

AccuMaskTM
SCAMP[®] SOUND MASKING

Table of Contents

| | | |
|---|---------------------------------------|-----------|
| ■ | The High Performance Workplace | 1 |
| ■ | The AccuMask System | 2 |
| | Master Speaker | 3 |
| | Satellite Speaker | 4 |
| | Central Volume Control Speaker | 5 |
| | Programmable Timer | 6 |
| | Remote Control | 7 |
| | Cable | 7 |
| ■ | Paging & Music | 8 |
| ■ | Installation | 8 |
| ■ | Client Services | 9 |
| ■ | Specifications | 10 |



This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

The High-Performance Workplace

Your facility is a powerful tool that can significantly contribute to your organization's success. Attention to relatively inexpensive elements of its design can yield lasting benefits in terms of employee productivity and job satisfaction.

While several environmental factors, including temperature, lighting and air quality are generally recognized to affect workplace performance, research indicates that proper acoustic must also be a top design priority. Noise problems and lack of speech privacy affect employees' comfort and concentration, increasing error rates, slowing task performance, and reducing morale.

Creating Effective Acoustics

In attempting to address acoustical problems such as these, many organizations invest in absorptive panels, carpeting, acoustic ceiling treatments, quieter HVAC systems and office equipment. Though these materials are essential, they reduce not only unwanted noises, but also beneficial background sounds. Just like in a library, the enlarged difference between the volume of speech or noise and the low background sound level causes occupants to become distracted and allows conversations to be overheard over long distances and between private offices.



The AccuMask™ System

The AccuMask™ Sound Masking System consists of a series of speakers, typically installed above the suspended ceiling, which distribute a comfortable, engineered background sound that makes noises and conversations more difficult – or impossible – to hear or understand.

The System is based on the internationally-successful Scamp® Sound Masking System manufactured by K.R. Moeller Associates Ltd. for over 20 years. The company redesigned its components to include digital technologies that increase precision and flexibility, enhancing the strengths of the original product line.

This superior, low-cost system fills a significant gap in the industry. Though the AccuMask System does not have the advanced capabilities of the LogiSon® Acoustic Network, it is the leading performer among more basic masking solutions, a category that includes large-zone centralized systems, direct field systems, decentralized systems, and workstation products.

Decentralized masking sound generation, a range of adjustment options, independent masking and paging controls, and small zone sizes allow the AccuMask System to be uniquely tuned to each environment. The System offers high masking uniformity with only 1dBA (+/- 0.5dBA) volume variation, and is not subject to phasing.

The settings of individual Masters are managed digitally using the Remote Control, providing greater accuracy, consistency and ease of use than any other system in this class, enhancing the quality and effectiveness of the masking sound, as well as the comfort of workplace occupants. If required, global or large-zone volume changes can be made on demand with the Central Volume Control or automatically using the Programmable Timer.

This catalogue is intended for reference. Your AccuMask Representative will design the AccuMask System and select the appropriate components. All components are compatible with the Scamp® Sound Masking System.



Master Speaker

PLM & CPM

The Master Speakers are UL-listed and are available in both plenum (PLM) and ceiling mount (CPM) formats. Each one can power up to two Satellites.



Because the AccuMask System is decentralized, all of the electronics required for sound masking, paging and music are contained within each Master rather than a centrally-located equipment rack. The masking volume and contour can be set at each Master, yielding adjustment zones of 1 to 3 speakers (225 to 675 ft²). Such small zones allow the system to be tuned to local variations in acoustical conditions or occupant needs. The masking volume can be adjusted in precise 0.4dBA increments over a 45dBA range, while 100 preset curves provide fine masking spectrum adjustments.

Masking Performance

| | |
|--------------------|---|
| Volume Range | 48 dB in 0.4 dB steps, 100 levels total |
| Contour Adjustment | 100 steps |

Central Volume Input

| | |
|---------------|---|
| Voltage Range | 0 lowest attenuation to 11Vdc highest attenuation |
|---------------|---|

Paging Performance

| | |
|--------------|---|
| Volume Range | 16 dB in 2.0 dB steps + off, 8 levels total + off |
|--------------|---|

Programming Mode

| | |
|------------------|-------------------------|
| Masking & Paging | Infrared Remote Control |
|------------------|-------------------------|

Driver Specs

| | |
|------------------|-------------------|
| Frequency Range | 100 to 10,000 Hz |
| Dimensions | 10.1 cm; 4 inches |
| Power Handling | 25 W (RMS) |
| Sensitivity | 87 dBA/W/1m |
| Magnet Structure | 18 oz; 510 g |
| Impedance | 16 Ohms |

Timer Performance

| | |
|-------------|--|
| Programming | Programmed through AccuMask Programmable Timer (APT) |
|-------------|--|

Satellites Supported

| | |
|-------------------|--------|
| Number per Master | 0 to 2 |
|-------------------|--------|

Connections

| | |
|------------|-------------------|
| Cable Type | 5-conductor cable |
|------------|-------------------|

Cabling

| | |
|---------------------|-------|
| Master to Master | CON-5 |
| Master to Satellite | CON-2 |

Power

| | |
|-------------|--|
| Input | 18 VAC |
| Consumption | At typical settings, 0.6 W; at maximum settings, 2.8 W |

Integrated Amplifier

| | |
|--------------------|-----|
| Audio Output Power | 5 W |
|--------------------|-----|

Physical Specs

| | |
|----------|---------------------------------------|
| Material | Electroplated steel housing, 26 gauge |
| Height | 9.5 cm; 3.75 inches |
| Width | 15.2 cm; 6 inches |
| Weight | 2.7 lb; 1.2 kg |

Satellite Speaker

PLS & CPS

The Satellite Speakers are UL-listed and are available in both plenum (PLS) and ceiling mount (CPS) formats. Up to two Satellites can be connected to each Master and reproduce its output.



The CPS, CPM and CPM-CV feature a ceiling plate for downward facing installation in hard ceiling areas.

Output Performance

Inherited from Master

Driver Specs

| | |
|------------------|-------------------|
| Frequency Range | 100 to 10,000 Hz |
| Dimensions | 10.1 cm; 4 inches |
| Power Handling | 25 W (RMS) |
| Sensitivity | 87 dBA/W/1m |
| Magnet Structure | 18 oz; 510 g |
| Impedance | 16 Ohms |

Connections

| | |
|------------|-------------------|
| Cable Type | 2-conductor cable |
|------------|-------------------|

Cabling

| | |
|---------------------|-------|
| Master to Satellite | CON-2 |
|---------------------|-------|

Power

| | |
|-------------|-----|
| Consumption | 0 W |
|-------------|-----|

Mounting

| | |
|-------------------------|------------------|
| Chain Length | 51 cm; 20 inches |
| Chain Length Adjustment | Tool-free clip |

Physical Specs

| | |
|----------|---------------------------------------|
| Material | Electroplated steel housing, 26 gauge |
| Height | 9.5 cm; 3.75 inches |
| Width | 15.2 cm; 6 inches |
| Weight | 2.6 lb; 1.2 kg |

Central Volume Control Speaker

PLM-CV & CPM-CV



The Central Volume Control Speakers are UL-listed and are available in both plenum (PLM-CV) and ceiling mount (CPM-CV) formats. Each one can power up to two Satellites.

The Central Volume Control permits users to globally adjust the volume over a 20dBA range. This feature allows users to make efficient changes when the volume level of a large number of speakers must be raised or lowered by an equal amount. A rotary switch (shown here) can be wall-mounted for convenient access. This speaker also includes an integrated Ramp-Up feature used when the AccuMask System is installed in an occupied facility. It introduces the masking sound at a level that is 10dBA lower than the target volume. The volume automatically increases over a two-week period, allowing occupants to acclimatize to their new acoustical conditions.

Masking Performance

| | |
|--------------------|---|
| Volume Range | 48 dB in 0.4 dB steps, 100 levels total |
| Contour Adjustment | 100 steps |

Central Volume Output

| | |
|----------------------------|------------|
| Output Voltage Range | 0-11 Vdc |
| Central Volume Attenuation | 20 dB max |
| Central Volume Zone Size | 25 PLM max |

Paging Performance

| | |
|--------------|---|
| Volume Range | 16 dB in 2.0 dB steps + off, 8 levels total |
|--------------|---|

Programming Mode

| | |
|------------------|-------------------------|
| Masking & Paging | Infrared Remote Control |
| CV Control | Analog potentiometer |

Driver Specs

| | |
|------------------|-------------------|
| Frequency Range | 100 to 10,000 Hz |
| Dimensions | 10.1 cm; 4 inches |
| Power Handling | 25 W (RMS) |
| Sensitivity | 87 dBA/W/1m |
| Magnet Structure | 18 oz; 510 g |
| Impedance | 16 Ohms |

Timer Performance

| | |
|-------------|--|
| Programming | Programmed through AccuMask Programmable Timer (APT) |
|-------------|--|

Start-Up Timer

| | |
|--------------------|---|
| Timer Volume Range | 10 dB in 0.4 dB steps |
| Timer Duration | 14 days, 1 step per 12 hours |
| Persistence | The timer state is recorded at the start of each 12-hour step |

Satellites Supported

| | |
|--------------|--------|
| # per Master | 0 to 2 |
|--------------|--------|

Connections

| | |
|------------|-------------------|
| Cable Type | 5-conductor cable |
|------------|-------------------|

Cabling

| | |
|---------------------|-------|
| Master to Master | CON-5 |
| Master to Satellite | CON-2 |

Power

| | |
|-------------|--|
| Input | 18 VAC |
| Consumption | At typical settings, 0.6 W; at maximum settings, 2.8 W |

Integrated Amplifier

| | |
|--------------------|-----|
| Audio Output Power | 5 W |
|--------------------|-----|

Physical Specs

| | |
|----------|---------------------------------------|
| Material | Electroplated steel housing, 26 gauge |
| Height | 9.5 cm; 3.75 inches |
| Width | 15.2 cm; 6 inches |
| Weight | 2.7 lb; 1.2 kg |

Programmable Timer

APT

The Programmable Timer (APT) is the AccuMask System's only centralized component.

It is used to schedule the masking volume to match anticipated activity levels through the day in order to ensure that the masking is loud enough to be effective during busy times and low enough to be comfortable at quieter times.



It offers four independent zones. Each zone, and each day of the week, can be programmed with a unique schedule that initiates up to nine volume changes per day. The rate of change can be gradual or rapid. In order to ensure that the desired results are achieved, the user can activate the Test Levels feature to immediately experience the masking levels that would be attained with a specific setting. The Timer also includes a customizable Ramp-Up feature, which allows a fully user-defined schedule to be programmed for each zone.

The Timer is calendar-based and automatically adjusts for daylight savings.

Masking Performance

| | |
|--------------------|--|
| Volume Attenuation | 0 lowest attenuation to 11 Vdc highest attenuation |
|--------------------|--|

Timer Performance

| | |
|-----------------------------|--|
| Number of Zones | 1 to 4 |
| Size of Zones | 250 PLM max |
| Daylight Savings Adjustment | Automatic; option of preset international or user-defined schedule |

Connections

| | |
|-------------|-----------------------|
| Power Input | 3-pin, screw terminal |
| Zone Output | 2-pin, screw terminal |

Cabling

| | |
|-----------------|-------|
| Timer to Master | CON-2 |
|-----------------|-------|

Power

| | |
|-------------|-------------------------------|
| Input | 18 VAC |
| Consumption | Typical 2.25 W; maximum 5.4 W |

Battery

| | |
|-----------------|----------|
| Size | CR2032 |
| Voltage | 3 V |
| Life Expectancy | 10 years |

Physical Specs

| | |
|------------------------|--|
| Dimensions (W x H x D) | 28 x 23.5 x 8 cm; 11 x 9.25 x 3.125 inches |
| Enclosure Material | Steel with powdercoat finish |
| Color | Charcoal grey |
| Weight | 5.3 lb; 2.4 kg |
| Keypad | 20-key membrane panel |
| Display | 4 x 20 backlit LCD |

Security

| | |
|------------|--------------------------------------|
| Physical | Key-lock enclosure |
| Electronic | Password required to access settings |

Remote Control

ARC



The output of the Master Speakers is managed using a Remote Control (ARC).

Users can enter a specific volume setting or gradually adjust the levels up or down. Spectrum adjustments are also digitally controlled using a range of 100 preset curves, allowing a particular contour level to be consistently set across all of the speakers in the system. The audible readout function indicates the exact masking and paging settings used.

No other sound masking system in this class provides such flexible and precise management of settings. All of the settings are stored in non-volatile memory to ensure that they are maintained in the event of a power failure.

IR Protocol

RC-5, 38.0 kHz pulse rate

Battery

2 x AAA



Cable

CON-2 & CON-5

All cables are plenum rated and suitable for installation in return air handling spaces. 5-conductor cable is used to connect the Master Speakers. 2-conductor cable is used to connect the Satellite Speakers.

CON-2

| | |
|--------------|---------------------------|
| Gauge | 20 AWG |
| Conductor | 7/28 strand tinned copper |
| Insulation | Plenum-rated PVC |
| Color Code | Black-White |
| Jacket Color | White |

CON-5

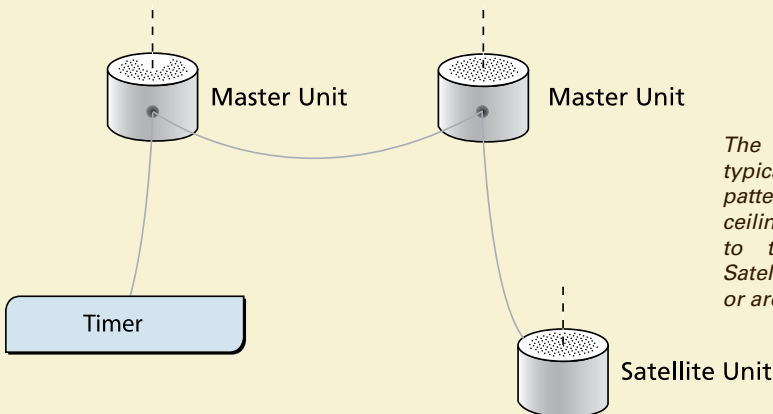
| | |
|--------------|----------------------------|
| Gauge | 20 AWG |
| Conductor | 7/28 strand tinned copper |
| Insulation | Plenum-rated PVC |
| Color Code | Black-Red-Brown-Blue-Green |
| Jacket Color | White |

Paging & Music

The AccuMask System provides simultaneous paging and music distribution, eliminating the need for a second system to be installed. Because the sound generation, amplification and control technology is integrated into the Masters, the System also reduces the need for third party audio equipment.

Each Master features an independent paging volume control, providing zones of 1 to 3 speakers (225 to 675 ft²) that can be adjusted by 8 levels of 2dBA each. This feature allows the user to set the paging to a level that is appropriate for particular areas within the facility.

The user can also digitally enable or disable the paging at each Master using the Remote Control, rather than physically connecting or disconnecting the speaker from the paging cable as required by other entry-level systems.



The Masters and Satellites are typically installed in a grid-like pattern above the suspended ceiling. Masters are connected to the Programmable Timer. Satellites branch from one Master or are connected in series.

Installation

The AccuMask System is highly scalable, providing a cost-effective way of addressing acoustical issues without large-scale remodeling. If necessary, the system can be expanded in the future. In the event that your organization moves, it can easily be relocated to your new premises.

Installation can be handled by the AccuMask Representative's in-house technicians, by a third-party company, or by your own electrical or audio contractor. We recommend using UL-Listed or equivalent materials during installation. All installation methods must comply with all locally applicable building code requirements.

Once the installation is complete, your AccuMask Representative or qualified acoustical professional will perform system configuration, including tuning the masking sound, programming the masking timer functions, and setting paging volumes.

For additional information, ask your AccuMask Representative for the *AccuMask Installation Manual*. The manual gives an overview of system components, paging and music functions, and certifications; covers pre-installation preparation, installation procedures, system modification and maintenance; and provides technical support information.

In order to minimize the risk of tampering after installation, the AccuMask System is equipped with several security features. The cable connections to each zone are made within the Programmable Timer's enclosure. The enclosure is key-locked and the controls are password-protected. The Masters do not have external physical controls and cannot be adjusted without the Remote Control. The user must enter an Activation Code prior to modifying any settings.

Client Services

Partial Client List

3M Canada Inc.
 Allstate Insurance
 American Express
 American Red Cross
 AT&T
 Bell Canada
 Blue Cross / Blue Shield
 Canon Inc.
 Deloitte & Touche
 Dow Corning
 Dow Jones & Company
 Du Pont
 Ernst & Young
 Esso Petroleum Canada
 General Electric
 Glaxo
 IBM Corporation
 Intel
 Kodak Canada Inc.
 KPMG
 Manulife Financial
 Master Charge
 MCI Telecommunications
 MDS Health Group Limited
 Motorola
 Netscape
 Nortel
 PeopleSoft
 Pepsi-Cola
 Philips
 Royal Bank of Canada
 Shell Canada Ltd.
 Steelcase
 United Parcel Service
 Westinghouse
 Xerox

Our representatives bring expertise from numerous facility-related fields and will work with you to find the optimal acoustic solution. Client services include site inspection, system design, installation, tuning, maintenance, and relocation. Though installation can be handled by a third party or your own electrical contractor, system tuning must be completed by one of our qualified representatives because they are trained to ensure the best results.

Site Inspection and Evaluation

Our Representatives pride themselves on the successful results of all their installations. An experienced member of our sales staff will gladly visit any facility to ensure that all the conditions necessary for a masking system are in place. At this time, any paging or background music requirements will be reviewed. This visit also permits customers to ask questions and become more familiar with the functions and benefits of the system.

System Layout

Upon the provision of blueprints, authorized distributors will plan the installation of the AccuMask System. They will also consult with contractors, designers, and other trades regarding layout issues.

Quotation

After the system layout has been designed, a quotation will be submitted free of charge.

Installation

Our Representatives use experienced installation staff to ensure highly efficient and accurate installations.

Maintenance & Follow Up

Our Representatives always contact customers following the completion of an installation to ensure their satisfaction. They will also reestablish contact on an annual or semi-annual basis to determine if any office changes have been implemented which require a re-tuning of the system. This will ensure that the system operates effectively throughout its life-cycle.

Relocation

Because the AccuMask System can be relocated, Our Representatives are able to remove and reinstall the customer's system in the new premises.

Visit our website to obtain current contact information.

MASTERFORMAT™ 2004 EDITION SECTIONS

27 51 19 – SOUND MASKING SYSTEMS

27 51 13 – PAGING SYSTEMS

PREVIOUS MASTERFORMAT™ SECTION

16820 – SOUND REINFORCEMENT / SOUND MASKING SYSTEMS

NOTE TO SPECIFIER

AccuMask™ Sound Masking System – Decentralized sound masking, paging and music system.

This section is based on the products manufactured by K.R. Moeller Associates Ltd., located at:

3-1050 Pachino Court
Burlington, Ontario
L7L 6B9
Canada

| | |
|-----------|--|
| Toll Free | 1-866-564-4766 |
| Tel | (905) 332-1730 |
| Fax | (905) 332-8480 |
| Email | info@accumask.com |
| Web | www.accumask.com |

K.R. Moeller Associates Ltd. also manufactures the LogiSon® Acoustic Network and the Scamp® Sound Masking System. The AccuMask System is entirely compatible with existing Scamp installations.

(Spec Version 1.0)

1. PART ONE – GENERAL

1.1. SECTION INCLUDES

- A. Sound masking systems
- B. Paging systems

1.2. RELATED SECTIONS

- A. 27 51 19 – Sound Masking Systems
- B. 27 51 13 – Paging Systems

1.3. REFERENCES

- A. UL6500 – Standard for Audio/Video and Musical Instrument Apparatus for Household, Commercial and Similar General Use
- B. UL 2043 – Standard for Fire Test for Heat and Visible Smoke Release for Discrete Products and Their Accessories Installed in Air-Handling Spaces; 1996
- C. ASTM E 1374-02 – Standard Guide for Open Office Acoustics and Applicable ASTM Standards
- D. ASTM E 1573-02 – Standard Test Method for Evaluating Masking Sound in Open Office Using A-Weighted and One-Third Octave Band Sound Pressure Levels
- E. ASTM E 1130-02e1 – Standard Test Method for Objective Measurement of Speech Privacy in Open Offices Using Articulation Index
- F. FCC – EN 55103-1&2 – Audio, Video and Entertainment Lighting Control

1.4. PERFORMANCE REQUIREMENTS

A. General Performance

1. The sound masking and paging system shall be digitally adjustable by remote control at each distributed master unit.
2. Output settings shall be saved in non-volatile memory in each master unit.

B. Sound Masking Performance

1. The masking sound shall be random and provide no noticeable repetitive pattern.
2. The masking sound shall be provided by independent generators included in each master unit (feeding zones of 1 to no more than 3 speakers).
3. The master units shall provide fine digital masking spectrum adjustment with 100 or more preset curves, capable of adjusting zones of 1 to no more than 3 speakers.
4. The masking volume shall be digitally adjustable in increments of no more than 0.5 dBA at each master unit (controlling 1 to no more than 3 speakers), over a range of at least 45 dBA @ 1m.
5. The central volume control shall provide at least a 20 dBA volume range.
6. After adjustment, the system shall provide a spatial uniformity of $\pm\frac{1}{2}$ dBA for the masking volume with furnishings in place.

C. Paging Performance

1. The paging volume shall be digitally adjustable with at least 8 increments of no more than 2.0 dBA increments at each master unit (controlling 1 to no more than 3 speakers)
2. The paging volume control shall provide an off position at each master unit.
3. The system shall allow for hardwired paging zones independent of timer zones.

D. Timer Performance

1. The timer shall enable masking volume levels to be automatically adjusted according to a programmed schedule or schedules.
2. The timer shall be calendar-based.
3. The timer shall provide automatic daylight saving time adjustments.
4. The timer shall provide an acclimatization process that automatically increases the masking volume over a period of time according to a user programmed schedule. The system should allow for independent acclimatization schedules for each timer zone.
5. The timer shall provide at least four independent timer zones.
6. The timer shall allow independent timer schedules for each day of the week.
7. The timer shall allow variable rates of volume adjustment.
8. The system shall allow for hardwired timer zones independent of paging zones.

E. Security Performance

1. The timer shall be contained in a key locked metal enclosure.
2. Access to the timer functions shall be password protected.
3. No physical controls shall be located on the master units, to prevent tampering.
4. Master units shall provide configuration mode protection via an activation password.

1.5. SUBMITTALS

- A. Product Data: Manufacturer's specifications and installation instructions
- B. System Design: Schematics of the system showing quantity and location of system components and related cabling and accessories
- C. Warranty Documents: Warranty documents covering the system components.

1.6. QUALITY ASSURANCE

- A. Manufacturer Qualifications: Minimum of 10 years manufacturing sound masking systems.
- B. System Design – Performed by an approved manufacturer representative.
- C. Installer Qualifications – Approved by manufacturer representative and are trained with the specified products or have demonstrated experience with the installation of similar products to those specified.
- D. System Adjustment – Done by an approved manufacturer representative or trained contractor
- E. Single Source Responsibility – Source master units, central volume control master units, satellite units, remote controls, and timers from a single manufacturer.

1.7. DELIVERY, STORAGE AND HANDLING

- A. Protect from moisture during shipping, storage and handling.
- B. Deliver in manufacturer's original unopened and undamaged packages with manufacturer's labels legible and intact.
- C. Inspect manufacturer's packages upon receipt.
- D. Handle packages carefully.

1.8. WARRANTY AND MAINTENANCE

- A. Provide a written warranty that products installed shall be free from defects in parts or assembly for a 5-year period from date of completion of installation.

2. PART TWO – PRODUCTS

2.1. MANUFACTURERS

- A. Acceptable Manufacturer: K.R. Moeller Associates Ltd.; 3-1050 Pachino Court, Burlington, Ontario L7L 6B9 Canada. Toll Free: 1-866-564-4766. Tel: (905) 332-1730. Fax: (905) 332-8480. Email: info@accumask.com. Web: www.accumask.com.
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered provided that the all performance requirements in Section 1.4 of this specification are met. Other manufacturers seeking approval must provide a signed compliance statement from an executive officer of the manufacturer.

2.2. SYSTEM COMPONENTS

General System Overview: The sound masking and paging system shall be a decentralized system with digital output adjustment at each master unit via remote control. The system shall be comprised of a selection of a) distributed master units; b) distributed central volume control master units; c) distributed satellite units; d) programmable timers; e) power transformers; and f) remote controls.

- A. Each master unit shall provide:
 1. An independent masking sound generator

2. A digital adjustment for the masking spectrum
3. A digital adjustment for the masking volume
4. A digital adjustment for the paging volume
5. A paging signal input
6. A timer/central volume control signal input
7. An audio amplifier
8. An infrared remote control receiver
9. Audio indicators for all output settings
10. Chain mounts allowing on-site adjustment of speaker orientation (upward/downward)
11. A damped metal enclosure
12. Enclosure dimensions no greater than:
 - i. Diameter 6.0 inches; 15.2 cm
 - ii. Height 3.75 inches; 9.5 cm
13. A loudspeaker driver with:
 - i. Diameter 4.0 inches; 10.1 cm
 - ii. Power Rating 25 Watts RMS
 - iii. Sensitivity 87 dBA @ 1W / 1m
 - iv. Frequency Response 100 - 10,000 Hz (+/- 6 dB)
 - v. Impedance 16 Ohms
 - vi. Magnet Structure Weight 18 oz; 510 g
14. A suspension chain 20 inches (50.8 cm) or more in length and tool-less length adjustment clip

B. Each central volume control master unit shall provide:

1. An independent masking sound generator
2. A digital adjustment for the masking spectrum
3. A digital adjustment for the masking volume
4. A digital adjustment for the paging volume
5. An analog adjustment for central volume (optional external wall mounted control)
6. A paging signal input
7. A timer/central volume signal input
8. An integrated, restorable ramp-up timer providing a 10dBA rise over a 14-day period
9. An audio amplifier
10. An infrared remote control receiver
11. Audio indicators for all digital output settings
12. Chain mounts allowing on-site adjustment of speaker orientation (upward/downward)
13. A damped metal enclosure
14. Enclosure dimensions no greater than:
 - i. Diameter 6.0 inches; 15.2 cm
 - ii. Height 3.75 inches; 9.5 cm
15. A loudspeaker driver with:
 - i. Diameter 4.0 inches; 10.1 cm
 - ii. Power Rating 25 Watts RMS
 - iii. Sensitivity 87 dBA @ 1W / 1m
 - iv. Frequency Response 100 - 10,000 Hz (+/- 6 dB)
 - v. Impedance 16 Ohms
 - vi. Magnet Structure Weight 18 oz; 510 g

16. A suspension chain 20 inches (50.8 cm) or more in length and tool-less length adjustment clip
- C. Each satellite unit shall provide:
1. A damped metal enclosure
 2. Chain mounts allowing on-site adjustment of speaker orientation (upward/downward)
 3. Enclosure dimensions no greater than:
 - i. Diameter 6.0 inches; 15.2 cm
 - ii. Height 3.75 inches; 9.5 cm
 4. A loudspeaker driver with:
 - i. Diameter 4.0 inches; 10.1 cm
 - ii. Power Rating 25 Watts RMS
 - iii. Sensitivity 87 dBA @ 1W / 1m
 - iv. Frequency Response 100 - 10,000 Hz (+/- 6 dB)
 - v. Impedance 16 Ohms
 - vi. Magnet Structure Weight 18 oz; 510 g
 5. A suspension chain 20 inches (50.8 cm) or more in length and tool-less length adjustment clip
- D. Each programmable timer shall provide:
1. A keypad interface allowing programming of timer settings
 2. A backlit 4x20 character LCD display
 3. Four or more zone outputs
 4. A key locked metal enclosure
 5. A backup battery
 6. Mounts for wall suspension
 7. Enclosure dimensions no greater than:
 - i. Width 11.0 inches; 28.0 cm
 - ii. Height 9.25 inches; 23.5 cm
 - iii. Depth 3.125 inches; 8.0 cm
- E. Each power transformer shall provide:
1. UL listed or equivalent Class 2 AC power supply with 18V output.
- F. Each remote control shall provide:
1. Infrared control of the master unit output
 2. Controls for masking spectrum adjustment
 3. Controls for masking volume adjustment
 4. Controls for paging volume adjustment

3. PART THREE - EXECUTION

3.1. SYSTEM DESIGN

- A. Design system according to manufacturer's specifications.

3.2. EXAMINATION

- A. Ensure that facility build out is at a stage suitable for the system installation.
- B. Ensure that facility is constructed according to plans including wall locations, ceiling types and plenum barriers.
- C. Ensure that the plenum height is appropriate as per manufacturer's recommendations and as per plan.
- D. Ensure power requirements have been provided as per plan.
- E. Ensure sufficient space for centrally located components is available as per plan and manufacturer's specifications.
- F. Ensure any third-party components required to be interfaced with the system have been provided.

3.3. PERMITS

- A. Obtain necessary permits for installation work.

3.4. INSTALLATION

- A. Follow all applicable codes for the area
- B. Follow manufacturer's recommendations regarding installation as found in the AccuMask Sound Masking System Installation Manual
- C. Follow the system design for location of loudspeakers and wiring
- D. Record any necessary changes to the system design on the plan
- E. Ensure that supplementary materials used meet applicable safety standards

3.5. FIELD QUALITY CONTROL

- A. Ensure that plenum heights meet the minimum recommended by the manufacturer for the loudspeakers
- B. Ensure that distance between the top of the loudspeaker and the deck meets manufacturer's minimum specifications
- C. Ensure that loudspeakers are suspended in a level manner
- D. Ensure that loudspeakers are not obstructed as much as possible
- E. Ensure cables are properly supported in the ceiling
- F. Ensure cables are securely terminated

3.6. SYSTEM ADJUSTMENT

- A. Follow manufacturer's recommendations for system settings as found in the AccuMask User Manual

3.7. CLEANING

- A. Ensure that empty packaging is removed and please recycle
- B. Ensure that any material waste is removed
- C. Ensure the product is clean and presentable where required

3.8. DEMONSTRATION AND TRAINING

- A. Demonstrate operational system to customer by walking the space
- B. Demonstrate functionality of the system to the customer or customer's representative
- C. Train customer employee to maintain system as required

3.9. TESTING AND REPORTING

- A. Test area for consistency of masking volume and quality
- B. Verify that paging zoning and levels are appropriate and as per plan
- C. Test masking volumes with mechanicals off and with space unoccupied
- D. Provide a printed report detailing system settings

Acoustic Comfort®

AccuMask™
SCAMP® SOUND MASKING

www.accumask.com