TO: Chair and Members  
Economic Development and Planning Committee  
WARD(S) AFFECTED: WARD 2

COMMITTEE DATE: March 2, 2010

SUBJECT/REPORT NO:  
Heritage Permit Application (HP2010-012) Under Part IV of the Ontario Heritage Act for Alterations to 71 Main Street West, Hamilton (Hamilton City Hall) (PED10062) (Ward 2)

SUBMITTED BY:  
Tim McCabe  
General Manager  
Planning and Economic Development Department  
PREPARED BY:  
Tim McCabe  
(905) 546-4339

SIGNATURE: 

RECOMMENDATION:
That approval be given to Heritage Permit Application (HP2010-012) by City of Hamilton Public Works, to permit the installation of four exterior speakers on the underside of the Council Chambers of the designated property at 71 Main Street West, Hamilton (Hamilton City Hall), as shown on Appendix “A” to Report PED10062.

EXECUTIVE SUMMARY
The subject property, located at 71 Main Street West, Hamilton (Hamilton City Hall), is designated under Part IV of the Ontario Heritage Act by By-law No. 06-011. A heritage permit is required for alterations that affect, or are likely to affect, the property’s heritage attributes, as set out in the designation By-law (see the Reasons for Designation, attached as Appendix “B” to Report PED10062). The applicant, Public Works, has applied for consent to install four exterior speakers on the stilts that support the Council Chambers at Hamilton City Hall. The Heritage Permit Review Subcommittee and the Hamilton Municipal Heritage Committee have reviewed this application and have advised denial of the work as specified, but proposed that less disruptive alternative solutions be explored.
Vision: To be the best place in Canada to raise a child, promote innovation, engage citizens and provide diverse economic opportunities.
Values: Honest, Accountability, Innovation, Leadership, Respect, Excellence, Teamwork

Alternatives for Consideration - See Page 6.

FINANCIAL / STAFFING / LEGAL IMPLICATIONS (for Recommendation(s) only)

**Financial:**
None.

**Staffing:**
None.

**Legal:**
This heritage permit application has been processed and considered within the context of the applicable legislation, as well as Council’s delegated approval authority.

Section 33(1) of the Ontario Heritage Act states that: “No owner of property designated under Section 29 shall alter the property, or permit the alteration of the property, if the alteration is likely to affect the property’s heritage attributes, as set out in the description of the property’s heritage attributes that was required to be served and registered under Subsection 29 (6) or (14), as the case may be, unless the owner applies to the Council of the municipality in which the property is situat and receives consent, in writing, to the alteration.”

Section 33(4) of the Ontario Heritage Act states that: “Within 90 days after the notice of receipt is served on the applicant under Subsection (3), the Council, after consultation with its municipal Heritage Committee, if one is established,

(a) Shall,
   (i) Consent to the application;
   (ii) Consent to the application on terms and conditions; or,
   (iii) Refuse the application; and,

(b) Shall give notice of its decision to the owner of the property and to the Trust.”

With respect to the delegation of Council’s approval authority, Section 33(15) of the Ontario Heritage Act states that: “The power to consent to alterations to property under this Section may be delegated by By-law by the Council of a municipality to an employee or official of the municipality if the Council has established a Municipal Heritage Committee, and has consulted with the Committee prior to delegating the power.” This power to consent to applications was granted to the Director of Planning by City of Hamilton By-law 05-364. However, Subsection 33(16) of the Ontario Heritage Act further defines the scope of this power as “Council’s power to consent to alterations”. Accordingly, By-law No. 05-364 states that “the
HISTORICAL BACKGROUND  (Chronology of events)

The subject property at 71 Main Street West, Hamilton (Hamilton City Hall) (see location map attached as Appendix “A” to Report PED10062), was designated under Part IV of the Ontario Heritage Act by City of Hamilton By-law 06-011. Under Section 33 of the Ontario Heritage Act, a permit is required for alterations that affect, or are likely to affect, the property’s heritage attributes, as set out in the designation By-law (see the Reasons for Designation, attached as Appendix “B” to Report PED10062). The power to consent to alterations to property designated under the Ontario Heritage Act was delegated by Council to the Director of Planning under City of Hamilton By-law No. 05-364. However, the Ontario Heritage Act and By-law No. 05-364 exclude the power to refuse an application (see Legal Implications). Furthermore, Council resolved on December 14, 2005, that “this delegated authority does not apply, nor is it extended to any proposed decision by the Director of Planning that is not in accordance with the recommendation of the Hamilton Municipal Heritage Committee, or the Heritage Permit Sub-committee, or any of the Conservation District Advisory Committees”.

The applicant has applied for consent to install four exterior speakers on two of the stilts that support the Council Chambers at Hamilton City Hall (see elevation drawing attached as Page 2 of Appendix “C” to Report PED10062). “The Council Chamber together with twelve marble-clad stilts, glass curtain wall, metal balustrade, geodesic dome skylight, and Italian glass mosaic tiles on the underside of the Chamber” are included in the Reasons for Designation as designated features. The application, as submitted, contained several other alterations. As these alterations were recommended for approval by staff and the Heritage Permit Review Subcommittee, the applicant’s consent was obtained to withdraw the original application, and submit those items that could be subject to approval under the Director of Planning’s delegated authority as a separate application.

The Heritage Permit Review Subcommittee of the City of Hamilton Municipal Heritage Committee reviewed this application on January 27, 2010, and February 3, 2010, and advised denial of the subject alterations due to disruption effects to symmetry of the stilts or “pilotis” and the open character of the area under the Council Chambers. Displacement of heritage materials was not a concern as the marble cladding has been replaced with concrete panels. The City of Hamilton Municipal Heritage Committee reviewed this application on February 25, 2010, and advised denial of the work, as specified in the application, but proposed that less disruptive alternative solutions be explored.
VISION:
To be the best place in Canada to raise a child, promote innovation, engage citizens and provide diverse economic opportunities.

VALUES:
Honest, Accountability, Innovation, Leadership, Respect, Excellence, Teamwork

POLICY IMPLICATIONS

Ontario Heritage Act

See Legal Implications.

RELEVANT CONSULTATION

Pursuant to Subsection 28(1) of the Ontario Heritage Act, the City of Hamilton Municipal Heritage Committee (MHC) advises and assists Council on matters relating to Part IV and Part V of the Ontario Heritage Act. At its meetings of January 27, 2010, and February 3, 2010, the Heritage Permit Review Subcommittee of the City of Hamilton Municipal Heritage Committee considered this application and recommended to the Hamilton Municipal Heritage Committee and Council that the subject application be denied due to adverse impacts to the character of the area under the Council Chambers.

The City of Hamilton Municipal Heritage Committee considered this application on February 25, 2010, reaffirmed the advice of the Heritage Permit Review Subcommittee, and recommended to Council that the subject application be denied, as specified, but proposed that less disruptive alternative solutions continue to be explored.

ANALYSIS / RATIONALE FOR RECOMMENDATION

(include Performance Measurement/Benchmarking Data, if applicable)

Heritage Considerations

According to the Ontario Heritage Act, Section 33(1), no owner of property designated under Section 29 of the Act shall alter the property, or permit the alteration of the property, if the alteration is likely to affect the property’s heritage attributes, as set out in the description of the property’s heritage attributes, unless the owner applies to the Council of the municipality in which the property is situate and receives consent, in writing, to the alteration.

The Council, after consultation with its Municipal Heritage Committee may, under Section 33(4):

(a) Consent to the application;

(b) Consent to the application, subject to such terms and conditions as may be specified by the Council; or,
(c) Refuse the application.

If Council refuses to approve the application, the owner can appeal the matter to the Conservation Review Board.

The applicant is proposing to install four exterior speakers on either side of the outermost front stilts under the Council Chambers (see Appendix “C” to Report PED10062). Each speaker will be 3 feet, 3 inches high, and 2 feet, 2-½ inches wide, and will be secured into the pre-cast concrete cladding.

Senior Management Evaluation

The speakers have been proposed to provide an outdoor sound system for public events. The speakers will be in place year-round, and will not require equipment or staff for installation prior to specific events. The installation of these speakers provides an efficient method to provide a sound system for the forecourt area. The City Hall Project Team has been respectful and co-operative of the heritage designation and heritage process throughout the complex, City Hall renovation project. Even with the speakers, subject of this application, alternatives were considered to satisfy heritage concerns. For example, if it was possible to conceal the speakers behind the columns on “swing out” brackets and then only swing them out when needed, this would not disrupt the clean lines of the façade at all times. However, this was not considered feasible as the speakers are 350-400 pounds. With this weight, the “swivel” arm would require structural reinforcement (design, construction, time, and additional expense). Relocating the speakers away from the columns, for example, the upper exterior balcony of the Council Chambers, was also looked at, but considered not practical or optimally functional from a sound perspective.

Accordingly, Senior Management recommends that Heritage Permit application HP2010-012 be approved.

Heritage Staff Evaluation

Key factors that are considered in the evaluation of any change affecting a heritage building, or its setting, are consideration of “displacement effects” (those adverse actions that result in the damage, loss, or removal of valued heritage features) and “disruption effects” (those actions that result in detrimental changes to the setting or character of the heritage feature).

Displacement Effects: The installation of the speakers will not displace any heritage fabric.
Disruption Effects: The installation of the speakers introduces new features to the pilotis that support the Council Chambers. Staff is of the opinion that these speakers will disrupt the symmetry of the pilotis and the overall character of the projecting frontispiece of the Council Chambers. The International Style is characterized by balanced massing and unadorned façades. Often, buildings designed in the International Style incorporated elements, such as the Council Chambers, that appeared “weightless”.

Heritage staff is of the opinion that the speakers may be accommodated in those locations that are contained within the main building masses, such as on the balcony of Council Chambers behind the railing.

Accordingly, staff recommends that Heritage Permit Application HP2010-012 be denied.

**ALTERNATIVES FOR CONSIDERATION:**

(include Financial, Staffing, Legal and Policy Implications and pros and cons for each alternative)

1. **Deny the heritage permit.**

Council may deny this application. This alternative would avoid disruption effects to the designated features and the character of the property, but would not meet the applicant’s objectives for an outdoor sound system.

2. **Approve the heritage permit with conditions.**

Council may approve this application, with conditions, respecting the number of speakers, the dimensions of the speakers, and/or location of the speakers. Conditional approval may produce an alternative that results in less impact to the designated heritage features of the property, but may not meet the applicant’s objectives.

**CORPORATE STRATEGIC PLAN (Linkage to Desired End Results)**


**Skilled, Innovative & Respectful Organization**

- A culture of excellence.
- More innovation, greater teamwork, better client focus.
Vision: To be the best place in Canada to raise a child, promote innovation, engage citizens and provide diverse economic opportunities.

Values: Honest, Accountability, Innovation, Leadership, Respect, Excellence, Teamwork

- An enabling work environment - respectful culture, well-being and safety, effective communication.
- Council and SMT are recognized for their leadership and integrity.

**Financial Sustainability**
- Delivery of municipal services and management capital assets/liabilities in a sustainable, innovative, and cost effective manner.

**Growing Our Economy**
- Newly created or revitalized employment sites.
- Competitive business environment.
- An improved customer service.

**Healthy Community**
- Plan and manage the built environment.
- An engaged Citizenry.

### APPENDICES / SCHEDULES

- Appendix “A” - Location Map.
- Appendix “B” - Schedule “B” to By-law No. 06-011.
- Appendix “C” - Photographs, plans, and drawings.

:MH
Attachs. (3)
71 Main Street West (Hamilton City Hall Complex)
City of Hamilton

REASONS FOR DESIGNATION

Cultural Heritage Value
The civic complex, located at 71 Main Street West, comprising Hamilton City Hall and surrounding landscaped grounds, possesses cultural heritage value, expressed in historical associations with the development of municipal administration, the 1950's urban renewal movement, evolution of City Hall architecture in the City of Hamilton, as well as its association with notable individuals including elected representatives of all levels of municipal, provincial, and federal government, visiting dignitaries, and celebrities. Hamilton City Hall was built in 1960, by Pigott Construction Co., to a design by Stanley Roscoe, Canada's first municipally-employed architect, and was Roscoe's most significant work during his tenure as a City architect. City Hall is one of the few intact examples of modern civic architecture in Canada. The entire civic complex has value as a cultural heritage landscape.

The Reasons for Designation apply to the City Hall complex, together with all elevations, and the roof of the main administration building, including all facades, entranceways and windows, together with construction materials of steel, aluminium, marble, Italian glass tile, wood, building techniques, specific interior features, and features of the landscaped grounds as follows:

City Hall

North (Front Facade):

- Irregular, v-shaped rectilinear plan.
- Flat roof and roofline.
- Ramps and stairs approaching the front entrance.
- Glass curtain walls.
- All marble cladding.
- Council Chamber, together with twelve marble-clad stilts, glass curtain wall, metal balustrade, geodesic dome skylight, and Italian glass mosaic tiles on the underside of the Chamber.
- Spandrels with Italian glass mosaic tiles between the first and second storeys.
- Front entrance with glass doors, transoms, and surrounds, and “IN” and “OUT” inlaid on the terrazzo floor in front of the doors.
West (Side) Elevation:

- All marble cladding.
- Windows and metal mullions on the first and second storeys.
- Spandrels with Italian glass mosaic tiles between the first and second storeys.
- Connection between the main building and the Council Chamber, together with glass and metal mullions.
- Clock and lettering spelling “City Hall” located at the upper right corner of the main office tower.

South (Rear) Elevation:

- Irregular rectilinear plan.
- Service tower with marble cladding and glass curtain wall.
- Canopy over the rear entrance, together with flat roof, three metal roof supports, and Italian glass mosaic tile ceiling.
- Italian glass mosaic tiles above the ground floor entrance.
- All marble cladding.
- Glass curtain walls.
- Built-in canopies on the five-storey office tower.
- Elevated driveway and pedestrian bridge connecting Hunter Street and parking lot with the second level rear entrance of the building.
- First and second storey entrances with glass doors, transoms, surrounds, and letters spelling “IN” and “OUT” inlaid on the floor in front of the doors.

East (Side) Elevation:

- All marble cladding.
- Windows and metal mullions on the first and second storeys.
- Spandrels with Italian glass mosaic tiles between the first and second storeys.
- Clock and lettering spelling “City Hall” located at the upper right corner of the main office tower.

Interior:

- Cantilevered staircase connecting the first and second floors, together with aluminium treads and open risers, handrail, balustrade, and teak wood finish underneath.
- Double-storey mezzanine with clerestory.
- Double-storey glass partitions and doors with hardware.
- Exposed stilts supporting the upper six storeys.
- Domed skylight in the Council Chamber.
- Original continuous ceiling lighting on the second floor.
- Original metal lettering and clocks throughout the first and second floors.
- Italian glass mosaic tile walls throughout all eight floors of the building.
- Four murals in various locations throughout the second floor.
- Walnut and/or teak wood panelling and doors with hardware in various locations throughout the first and second floors.
- All Italian glass mosaic tile walls in the elevator area on all floors between the ground and eighth storeys.
- Enclosed fire stairs with aluminium treads, risers, and handrails.
- Continuous vertical balustrading from the ground floor to the eighth floor, as well as each floor indicated with aluminium lettering.
- Terrazzo floors on the first and second storeys, and “IN” and “OUT” inlaid on the floor at each entrance.
- All metal lettering on washroom and janitor room doors on all floors between the ground and eighth floors.

**Landscaped Grounds**

*Front (North):*

- Forecourt, together with former reflecting pool, walkways, existing multiple levels and topography, retaining walls, coniferous and deciduous trees.
- Grassed lawn and sycamore trees at the northwest corner of the property.
- Public art installation at the northwest corner of the property.

*Side (West):*

- Existing multiple levels and topography, together with all retaining walls, walkways, paved open spaces, grassed lawns, sycamore, willow and coniferous trees.
- All public art installations in situ.
Rear (South):

- Elevated vehicular and pedestrian bridge with metal railings supported by concrete piers, connecting Hunter Street and parking lot with the rear second level entrance of the City Hall building.
- Staircases connecting the ground floor with the driveway and pedestrian bridge.
- Garage structure, together with overhang, rubble granite, and glazed yellow brick walls.
- Existing multiple levels and topography, together with retaining walls of rubble granite.
- Grassed lawn with willow and coniferous trees at the southwest corner of the property.
- Landscaped area on the east side, together with all walkways, paved and grassy open spaces, terraces, and deciduous trees.
- Metal railings surrounding the second-level parking lot, and from the parking lot down the hill to MacNab Street.

Side (East):

- Existing multiple levels and topography, together with retaining walls and stairs.
- Paved open spaces, together with walkways.
- Grassed lawns.
- All deciduous trees.
Hamilton City Hall – front façade, prior to renovations

Hamilton City Hall – front façade, soon after opening (circa 1960)
Appendix “C” to Report PED10062

High Output Three-Way Full-Range Loudspeaker with 2 x 12" LF

**Key Features:**
- Two high power 300 mm (12 in) transducers in a compact slot-loaded configuration for low frequency extension to 40 Hz.
- High power CMCD™ Cone Midrange Compression Driver provides high sensitivity and high continuous SPL capability along with low distortion, extended bandwidth, and improved phase coherence.
- Large format neodymium HF driver provides clear intelligible high frequency projection.
- Large PT™ Progressive Transition® waveguide provides consistent 90° x 50° pattern control, low distortion at high SPL levels, and smooth frequency response.
- Rotatable mid and high frequency waveguides allow either horizontal or vertical cabinet orientation.
- Sophisticated, steep-slope passive mid-high crossover network with switchable TA-pair/TA crossover modes.

**Applications:**
- Performing arts facilities/live theaters
- Auditoriums/Houses of worship
- Dance clubs/Spots facilities

**PD5322/95** is a Precision directivity™ 90° x 50° full range, three-way loudspeaker designed for use in arrays or singly in demanding music or speech system applications requiring high output capability with excellent pattern control and low frequency extension to 40 Hz.

The low frequency sections, two 220H 300 mm (12 in) VGC™ Vented Gap Cooled low frequency transducers, offer high power handling and low power compression for high continuous SPL capability. A newly designed LF loading plate provides the highest possible sensitivity, low frequency output and system reliability.

The mid and high frequency sections are horn-loaded for maximum sensitivity and pattern control. The CMCD-RHI cone midrange compression driver consists of a driver/plugable plug assembly providing high output with low distortion. The design extended response coupled with a small 100 mm (4 in) exit diameter allow for smoother transition to the high frequency driver in the magnitude and polar pattern domains. The integral 200 mm (8 in) cone driver features a high power Differential Drive® dual, voice coil design. The 243H4 large format high frequency compression driver utilizes a neodymium magnet and aluminum diaphragm to deliver clear and intelligible high frequency projection, extended frequency response, and low distortion at even the highest drive levels.

**Specifications:**
- **Nominal Impedance:** 4 ohms, variable 8 ohms (max used in parallel)
- **Sensitivity:** 89 dB 1W/1m
- **Mid-High Frequency Driver:** CMCD-RHI cone-midrange compression driver with integral 200 mm (8 in) Differential Drive® dual 150 mm (6 in) voice coil driver
- **Input Connections:** Speakon, 1 in 4-pin terminal block with 4 1/4-in. receptacle (white for ground)
- **VHF Range (U.S.):** 2120 - 2420 MHz (140 - 174 MHz)
- **Dimensions:** 580 x 660 x 740 mm (22.9 x 26 x 29 in)
- **Gross Weight:** 137 kg (302 lbs)

*In biampl mode, with recommended active tuning.

**NOMi 30** (in 500 mm x 30 mm forged shoulder steel subwoofer.

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1. Biampl mode, with recommended active tuning.
2. Resultant acoustical pattern is not uninteresting with 6 dB gain factor within device's operational range.
3. Nominal impedance is based on power rating and sensitivity, exclusive of power compression.
4. Acoustic sensitivity is test field, no additional accessibility gains from boundary loading.

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○ PD5322/95 High Output Three-Way Full-Range Loudspeaker

Large PTM Progressive Transition waveguides achieve an optimum balance of extremely well controlled coverage with low distortion, smooth frequency response, and natural sound character. The mid and high frequency horns are rotatable for cabinet positioning in either horizontal or vertical orientation. High-slope crossovers minimize band overlap and a well-controlled off-axis response enhances arrayability.

The loudspeaker can be operated in either bi-amplified (passive mid/high) or tri-amplified mode. In either case, digital signal processing is required in order to achieve specified performance. Input connectors include both Speakon® and C5-approved covered barrier strip input connectors for hookup versatility. The cabinet is fitted with twenty M10 threaded suspension points, supporting a wide variety of installation approaches.

Dimensions

![Diagram of PD5322/95 dimensions]

Dimensions in mm (in)
Key Features:
- Two high power 300 mm (12 in.) transducers in a compact self-loaded configuration for low frequency extension to 40 Hz.
- High power CMCD™ Cone Midrange Compensation Driver provides high sensitivity and high continuous SPL capability along with low distortion, extended bandwidth and improved phase coherence.
- Large format neodymium HF driver provides clear, intelligible high frequency projection.
- Large PTDW™ Progressive Transition™ waveguides provide consistent 60° x 40° pattern control, low distortion at high SPL levels and smooth frequency response.
- Rotatable mid and high frequency waveguides allow either horizontal or vertical cabinet orientation.
- Sophisticated, steep-slope passive mid-high crossover network with switchable tri-amp/bi-amp crossover modes.

Applications:
- Performing arts facilities / Live theaters
- Auditoriums / Houses of worship
- Dance clubs / Sports facilities

PD5322/64 is a Precision Directivity™ 60° by 40° full range, three-way loudspeaker designed for use in arrays or small demanding music or speech system applications requiring high output capability with excellent pattern control and low frequency extension to 40 Hz.

The low frequency section, two 200H 300 mm (12 in.) VGC™ Vertical Gap Cooled low frequency transducers, offers high power handling and low power compression for high continuous SPL capability. A newly designed LF loading plate provides the highest possible sensitivity, low frequency output and system reliability.

The mid and high frequency sections are horn-loaded for maximum sensitivity and pattern control. The CMCD-382 cone midrange compression driver consists of a driver/phasing plug assembly providing high output with low distortion. The design's extended response coupled with a small 100 mm (4 in.) exit diameter allow for smoother transition to the high frequency driver in the magnitude and polar pattern domains. The integral 200 mm (8 inch) cone driver features a high power Differential Drive™ dual voice coil design. The 200H large format high frequency compression driver utilizes a neodymium magnet and aluminum diaphragm to deliver clear and intelligible high frequency protection, extended frequency response, and low distortion at even the highest drive levels.

### Specifications:

- **Frequency Range (1.2 dB):** 41 Hz to 18 kHz
- **Response (0 dB):** 41 Hz to 18 kHz
- **Coverage Pattern:** 60° x 40°
- **Directivity Index (D):** 16.5 dB
- **Crossover Networks:** 1-way poly phased crossover and high mid-high switching
- **Passive Crossover:** 2-way poly phased crossover and high mid-high switching
- **Transducer Power Ratings:**
  - LF: 1600 W (2000 W peak), 4 ohms; 1500 W (2000 W peak), 2 ohms
  - MF: 700 W (1000 W peak), 100 Hz
  - HF: 250 W (600 W peak), 100 Hz
- **Long-Term System Power Rating:**
  - Bi-amped Passive Mode: LF: 1500 W (2000 W peak) 150 Hz;
  - MF: 350 W (500 W peak), 100 Hz;
  - HF: 150 W (250 W peak), 100 Hz
- **System Sensitivity (W & ft²):**
  - Passive Mode: 110 dB/250 Hz (250 W per speaker only)

### Physical Specifications:

- **Enclosure:** Beechwood with 15 degree side angles, 16 mm (0.8 in.) exterior grade 11 ply plywood high density.
- **Suspension Attachment:** 20 pounds (9 kg), 5 bolt, 4 each side, 1 turn; 1-turn meshed hardware
- **Input Jacks:** 1/4 inch stereo, 2 located on top, 2 located on side
- **Optional Weather Resistant Kit:** Available from JBL Professional or authorized dealer.
- **Dimensions:**
  - PD5322/64: 358 H x 265 W x 278 D (14.1 x 10.4 x 11 in.)
  - PD5322/64: 358 H x 265 W x 278 D (14.1 x 10.4 x 11 in.)

### Environmental Specifications:

- **Operating Environment:**
  - 0°F to 104°F (-18°C to 40°C)
  - 0% to 95% RH non-condensing

### Note:

- In bi-amp mode, with recommended active crossovers.
Appendix “C” to Report PED10062
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PD5322/64 High Output Three-Way Full-Range Loudspeaker

Large P™ Progressive Transition waveguides achieve an optimum balance of extensively well controlled coverage with low distortion, smooth frequency response, and natural sound character. The mid and high frequency horns are rotatable for cabinet positioning in either horizontal or vertical orientation. High-slope crossovers minimize band overlap and a well-controlled off-axis response enhances arrayability.

The loudspeaker can be operated in either bi-amplified (passive mid/high) or in tri-amplified mode. In either case, digital signal processing is required in order to achieve specified performance. Input connectors include both Speakon® and CE-approved covered banana strip input connectors for look-up versatility. The cabinet is fitted with twenty M10 threaded suspension points, supporting a wide variety of installation approaches.

Dimensions

![Diagram of PD5322/64 loudspeaker showing top, front, side, and back views with dimensions in mm (in).]