0.35" in). For Installation instructions, see Installation Guide (#IS-C80MLS).
Colors:	Hunter Green, RAL6018
Dimensions (H x W x D):	524 x 355 x 355 mm (20.7 x 14 x 14 in.)
Net Weight:	7.8 kg (17 lb)
Shipping Weight:	10.5 kg (23 lb)
Included Accessories:	(2) wire nuts, (2) gland nuts, (1) security screwdriver
Installer-Supplied Required Tools:	22 mm (0.875 in, 7/8 in) twist-type drill bit (or other type suitable for plastic) for installing gland nut into enclosure.

¹ Continuous Pink Noise rating is IEC-shaped pink noise with a 6 dB crest factor. Continuous program power is defined as 3 dB above the Continuous Pink Noise Rating. 1 m 8 ohm mode.

² Full-range, 20 listening (in ground necessary), 360° horizontal, vertical averaged 10 to 50 degrees (off ground).

³ 8 ohm mode, calculated from sensitivity and power handling, exclusive of power compression.

JBL continually engages in research related to product improvement. Some materials, production methods and design refinements are introduced into existing products without notice as a routine expression of that philosophy. For this reason, any current JBL product may differ in some respect from its published description, but will always equal or exceed the original design specifications unless otherwise stated.

SPL Level Variation Chart by Layout Spacing

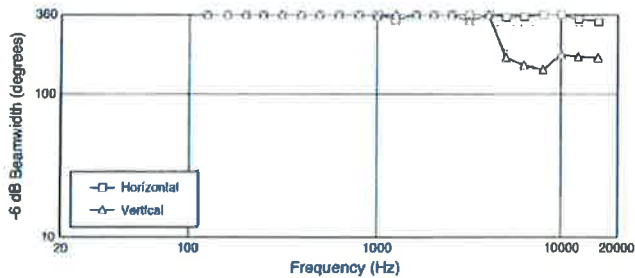
SPL Level Variation Within the Listening Space	Distance Apart
±1.5 dB	4.0 meters (13 feet) apart
±3.0 dB	6.5 meters (21 feet) apart
±4.5 dB	9.0 meters (30 feet) apart

At listening height of 1.5 meters (5 feet)

► CONTROL 88M 8" Two-Way Co-axial Mushroom Landscape Speaker

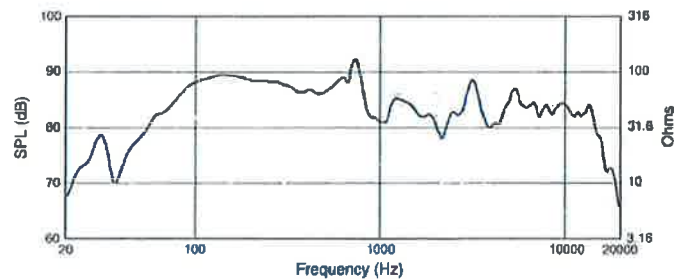
Beamwidth:

-6 dB coverage by frequency

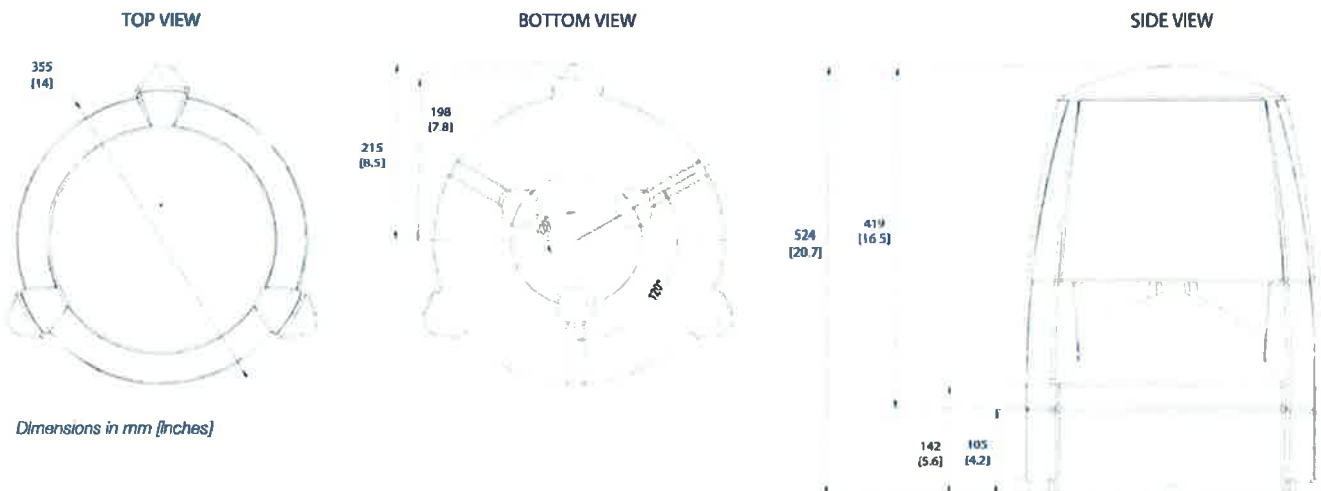


Frequency Response:

In half-space (2π , in ground), plus impedance curve
[Frequency response, Impedance graph]



Dimensions:



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

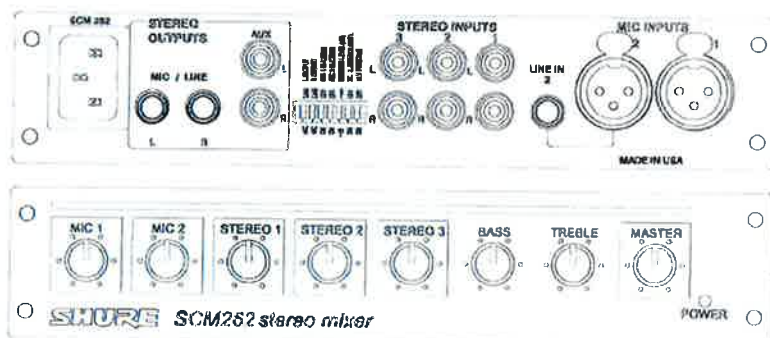
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SS-C88M
06/16

SCM262 STEREO MIXER

The Shure Model SCM262 is a stereo mixer intended for sound reinforcement applications that integrate microphones with consumer stereo products. It incorporates two

active-balanced microphone inputs with three unbalanced stereo aux level inputs.



SYSTEM FEATURES

The SCM262 Stereo Mixer is designed for restaurants, classrooms, corporate training, aerobics classes, and other situations where a paging/public announcement system is combined with background music or other program material.

- Designed to combine paging with background music.
- One active-balanced, XLR microphone input channel.
- One active-balanced XLR microphone and 1/4-in. TRS line input channel.
- Three STEREO INPUT channels

- Stereo AUX level OUTPUTs
- Stereo MIC/LINE OUTPUTs
- BASS and TREBLE tone controls on the master output.
- 1/2-rack chassis.
- 12 V phantom power for condenser microphones.
- Internal power supply.
- Removable power cable.
- Ducking function (defeatable).
- Jukebox mute function (defeatable).

SPECIFICATIONS

Measurement Conditions (unless otherwise specified): Tone controls centered; Line voltage 120 Vac, 60 Hz (SCM262) or 230 Vac, 50 Hz (SCM262E); full gain; 1 kHz, one channel activated; source impedances: Mic 150 Ω ; Line/Aux 40 Ω , terminations: Line/Mic/Aux 20 k Ω .

Frequency Response (Ref 1 kHz, channel and master controls centered)

MIC/LINE Inputs: 150 Hz to 20 kHz ± 2 dB

AUX Inputs: 20 Hz to 20 kHz ± 2 dB

Low-Cut Filter (microphone inputs only)

3dB down at 80 Hz, 6 dB/octave

Voltage Gain (typical, controls full clockwise)

Input	Output		
	Mic	Line	Aux
Low-impedance mic (150 Ω)	32 dB	72 dB	60 dB
Line	-9 dB	31 dB	19 dB
Stereo	-5 dB	35 dB	23 dB

Inputs

Input	Impedance		Input Clipping Level
	Designed for use with	Actual (typical)	
Mic (XLR)	<600 Ω	1.4 k Ω	-16 dBV

Line	<10 k Ω	155 k Ω	+24 dBV
Stereo	<2 k Ω	21 k Ω	>28 dBV

Outputs

Output	Impedance		Output Clipping Level
	Designed for use with	Actual (typical)	
Mic	> 600 Ω	3 Ω	-22 dBV
Line	>5k Ω	300 Ω	+18 dBV
Aux	≥ 10 k Ω	1.5k Ω	+5 dBV

Total Harmonic Distortion

<0.25% at +4 dBu output level, (through 22 Hz-22 kHz filter; MIC Input 1 and Master at center, all other controls full counterclockwise)

Hum and Noise

Equivalent Input Hum and Noise -125 dBV
..... (150 Ω source; 22 Hz - 22 kHz)

Output Hum and Noise

(22 Hz to 22 kHz; channel controls full counterclockwise)
... Master full counterclockwise -85 dBV
... Master full clockwise -60 dBV

Common Mode Rejection

>70 dB at 1 kHz

Polarity

All inputs to all outputs are non-inverting.

Overload and Shorting Protection

Shorting outputs, even for prolonged periods, causes no damage. Microphone inputs are not damaged by signals up to +10 dBV; Line and Aux inputs by signals up to +28 dBV

Equalization

Bass (Low-frequency shelving) ± 6 dB
 (corner frequency at 250 Hz)
 Treble (High-frequency shelving) ± 6 dB
 (corner frequency at 4 kHz)

Ducking

Mic channels 1 and 2

Levels -20 dB or $-\infty$ dB

Activation time 10 ms (typical)

Mic Deactivation time 2 s (typical)

Jukebox Mute Deactivation Time 30 s (typical)

Phantom Power

12 Vdc open-circuit through 680 Ω resistors

REPLACEMENT PARTS

Knob, Master (blue)	95B8752
Knob, Channel Gain (white)	95A8752
Line (Power) Cords: SCM262: 100–120 Vac (US/Canada)	95A8762
SCM262E: 220–240 Vac (EU)	95A8778
Fuse, SCM262 (5x20 mm, 250V, 100mA, time delay)	80B730
Fuse, SCM262E (5x20 mm, 250V, 40mA, time delay)	80J258
Hardware Kit	90AA8100

Operating Voltage

SCM262: 100–120 Vac, 50/60 Hz, 60 mA

SCM262E: 220–240 Vac, 50/60 Hz, 30 mA

Temperature Range

Operating -7° to 49° C (20° to 120° F)

Storage -29° to 74° C (-20° to 165° F)

Overall Dimensions

43 x 218 x 162 mm (1.72 x 8.60 x 6.37 in.)

Net Weight:

1.1 kg (2 lbs, 5 oz)

Certifications

SCM262: UL, cUL listed by Underwriters Laboratories.

SCM262E: Conforms to European Union directives, eligible to bear CE marking; VDE GS-Certified to EN 60 065; meets European Union EMC Immunity Requirements (EN 50082-1: 1992, EN 50082-2: 1992)

Link Bars (Bracket)	53A8443
Single Mount Kit	53A8484
Dual Mount Kit	53B8484

Optional Accessories

Line (Power) Cord, 230–240 Vac (UK)	95A8713
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Service Statement

For additional service or parts information, please contact Shure's Service department at 1-800-516-2525. Outside the United States, please contact your authorized Shure Service Center.



Features

- Accurate, uncolored sound with very low distortion for the best in music and voice reproduction
- Extremely versatile; rated for 2Ω, 4Ω, 8Ω loads and 70Vrms/140Vrms outputs
- Advanced protection circuitry guards against: shorted outputs, open circuits, DC, mismatched loads, general overheating, high-frequency overloads and internal faults
- Intuitive front-panel LCD screen for quick, easy configuration
- Switch-mode universal power supply
- Onboard digital signal processing (DSP) includes crossovers, EQ filters, delay, and output limiting
- Up to 20 user-defined DSP presets are available

CDi Series



CDi 1000, 2000, 4000



CDi 6000

Power Matrix

Model	Channels	Dual (per ch)				Bridge		
		2Ω	4Ω	8Ω	70Vrms	4Ω	8Ω	140Vrms
1000	2	700W*	500W	275W*	500V	1400W*	1000W	1000W
2000	2	1600W*	800W	475W	800V	2000W*	1600W	1600W
4000	2	1600W*	1200W	650W	1000V	3200W*	2000W	2000W
6000	2	3000W*	2100W	1200W	2500V	6000W*	4200W	5000W

Performance Specifications

	1000	2000	4000	6000
Sensitivity (for full rated power at 4Ω)	1.2V	1.3V	1.4V	1.5V
Rated Power Output (per Channel at 4Ω)	500W Stereo	800W Stereo	1200W Stereo	2100W Stereo
Signal to Noise Ratio (below rated 1kHz power at 8Ω) (below rated 1kHz power at 8Ω, A weighted)	>90dB	100dB	100dB	>100dB
Total Harmonic Distortion (THD)	< 0.5%	< 0.5%	< 0.5%	< 0.5%
Damping Factor (20Hz to 400Hz)	>500	>500	>500	>500
Frequency Response (at 1W, 20Hz to 20kHz)	0dB to 1dB	0dB to 1dB	0dB to 1dB	0dB to 1dB
Crosstalk (below rated power) 20Hz to 1kHz	>70dB	>70dB	>70dB	>70dB
Input Impedance (nominal)	20kΩ balanced, 10kΩ unbalanced	20kΩ balanced, 10kΩ unbalanced	20kΩ balanced, 10kΩ unbalanced	20kΩ balanced, 10kΩ unbalanced

Physical Specifications

Width	19 in (48.3 cm)	19 in (48.3 cm)	19 in (48.3 cm)	19 in (48.3 cm)
Height	4.5 in (89 cm)	4.5 in (89 cm)	4.5 in (89 cm)	4.5 in (89 cm)
Depth	12.5 in (31.8 cm)	12.5 in (31.8 cm)	12.5 in (31.8 cm)	12.5 in (31.8 cm)
Weight	22lb (9.9kg)	22lb (9.9kg)	22lb (9.9kg)	30lb (13.6kg)

Specifications subject to change without prior notice. Future information available at www.crownaudio.com. Crown offers a three-year, no-fault, fully transferable warranty for every new Crown amplifier – the undisputed industry standard. With this unprecedented no-fault protection, your new Crown amplifier is guaranteed to meet or exceed original specifications for the first three years of ownership. During that time, if your amplifier fails or does not perform to original specifications, it will be repaired or replaced at our expense. In most cases, the only things not covered by this warranty are those items normally covered by insurance and those covered by subsequent owner. Plus, the warranty is transferable, should you sell your amplifier. See your authorized Crown dealer for full warranty disclosure and details. For customers outside of the USA, please contact your authorized Crown distributor for warranty information or call 574-794-8200. © 2015 Crown Audio, Inc.



CROWN
HARMAN

CDi Series



Features

- Accurate, uncolored sound with very low distortion for the best in music and voice reproduction
- Extremely versatile; rated for 2 Ω , 4 Ω , 8 Ω loads and 70Vrms/140Vrms outputs
- Advanced protection circuitry guards against: shorted outputs, open circuits, DC, mismatched loads, general overheating, high-frequency overloads and internal faults
- Intuitive front-panel LCD screen for quick, easy configuration
- Switch-mode universal power supply
- Onboard digital signal processing (DSP) includes crossovers, EQ filters, delay, and output limiting
- Up to 20 user-defined DSP presets are available

CDi Series



CDi 1000, 2000, 4000



CDi 6000

Power Matrix

Dual (per ch.)

Bridge

Model	Channels	2Ω	4Ω	8Ω	70Vrms	4Ω	8Ω	140Vrms
1000	2	700W*	500W	275W	500W	1400W*	1000W	1000W
2000	2	1600W*	800W	475W	800W	2000W*	1600W	1600W
4000	2	1600W*	1200W	650W	1000W	3200W*	2000W	2000W
6000	2	3000W*	2100W	1700W	2500W	6000W*	4200W	5000W

Performance Specifications

	1000	2000	4000	6000
Open-circuit free full-rated voltage (at 1Ω)	3V	1.3V	2V	1.4V
Rated Power Output (per Channel at 4Ω)	500W Stereo	800W Stereo	1200W Stereo	2100W Stereo
Signal to Noise Ratio (below rated 1kHz power at 8Ω [below rated 1kHz power at 8Ω, A weighted])	100dB	100dB	100dB	60dB
Total Harmonic Distortion (THD)		<0.5%		<0.5%
Damping Factor (20Hz to 400Hz)	>500	>500	>500	>500
Frequency Response (at 1W, 20Hz to 20kHz)	+0dB, -1dB	0dB, -1dB	0dB, -1dB	0dB, -1dB
Crosstalk (below rated power) 20Hz to 1kHz	>70dB	>70dB	>70dB	>70dB
Input Impedance (nominal)	20kΩ balanced, 10kΩ unbalanced	20kΩ balanced, 10kΩ unbalanced	20kΩ balanced, 10kΩ unbalanced	20kΩ balanced, 10kΩ unbalanced

Physical Specifications

Width	19 in (48.3 cm)	19 in (48.3 cm)	19 in (48.3 cm)	19 in (48.3 cm)
Height	1.5 in (3.8 cm)	3.5 in (8.9 cm)	2.5 in (6.4 cm)	3.5 in (8.9 cm)
Depth	12.5 in (31.8 cm)	12.5 in (31.8 cm)	12.5 in (31.8 cm)	16.2 in (41.3 cm)
Weight	7.8 lbs (3.5 kg)	22 lbs (9.9 kg)	22 lbs (9.9 kg)	10 lbs (4.5 kg)

Specifications subject to change without prior notice. Latest information available at www.crownaudio.com. Crown offers a three-year, no-fault, fully transferable warranty for every new Crown amplifier. An unsurpassed industry standard. With the unprecedented no-fault protection, your new Crown amplifier is warranted to meet or exceed original specifications for the full three years of ownership. During this time, if your amplifier fails, or does not perform to original specifications, it will be repaired or replaced at our expense. In most cases, the only things not covered by this warranty are those losses normally covered by insurance and those caused by accidental abuse. Plus, the coverage is transferable, should you sell your amplifier. See your authorized Crown dealer for full warranty disclosure and details. For customers outside of the USA, please contact your authorized Crown distributor for warranty information or call 574-294-8200. © 2015 Crown Audio, Inc.

QLX-D® Digital Wireless Specifications		
System		
RF Carrier Frequency Range	470-512.5 MHz, varies by region	
Image Rejection	>20 dB, typical	
Latency	<2.9 ms	
RF Sensitivity	-97 dBm at 50° BER	
Working Range	100 m (328 ft.) line-of-sight. Note: Actual range depends on RF signal absorption, reflection and interference.	
Audio Frequency Range	20 Hz to 20 kHz. Note: Dependent on microphone type.	
Audio Dynamic Range	>120 dB, A-weighted, typical	
Total Harmonic Distortion	<0.1%	
Operating Temperature Range	10°C (50°F) to 55°C (132°F) Note: Battery characteristics may limit this range.	
QLXD1 Receiver		
Dimensions	41 mm x 157 mm x 151 mm (1.61 in. x 6.18 in. x 5.94 in.)	
Weight	117 g (4.13 oz.), without antenna	
Mounting	0mm	
Power Requirements	12 V DC @ 0.4 A, supplied by external power supply (in post-wired)	
Spectrum Rejection	>80 dB, typical	
Antenna Connector Type	BNC	
Antenna Impedance	60 Ω	
Gain Adjustment Range	-10 to +42 dB (in 1 dB steps)	
Configuration	W (6.35 mm) Impedance balanced (Fp - audio, Ring - no audio) Sleeve - ground (XLR - balanced (1 - ground, 2 - audio +, 3 - audio -))	
Antenna Impedance	W (6.35 mm) 100 Ω (50 Ω Unbalanced) XLR 100 Ω	
Full Scale Output	W (6.35 mm) +12 dBV XLR, LINE setting > +18 dBV, MIC setting > +12 dBV	
Mic/Line Switch	30 mV pad	
Network Interface	Single Port Ethernet 10/100 Mbps	
Network Addressing Capability	DHCP or Manual IP address	
QLXD1 Bodypack Transmitter		
QLXD1 Handheld Transmitter		
Dimensions	QLXD1: 88 mm x 65 mm x 23 mm (3.50 in. x 2.57 in. x 0.92 in.) without antenna QLXD2: 256 mm x 51 mm (10.1 in. x 2.0 in.), x Dia	
Weight	QLXD1: 138 g (4.9 oz.), without batteries QLXD2: 347 g (12.2 oz.), without batteries	
Housing	QLXD1: Cast aluminum QLXD2: Macrolon aluminum	
Battery Type	Shure SR900 Rechargeable Ni-Mn or AA batteries 1.5 V	
Battery Runtime	60 (Ni-Mn) or > 80 (SR900) rechargeable up to 10 hours alkaline up to 9 hours	
RF Output Power	1 mW (EIRP)	
Occupied Bandwidth	<200 MHz	
Modulation Type	Shure proprietary digital	
Mic Offset Range	0 to 21 dB (in 3 dB steps)	

SHURE
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QLX-D® Digital Wireless Systems

**POWERFULLY
REFINED WIRELESS**

www.shure.com



QLX-D Digital Wireless Systems

An Elevated Standard.



Transparent 24-bit digital audio.
Incredibly efficient wireless.
Powerful networking.
Rugged, secure systems.

Shure QLX-D Digital Wireless Systems are the most advanced digital wireless systems available. They feature 24-bit digital audio, 2.4 GHz digital frequency hopping, and a powerful 10W transmitter. The system is designed for professional use in live performance, broadcast, and corporate environments. The receiver unit features a digital display showing channel, battery level, and signal strength. The system is rugged and secure, making it ideal for professional use.

System Components



QLXD1 Bodypack Transmitter QLXD2 Handheld Transmitter

- Rugged metal construction
- Available in 100-watt and 50-watt models
- 24-bit digital audio
- 2.4 GHz digital frequency hopping
- Digital display showing channel, battery level, and signal strength
- 10W transmitter
- 50W transmitter
- 24-bit digital audio
- 2.4 GHz digital frequency hopping
- Digital display showing channel, battery level, and signal strength

QLXD4 Receiver

- 24-bit digital audio
- 2.4 GHz digital frequency hopping
- 10W transmitter
- 50W transmitter
- 24-bit digital audio
- 2.4 GHz digital frequency hopping
- Digital display showing channel, battery level, and signal strength
- 10W transmitter
- 50W transmitter
- 24-bit digital audio
- 2.4 GHz digital frequency hopping
- Digital display showing channel, battery level, and signal strength

System Components

Handheld

QLXD1, QLXD2, QLXD3, QLXD4



Lavaliere

QLXD1, QLXD2, QLXD3, QLXD4



Headset

QLXD1, QLXD2, QLXD3, QLXD4



Instrument

QLXD1, QLXD2, QLXD3, QLXD4

