DATA SHEET
Qt® 100
SOUND MASKING CONTROL MODULE



The Qt® 100 control module is a sound masking generator, controller and amplifier, with one auxiliary audio input to allow for distribution of audio from a paging controller or (background) music player. The Qt 100 control module is a compact one-zone controller suitable for installations of up to 12,000 square feet (1,115 m^2). The masking level can be adjusted from the unit's front panel. Auxiliary audio level is set via the front panel.

FEATURES

- 1 zone, up to 120 emitters
- 1 audio input for paging or music
- Contact closure integrates with fire alarm systems
- Front panel control with LCD
- Surface mount only
- CE marked, ETL listed, and RoHS compliant
- Met Works with WELL licensing criteria for sound masking
- Covered by Biamp Systems' five-year warranty
- Manufactured in the U.S.A.
- TAA compliant
- GSA eligible

ARCHITECTS & ENGINEERS SPECIFICATION

The controller shall consist of all electronics required for operating a sound masking system from a single accessible location. Systems with distributed electronic packages above ceilings are not acceptable. The controller shall provide one zones and shall be sufficient to generate sound masking, audio control and audio power for up to 12,000 square feet (1,115 m^2) of coverage. Each audio output shall provide four uncorrelated channels of masking noise to minimize phase interference and hotspots. The complete system shall consume less than 7 watts of power. The unit shall meet all requirements of Underwriters Laboratories, the US and Canadian National Electrical Codes, FCC Part 15, and all pertinent UK and EU codes. The controller shall be CE marked, ETL listed, and shall be compliant with the RoHS directive. Warranty shall be 5 years. The controller shall be Qt® 100.

Drawings and product details are for information and/or illustrative purposes only, and may vary. Please contact your local Memtech representative for the most current product information.

Qt 100 SPECIFICATIONS

Frequency Response[1]	
Sound Masking:	200Hz to 6.3kHz
Music/Paging:	200Hz to 10kHz
SPL[1]	
Minimum Masking SPL (@ 1m):	30dBA
Maximum Masking SPL (@ 1m):	60dBA
Maximum Music/Paging SPL (@ 1m):	62dBA
Masking	
Number of Non-Correlated Masking Sources:	4
Number of Masking Zones:	1 (2 cable runs per zone)
Masking Level Adjustment:	0.5dB steps
Max Emitter/Device Capacity:	60 Qt Emitters or Room Controls per cable run
Max Emitter Cabling Distance:	1000 feet (300m) per cable run
Audio Inputs	
Input Connector Type:	Captive Screw Terminal
Number of Inputs:	1 (Stereo or Mono)
Input Level:	+4dBu (2VRMS max)
Input Level Adjustment:	1dB steps
Input Impedance:	5kΩ
Remote Control	
Connector Type:	Captive Screw Terminal
Input Type:	Contact Closure (Normally Open)
Number of Inputs:	1
Output Type:	Logic Status (5VDC)
Number of Outputs:	1

Output Connections:	2 RJ-45
Minimum Output Impedance:	2Ω (per channel)
Power Supply	
Operating Voltage:	100-240VAC 50/60Hz
Current Draw:	0.6A
Output:	24VDC @ 1A
Max. Power Consumption (24VDC):	7W
Input Connector:	Captive Screw Terminal & Coax Power Plug (center pin positive)
Included Accessories:	ACT Hole Saw
Overall Dimensions	
Height:	3.5 inches (89mm)
Width:	7 inches (179mm)
Depth:	0.875 inches (23mm)
Weight:	6 oz. (170g)
Environmental:	
Ambient Operating Temperature Range:	40 - 90° F (4 – 32° C)
Humidity:	0-95% relative humidity (non-condensing)
Altitude:	0-6,600 ft (0-2000m) MSL
Compliance:	
	FCC Part 15B (USA)
	ETL Listed (USA and Canada)
	CE Marked (Europe)
	RoHS Directive (Europe)
	Green Spec Listed

[1] Specifications based on use of Qt Emitter array and based on published layout practices

OPTIONAL ACCESSORIES

DESCRIPTION	SKU
Hole Saw ACT	HS-ACT
Hole Saw Drywall	HS-DW
10 ft Plenum-Rated Cable	CC-10- (B=Black / W = White)
25 ft Plenum-Rated Cable	CC-25- (B=Black / W = White)
50 ft Plenum-Rated Cable	CC-50- (B=Black / W = White)
75 ft Plenum-Rated Cable	CC-75- (B=Black / W = White)
100 ft Plenum-Rated Cable	CC-100- (B=Black / W = White)
Room Control (White)	Qt-RC3
Power Supply	PS-4
4-Pack of Qt Emitters, 16 ft cables	E-A-W-16-4 (E-A-B-16-4 for Black)
4-Pack of Qt Emitters, 30 ft cables	E-A-W-30-4 (E-A-B-30-4 for Black)

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DATA SHEET
CAMBRIDGE Qt X 300/300D
SOUND MASKING CONTROL MODULE





The Cambridge Qt™ X 300/300D control module is a sound masking generator, controller, third octave band equalizer and amplifier, with two auxiliary audio inputs to allow for distribution of audio from paging controllers and/or (background) music players. The Qt X 300/300D controls up to 3 zones of Qt Standard or Active emitters. The Qt X 300/300D control module is a compact three-zone networkable controller suitable for installations of up to 36,000 square feet (3,345 m^2). Each zone can be independently adjusted for masking and aux audio levels and spectra. When multiple controllers are included in a single system audio inputs can be shared across all controllers via AVB or Dante (300/D).

FEATURES

- Compatible with Qt Standard emitters and Qt Active emitters.
- Supports up to 3 zones
- AVB or Dante (300/D) media network
- 2 audio inputs for paging and music
- Contact closure integrates with fire alarm systems
- Front panel with LCD
- Front Panel Lock (via software control)
- Auto ramping
- Event scheduling
- Adjustable equalizer for masking and audio inputs
- 4 non-correlated sound masking audio sources per zone
- Built-in clock with system NTP support
- Wall mount bracket included, optional rack mount bracket also available
- Dual network ports (media / control)
- Web interface control by any web-enabled device
- Third party control API/Ethernet
- CE marked, UL listed, and RoHS compliant
- Met Works with WELL licensing criteria for sound masking
- Covered by Biamp Systems' five-year warranty
- Manufactured in the U.S.A.
- TAA compliant
- GSA eligible

ARCHITECTS & ENGINEERS SPECIFICATION

The controller shall consist of all electronics required for operating a sound masking system from a single accessible location. Systems with distributed electronic packages above ceilings are not acceptable. The controller shall permit password protected access for control and monitoring via LAN/browser interface. The controller shall provide three zones and shall be sufficient to generate sound masking, audio control and audio power for up to 36,000 square feet (3,345 m^2) of coverage. The unit shall be capable of time-of-day masking level control; per-zone settings shall be available for day/night levels and start times, ramping interval, and weekday/Sat/Sun behavior. Each audio output shall provide 4 non-correlated channels of masking noise to minimize comb filtering. The unit shall meet all requirements of Underwriters Laboratories, the US and Canadian National Electrical Codes, FCC Part 15, and all pertinent UK and EU codes. The controller shall be CE marked, UL listed, and shall be compliant with the RoHS directive. Warranty shall be 5 years. The controller shall be Qt X 300/300D.

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Qt X 300/300D SPECIFICATIONS

ACTIVE EMITTERS

Max Emitter/Device Capacity:	50 Qt Active Emitters per cable run
Max Emitter Cabling Distance:	800 feet (243m) per cable run
SPL[1]	
Minimum Masking SPL (@ 1m):	30dBA
Maximum Masking SPL (@ 1m):	55dBA
Maximum Music/Paging SPL (@ 1m):	74dBA

STANDARD EMITTERS

Max Emitter/Device Capacity:	60 Qt Emitters per cable run
Max Emitter Cabling Distance:	1000 feet (300m) per cable run
SPL[1]	
Minimum Masking SPL (@ 1m):	30dBA
Maximum Masking SPL (@ 1m):	55dBA
Maximum Music/Paging SPL (@ 1m):	56dBA

Output Equalization

Sound Masking (100Hz – 10kHz):	ISO 1/3 Octave Bands
Music/Paging (125Hz – 8kHz):	ISO 1/1 Octave Bands

Masking

Number of Masking Zones:	3 (2 cable runs per zone)
Number of Non-Correlated Masking Sources:	4 per zone
Masking Level Adjustment:	0.5dB steps

Audio Inputs

Input Connector Type:	Captive Screw Terminal
Number of Inputs:	2 (Mono)
Input Level:	+24dBu (12.3VRMS max)
Input Gain Range:	6dB steps
Input Level Adjustment:	1dB steps
Input Impedance:	8kΩ
Phantom Power:	+48VDC (7mA/input)

Remote Control

Connector Type:	Captive Screw Terminal
Input Type:	Contact Closure (Normally Open)
Number of Inputs:	2
Output Type:	Logic Status (5VDC)
Number of Outputs:	2 2 Channels GPIO

Output Connections:	6 RJ-45
Minimum Output Impedance:	2Ω (per channel)

Power Supply

Operating Voltage:	100-240VAC 50/60Hz
Current Draw:	0.9A
Output:	24VDC @ 2.7A
Max. Power Consumption (24VDC):	22W

Included Accessories:	ACT Hole Saw Wall Bracket

Overall Dimensions

Height:	3.5 inches (89mm)
Width:	14 5/8 inches (371.5mm)
Depth:	3.8 inches (97mm)
Weight:	4.1 lbs (1.88 kg) (with surface mount bracket installed)

Environmental:

Ambient Operating Temperature Range:	40 - 104° F (4 – 40° C)
Humidity:	0-95% relative humidity (non-condensing)
Altitude:	0-10,000 ft (0-3000m) MSL

Compliance:

FCC Part 15B (USA)
UL Listed (USA and Canada)
CE Marked (Europe)
RoHS Directive (Europe)

[1] Specifications based on use of Qt Emitters / Qt Active Emitter array and based on published layout practices

Qt X 300/300D BACK PANEL



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DATA SHEET
CAMBRIDGE Qt X 600/600D
SOUND MASKING CONTROL MODULE





The Cambridge Qt™ X 600/600D control module is a sound masking generator, controller, third octave band equalizer and amplifier, with two auxiliary audio inputs to allow for distribution of audio from paging controllers and/or (background) music players. The Qt X 600/600D controls up to 6 zones of Qt Standard or Active emitters. The Qt X 600/600D control module is a compact six-zone networkable controller suitable for installations of up to 72,000 square feet (6,690 m^2). Each zone can be independently adjusted for masking and aux audio levels and spectra. When multiple controllers are included in a single system audio inputs can be shared across all controllers via AVB or Dante (600/D).

FEATURES

- Compatible with Qt Standard emitters and Qt Active emitters.
- Supports up to 6 zones
- AVB or Dante (600/D) media network
- 2 audio inputs for paging and music
- Contact closure integrates with fire alarm systems
- Front panel with LCD
- Front Panel Lock (via software control)
- Auto ramping
- Event scheduling
- Adjustable equalizer for masking and audio inputs
- 4 non-correlated sound masking audio sources per zone
- Built-in clock with system NTP support
- Wall mount bracket included, optional rack mount bracket also available
- Dual network ports (media / control)
- Web interface control by any web-enabled device
- Third party control API/Ethernet
- CE marked, UL listed, and RoHS compliant
- Met Works with WELL licensing criteria for sound masking
- Covered by Biamp Systems' five-year warranty
- Manufactured in the U.S.A.
- TAA compliant
- GSA eligible

ARCHITECTS & ENGINEERS SPECIFICATION

The controller shall consist of all electronics required for operating a sound masking system from a single accessible location. Systems with distributed electronic packages above ceilings are not acceptable. The controller shall permit password protected access for control and monitoring via LAN/browser interface. The controller shall provide six zones and shall be sufficient to generate sound masking, audio control and audio power for up to 72,000 square feet (6,690 m^2) of coverage. The unit shall be capable of time-of-day masking level control; per-zone settings shall be available for day/night levels and start times, ramping interval, and weekday/Sat/Sun behavior. Each audio output shall provide 4 non-correlated channels of masking noise to minimize comb filtering. The unit shall meet all requirements of Underwriters Laboratories, the US and Canadian National Electrical Codes, FCC Part 15, and all pertinent UK and EU codes. The controller shall be CE marked, UL listed, and shall be compliant with the RoHS directive. Warranty shall be 5 years. The controller shall be Qt X 600/600D.

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Qt X 600/600D SPECIFICATIONS

ACTIVE EMITTERS

Max Emitter/Device Capacity:	50 Qt Active Emitters per cable run
Max Emitter Cabling Distance:	800 feet (243m) per cable run
Frequency Response[1]	
Sound Masking:	125Hz to 6.3kHz
Music/Paging:	115Hz to 12kHz
SPL[1]	
Minimum Masking SPL (@ 1m):	30dBA
Maximum Masking SPL (@ 1m):	55dBA
Maximum Music/Paging SPL (@ 1m):	74dBA
Equalization	
Sound Masking (125Hz - 6.3kHz):	ISO 1/3 Octave Bands
Music/Paging (200Hz - 8kHz):	ISO 1/1 Octave Bands

STANDARD EMITTERS

Max Emitter/Device Capacity:	60 Qt Emitters per cable run
Max Emitter Cabling Distance:	1000 feet (300m) per cable run
Frequency Response[1]	
Sound Masking:	200Hz to 6.3kHz
Music/Paging:	200Hz to 10kHz
SPL[1]	
Minimum Masking SPL (@ 1m):	30dBA
Maximum Masking SPL (@ 1m):	55dBA
Maximum Music/Paging SPL (@ 1m):	56dBA
Equalization	
Sound Masking (200Hz - 6.3kHz):	ISO 1/3 Octave Bands
Music/Paging (200Hz - 8kHz):	ISO 1/1 Octave Bands

Masking

Number of Masking Zones:	6 (2 cable runs per zone)
Number of Non-Correlated Masking Sources:	4 per zone
Masking Level Adjustment:	0.5dB steps

Audio Inputs

Input Connector Type:	Captive Screw Terminal
Number of Inputs:	2 (Mono)
Input Level:	+24dBu (12.3VRMS max)
Input Gain Range:	6dB steps
Input Level Adjustment:	1dB steps
Input Impedance:	8kΩ
Phantom Power:	+48VDC (7mA/input)

Remote Control

Connector Type:	Captive Screw Terminal
Input Type:	Contact Closure (Normally Open)
Number of Inputs:	2
Output Type:	Logic Status (5VDC)
Number of Outputs:	2 2 Channels GPIO
Output Connections:	6 RJ-45
Minimum Output Impedance:	2Ω (per channel)

Power Supply

Operating Voltage:	100-240VAC 50/60Hz
Current Draw:	1.25A
Output:	24VDC @ 2.7A
Max. Power Consumption (24VDC):	30W
Included Accessories:	ACT Hole Saw Wall Bracket

Overall Dimensions

Height:	3.5 inches (89mm)
Width:	14 5/8 inches (371.5mm)
Depth:	3.8 inches (97mm)
Weight:	4.2 lbs (1.9 kg) (with surface mount bracket installed)

Environmental:

Ambient Operating Temperature Range:	40 - 104° F (4 – 40° C)
Humidity:	0-95% relative humidity (non-condensing)
Altitude:	0-6,600 ft (0-2000m) MSL

Compliance:

FCC Part 15B (USA)
UL Listed (USA and Canada)
CE Marked (Europe)
RoHS Directive (Europe)

[1] Specifications based on use of Qt Emitters / Qt Active Emitter array and based on published layout practices

Qt X 600/600D BACK PANEL



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DATA SHEET
Qt® EMITTER
SOUND MASKING EMITTER

MODEL NUMBER: E-A-W (WHITE), E-A-B (BLACK)



Qt® Emitters are the backbone of the Cambridge Qt® X sound masking system. Qt Emitters are wide dispersion (nearly 180 degrees) direct field devices with 1.25” (3.17 cm) drivers and are smaller than a coffee mug. Emitters have DIP switches that allow their volume to be reduced 9 dB in 3 dB decrements. Emitters deliver four uncorrelated audio channels, automatically eliminating phasing. Emitters are plenum-rated, ETL listed, and comply with UL 2043. Each Emitter comes standard with a slip-ring mount for acoustical tile mounting. These features, along with plug and play installation and easy configuration capability, make Cambridge Qt® X systems the most intelligently engineered and most effective sound masking systems on the market today.

FEATURES

- Wide dispersion direct field speakers with 1.25” (3.17 cm) drivers
- Small driver size results in nearly 180° dispersion of direct field sound masking
- Reduces acoustical interference by using four uncorrelated channels
- DIP switches attenuate the volume level up to 9 dB in 3 dB decrements for easy micro-zoning
- Plug and play installation and easy configuration
- Comes standard with slip ring for acoustical tile mounting
- CE marked, ETL listed, and RoHS compliant
- Met Works with WELL licensing criteria for sound masking
- Evaluated to the requirements of UL 2043 and is suitable for use in air handling spaces
- Covered by Biamp Systems’ five-year warranty

ARCHITECTS & ENGINEERS SPECIFICATION

The emitter shall consist of a single 1.25” (3.17 cm) full range driver installed in a sealed airtight enclosure. The enclosure and grille shall be one piece with material meeting UL Standard 2043 requirements for heat and smoke release in accordance with the provisions of the following codes: National Electric Code, NFPA 70; International Mechanical Code, NFPA 5000; Standard for the Installation of Air Conditioning and Ventilating Systems, and NFPA 90A. Patented internal wiring between the RJ45 connectors shifts pairs by one so that emitters naturally sequence between 4 mutually non-coherent sound masking generators to eliminate phase cancellation between drivers. This allows for up to 60 emitters to be driven by one standard RJ45 CAT cable between emitters. Input and output receptacles shall be standard RJ-45 quick connect network type with positive locking. A twist-and-lock mounting ring shall be provided for quick and secure mounting in ceiling materials. The enclosure shall provide a secondary attachment for a security cable where required by local authorities. Warranty shall be 5 years. The emitter shall be a Qt® Emitter.

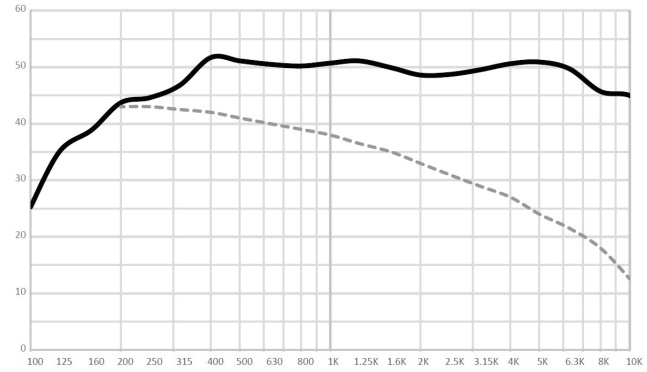
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Qt EMITTER SPECIFICATIONS

Emitter Type:	Passive with transformer
Frequency Response[1]:	
Sound Masking:	200Hz to 6.3kHz
Music/Paging:	200Hz to 10kHz
SPL[1]:	
Minimum Masking SPL (@ 1m):	30dBA
Maximum Masking SPL (@ 1m):	57dBA
Maximum Music/Paging SPL (@ 1m):	56dBA
Nominal Impedance:	3.6 kΩ
Nominal Dispersion:	170° conical / half space
Channel Selection:	4 Auto-Sequencing and Repeating Channels
Selectable Attenuation:	0 dB, -3 dB, -6 dB, -9 dB
I/O Connectors:	2 RJ-45 connectors
Cabling:	Category UTP Cabling (8 conductor)
Maximum Power Consumption:	.02 W
Driver Diameter:	1.25" (32mm)
Enclosure:	Sealed
Color:	White
Product Dimensions	
Overall Diameter:	3.25 inches (83mm)
Depth:	2.5 inches (64mm)
Weight:	5.6 oz. (159g)
Installation Cutout Diameter:	2.68 inches (68mm)
Included Accessories:	Acoustic Ceiling Tile Mounting Ring UTP Cable (16ft/30ft)
Compliance:	ETL listed (USA and Canada) CE Marked (Europe) RoHS Directive (Europe) Evaluated to the requirements of UL 1480a and UL 2043 and is suitable for use in air handling spaces

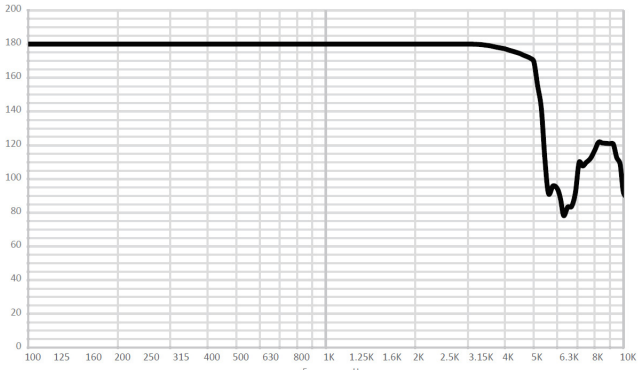
[1] Specifications based on emitter array using published layout practices in conjunction with Qt Control Processor.

FREQUENCY RESPONSE (dB SPL)



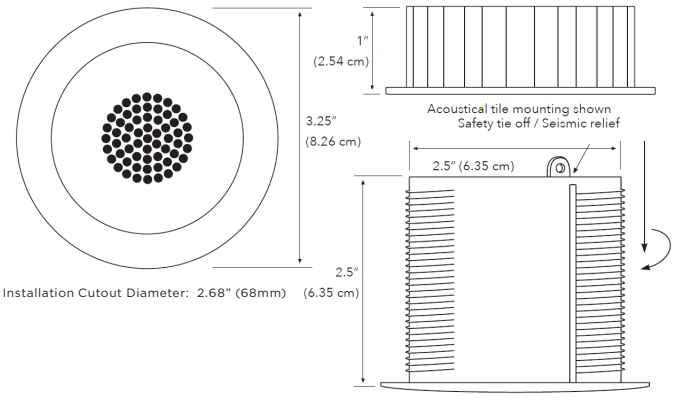
Frequency (Hz)

BEAMWIDTH (Degrees)



Frequency (Hz)

DIMENSIONS



OPTIONAL ACCESSORIES

Description	SKU
Universal Bracket	UB-(B = Black / W = White)
Drywall Mount	DM
Beam Bracket	BB-(B = Black / W = White)
Drywall Conduit Mount	CM
Plenum Back Can	PB
Emitter Cap (Black)	EC-B
Emiiter Cap (White)	EC-W
Room Control	QT-RC2

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