

# BOGEN MICROPHONES

Models HCU350, HDU150, HDU250, HDO100, DDU250, MBS1000A, GDU150, GCU250, MGN19, SCU250, WCU250

## Introduction

Bogen's line of microphones come in a variety of types and styles (handheld, desktop, gooseneck, boundary, and overhead hanging) to meet any and all application needs ranging from paging systems to instrument and vocal reproduction. Each is ruggedly constructed to withstand the demands of sound installations.

Each microphone provides clear, natural, intelligible sound reproduction with accurate response and dependable performance. Bogen's microphone models are crafted with professional-grade features, including models with rubberized grips; quiet on/off glide switches; dent-proof screens; contemporary designs; and a variety of accessories including stands, mounting clips, windscreens, and cables.

## Index

Handhelds (HCU350, HDU150, HDU250, HDO100) .....	1-3
Desktops (DDU250, MBS1000A) .....	3-4
Goosenecks (GDU150, GCU250, MGN19) .....	4-5
Boundary (SCU250) .....	6
Overhead (WCU250).....	6
Accessories .....	7
Architect and Engineer Specifications .....	8

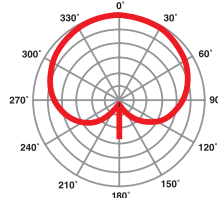
## HCU350 - Professional Instrument

### Description

The HCU350 delivers high performance, reliability, and accurate pickup for both vocal and instrument sound. It is an excellent choice for professional recordings, live performances, and other critical sound reinforcement applications. The HCU350 requires an external 9V - 52V DC phantom power source.



### Polar Graph



### Features

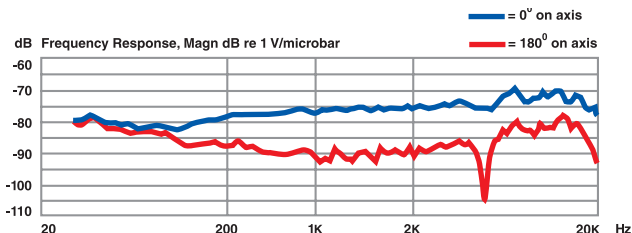
- Cardioid pickup pattern
- Transformerless electronic circuit that delivers high-output, low self-noise, and high sound pressure handling
- Excellent shock-mount system for effective isolation from handling noise and vibration
- Rubberized black finish
- Includes mic clip and windscreen

### Specifications

MIC Type:	Handheld
Element:	Back electret condenser
Polar Pattern:	Cardioid
Impedance:	60-ohm
Frequency Response:	30 Hz to 20 kHz
Sensitivity*:	-56 dB +/- 3dB
Max SPL @ 1% THD:	>130 dB
S/N Ratio:	Over 65 dB
Phantom Voltage Req:	9V - 52V DC
Connector:	XLR Male
Dimensions:	6 1/4" D x 1" Dia.
Product Weight:	5 oz.
Material:	Copper
Finish:	Rubberized black finish

\* (0dB=1V/microbar 1,000 Hz indicated by open circuit)

### Frequency Response Graph



54-5090-01B  
 © 2003 Bogen Communications, Inc.  
 Printed in U.S.A. 0312  
 Specifications subject to change without notice.

## HDU150 - Handheld Stage

### Description

The HDU150 is an attractive, dynamic, all-purpose microphone ideally suited for a wide variety of vocal and sound reinforcement applications.



### Features

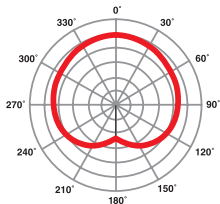
- Cardioid pickup pattern
- Crisp, clear sound
- Wide dynamic range with high-end sparkle and minimum feedback
- Rigid, low noise cable-mount system
- Low sensitivity to breath and popping sounds
- Durable ball-shaped design
- Rubber shock-mount system for attenuation of handling and cable noise
- Lockable, silent on/off reed switch
- Rubberized black finish
- Includes mic clip

### Specifications

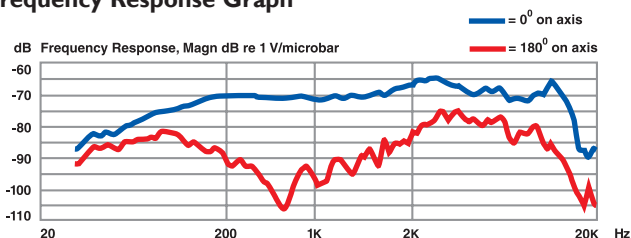
MIC Type:	Handheld
Element:	Moving coil dynamic
Polar Pattern:	Cardioid
Impedance:	500-ohm
Frequency Response:	70 Hz to 15 kHz
Sensitivity*:	-70 dB +/- 3dB
S/N Ratio:	>65 dB
Connector:	XLR Male
Switch:	With sliding-type on/off switch (lockable, silent reed switch)
Dimensions:	6 1/2" D x 1 1/2" Dia.
Product Weight:	1 lb.
Material:	Zinc die cast
Finish:	Rubberized black finish

\* (0dB=1V/microbar 1,000 Hz indicated by open circuit)

### Polar Graph



### Frequency Response Graph



## HDU250 - Professional Stage

### Description

The HDU250 is a dynamic microphone ideal for acoustically-demanding environments. It features a heavy zinc die cast case with a rigid, low noise cable-mount system and a lockable silent reed switch. It has an extra low handling noise, floating shock-mounted Neodymium capsule.



### Features

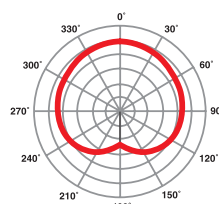
- Cardioid pickup pattern
- High sensitivity Neodymium capsule
- High output design with excellent gain before feedback characteristics
- High sound pressure capability without distortion and low sensitivity to breath/pop noise
- Efficient shock-mount system prevents handling and transmission
- Rugged, reliable construction
- Integral multi-layer breath/wind filter
- Rubberized black finish
- Low-impedance operation
- Lockable, silent on/off reed switch
- Includes mic clip

### Specifications

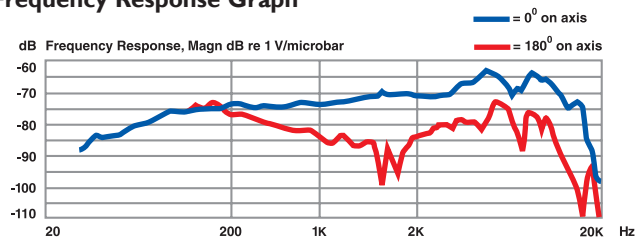
MIC Type:	Handheld
Element:	Moving coil dynamic
Polar Pattern:	Cardioid
Impedance:	250-ohm
Frequency Response:	50 Hz to 18 kHz
Sensitivity*:	-72 dB +/- 3dB
S/N Ratio:	>65 dB
Cable:	XLR Male
Switch:	With sliding-type on/off switch (lockable, silent reed switch)
Dimensions:	7" D x 2" Dia.
Product Weight:	1 lb.
Material:	Zinc die cast
Finish:	Rubberized black finish

\* (0dB=1V/microbar 1,000 Hz indicated by open circuit)

### Polar Graph



### Frequency Response Graph



## HDO100 - Public Address

### Description

The HDO100 is an attractive, dynamic microphone perfectly-suited for public address applications and instrument sound reproduction.



### Features

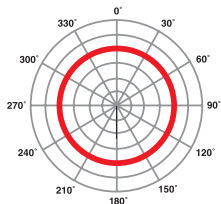
- Omni-directional pickup pattern
- Uniform pickup of sound from all directions with no deterioration in frequency response
- Clean, clear reproduction with minimal ambient sound
- Low sensitivity to handling noise and stage vibrations
- Rugged, reliable construction
- Internal rubber shock isolation system
- Rubberized black finish
- Lockable, silent on/off reed switch
- Includes mic clip

### Specifications

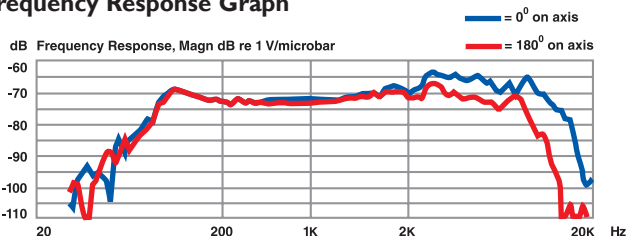
MIC Type:	Handheld
Element:	Moving coil dynamic
Polar Pattern:	Omni-directional
Impedance:	500-ohm
Frequency Response:	70 Hz to 15 kHz
Sensitivity*:	-72 dB +/- 3dB
S/N Ratio:	>65 dB
Connector:	XLR Male
Switch:	With silent on/off switch (lockable, silent reed switch)
Dimensions:	6 1/2" D x 1 1/2" Dia.
Product Weight:	1 lb.
Material:	Zinc die cast
Finish:	Rubberized black finish

\* (0dB=1V/microbar 1,000 Hz indicated by open circuit)

### Polar Graph



### Frequency Response Graph



## DDU250 - Dynamic Desktop

### Description

The DDU250 is a high-quality, dynamic, gooseneck desktop microphone ideal for any podium or PA system. The gooseneck permits the user to adjust the microphone's angle and height to suit the user's needs.



### Features

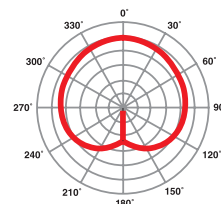
- Cardioid pickup pattern
- 16" long, fully flexible gooseneck stalk that is shock-mounted to a heavy zinc die cast base
- Push-to-lock and push-to-talk switches
- 10-foot cable with external contact closure outputs for the talk switches
- Excellent speech intelligibility with low ambient noise
- Effective feedback control
- Low sensitivity to breath and popping sound
- Slim, compact design to minimize distraction to the user

### Specifications

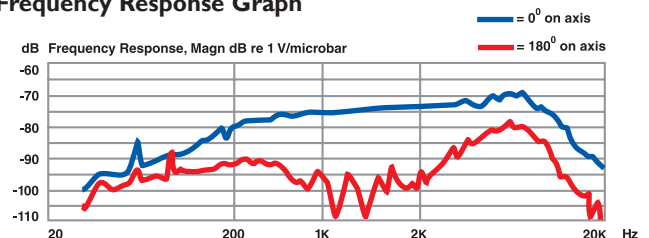
MIC Type:	Desktop
Element:	Moving coil dynamic
Polar Pattern:	Cardioid
Impedance:	500-ohm
Frequency Response:	100 Hz to 12 kHz
Sensitivity*:	-76 dB +/- 3dB
S/N Ratio:	>65 dB
Cable:	10 ft., 4-conductor, 2-shielded
Switches:	Push-to-lock and push-to-talk
Dimensions:	4 1/4" W x 18 1/4" H x 6 1/4" D
Product Weight:	3 1/2 lb.
Material:	Zinc die cast
Finish:	Matte black

\* (0dB=1V/microbar 1,000 Hz indicated by open circuit)

### Polar Graph



### Frequency Response Graph



## MBS1000A - Desktop Paging

### Description

The MBS1000A is a dynamic, dual-impedance, desktop microphone designed for all industrial and commercial public address and paging applications.

### Features

- Uni-directional pickup pattern
- Push-to-talk or lift-to-talk operation
- Locking mechanism with push-to-talk bar for long announcements
- Rubberized black finish with die-cast base
- Contact closure leads

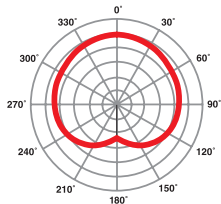


### Specifications

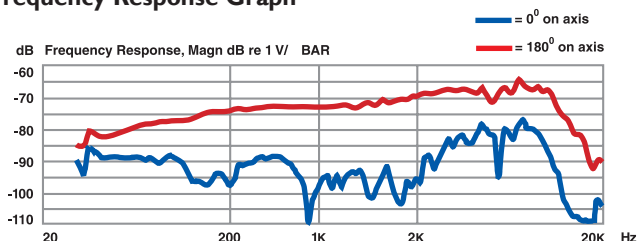
MIC Type:	Desktop
Element:	Dynamic
Polar Pattern:	Cardioid
Impedance:	Lo-Z, 500 ohms; Hi-Z, 50k ohms (switch-selectable)
Frequency Response:	45 Hz to 15 kHz
Sensitivity*:	-72 dB +/- 3 dB
Cable:	7' of 4-conductor, 2-shielded
Switch:	Locking push-to-talk, lift-to-talk
Dimensions:	4 <sup>3</sup> / <sub>8</sub> " W x 9 <sup>3</sup> / <sub>8</sub> " H x 5 <sup>7</sup> / <sub>8</sub> " D
Product Weight:	1 <sup>1</sup> / <sub>4</sub> lb.
Material:	ABS plastic
Finish:	Rubberized black finish

\* (0dB=1V/microbar 1,000 Hz indicated by open circuit)

### Polar Graph



### Frequency Response Graph



## GDU150 - Dynamic Gooseneck

### Description

The GDU150 is a dynamic, gooseneck microphone that features a durable all-metal case with a non-glare black finish. It has a 15<sup>1</sup>/<sub>2</sub>" long, fully flexible neck with an integral XLR mounting base.



### Features

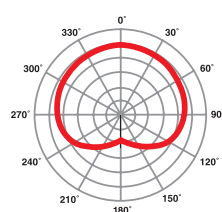
- Cardioid pickup pattern
- Outstanding speech intelligibility, feedback rejection, and user sound isolation
- High sound pressure capability and low sensitivity to breath/pop noise
- Superior shock-mount system to reject handling and transmission noise
- Rugged, reliable construction
- Integral multi-layer breath/wind filter
- Durable all-metal case with non-glare black finish
- Silent push-on/push-off talk switch on base

### Specifications

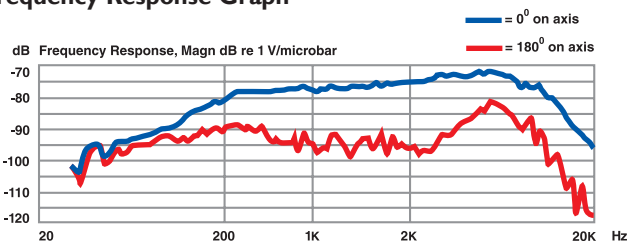
MIC Type:	Gooseneck
Element:	Moving coil dynamic
Polar Pattern:	Cardioid
Impedance:	500-ohm
Frequency:	100 Hz to 12 kHz
Sensitivity*:	-75 dB +/- 3dB
S/N Ratio:	>65 dB
Connector:	XLR Male
Switch:	Push-on/push-off talk switch on base
Dimensions:	17" L x 1 <sup>1</sup> / <sub>4</sub> " Dia.
Product Weight:	1 lb.
Material:	Zinc
Finish:	Non-glare black finish

\* (0dB=1V/microbar 1,000 Hz indicated by open circuit)

### Polar Graph



### Frequency Response Graph



## GCU250 - Condenser Gooseneck

### Description

The GCU250 is a high performance, partially-rigid, 18 1/4" long gooseneck condenser microphone capable of meeting the stringent demand of today's conference and PA systems. It is an intelligent choice for sound reinforcement applications. It has an integral XLR male connector mounting base and requires a 9V - 52V DC phantom power source. Slim and compact, the GCU250 is designed to minimize intrusion between the user and the audience.



### Features

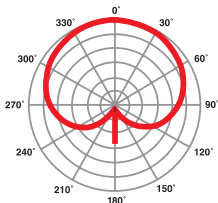
- Phantom power-operated
- Cardioid pickup pattern
- Clean, accurate vocal reproduction with low ambient noise
- Snap-on windscreen
- Wide frequency response with rich treble and bass
- Thin, unobtrusive construction for close-up use
- Integral breath/wind filter
- Durable all-metal case with non-glare black finish

### Specifications

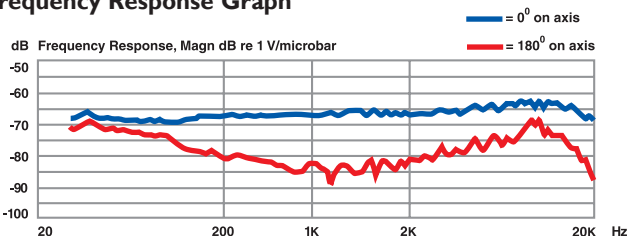
MIC Type:	Gooseneck
Element:	Back electret condenser
Polar Pattern:	Cardioid
Impedance:	250-ohm
Frequency Response:	50 Hz to 18 kHz
Sensitivity*:	-65 dB +/- 3dB
Max SPL @ 1% THD:	>130 dB
S/N Ratio:	>65 dB
Phantom Voltage Req:	9V - 52V DC
Connector:	XLR Male
Dimensions:	18 1/4" L x 3/4" Dia.
Product Weight:	4 oz.
Material:	Copper
Finish:	Non-glare black finish

\* (0dB=1V/microbar 1,000 Hz indicated by open circuit)

### Polar Graph



### Frequency Response Graph



## MGN19 - Dynamic Gooseneck

### Description

The MGN19 is a push-button activated, dynamic microphone that is ideal for paging and commercial applications.



### Features

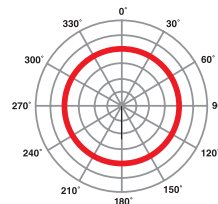
- Omni-directional pickup pattern
- Push-to-talk switch on MIC housing
- Rugged, reliable design for quality, long-term use under the most strenuous handling conditions
- Chrome-plated screen and gooseneck with black Cyclocac® housing
- Contact closure leads

### Specifications

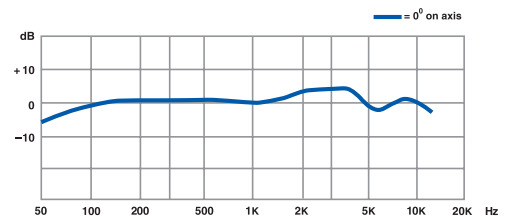
MIC Type:	Gooseneck
Element:	Dynamic
Polar Pattern:	Omni-directional
Impedance:	400-ohm
Frequency Response:	50 Hz to 12 kHz
Sensitivity*:	-76 dB +/- 3dB
Cable:	7' of 4-conductor, 2-shielded
Switch:	Push-to-talk on housing
Dimensions:	23 1/2" L x 1 1/4" Dia.
Product Weight:	1 1/4 lb.
Material:	Cyclocac (housing)
Finish:	Black Cyclocac cap and housing; chrome gooseneck and mounting flange

\* (0dB=1V/microbar 1,000 Hz indicated by open circuit)

### Polar Graph



### Frequency Response Graph



## SCU250 - Boundary

### Description

The SCU250 is an unobtrusive, surface-mount, boundary, condenser microphone ideal for meeting rooms, conferences, and stage productions where minimum visibility is ideal. It requires an external 9V - 52V DC phantom power supply.



### Features

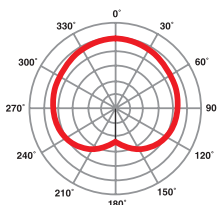
- Cardioid pickup pattern
- Full, rich reproduction of voice and music
- Well-suited in capturing the sound source and immediate surroundings
- Low sensitivity to stage vibration and thumping noise
- Mounting keyways for hanging or for secure attachment to the mounting surface
- Excellent user sound isolation with excellent feedback rejection
- Heavy-duty metal case
- Low-impedance balanced output
- Matte black finish

### Specifications

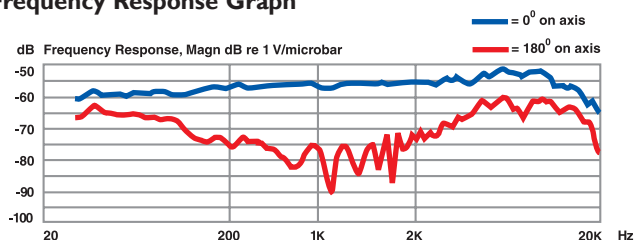
MIC Type:	Surface-mount
Element:	Back electret condenser
Polar Pattern:	Cardioid
Impedance:	250-ohm
Frequency Response:	20 Hz to 18 kHz
Sensitivity*:	-58 dB +/- 3dB
S/N Ratio:	Over 65 dB
Phantom Voltage Req:	9V - 52V DC
Cable:	26 ft., quad cable
Connector:	Removable XLR connector
Dimensions:	2 3/4" W x 3 1/4" D x 3/4" H
Product Weight:	1 lb.
Material:	Zinc die cast
Finish:	Matte black finish

\* (0dB=1V/microbar 1,000 Hz indicated by open circuit)

### Polar Graph



### Frequency Response Graph



## WCU250 - Overhead Hanging

### Description

The WCU250 is an electret condenser, professional microphone perfectly-suited for picking up audio from large groups. Because it can hang from the ceiling and is compact in size, the WCU250 is very useful in minimizing visual distraction for the performers and the audience alike, and limits intrusion into the working space.



The WCU250 cable is terminated by a mini-XLR (female). A mini-XLR to standard XLR adapter (included) houses the pre-amplifier. It requires an external 9V - 52V DC phantom power supply.

### Features

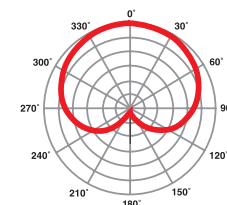
- Cardioid pickup pattern
- Utilizes a superior-quality, state-of-the-art transducer element and circuitry
- Transformerless, direct-coupled design to ensure clear, transparent reproduction of even the most delicate transients at the highest output levels
- Clear, crisp sound with outstanding ambient noise isolation
- Wide frequency response with excellent off-axis rejection
- Low profile, compact, hanging-type design
- Integrated metal hanger
- Matte black finish

### Specifications

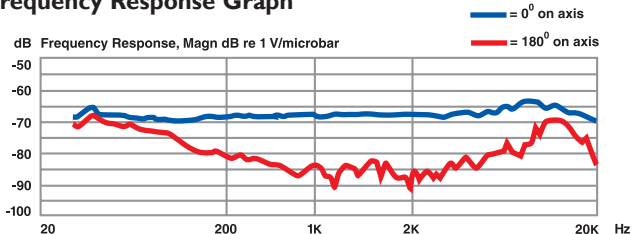
MIC Type:	Overhead hanging
Element:	Back electret condenser
Polar Pattern:	Cardioid
Impedance:	250-ohm
Frequency Response:	50 Hz to 18 kHz
Sensitivity*:	-65 dB +/- 3dB
Max SPL @ 1% THD:	>130 dB
S/N Ratio:	>65 dB
Phantom Voltage Req:	9V - 52V DC
Cable:	20 ft. quad cable
Dimensions:	1 1/4" D x 1/2" Dia.
Product Weight:	5 oz.
Material:	Copper
Finish:	Matte black finish

\* (0dB=1V/microbar 1,000 Hz indicated by open circuit)

### Polar Graph



### Frequency Response Graph



## Accessories

### CABLES

#### MAC - Microphone Cable Assembly

- For handheld models HCU350, HDU250, HDU150, & HDO100
- Female XLR to stripped and tinned wires
- 25' cable
- 2-conductor plus shield

#### XLR25 - Microphone Cable

- For handheld models HCU350, HDU250, HDU150, & HDO100
- Male XLR to female XLR
- 25'
- 2-conductor plus shield

### CLIPS

#### MC22 - Handheld Clip

- For instrument microphone HCU350
- Black, flexible, impact-resistant plastic

#### MC27 - Handheld Clip

- For HDU250, HDU150, and HDO100
- Black, flexible, impact-resistant plastic

### WINDSCREENS

#### WSGCU250 - Windscreen for GCU250

- Foam windscreen for use with GCU250 microphone

#### WSHCU350 - Windscreen for HCU350

- Foam windscreen for use with HCU350 microphone



MC27

MC22



WSGCU250



WSHCU350



MAC



XLR25

### MOUNTS

#### MFM - Flange Mount

- 3-pin female XLR connector non-shock-isolated
- 3 $\frac{1}{4}$ " H x 1 $\frac{3}{4}$ " dia. base, 3 ounces

#### MSM - Shock-Isolated Microphone Base

- For GCU250 and GDU150
- Provides superior mechanical noise and vibration isolation
- Lightweight ABS material housing
- XLR (female) connector
- Thick shock-absorbing rubber cushion
- Ideal fixture for boardrooms, conference rooms, pulpits, podiums, and newsrooms
- 4 $\frac{3}{4}$ " W x 1 $\frac{3}{4}$ " H x 4" D, 6 ounces

### STANDS

#### DS3 - Desk Stand

- 3" chrome-finish tube
- 6" diameter cast iron base, 3 lb.

#### SF4 Floor Stand

- 34" to 62" adjustable height
- Round 10" diameter die cast base, 9 lb.
- Grip-action clutch and chrome-plated tubing

#### SB6 - Floor Boom Stand

- Telescopic floor stand
- Sliding 30" boom arm
- 34" to 62" adjustable height, 6 lb.
- Chrome-plated tubing
- Tripod base



SF4

SB6

MSM

DS3

MFM

## Architect and Engineer Specifications

**HCU350** - The microphone shall be a Bogen Model HCU350. It shall be a cardioid, back electret condenser handheld microphone with a frequency response of 30 Hz to 20 kHz and a 60-ohm impedance. The sensitivity shall be -56 dB (+/- 3dB) and the signal-to-noise ratio greater than 65 dB. Max SPL @ 1% THD shall be greater than 130 dB. It shall have a rubberized black finish and will require an external 9V - 52V DC phantom power source. Dimensions shall be 6<sup>1</sup>/<sub>4</sub>" D x 1" Dia. Weight will be 5 ounces.

**HDU150** - The microphone shall be a Bogen Model HDU150. It shall be a cardioid, dynamic handheld microphone with a frequency response of 70 Hz to 15 kHz and a 500-ohm impedance. The sensitivity shall be -70 dB (+/- 3dB) and the signal-to-noise ratio greater than 65 dB. It shall have a sliding-type on/off switch and a rubberized black finish. The HDU150 shall have an XLR Male connector. Dimensions shall be 6<sup>1</sup>/<sub>2</sub>" D x 1<sup>1</sup>/<sub>2</sub>" Dia. Weight shall be 1 lb.

**HDU250** - The microphone shall be a Bogen Model HDU250. It shall be a cardioid, dynamic handheld microphone with a frequency response of 50 Hz to 18 kHz and a 250-ohm impedance. The sensitivity shall be -72 dB (+/- 3dB) and the signal-to-noise ratio greater than 65 dB. It shall have a sliding-type on/off switch and a rubberized black finish. The HDU150 shall have an XLR Male connector. Dimensions shall be 7" D x 2" Dia. Weight shall be 1 lb.

**HDO100** - The microphone shall be a Bogen Model HDO100. It shall be an omni-directional, dynamic handheld microphone with a frequency response of 70 Hz to 15 kHz and a 500-ohm impedance. The sensitivity shall be -72 dB (+/- 3dB) and the signal-to-noise ratio greater than 65 dB. It shall have a silent on/off lockable reed switch and a rubberized black finish. The HDO100 shall have an XLR Male connector. Dimensions shall be 6<sup>1</sup>/<sub>2</sub>" D x 1<sup>1</sup>/<sub>2</sub>" Dia. Weight shall be 1 lb.

**DDU250** - The microphone shall be a Bogen Model DDU250. It shall be a cardioid, dynamic desktop microphone with a frequency response of 100 Hz to 12 kHz and a 500-ohm impedance. The sensitivity shall be -76 dB (+/- 3dB) and the signal-to-noise ratio greater than 65 dB. It shall have a push-to-lock/push-to-talk switch and a matte black finish. It shall have a 10', 4-conductor, 2-shielded cable. Dimensions shall be 4<sup>1</sup>/<sub>4</sub>" W x 18<sup>1</sup>/<sub>4</sub>" H x 6<sup>1</sup>/<sub>4</sub>" D. Weight shall be 3<sup>1</sup>/<sub>2</sub> lb.

**MBS1000A** - The microphone shall be a Bogen Model MBS1000A. It shall be a dynamic-type, cardioid, dual-impedance desktop microphone. The frequency response shall be uniform from 45 Hz to 15 kHz. Impedance shall be selected via a switch on the underside of the microphone base. Impedances shall be 500 ohms (matching 125 ohms to 1,000 ohms) or 50,000 ohms (matching 50K ohms or greater). Voltage output shall be -72 dB at Lo-Z, and -52 dB at Hi-Z. The microphone shall provide push-to-talk and lift-to-talk operation. The push-to-talk bar shall include a locking mechanism. Provision shall be included to defeat lift-to-talk operation. The microphone and relay switching shall be accomplished with long life DPDT professional leaf switches. The microphone circuit shall be wired normally open. The microphone shall be in an ABS plastic case with a rubberized black finish and a die-cast base. It shall be supplied with 7 feet of 4-conductor cable, 2 conductors individually shielded, and shall be permanently wired into the microphone. Dimensions shall be 4<sup>3</sup>/<sub>8</sub>" W x 9<sup>3</sup>/<sub>8</sub>" H x 5<sup>7</sup>/<sub>8</sub>" D. Weight shall be 1<sup>1</sup>/<sub>4</sub> lb.

**GDU150** - The microphone shall be a Bogen Model GDU150. It shall be a cardioid, dynamic gooseneck microphone with a frequency response of 100 Hz to 12 kHz and a 500-ohm impedance. The sensitivity shall be -75 dB (+/- 3dB) and the signal-to-noise ratio greater than 65 dB. It shall have a push-on/push-off talk switch mounted on its base and a non-glare black finish. The GDU150 shall have an XLR Male type connector. Dimensions shall be 19<sup>1</sup>/<sub>4</sub>" H x 1<sup>1</sup>/<sub>4</sub>" Dia. Weight shall be 1 lb.

**GCU250** - The microphone shall be a Bogen Model GCU250. It shall be a cardioid, back electret condenser gooseneck microphone with a frequency response of 50 Hz to 18 kHz and a 250-ohm impedance. The sensitivity shall be -65 dB (+/- 3dB) and the signal-to-noise ratio greater than 65 dB. Max SPL @ 1% THD shall be greater than 130 dB. It shall have a non-glare black finish. The GCU250 shall have an XLR male type connector. It requires an external 9V - 52V DC phantom power source. Dimensions shall be 18<sup>1</sup>/<sub>4</sub>" H x 3<sup>1</sup>/<sub>4</sub>" Dia. Weight shall be 4 ounces.

**MGN19** - The microphone shall be a Bogen Model MGN19 dynamic-type, omni-directional microphone. Frequency response shall be uniform from 50 Hz to 12 kHz, with a presence boost at 2 kHz for natural, intelligible sound. Impedance shall be 400 ohms. A sealed push-to-talk microswitch shall be mounted on the microphone housing. The sensitivity shall be -76 dB (+/- 3dB). The microphone shall be furnished with a 19" chrome-plated flexible gooseneck and mounting flange and seven feet of rugged synthetic-jacketed 4-conductor, 2-shielded cable. The microphone shall have a black Cicolac® cap and housing with chrome plated screen and shall measure 4<sup>3</sup>/<sub>8</sub>" long with a maximum diameter of 1<sup>3</sup>/<sub>8</sub>". Removable set screws shall secure the front cap to the microphone and the microphone to the gooseneck. Dimensions shall be 23<sup>1</sup>/<sub>2</sub>" L x 1<sup>1</sup>/<sub>4</sub>" Dia. Weight shall be 1<sup>1</sup>/<sub>4</sub> lb.

**SCU250** - The microphone shall be a Bogen Model SCU250. It shall be a cardioid, back electret condenser boundary microphone with a frequency response of 20 Hz to 18 kHz and a 250-ohm impedance. The sensitivity shall be -58 dB (+/- 3dB) and the signal-to-noise ratio greater than 65 dB. It shall have a matte black finish and will require an external 9V - 52V DC phantom power source. Dimensions shall be 2<sup>3</sup>/<sub>4</sub>" W x 3<sup>1</sup>/<sub>4</sub>" D x 3<sup>1</sup>/<sub>4</sub>" H. Weight shall be 1 lb.

**WCU250** - The microphone shall be a Bogen Model WCU250 hanging microphone. It shall be a cardioid, back electret condenser microphone with a frequency response of 50 Hz to 18 kHz and a 250-ohm impedance. The sensitivity shall be -65 dB (+/- 3dB) and the signal-to-noise ratio greater than 65 dB. It shall have a matte black finish and will require an external 9V - 52V DC phantom power source with a connecting cable of 20'. Dimensions shall be 1<sup>1</sup>/<sub>4</sub>" D x 1<sup>1</sup>/<sub>2</sub>" Dia. Weight shall be 5 ounces.

**BOGEN**  
COMMUNICATIONS, INC.

50 Spring Street, Ramsey, NJ 07446 U.S.A.  
201-934-8500 FAX: 201-934-9832 www.bogen.com