Honeywell
GENT

Specification Guide

D1 Voice Alarm / Public Address System

V1

Contents

Control & Indicating Equipment:

The Voice Evacuation system components shall comprise of the following components and all technical references shall be met as a minimum.

583361.22 | Digital Output Module for up to 8 loudspeaker circuits/zones – DOM4-8

Central Control Module with audio signal processing for connecting loudspeaker circuits and controlling power amplifiers, and shall be capable of the following:

- It shall be possible to connect up to 400 Digital Output Modules (DOM's) on a single network.
- The Digital Output Module shall have four independent audio output channels for connection to a choice of 4XD power amplifiers with up to 500 Watts per channel, and be capable of simultaneous processing of up to four different audio streams.
- It shall be possible to route audio through up to eight loudspeaker circuits / PA Zones per DOM.
- It shall be possible to upgrade a simple system to a complex alarm/public address system via integrated LAN interfaces. The maximum distance between DOMs will be 100 metres (fire rated CAT5 STP) or up to 2000 metres using multimode, fire rated fibre optic cable.
- There shall be continuous monitoring of power amplifiers by means of a 22 kHz test tone. In the event of a failure of a power amplifier, a backup amplifier (if utilised) will automatically and dynamically replace the faulty power amplifier. The defined sound pressure level (SPL) is also taken into account for the backup amplifier.
- There shall be continuous inaudible monitoring of loudspeaker lines (earth faults, short circuits, interruptions, and impedance deviations with specified tolerances for each loudspeaker circuit), even in power-saving mode, independent of activated announcements. An end of line module (EOL) can also optionally be used as a line termination and the line to the EOL will be monitored. This ensures that short-circuited loudspeaker circuits are disconnected without affecting the rest of the system.
- There shall be continuous monitoring of the Digital Audio Line (DAL) bus and the microphone capsules of up to four connectable digital call stations or universal interface modules (UIM).
- Any speaker line and/or critical signal path faults will be detected, displayed and recorded (message list) within seconds.
- There shall be Digital Signal Processing (DSP) including a parametric equalizer, high and low-pass filters and delays, freely & individually configurable for each audio channel.
- For each of the four amplifier channels, there shall be four sensor inputs for optional, continuous and automatic volume control in real time, independent of the ambient noise level.
- It shall be possible to monitor locally, all of the input and output channels, via the integrated loudspeaker and monitor button.
- There shall be eight programmable, potential-free contact outputs for controlling external components (e.g. priority relays) or for signalling various indicator states (collective fault messages).
- There shall be four Ethernet 100 Mbit/s interface connections with switch function.
- There shall be an integrated Two Wire Interface (TWI) bus for the optional connection of an additional module (e.g. time synchronization using TCM or GPS).
- There shall be a display for indicating operation status, faults, circuit connection, and active power-saving mode, via multi-coloured LEDs.
- There shall be emergency control operation activated during a power failure, to preserve battery capacity – this means not activating background music or low-priority announcements when there is a failure in the primary power supply. The connected amplifiers will be switched to stand-by mode.
- There shall be a non-volatile flash memory capable of storing up to 1 hours' worth of user specific pre-recorded audio including the emergency messages and tones and the message store shall be fully monitored.

- There shall be a secondary 24 V DC emergency power supply input.

DISPLAY

The **Central Control Module** shall have the following control and indications as a minimum:

- 4 LEDs for device operating state: in operation, warning/fault, emergency control option, power-saving mode.
- 8 LEDs for indicating the control contacts state.
- 4 LEDs for indicating the state of each of connected power amplifier.
- 8 fault and 8 loudspeaker circuit relay LEDs.
- Push button for sequential monitoring of local audio channels, and acknowledging an acoustic fault message.

TECHNICAL SPECIFICATIONS:

Audio output

Output type	Electronically Balanced
Nominal level	0 dB
Max. output level	+6 dB
Frequency range	20 Hz to 20 kHz
Max. deviation from linear frequency	± 1 dB in frequency range
Harmonic distortion factor at nominal level	< 0.03% at 1 kHz
Max. harmonic distortion	0.1% in frequency range
Signal-to-noise ratio at nominal level	>75 dB (A) > 70 dB
Load impedance	min. 5 kΩ, max. 500 pF

Sensor input (Automatic Volume Control)

Input type	symmetrical, non-earthed
Nominal level	-51 dB
Nominal level for emergency call station	0 dB
Frequency range	100 Hz to 8 kHz
Max. deviation from linear frequency	± 6 dB in frequency range
Harmonic distortion factor at nominal level	< 0.2% at 1 kHz
Max. harmonic distortion factor	1% in frequency range
Signal-to-noise ratio at nominal level	> 65 dB (A) > 60 dB
Input impedance	typ. 200Ω

Control contacts

Max. voltage	100 V DC / 1 A
Impulse withstand voltage	> 2.5 kV

Pass-through contacts

Max. voltage	250 V AC, 30 V DC / 5 A
Impulse withstand voltage	> 1.5 kV

Power supply

Rated voltage	90 V AC to 264 V AC
Nominal frequency	47 Hz to 440 Hz
Power rating with / without 4 x DAL	40 W / 70 W at 230 V AC
Emergency power supply	
Voltage range	21.6 V DC to 30 V DC
Ambient temperature range	-5°C to +55°C

Relative humidity	15% to 90%
BS EN 54-16 approved Honeywell D1	**1293 – CPR – 0405 Rev.8**
Model:	**Honeywell DOM4-8 Part no. 583361.22**

583362.22 | Digital Output Module for up to 24 loudspeaker circuits/zones – DOM4-24

Central control module with audio signal processing for connecting and controlling power amplifiers and loudspeaker circuits and shall be capable of the following:

- It shall be possible to connect up to 400 Digital Output Modules (DOM's) on a single network.
- The Digital Output Module shall have four independent audio output channels for connection to a choice of 4XD power amplifiers with up to 500 Watts per channel, and be capable of simultaneous processing of up to four different audio streams.
- It shall be possible to route audio through up to twenty-four loudspeaker circuits / PA Zones per DOM.
- It shall be possible to upgrade a simple system to a complex alarm/public address system via integrated LAN interfaces. The maximum distance between DOMs will be 100 metres (fire rated CAT5 STP) or up to 2000 metres using multimode, fire rated fibre optic cable.
- There shall be continuous monitoring of power amplifiers by means of a 22 kHz test tone. In the event of a failure of a power amplifier, a backup amplifier (if utilised) will automatically and dynamically replace the faulty power amplifier. The defined sound pressure level (SPL) is also taken into account for the backup amplifier.
- There shall be continuous inaudible monitoring of loudspeaker lines (earth faults, short circuits, interruptions, and impedance deviations with specified tolerances for each loudspeaker circuit), even in power-saving mode, independent of activated announcements. An end of line module (EOL) can also optionally be used as a line termination and the line to the EOL will be monitored. This ensures that short-circuited loudspeaker circuits are disconnected without affecting the rest of the system.
- There shall be continuous monitoring of the Digital Audio Line (DAL) bus and the microphone capsules of up to four connectable digital call stations or universal interface modules (UIM).
- Any speaker line and/or critical signal path faults will be detected, displayed and recorded (message list) within seconds.
- There shall be Digital Signal Processing (DSP) including a parametric equalizer, high and low-pass filters and delays, freely & individually configurable for each audio channel.
- For each of the four amplifier channels, there shall be four sensor inputs for optional, continuous and automatic volume control in real time, independent of the ambient noise level.
- It shall be possible to monitor locally, all of the input and output channels, via the integrated loudspeaker and monitor button.
- There shall be eight programmable, potential-free contact outputs for controlling external components (e.g. priority relays) or for signalling various indicator states (collective fault messages).
- There shall be four Ethernet 100 Mbit/s interface connections with switch function.
- There shall be an integrated Two Wire Interface (TWI) bus for the optional connection of an additional module (e.g. time synchronization using TCM or GPS).
- There shall be a display for indicating operation status, faults, circuit connection, and active power-saving mode, via multi-coloured LEDs.
- There shall be emergency control operation activated during a power failure, to preserve battery capacity – this means not activating background music or low-priority announcements when there is a failure in the primary power supply. The connected amplifiers will be switched to stand-by mode.

- There shall be a non-volatile flash memory capable of storing up to 1 hours' worth of user specific pre-recorded audio including the emergency messages and tones and the message store shall be fully monitored.
- There shall be a secondary 24 V DC emergency power supply input.

DISPLAY

The **Central Control Module** shall have the following control and indications as a minimum:

- 4 LEDs for device operating state: in operation, warning/fault, emergency control option, power-saving mode.
- 8 LEDs for indicating the control contacts state.
- 4 LEDs for indicating the state of each of connected power amplifier.
- 24 fault and 24 loudspeaker circuit relay LEDs.
- Push button for sequential monitoring of local audio channels and acknowledging an acoustic fault message.

TECHNICAL SPECIFICATIONS:

Audio output

Output type	electronically balanced
Nominal level	0 dBu
Max. output level	+6 dBu
Frequency range	20 Hz to 20 kHz
Max. deviation from linear frequency	± 1 dB in frequency range
Harmonic distortion factor at nominal level	< 0.03% at 1 kHz
Max. harmonic distortion factor	0.1% in frequency range
Signal-to-noise ratio at nominal level	>75 dB (A) > 70 dB
Load impedance	min. 5 kΩ, max. 500 pF

Sensor input (Automatic Volume Control)

Input type	symmetrical, non-earthed
Nominal level	-51 dB
Nominal level for emergency call station	0 dB
Frequency range	100 Hz to 8 kHz
Max. deviation from linear frequency	± 6 dB in frequency range
Distortion factor at nominal level	< 0.2% at 1 kHz
Max. distortion factor	1% in frequency range
Signal-to-noise ratio at nominal level	> 65 dB (A) > 60 dB
Input impedance	typ. 200Ω

Control contacts

Max. voltage	100 V DC / 1 A
Impulse withstand voltage	> 2.5 kV

Pass-through contacts

Max. voltage	250 V AC, 30 V DC / 5 A
Impulse withstand voltage	> 1.5 kV

Power supply

Rated voltage	90 V AC to 264 V AC
Nominal frequency	47 Hz to 440 Hz
Power rating with / without 4 x DAL	50 W / 80 W at 230 V AC

Emergency power supply Voltage range	 21.6 V DC to 30 V DC
Ambient temperature range Relative humidity	-5°C to +55°C 15% to 90%
BS EN 54-16 approved Honeywell D1	**1293 – CPR – 0405 Rev.8**
Model:	**Honeywell DOM4-24 Part no. 583362.22**

583351 | View Control Module Display / Control Module

The View Control Module (VCM) offers a clear and easy display of collective messages and facilitates the operation of the HONEYWELL D1 voice alarm system, in accordance with BS EN 54-16, and shall have the following features as a minimum:

- There shall be a display of collective messages, in accordance with BS EN 54-16.
- There shall be 5 buttons for operating the voice alarm system.
- There shall be an integrated buzzer for acoustic signals.
- It shall be 1U in height.
- It shall be directly installed in the voice alarm rack.
- It shall connect directly to the Universal Interface Module (UIM).

TECHNICAL SPECIFICATIONS:

Ambient temperature range Relative humidity	-5 °C to +55 °C 15% to 90%
BS EN 54-16 approved Honeywell D1	**1293 – CPR – 0405 Rev.8**
Model:	**Honeywell VCM Part no. 583351**

583381.31 | System Communication Unit

The System Communication Unit (SCU) acts as a digital audio memory source for the PA/VA system and shall be capable of the following:

- The unit shall have two audio memory stores.
- The unit shall allow more than 50 channels of audio data to be recorded and played back at the same time – regardless of the available bandwidth from the network.
- The connection to a Honeywell DOM shall be via Ethernet and shall continuously monitored.
- In accordance with BS EN 50849:2017, the audio data for critical emergency alarms and evacuation messages shall be stored on non-volatile solid state flash memory that is also continually monitored for availability and has a minimum of 2 hours' audio storage capacity.
- Additional messages, such as general and paging announcements, signals or advertising, shall be stored on a hard drive. The memory capacity shall be a minimum of 1,000 hours.
- The unit shall also be capable of logging and recording announcements. These shall be stored on the hard disk and saved with the date, time and trigger information.

- The unit shall have a call stacker function which will allow announcements to be temporarily stored and played back simultaneously, automatically, and uninterrupted within a particular time limit, when the desired point is released.
- There shall be a secondary 24 V DC emergency power supply input.

TECHNICAL SPECIFICATIONS:

Audio capacity monitored flash memory	Min. 2 hours.
Audio capacity hard drive	Min. 1,000 hours.

Power supply

Nominal voltage	90 V AC to 264 V AC
Nominal frequency	47 Hz to 63 Hz
Nominal current	typ. 0.5 A @ 230 V AC
Emergency power supply	
Voltage range	21.6 V DC to 30 V DC
Ambient temperature range	-5°C to +55°C
Relative humidity	15% to 90%

BS EN 54-16 approved Honeywell D1 **1293 – CPR – 0405 Rev.8**

Model: Honeywell SCU Part no. 583381.31

Digital Call Stations – Microphones:

583520 | Digital Call Station for Routine and Emergency Paging, with Redundancy Option – DCS Plus

The DCS Plus is for routine and emergency paging and shall be capable of the following:

- The unit shall be a fully digital call station with an electret cardioid microphone capsule on a flexible 300mm long gooseneck.
- The unit shall include continuous acoustic monitoring of both the voice coil and microphone capsule.
- There shall be an integrated broadband loudspeaker for monitoring and previewing purposes, as well as intercom functions.
- There shall be 12 freely programmable buttons, which can be individually labelled.
- There shall be 15 integrated and 12 freely programmable LED display elements, including a combined operation and fault display.
- The control signals shall be transmitted digitally, as will all four audio signals to and from the digital call station.
- The supply voltage shall be provided directly from the DAL bus.
- There shall be an audio input with 1 x 3.5 mm jack sockets at the back of the digital call station, for connecting an auxiliary device to allow audio playback outside of the central control unit.
- There shall be an audio output with 1 x 3.5 mm jack socket that can be used for monitoring purposes, or for audio distribution or recording. The audio input and output are independent from the microphone and can be used simultaneously.
- A 3 metre CAT5 standard connection cable for copper cabling is included as standard.
- There shall be a fully redundant back up connection, allowing the digital call station to be connected to 2 Digital Output Modules (DOM's) simultaneously, providing a redundant back up path for the digital call station, in the event of a single cable or DOM failure.

The digital call station shall be connected to the PA/VA system in a star-shaped topology via CAT 5 STP cable and RJ45 socket (up to 300 metres distance) and shall have the following optional connections:

- Optional fibre optic connection for distances up to 2,000 metres.
- RJ12 socket for connection with up to six DKM Plus expansion modules via daisy chain.

TECHNICAL SPECIFICATIONS:

General

Microphone	electret, uni-directional cardioid characteristic
Gooseneck	400 mm
Frequency range	60 Hz – 20 kHz
Loudspeaker - power	2 W
Sample rate	48 kHz
AD/DA converter	24 Bit
Max. power consumption	< 70 mA
Housing	Black Metal (similar to RAL 9005)
Ambient temperature range	-5 °C to +45 °C
Relative humidity	15% to 95% (non-condensing)
Weight	approx. 1.42kg
Dimensions (W x H x D)	200 mm x 49.4 mm x 200 mm

Audio input

Nominal level	0 dBu
Frequency range	20 Hz to 22 kHz

Signal-to-noise ratio	> 90 dB A-weighting
Harmonic distortion factor (at nominal level)	< 0.1 %
Signal-to-noise ratio	> 90 dB(A)

Audio output

Nominal level	0 dBu
Maximum output level	< 6 dBu
Frequency range	20 Hz to 22 kHz
Signal-to-noise ratio	> 90 dB(A)
Distortion factor (at nominal level)	< 0.1 % @ 1kHz
Output impedance	210 Ω

BS EN 54-16 approved Honeywell D1 **1293 – CPR – 0405 Rev.8**

Model: **Honeywell DCS Plus Part no. 583520**

583526 | Digital Key Module DKM Plus

The digital keypad module for the DCS Plus shall provide the extension of 18 extra freely programmable buttons that can be labelled, as well as having 18 LED display elements. The control signals shall be digitally transmitted to the digital call station. The keyboard module shall be supplied with 24 V DC directly from the host DCS Plus.

TECHNICAL SPECIFICATIONS:

Ambient temperature	-5 °C to +45 °C
Relative humidity	15% to 95% (non-condensing)
Housing	Black Metal (similar to RAL 9005)
Weight	approx. 1.22kg
Dimensions (W x H x D)	200 mm × 49.4 mm × 200 mm

BS EN 54-16 approved Honeywell D1 **1293 – CPR – 0405 Rev.8**

Model: **Honeywell DKM Plus Part no. 583526**

583502.RE | Digital Call Station – Single Button, All Call, with Redundancy Option – DCS2 Redundant

The DCS2 is for routine and emergency paging and shall be capable of the following:

- The unit shall be a fully digital call station with an electret cardioid microphone capsule on a flexible 260 mm long gooseneck.
- The unit shall include continuous acoustic monitoring of both the voice coil and microphone capsule.
- There shall be an integrated broadband loudspeaker for monitoring and previewing purposes, as well as intercom functions.

- There shall be 1 freely programmable button, which can be individually labelled.
- There shall be 2 integrated and 1 freely programmable LED display elements, including a combined operation and fault display.
- The control signals shall be transmitted digitally, as will all four audio signals to and from the digital call station.
- The supply voltage shall be provided directly from the DAL bus.
- There shall be an audio input with 2 phono sockets at the back of the digital call station, for connecting an auxiliary device to allow audio playback outside of the central control unit.
- There shall be an audio output that can be used for monitoring purposes, or for audio distribution or recording. The audio input and output are independent from the microphone and can be used simultaneously.
- A 3 metre CAT5 standard connection cable for copper cabling shall be included as standard.
- There shall be a fully redundant back up connection, allowing the digital call station to be connected to 2 Digital Output Modules (DOM's) simultaneously, providing a redundant back up path for the digital call station, in the event of a single cable or DOM failure.

The digital call station shall be connected to the PA/VA system in a star-shaped topology via CAT 5 STP cable and RJ45 socket (up to 300 metres distance) and shall have the following optional connections:

- Optional fibre optic connection for distances up to 2,000 metres.
- RJ12 socket for connection with up to six DKM18 expansion modules via daisy chain.

TECHNICAL SPECIFICATIONS:

General

Microphone	electret, uni-directional cardioid characteristic
Gooseneck	~260mm
Frequency range	100 Hz – 15 KHz
Built-in loudspeaker power	1 W
Sample rate	48 kHz
AD/DA converter	24 Bit
Max. power consumption	150 mA
Housing Body	Grey Metal (Similar to RAL 7037)
Housing Sides	Black (Similar to RAL 9005)
Ambient temperature range	-5 °C to + 55 °C
Relative humidity	15% to 90% (non-condensing)
Weight	1.6 Kg
Dimensions (W x H x D)	123 mm x 71 mm x 180 mm

Audio input

Nominal level	0 dBu
Frequency range	20 Hz to 22 kHz
Signal-to-noise ratio	> 95 dB A-weighting
Harmonic distortion factor (at nominal level)	< 0.1 %

Audio output

Nominal level	0 dBu
Maximum output level	< 6 dBu
Frequency range	20 Hz to 22 kHz
Signal-to-noise ratio	> 85 dB(A)
Distortion factor (at nominal level)	< 0.1 % @ 1kHz
Output impedance	180 Ω

BS EN 54-16 approved Honeywell D1 **1293 – CPR – 0405 Rev.8**

Model: **Honeywell DCS2 Redundant**
Part no. 583502.RE

583503.RE | Fireman's Emergency Microphone (12 buttons) with Redundancy Option - DCSF12

Fully digital fireman's emergency call station with fist grip microphone and built-in loudspeaker for monitoring and previewing purposes, and intercom functions, available in an integrated housing and shall have the following features as a minimum:

- The unit shall include continuous acoustic monitoring of both the voice coil and microphone capsule.
- There shall be 12 freely programmable buttons, which can be individually labelled.
- There shall be 12 integrated and freely programmable LED display elements, including a combined operation and fault display.
- The control signals shall be transmitted digitally, as will all audio signals to and from the fireman's digital call station.
- The supply voltage shall be provided directly from the DAL bus.
- There shall be a fully redundant back up connection, allowing the fireman's digital call station to be connected to 2 Digital Output Modules (DOM's) simultaneously, providing a redundant back up path for the fireman's digital call station, in the event of a single cable or DOM failure.
- A 3 metre CAT5 standard connection cable for copper cabling shall be included as standard.

The fireman's digital call station shall be connected to the PA/VA system in star-shaped topology via fire rated CAT 5STP cable and an RJ45 socket (up to 300 metres distance), and shall have the following optional connections:

- Optional fire rated fibre optic connection for distances up to 2,000 metres.
- RJ12 socket for connection to up to 6 DKM18 expansion modules via daisy chain.

TECHNICAL SPECIFICATIONS:

Microphone	Fist grip microphone, cardioid characteristic
Frequency range	200 Hz -12.5 kHz
Loudspeaker - power	1 W
Sample rate	48 kHz
AD/DA converter	24 Bit
Max. power consumption	150 mA
Housing	Grey Metal (Similar to RAL 7037)
Ambient temperature range	-5 °C to +55 °C
Relative humidity	15% to 90%
Weight	approx. 1.6 Kg
Dimensions (W x H x D)	123 mm x 71 mm x 180 mm

BS EN 54-16 approved Honeywell D1 **1293 – CPR – 0405 Rev.8**

Model: **Honeywell DCSF12** **Part no. 583503.RE**

583506 | Fireman's Emergency Microphone Extension Module – DKM18

Digital keypad extension module for the digital fireman's emergency call station shall provide the extension of 18 extra freely programmable buttons that can be labelled, as well as having 18 LED display elements. Digital transmission of control signals to the digital call station. The keyboard module will be supplied with 24 V DC directly from the host digital call station.

TECHNICAL SPECIFICATIONS:

Ambient temperature range	-5 °C to +55 °C
Relative humidity	15% to 90%
Weight	approx. 1.6 Kg
Dimensions (W x H x D)	123 mm x 71 mm x 180 mm

BS EN 54-16 approved Honeywell D1 **1293 – CPR – 0405 Rev.8**

Model: **Honeywell DKM18 Part no. 583506**

583504.RE | Fireman's Emergency Microphone – Single Button / All Call

Fully digital fireman's emergency call station with fist grip microphone and built-in loudspeaker for monitoring and previewing purposes, and intercom functions, available in an integrated housing and shall have the following features as a minimum:

- The unit shall include continuous acoustic monitoring of both the voice coil and microphone capsule.
- There shall be a single, freely programmable button, which can be individually labelled.
- There shall be 2 integrated and 1 freely programmable LED display elements, including a combined operation and fault display.
- The control signals shall be transmitted digitally, as will all audio signals to and from the fireman's digital call station.
- The supply voltage shall be provided directly from the DAL bus.
- There shall be a fully redundant back up connection, allowing the fireman's digital call station to be connected to 2 Digital Output Modules (DOM's) simultaneously, providing a redundant back up path for the fireman's digital call station, in the event of a single cable or DOM failure.
- A 3 metre CAT5 standard connection cable for copper cabling shall be included as standard.

The fireman's digital call station shall be connected to the PA/VA system in star-shaped topology via fire rated CAT 5STP cable and an RJ45 socket (up to 300 metres distance), and shall have the following optional connections:

- Optional fire rated fibre optic connection for distances up to 2,000 metres.
- RJ12 socket for connection to up to 6 DKM18 expansion modules via daisy chain.

TECHNICAL SPECIFICATIONS:

Microphone	Fist grip microphone, cardioid characteristic
Frequency range	200 Hz -12.5 kHz
Loudspeaker - power	1 W
Sample rate	48 kHz
AD/DA converter	24 Bit
Max. power consumption	150 mA
Ambient temperature range	-5 °C to +55 °C
Relative humidity	15% to 90%
Weight	approx. 1.6 Kg
Dimensions (W x H x D)	123 mm x 71 mm x 180 mm

BS EN 54-16 approved Honeywell D1 **1293 – CPR – 0405 Rev.8**

Model: **Honeywell DCSF1 Part no. 583504.RE**

584961| Protective Cabinet for 1 x DSCF Fireman's Emergency Microphone

Glass-fronted protective cabinet for installation of a DCSF-series fireman's emergency microphone to protect the emergency microphone from being used for non-emergency functions, according to BS 5839-8 18.5a and 18.7 which shall have the following features:

- The cabinet shall be powder-coated in red.
- The door shall have a viewing window with acrylic glass cover, measuring 180 x 120 mm.
- The cabinet shall have a key lock cylinder to prevent unauthorised access to the fireman's microphone.
- The cabinet shall have an internal mounting plate for installation of the fireman's microphone.
- There shall be three cable entries on the rear panel of the cabinet.
- There shall be one cable entry on the right hand side panel and another on the left hand side panel.
- There shall be a further two cable entries on the top of the cabinet and two more on the bottom.
- There shall be a mounting bracket for the optional fibre-optic cable converter within the housing.

TECHNICAL SPECIFICATIONS:

Colour	red, similar to RAL 3000
Protection rating	IP 30
Weight	4.8 kg
Dimensions (W x H x D)	350 x 265 x 100 mm

Model: **Honeywell DCSF Cabinet**
Part no. 584961

584962 | Protective Cabinet for DSCF Fireman's Microphone c/w DKM18

Glass-fronted protective cabinet for installation of a DCSF-series fireman's emergency microphone along with a DKM18 extension, to protect the emergency microphone from being used for non-emergency functions, according to BS 5839-8 18.5a and 18.7 which shall have the following features:

- The cabinet shall be powder-coated in red.
- The door shall have dual viewing windows, each with an acrylic glass cover measuring 180 x 120 mm.
- The cabinet shall have a key lock cylinder to prevent unauthorised access to the fireman's microphone.
- The cabinet shall have an internal mounting plate for installation of the fireman's microphone & DKM18
- There shall be six cable entries on the rear panel of the cabinet.
- There shall be two cable entries on the right hand side panel and another two on the left hand side panel.
- There shall be a further two cable entries on the top of the cabinet and two more on the bottom.
- There shall be a mounting bracket for the optional fibre-optic cable converter within the housing.

TECHNICAL SPECIFICATIONS:

Colour	red, similar to RAL 3000
Protection rating	IP 30
Weight	8.4 Kg
Dimensions (W x H x D)	350 x 500 x 100 mm

Model:	**Honeywell DCSF Double Cabinet** **Part no. 584962**

Fibre Optic Converters for Remote Digital Call Stations:

Components for connecting Digital Call Stations and/or Universal Interface Modules remotely away from the PA/VA system, via multimode fibre-optic cables.
This enables a remote DCS and/or UIM connection of up to 2,000 metres away from the DOM.

583316.21 | Fibre Optic Converter from DOM (transmission end)

The fibre optic cable shall be connected to the DAL bus of a DOM module via a fibre optic converter that is powered by the DOM module over the DAL bus.

TECHNICAL SPECIFICATIONS:

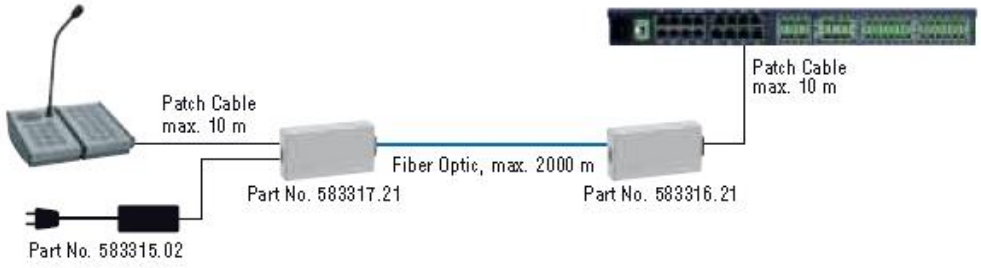
Fibre-optic cable requirements:	
Wavelength λ	1,308 nm
Range	up to 2,000 m
Recommended fibre type	Multimode λ =1,310 nm 50/125 µm OM2 62.5/125 µm OM3
FOC connector	Duplex SC
BS EN 54-16 approved Honeywell D1	**1293 – CPR – 0405 Rev.8**
Model:	**Honeywell FOC from DAL on DOM** **Part no. 583316.21**

583317.21 | Fibre Optic Converter to DCS / UIM (receiving end)

The fibre optic cable shall be connected to the DAL bus of a Digital Call Station or Universal Interface Module. The Fibre optic component is powered by the separate PSU 583315.02.

TECHNICAL SPECIFICATIONS:

Fibre-optic cable requirements:	
Wavelength λ	1,308 nm
Range	up to 2,000 m
Recommended fibre type	Multimode λ =1,310 nm 50/125 µm OM2 62.5/125 µm OM3
FOC connector	Duplex SC
BS EN 54-16 approved Honeywell D1	**1293 – CPR – 0405 Rev.8**
Model:	**Honeywell FOC to DAL on DCS / UIM** **Part no. 583317.21**



583315.02 | Power Supply Unit for the Fibre Optic Converter

Power supply unit without emergency power supply for fibre-optic cable – 583316.21 or 583317.21 for non-safety-related applications.

Model: Honeywell PSU for FOC (non EN 54)
Part no. 583317.21

Interfaces:

The Voice Alarm system shall have the capability of providing the following interfacing options as a minimum:

583331.21 | Universal Interface Module

Interface module for connecting two analogue audio inputs, two analogue audio outputs, and 48 control contacts.

- The two audio inputs shall both be asymmetrical (Phono) and symmetrical (XLR-f).
- The two audio outputs shall both be asymmetrical (Phono) and symmetrical (XLR-m).
- The 48 control contacts shall be set via software configurations in any combination, as potential input contacts and/or output contacts; eight shall be capable of being fully monitored.
- The control signals shall be transmitted digitally, as will all audio signals to and from the PA/VA system.
- The supply voltage shall be directly from the DAL bus.

Display

- A green POWER LED
- A yellow FAULT LED
- 4 green SIGNAL LEDs for signalling potential audio modulation.

TECHNICAL SPECIFICATIONS:

Audio inputs

Nominal level	0 dBu
Max. Level	+6 dBu
Frequency range	20 Hz to 22 kHz
Signal-to-noise ratio	> 95 dB
Distortion factor (at nominal level)	< 0.05 %
Input impedance XLR socket	100 kΩ, symmetrical, potential-free
Output impedance Phono socket	1 kΩ, asymmetrical, potential-free

Audio outputs

Nominal level	0 dBu
Frequency range	20 Hz to 22 kHz
Signal-to-noise ratio	> 85 dB
Distortion factor (at nominal level)	< 0.05 %
Output impedance XLR socket	200 Ω, symmetrical, potential-free
Output impedance Phono socket	200 Ω, asymmetrical, potential-free

Control contacts

Input contact

Max. Input voltage	+36 V DC

Output contact

Contact rating	36 V DC / 50 mA
Short-circuit proof for +24V	1 s
Ambient temperature range	-5 °C to +55 °C
Relative humidity	15% to 90%

BS EN 54-16 approved Honeywell D1 **1293 – CPR – 0405 Rev.8**

Model: **Honeywell UIM** **Part no. 583331.21**

583341.21 | Contact Interface Module

Interface module for connecting eight control contacts.

- The eight control contacts shall be set via software configurations in any combination as potential input contacts and/or output contacts; four shall be capable of being fully monitored.
- The control signals shall be transmitted digitally.
- The supply voltage shall be via the TWI (two wire interface) input on the DOM.

TECHNICAL SPECIFICATIONS:

Control contacts

Input contact

Max. Input voltage	+36 V DC

Output contact

Contact rating	36 V DC / 50 mA
Short-circuit proof for +24V	1 s
Ambient temperature range	-5 °C to +55 °C
Relative humidity	15% to 90%

BS EN 54-16 approved Honeywell D1 **1293 – CPR – 0405 Rev.8**

Model: **Honeywell CIM** **Part no. 583341.21**

583386.21 | Two Wire Interface – PA/VA and Fire Alarm Integration Module

The TWI - RS232 adapter shall be used to convert the TWI buses to RS232.

- The TWI shall be used for the connection of an external Fire Alarm system (e.g. Gent Vigilon Plus / Notifier ID3000)
- The TWI shall be used for specific maintenance purposes.
- The TWI - RS232 adapter shall be connected either directly to the DOM, or via the supplied CAT5 cable (depending on the hardware).

BS EN 54-16 approved Honeywell D1 **1293 – CPR – 0405 Rev.8**

Model: **Honeywell TWI** **Part no. 583386.21**

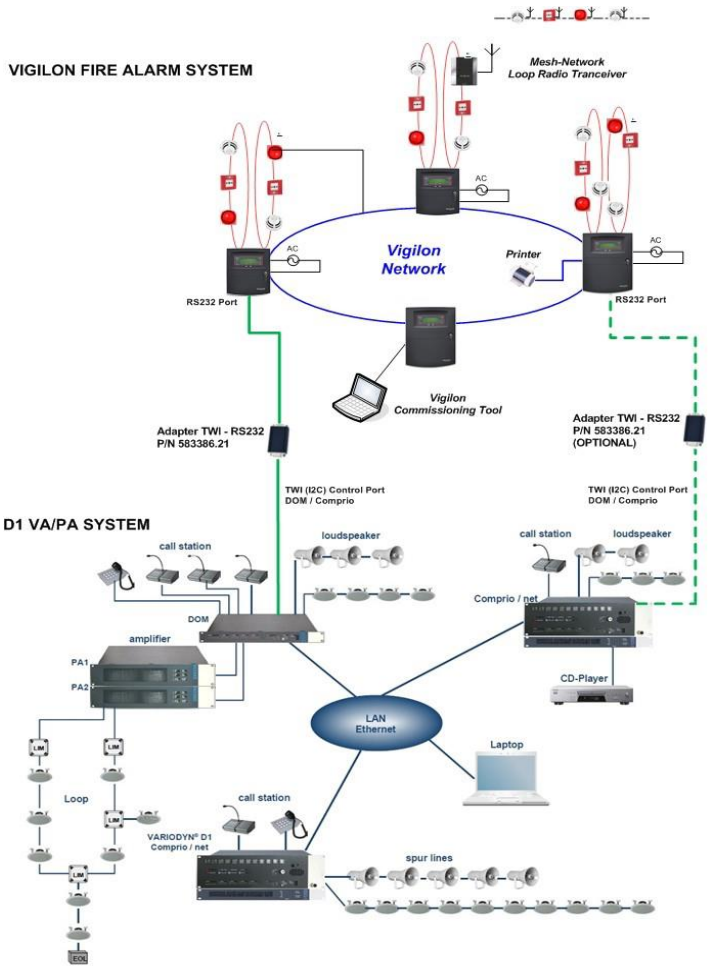
Fire Alarm Integration (Gent Only)

- It shall be possible to connect the PA/VA system control and indicating equipment (CIE) directly to the site Fire Detection & Alarm CIE, via a secure, dual redundant signal path.
- The connection shall be made utilising the TWI adapter, providing serial connection between a DOM and a Fire Detection & Alarm control panel.
- The connection between the PA/VA system and the Fire Detection & Alarm control panel shall be fully monitored and meet the requirements of BS EN 54-16 and BS 5839-8:2013.
- Loss of the connection between a DOM and Fire Detection & Alarm control panel shall indicate a fault condition on both the PA/VA and Fire Detection & Alarm systems.
- In order to ensure system integrity, it shall be possible to connect the PA/VA and the Fire Detection & Alarm systems at two separate points within the building, providing a fully redundant critical signal path, so that should a single connection fail, the other will still be operational with no loss of the life safety system's functionality. For example, connections would be made between two separate PA/VA DOMs to two separate Fire Detection & Alarm panels.

The cause and effects in the event of an emergency, shall be transferred from the Fire Detection & Alarm system via the TWI serial link, to the PA/VA system, without the need of deploying additional interface modules within the PA/VA equipment racks.

Cause and effect changes shall be made via the Fire Detection & Alarm, and the PA/VA systems' commissioning tools, and deployed / controlled via software only.

Typical connections shall be as illustrated below:



Amplifiers:

The Voice Evacuation system shall be supplied with Class D digital power amplification meeting the following as a minimum:

580242 | Power Amplifier 4 x 125 W / 100 V, Class D, Integrated Battery Charger

Power amplifier class D with four independent 125 watts, electrically isolated amplifier channels, integrated battery charger and shall have the following characteristics:

- It shall be possible to deliver maximum possible power under overload or overdrive condition to maintain intelligibility of voice messages.
- There shall be micro-controller based extensive self-monitoring and control.
- There shall be temperature management with variable speed fan assisted cooling, with airflow from front to back of device.
- Each channel shall have independent protection against overdrive, overload and overheating.
- It shall be possible to configure one amplifier channel as a backup channel.
- There shall be a LED status display per channel for POWER, SIGNAL LOW, SIGNAL HIGH, CLIP and ERROR.
- There shall be a LED status display for MAINS POWER, BATTERY POWER, CPU STATUS and SYSTEM FAULT.
- There shall be fully balanced audio inputs and control via Cat 5 cable with RJ45 connector.
- There shall be 100 V outputs via pre-assembled system cable, lockable.
- There shall be an integrated battery charger certified to BS EN 54-4, capable of charging up to 24 V 65 A/h battery pack.
- There shall be temperature compensated battery charging via an externally mounted temperature sensor.
- There shall be two independent 24 V DC power outputs to power the PA/VA controller or accessories.
- There shall be a CAN bus interface for service purposes.
- The unit shall be only 1U in height.

TECHNICAL SPECIFICATIONS:

Rated output power (mains or battery powered)	4 x 125 W
Efficiency	>80% typical
Current consumption (mains power)	0.26 A (idle, all channels enabled)
	2.95 A (full power on all channels)
Power consumption (battery power)	5 W (idle, all channels disabled)
	21 W (idle, all channels enabled)
	636 W (full power on all channels)
Nominal voltage	230 V AC, +10% -15%
Nominal frequency	50 to 60 Hz
Emergency power supply	21.5 V to 28.5 V DC, provided via integrated battery charger (no external PSU required)
Functional principle	Class D, transformerless (direct-drive)
Frequency response at the rated power (±3 dB)	20 Hz to 22 kHz
Signal-to-noise ratio, A-weighted	90 dB
Distortion factor (at max. level / 1 kHz)	< 0.3 %
Channel separation	> 75 dB
Input impedance (balanced)	> 20 kΩ
Input sensitivity	0 dBu for rated output power
Battery capacity and type	Lead-acid battery pack 24 V 38 A/h or 65 A/h

Battery charger current limit	3.4 A
Battery source impedance	0.2 Ω max.
DC power output voltage	19 V to 29.3 V DC
DC power output current	2.1 A +/- 0.1 A in total for both outputs or either output individually
Ambient temperature during operation	-5 °C to +55 °C
Relative air humidity	Up to 93%, non-condensing
Weight	9 kg
Dimensions (W x H x D)	1U Height, 483 mm x 45 mm x 400 mm

BS EN 54-16 approved Honeywell D1 **1293 – CPR – 0405 Rev.8**

Model: **Honeywell 4XD125B Part no. 580242**

580243 | Power Amplifier 4 x 250 W / 100 V, Class D, Integrated Battery Charger

Power amplifier class D with four independent 250 watts, electrically isolated amplifier channels, integrated battery charger and shall have the following characteristics:

- It shall be possible to deliver maximum possible power under overload or overdrive condition to maintain intelligibility of voice messages.
- There shall be micro-controller based extensive self-monitoring and control.
- There shall be temperature management with variable speed fan assisted cooling, with airflow from front to back of device.
- Each channel shall have independent protection against overdrive, overload and overheating.
- It shall be possible to configure one amplifier channel as a backup channel.
- There shall be a LED status display per channel for POWER, SIGNAL LOW, SIGNAL HIGH, CLIP and ERROR.
- There shall be a LED status display for MAINS POWER, BATTERY POWER, CPU STATUS and SYSTEM FAULT.
- There shall be fully balanced audio inputs and control via Cat 5 cable with RJ45 connector.
- There shall be 100 V outputs via pre-assembled system cable, lockable.
- There shall be an integrated battery charger certified to BS EN 54-4, capable of charging up to 24 V 105 A/h battery pack.
- There shall be temperature compensated battery charging via an externally mounted temperature sensor.
- There shall be two independent 24 V DC power outputs to power the PA/VA controller or accessories.
- There shall be a CAN bus interface for service purposes.
- The unit shall be only 2U in height.

TECHNICAL SPECIFICATIONS:

Rated output power (mains or battery powered)	4 x 250 W
Efficiency	>80% typical
Current consumption (mains power)	0.26 A (idle, all channels enabled)
Power consumption (battery power)	6.2 A (full power on all channels) 6 W (idle, all channels disabled) 33 W (idle, all channels enabled) 1284 W (full power on all channels)
Nominal voltage	230 V AC, +10% -15%
Nominal frequency	50 to 60 Hz

Emergency power supply	21.5 V to 28.5 V DC, provided via integrated battery charger (no external PSU required)
Functional principle	Class D, transformerless (direct-drive)
Frequency response at the rated power (±3 dB)	20 Hz to 22 kHz
Signal-to-noise ratio, A-weighted	90 dB
Distortion factor (at max. level / 1 kHz)	< 0.3 %
Channel separation	> 75 dB
Input impedance (balanced)	> 20 kΩ
Input sensitivity	0dBu for rated output power
Battery capacity and type	Lead-acid battery pack 24 V 65 A/h or 105 A/h
Battery charger current limit	6.5 A
Battery source impedance	0.12 Ω max.
DC power output voltage	19 V to 29.3 V DC
DC power output current	2.1 A +/- 0.1 A in total for both outputs or either output individually
Ambient temperature during operation	-5 °C to +55 °C
Relative air humidity	Up to 93%, non-condensing
Weight	12 kg
Dimensions (W x H x D)	2U Height, 483 mm x 90 mm x 400 mm
BS EN 54-16 approved Honeywell D1	**1293 – CPR – 0405 Rev.8**
Model:	**Honeywell 4XD250B Part no. 580243**

583536 | Parallel Mode Adaptor

The Parallel Mode Adaptor can combine channels of the 4XD125B or 4XD250B amplifiers to double the power output per channel via a Digital Output Module, providing the flexibility to increase the power output without the need of installing additional amplification. Where used, the power can be increased as follows:

Amplifier type	Channels Used	Output with Parallel Mode Adaptor
4x125B (580242)	2	250 W
4x250B (580243)	2	500 W

BS EN 54-16 approved Honeywell D1	**1293 – CPR – 0405 Rev.8**
Model:	**Honeywell PMA Part no. 583536**

580248 | Power Amplifier 4 x 300 W / 100 V, Class D, 24 V DC

Power amplifier class D with four independent 300 watts, electrically isolated amplifier channels and shall have the following characteristics:

- There shall be an inrush current limiter and the unit shall be capable of a soft start.
- There shall be a built-in fan with temperature controlled rotation speed control with airflow from the front, to the back of the device.

- There shall be a LED status display per channel for POWER, SIGNAL, CLIP, and ERROR.
- There shall be a LED status display for AC POWER and DC POWER.
- There shall be an emergency power supply via 24 V DC.
- There shall be symmetrical audio inputs and control via Cat 5 cable with RJ45 connector.
- There shall be 100 V outputs via pre-assembled system cable, lockable.
- The unit shall be only 2U in height.

TECHNICAL SPECIFICATIONS:

Nominal output power (sin.)	4 x 300 W
Efficiency	80%
Current consumption	9.7 A
Power consumption in stand-by mode	0.5 VA (disconnected from mains)
Nominal voltage	230 V AC
Nominal frequency	50 to 60 Hz, +10 %/-5 %
Emergency power supply	24 V DC
Functional principle	Class D
Transmission frequency band (-1 dB)	20 Hz to 22 kHz
Signal-to-noise ratio, unweighted	> 100 dB
Distortion factor (at max. level / 1 kHz)	< 0.02 %
Channel separation	> 92 dB
Input impedance	> 20 kΩ, el. symmetrical
Ambient temperature during operation	-5 °C to +55 °C
Relative air humidity	40% to 93%, non-condensing
Weight	14 kg
Dimensions (W x H x D)	2U Height, 483 mm x 90 mm x 400 mm

BS EN 54-16 approved Honeywell D1 **1293 – CPR – 0405 Rev.8**

Model: **Honeywell 4XD300 Part no. 580248**

580249 | Power Amplifier 4 x 500 W / 100 V, Class D, 24 V DC

Power amplifier class D with four independent 500 watts, electrically isolated amplifier channels and shall have the following characteristics:

- There shall be an inrush current limiter and the unit shall be capable of a soft start.
- There shall be a built-in fan with temperature controlled rotation speed control with airflow from the front, to the back of the device.
- There shall be a LED status display per channel for POWER, SIGNAL, CLIP, and ERROR.
- There shall be a LED status display for AC POWER and DC POWER.
- There shall be an emergency power supply via 24 V DC.
- There shall be symmetrical audio inputs and control via Cat 5 cable with RJ45 connector.
- There shall be 100V outputs via pre-assembled system cable, lockable.
- The unit shall be only 2U in height.

Nominal output power (sin.)	4 x 500 W
Efficiency	80%
Current consumption	15.0 A
Power consumption in stand-by mode	0.5 VA (disconnected from mains)
Nominal voltage	230 V AC
Nominal frequency	50 to 60 Hz, +10 %/-5 %
Emergency power supply	24 V DC
Functional principle	Class D
Transmission frequency band (-1 dB)	20 Hz to 22 kHz
Signal-to-noise ratio, unweighted	> 100 dB
Distortion factor (at max. level / 1kHz)	< 0.02 %
Channel separation	> 92 dB
Input impedance	> 20 kΩ, el. symmetrical
Ambient temperature during operation	-5 °C to +55 °C
Relative air humidity	40% to 93%, non-condensing
Weight	14 kg
Dimensions (W x H x D)	2U Height, 483 mm x 90 mm x 400 mm
BS EN 54-16 approved Honeywell D1	**1293 – CPR – 0405 Rev.8**
Model:	**Honeywell 4XD500 Part no. 580249**

Network Fibre Optic Components:

583392 | Ethernet Multimode Fibre Optic Switch for Ring Topologies

Ethernet multimode fibre optic switch for setting up an Ethernet network in ring topology, for voice alarm systems.
The network shall be fully redundant due to the ring topology, therefore communication can be maintained from the other direction of the ring, in the event of a damaged fibre within the cable. Furthermore, each switch has shall have two operating voltage inputs (24 V DC) and a relay for forwarding a fault.

The unit shall be suitable for multimode fibres; 50 / 125µm and 62.5 / 125µm and shall include the following performance features:

- There shall be 6 Ethernet connections.
- There shall be a relay for forwarding a fault alarm, with a contact rating of 24 V DC / 1 A
- There shall be 2 duplex SC FOC connections

Standards

- IEEE 802.3 10 Base-T
- IEEE 802.3u 100 Base-TX/FX
- IEEE 802.1p Priority Support
- IEEE 802.1d Spanning Tree Protocol
- IEEE 802.1w Rapid Spanning Tree
- IEEE 802.1q VLAN Tagging

TECHNICAL SPECIFICATIONS:

Operational voltage	12 - 48 V DC
Power consumption	6 W
Transmission rate	14.880 pps with Ethernet port

	148.800 pps with fast Ethernet port
Transmission distance	(FOC) to 2 km (multimode)
Ambient temperature	0 °C... 60 °C
Protection rating	IP 30 (housing)
Dimensions:	(W x H x D) 54 x 135 x 105 mm

BS EN 54-16 approved Honeywell D1

1293 – CPR – 0405 Rev.8

Model:

Honeywell Multimode FO Switch
Part no. 583392

Accessories:

583496 | End Of Line Module

The End Of Line module is for terminating loudspeaker lines for standard-compliant monitoring for short circuits or interruptions, independent of the number of loudspeakers connected per line and independent of the loudspeaker line topology, and shall have the following features:

- It shall be a terminating element for 100 V loudspeaker line with 2-wire technology.
- It shall have different connection options for optimal line adaptation (3 connections).
- The module shall be sealed and have optimal protection against moisture.

BS EN 54-16 approved Honeywell D1 **1293 – CPR – 0405 Rev.8**

Model: **Honeywell EOL** **Part no. 583496**

AVC Accessories:

581316 | Dynamic Microphone (Ambient Noise Sensor)

Dynamic microphone with cardioid-like directional characteristic with an integrated tripod mount and a clamp mounting option, for defining the room acoustics for automatic volume control.

TECHNICAL SPECIFICATIONS:

Directional characteristic	Cardioid
Frequency response	60 Hz - 18 kHz
Transmission factor	2.5 mV / Pa
Impedance	200 Ohm

Model: **Honeywell Dynamic Microphone for AVC**
Part no. 581316

Ancillary Devices for Public Address Systems:

X-MAP04 | Multimedia Player

The multimedia audio device shall have an integrated DVD drive (which also supports CDs), an MP3 player and an FM / AM tuner, as well as a USB / SD card interface. The device shall support two modes of operation and include the following characteristics:

- Operation Mode 1: DVD / USB / SD and FM / AM tuner can be operated simultaneously via two separate ports.
- Operation Mode 2: DVD / USB / SD and FM / AM tuner can be switched.
- The selected signal shall be transmitted via a joint audio output.
- The player shall support DVD video & JPEG playback.
- The audio player shall be capable of 24-hour operation.
- There shall be two independent audio outputs for DVD / USB / SD and FM / AM Tuner.
- It shall be possible for two independent volumes to be set.
- There shall be one phono socket for AM / FM output, one phono socket for DVD
- The audio player shall be 1U in height and sit in the 19” rack.

TECHNICAL SPECIFICATIONS:

FM tuner

Frequency range	87.5 MHz - 108 MHz
Sensitivity	30 dB
Signal-to-noise ratio	> 60 dB

AM tuner

Frequency range	522 kHz - 1620 kHz
Sensitivity	30 dB
Signal-to-noise ratio	> 50 dB

DVD / CD / Audio player

Frequency response	20 Hz - 20 kHz

Signal-to-noise ratio	> 80 dB
Channel separation	> 75 dB
Harmonic distortion	< 0.05 %

Common technical data

Rated voltage	230 V AC
Power consumption	13 W

Model:	**Honeywell Multimedia Player** **Part no. X-MAP04**

Emergency Power Supplies & Batteries:

581722 | Emergency Power Supply Unit for PA/VA System V-2

The emergency power supply (PSU) shall be certified to BS EN 54-4 / A2. The battery charging current must be compliant with BS EN 54-4 / A2 and the power supply should also have a battery bulk charging function implemented. The PSU voltage shall be balanced for each battery circuit to make sure that the batteries' lifetimes are extended to their optimum potential. It shall be possible for the PSU to be programmed with the battery cable diameter and length in order to set the resistance values upon commissioning.

PC communication via a USB on the PSU is mandatory for system configuration and current status feedback.

The power supply unit shall also have the following characteristics:

- The fuses shall be continuously monitored.
- The battery charge power shall be continuously monitored.
- The battery charge status shall be continuously monitored.
- The battery circuit resistances shall be automatically tested every 2 minutes, as a minimum and measured with a reading output in mΩ.
- It shall measure the output current value and the current of each connected battery circuit.
- There shall be LEDs for mains, battery & consumer load.
- There shall be a continuously monitored temperature sensor.
- There shall be potential-free contacts for transmission of fault messages.
- There shall be 8 individually fused outputs for connections to amplifiers.
- There shall be 2 fused outputs for control devices.
- There shall be the capacity to charge up to two independent 2 x 12 V / 150 Ah battery sets.
- There shall be an overall battery charging capacity of up to 320 Ah.
- There shall be a maximum output current of 180 A in the event of an emergency power supply requirement.
- It shall be 1U in height and be installed in the Honeywell D1 19" PA/VA rack.

TECHNICAL SPECIFICATIONS:

Rated voltage	230 V AC
Rated frequency	50 – 60 Hz
Battery capacity	maximum 320 Ah
Output current	maximum 186 A
Ambient temperature	-5 °C to +40 °C
Storage temperature	-40 °C to +85 °C
Weight	5.2 Kg
Dimensions (W x H x D)	1U, 483 mm x 45 mm x 328 mm

Model: **Honeywell PSU 24 V-2** **Part no. 581722**

581723 | Emergency Power Supply Unit for PA/VA System V-4

The emergency power supply (PSU) shall be certified to BS EN 54-4 / A2. The battery charging current must be compliant with BS EN 54-4 / A2 and the power supply should also have a battery bulk charging function implemented. The PSU voltage shall be balanced for each battery circuit to make sure that the batteries lifetimes are extended to their optimum potential. It shall be possible for the PSU to be programmed with the battery cable diameter and length in order to set the resistance values upon commissioning.

PC communication via a USB on the PSU is mandatory for system configuration and current status feedback.

The power supply unit shall also have the following characteristics:

- The fuses shall be continuously monitored.
- The battery charge power shall be continuously monitored.
- The battery charge status shall be continuously monitored.
- The battery circuit resistances shall be automatically tested every 2 minutes, as a minimum and measured with a reading output in mΩ.
- It shall measure the output current value and the current of each connected battery circuit.
- There shall be LEDs for mains, battery & consumer load.
- There shall be a continuously monitored temperature sensor.
- There shall be potential-free contacts for transmission of fault messages.
- There shall be 8 individually fused outputs for connections to amplifiers.
- There shall be 2 fused outputs for control devices.
- There shall be the capacity to charge up to four independent 2 x 12 V / 150 Ah battery sets.
- There shall be an overall battery charging capacity of up to 640 Ah.
- There shall be a maximum output current of 180 A in the event of an emergency power supply requirement.
- It shall be 2U in height and be installed in the Honeywell D1 19” PA/VA rack.

TECHNICAL SPECIFICATIONS:

Rated voltage	230 V AC
Rated frequency	50 – 60 Hz
Battery capacity	maximum 640 Ah
Output current	maximum 372 A
Ambient temperature	-5 °C to +40 °C
Storage temperature	-40 °C to +85 °C
Weight	8.5 Kg
Dimensions (W x H x D)	2U, 483 mm x 90 mm x 328 mm

Model: **Honeywell PSU 24 V-4** **Part no. 581723**

RB170 | 12 V 17 Ah Battery for PA/VA Emergency PSU (Must be used in pairs)

Lead-free emergency power battery, for use with PA/VA emergency power supplies. The battery shall have terminals on the front and shall be optimised for use in 19" rack cabinets. They shall be used in pairs.

TECHNICAL SPECIFICATIONS:

Battery capacity	17 Ah
Voltage	12 V DC
Dimensions (W x H x D)	75 mm x 66 mm x 80 mm
Weight	6 Kg

Model: **Honeywell 12 V / 17 Ah Battery** **Part no. RB170**

RB380 | 12 V 38 Ah Battery for PA/VA Emergency PSU (Must be used in pairs)

Lead-free emergency power battery, for use with PA/VA emergency power supplies. The battery shall have terminals on the front and shall be optimised for use in 19" rack cabinets.

TECHNICAL SPECIFICATIONS:

Battery capacity	38 Ah
Voltage	12 V DC
Dimensions (W x H x D)	210 mm x 185 mm x 200 mm
Weight	14 Kg

Model: **Honeywell 12 V / 38 Ah Battery** **Part no. RB380**

581732 | 12 V 65 Ah Battery for PA/VA Emergency PSU (Must be used in pairs)

Lead-free emergency power battery, for use with PA/VA emergency power supplies. The battery shall have terminals on the front and shall be optimised for use in 19" rack cabinets.

TECHNICAL SPECIFICATIONS:

Battery capacity	65 Ah
Voltage	12 V DC
Dimensions (W x H x D)	348 mm x 178 mm x 167 mm
Weight	22 Kg

Model: **Honeywell 12 V / 65 Ah Battery** **Part no. 581732**

581730 | 12 V 105 Ah Battery for PA/VA Emergency PSU (Must be used in pairs)

Lead-free emergency power battery, for use with PA/VA emergency power supplies. The battery shall have terminals on the front and shall be optimised for use in 19" rack cabinets.

TECHNICAL SPECIFICATIONS:

Battery capacity	105 Ah
Voltage	12 V DC
Dimensions (W x H x D)	508 mm x 110 mm x 239 mm
Weight	32.5 Kg

Model: **Honeywell 12 V / 105 Ah Battery** **Part no. 581730**

581731 | 12 V 150 Ah Battery for PA/VA Emergency PSU (Must be used in pairs)

Lead-free emergency power battery, for use with PA/VA emergency power supplies. The battery shall have terminals on the front and shall be optimised for use in 19" rack cabinets.

TECHNICAL SPECIFICATIONS:

Battery capacity	150 Ah
Voltage	12 V DC
Dimensions (W x H x D)	552 mm x 110 mm x 288 mm
Weight	46.5 Kg

Model: **Honeywell 12 V / 150 Ah Battery** **Part no. 581731**

Graphical User Interface for D1 PA/VA System – PAMMI:

The PC call station is used to easily address zones, preview & transmit voice announcements, and input and display text messages. It shall be operated by means of a graphical user interface which displays the individual object with the loudspeaker or display zones. The application shall also be capable of being used by means of a touch screen. A DCS call station will be required for voice announcements. PAMMI can be services and controlled from multiple locations.

Functions

- Full-screen application, suitable for use via touch screen.
- Customizable to show lists, building layout plans, or bespoke graphical representation of site.
- Graphical view (e.g. building layout) for zone selection and status display.
- Zone display in table form with selection and status display.
- LIVE announcements via PTT (press to talk) button on screen or call station.
- Record, preview and transmit announcements.
- Status display for each zone – assigned or fault.
- Several PC call stations on one TCP/IP LAN.
- Project-specific “Help” function.
- Client Server architecture.
- Server computer in redundant design with automatic capability.
- Interface to AVIAVOX possible.
- Interface to SCADA (depending on manufacturer).
- Interface with various display systems (manufacturer specific).
- Interface to radio and telephone via DTMF.
- Graphical representation and overview of zones + zone prefixes.
- Display of occupied zones.
- Setting off of standard texts / alarms (in connection with a SCU).
- Audio database for announcements.
- Composition of automatic announcements e.g. "Flight – BA1465 - to London Heathrow - is ready for boarding".
- Input text messages for display view.
- Text display in conjunction with voice announcements.
- Time-controlled text display, in intervals or loops.
- Multiple languages with variables in different orders.
- Scheduler for specific timed broadcast of announcements (once, twice, daily, weekly etc.).
- BGM start / stop / volume up / volume down.
- Logging for announcements, error messages, alarms etc.
- Secure user administration against unauthorized access.
- Priority control.
- Pre-listen option to preview a pre-recorded or live message before broadcasting.
- Simple and convenient programming, commissioning and use via a Microsoft Windows® user interface.

583515 | Extron Media Control

The Voice Alarm System shall be capable of connecting to media control systems and touch link panels by Extron. The voice alarm system shall have available a driver whereby system connectivity can be made simply and conveniently.

Voice Alarm Loudspeakers – BS EN 54-24 Certified & BS 5839-8 Compliant:

100 Volt Ceiling Loudspeakers

LSC-506 | 6 Watt Ceiling Loudspeaker c/w Metal Rear Cover (5.5”)

The 6 Watt, 100 V, 5.5” recessed ceiling speaker shall have a certified declaration of performance certificate no. CPR-DoP-2013002, in accordance with BS EN 54-24, and in compliance with BS 5839-8 and shall have the following characteristics:

- There shall be a moisture proof 130 mm broadband loudspeaker chassis.
- There shall be an integrated ceramic terminal block and thermal fuse.
- There shall be a metal speaker housing with a white (RAL 9003) grille.
- There shall be a metal rear cover in red (RAL 3000), to protect the speaker cone and terminals.
- Mounting shall be via 2 spring-loaded snap locks with cranked leg springs, increased clamping strength and shorter tension interval.
- It shall be connected via a pressure terminal.
- There shall be four power input levels, set via adjustable tappings – 6 W, 3 W, 1.5 W or .75 W
- It shall comply with all RoHS standards.

TECHNICAL SPECIFICATIONS:

Electrical

Rated power	6 W
Tappings 100 V	6 / 3 / 1.5 / 0.75 Watts
Sensitivity BS EN 54-24 at 1 W / 1 m	91 dB
Frequency range (Hz)	180 Hz – 20 kHz
Dispersion angle (1 kHz / -6dB)	175°

Mechanical

Dimensions	Ø: 181 mm D: 129 mm
Hole cut-out size	(Ø min.) 155 mm
Speaker diameter	5.5”
Weight	1.29 Kg
Front grille colour	White (RAL 9003)
Rear cover colour (Dome)	Red (RAL 3000)
Thermal fuse	150° C
Operating temperature range	-25° C to +55° C
IP rating	IP 21

BS EN 54-24 certificate no. **0359/CPD/0138**

Model: Honeywell LSC-506 Part no. LSC-506

LSC-606 | 6 Watt Ceiling Loudspeaker c/w Metal Rear Cover (6.5”)

The 6 Watt, 100 V, 6.5” recessed ceiling speaker shall have a certified declaration of performance certificate no. CPR-DoP-2013002, in accordance with BS EN 54-24, and in compliance with BS 5839-8 and shall have the following characteristics:

- There shall be a moisture proof 165 mm broadband loudspeaker chassis.
- There shall be an integrated ceramic terminal block and thermal fuse.
- There shall be a metal speaker housing with a white (RAL 9003) grille.
- There shall be a metal rear cover in red (RAL 3000), to protect the speaker cone and terminals.
- Mounting shall be via 2 spring-loaded snap locks with cranked leg springs, increased clamping strength and shorter tension interval.
- It shall be connected via a pressure terminal.
- There shall be four power input levels, set via adjustable tappings – 6 W, 3 W, 1.5 W or .75 W
- It shall comply with all RoHS standards.

TECHNICAL SPECIFICATIONS

Electrical

Rated power	6 W
Tappings 100 V	6 / 3 / 1.5 / 0.75 Watts
Sensitivity BS EN 54-24 at 1 W / 1 m	91 dB
Frequency range (Hz)	170 Hz – 20 kHz
Dispersion angle (1 kHz / -6dB)	170°

Mechanical

Dimensions	Ø: 222 mm D: 129 mm
Hole cut-out size	(Ø min.) 195 mm
Speaker diameter	6.5”
Weight	1.57 Kg
Front grille colour	White (RAL 9003)
Rear cover colour (Dome)	Red (RAL 3000)
Thermal fuse	150° C
Operating temperature range	-25° C to +55° C
IP rating	IP 21

BS EN 54-24 certificate no. **0359/CPD/0138**

Model: **Honeywell LSC-606 Part no. LSC-606**

LSC-606/DC | 6 Watt Ceiling Loudspeaker c/w Metal Rear Cover with DC Blocking Capacitor (6.5”)

The 6 Watt, 100 V, 6.5” recessed ceiling speaker with DC blocking capacitor shall have a certified declaration of performance certificate no. CPR-DoP-2013002, in accordance with BS EN 54-24, and in compliance with BS 5839-8 and shall have the following characteristics:

- There shall be a moisture proof 165 mm broadband loudspeaker chassis.
- There shall be an integrated ceramic terminal block and thermal fuse.
- There shall be a metal speaker housing with a white (RAL 9003) grille.
- There shall be a metal rear cover in red (RAL 3000), to protect the speaker cone and terminals.
- Mounting shall be via 2 spring-loaded snap locks with cranked leg springs, increased clamping strength and shorter tension interval.
- It shall be connected via a pressure terminal.
- There shall be four power input levels, set via adjustable tappings – 6 W, 3 W, 1.5 W or .75 W
- There shall be a 2.2uF DC blocking capacitor
- It shall comply with all RoHS standards.

TECHNICAL SPECIFICATIONS:

Electrical

Rated power	6 W
Tappings 100 V	6 / 3 / 1.5 / 0.75 Watts
Sensitivity BS EN 54-24 at 1 W / 1 m	91 dB
Frequency range (Hz)	170 Hz – 20 kHz
Dispersion angle (1 kHz / -6dB)	170°

Mechanical

Dimensions	Ø: 222 mm D: 129 mm
Hole cut-out size	(Ø min.) 195 mm
Speaker diameter	6.5”
Weight	1.57 Kg
Front grille colour	White (RAL 9003)
Rear cover colour (Dome)	Red (RAL 3000)
Thermal fuse	150° C
DC blocking capacitor	2.2 uF
Operating temperature range	-25° C to +55° C
IP rating	IP 21

BS EN 54-24 certificate no. **0359/CPD/00138**

Model: **Honeywell LSC-606/DC** **Part no. LSC-606/DC**

582480 | 24 Watt Coaxial 2-Way Ceiling Loudspeaker c/w Metal Rear Cover (6.5”)

The 24 Watt, 100 V, 6.5” recessed coaxial 2-way ceiling speaker features excellent sound quality. It has a broad frequency response and offers a high sound pressure level. It shall have a certified declaration of performance certificate no. CPR-DoP-2014004, in accordance with BS EN 54-24, and in compliance with BS 5839-8 and shall have the following characteristics:

- There shall be a two-way loudspeaker which has a tweeter mounted in front of a woofer.
- There shall be a moisture proof 165 mm broadband loudspeaker chassis.
- There shall be an integrated ceramic terminal block and thermal fuse.
- There shall be a metal speaker housing with a white (RAL 9003) grille.
- There shall be a metal rear cover in red (RAL 3000), to protect the speaker cone and terminals.
- Mounting shall be via 2 spring-loaded snap locks with cranked leg springs, increased clamping strength and shorter tension interval.
- It shall be connected via a pressure terminal.
- There shall be four power input levels, set via adjustable tappings – 24 W, 12 W, 6 W or 3 W
- It shall comply with all RoHS standards.

TECHNICAL SPECIFICATIONS:

Electrical

Rated power	24 W
Tappings 100 V	24 / 12 / 6 / 3 Watts
Sensitivity BS EN 54-24 at 1 W / 1 m	91 dB
Frequency range (Hz)	120 Hz – 20 kHz
Dispersion angle (1 kHz / -6dB)	165°

Mechanical

Dimensions	Ø: 226 mm D: 129 mm
Hole cut-out size	(Ø min.) 195 mm
Speaker diameter	6.5”
Weight	2.25 Kg
Front grille colour	White (RAL 9003)
Rear cover colour (Dome)	Red (RAL 3000)
Thermal fuse	150° C
Operating temperature range	-20° C to +55° C
IP rating	IP 21

BS EN 54-24 certificate no.	**0359-CPR-00455**
Model:	**Honeywell 24 W Coaxial Ceiling Loudspeaker Part no. 582480**

100 Volt Cabinet Loudspeaker

582470 | 6 Watt Wall Mounted Metal Cabinet Loudspeaker (4”)

The 6 Watt, 100 V, 4” surface mounted cabinet speaker has a broad frequency range and a high acoustic sound pressure level. It shall have a certified declaration of performance certificate no. CPR-DoP-2013002, in accordance with BS EN 54-24, and in compliance with BS 5839-8 and shall have the following characteristics:

- There shall be a full metal cabinet speaker housing.
- There shall be a 102 mm broadband loudspeaker chassis.
- There shall be an integrated ceramic terminal block and thermal fuse.
- The speaker housing shall be impact resistant & tamper resistant.
- The speaker shall be white (RAL 9003).
- There shall be four power input levels, set via adjustable tappings – 6 W, 3 W, 1.5 W or .75 W
- It shall comply with all RoHS standards.

TECHNICAL SPECIFICATIONS:

Electrical

Rated power	6 W
Tappings 100 V	6 / 3 / 1.5 / .75 Watts
Sensitivity BS EN 54-24 at 1 W / 1 m	91 dB
Frequency range (Hz)	300 Hz – 15 kHz
Dispersion angle (1 kHz / -6dB)	175°

Mechanical

Dimensions (W x H x D)	170 mm x 170 mm x 63 mm
Hole cut-out size	(Ø min.) 195 mm
Speaker diameter	4”
Weight	2.25 Kg
Front grille colour	White (RAL 9003)
Thermal fuse	150° C
Operating temperature range	-25° C to +55° C
IP rating	IP 54

BS EN 54-24 certificate no.	**0359/CPD/0174**
Model:	**Honeywell 6 W Wall Cabinet Loudspeaker Part no. 582480**

Horn Loudspeaker

582479 | 15 Watt Horn Loudspeaker

The 15 Watt, 100 V horn loudspeaker shall have a certified declaration of performance certificate no. CPR-DoP-2014005, in accordance with BS EN 54-24, and in compliance with BS 5839-8 and shall have the following characteristics:

- There shall be a high strength UL94V0 ABS speaker housing.
- The housing shall be resistant to UV.
- The speaker shall be grey (RAL 7035).
- There shall be an integrated ceramic terminal block and thermal fuse.
- The horn speaker shall be rated to IP 66 and suitable for external use.
- It shall be possible to cable directly into the horn without need for an external junction box.
- There shall be three power input levels, set via adjustable tappings – 15 W, 10 W, or 5 W
- Tappings shall be adjusted via a rotary switch.
- It shall comply with all RoHS standards.

TECHNICAL SPECIFICATIONS:

Electrical

Rated power	15 W
Tappings 100 V	15 / 10 / 5 Watts
Sensitivity BS EN 54-24 at 1 W / 1 m	105 dB
Frequency range (Hz)	300 Hz – 16 kHz
Dispersion angle (1 kHz / -6dB)	124° (H) x 143° (W)

Mechanical

Dimensions (L x Horn Diameter)	265 mm x Ø 213 mm
Weight	2.05 Kg
Colour	Grey (RAL 7035)
Thermal fuse	150° C
Operating temperature range	-25° C to +55° C
IP rating	IP 66

BS EN 54-24 certificate no.	**0359/CPR/00456**
Model:	**Honeywell 15 Watt Horn Loudspeaker** **Part no. 582479**

Sound Projection Speakers

582473 | 10 Watt Uni-Directional Sound Projector

The 10 Watt, 100 V, uni-directional sound projector has a broad frequency range, high acoustic sound pressure level and a high degree of efficiency. It shall have a certified declaration of performance certificate no. CPR-DoP-2014002, in accordance with BS EN 54-24, and in compliance with BS 5839-8 and shall have the following characteristics:

- There shall be a full aluminium speaker housing.
- The housing shall be resistant to moisture.
- The speaker shall be white (RAL 9003).
- It shall be possible for the speaker to be sprayed in any RAL colour specified.
- The speaker shall be mounted using a corrosion-proof aluminum installation bracket.
- There shall be an integrated ceramic terminal block and thermal fuse.
- The 10 W sound projector shall be rated to IP 65 and suitable for external use.
- There shall be a one metre length of fire rated connecting cable included.
- There shall be four power input levels, set via adjustable tappings – 10 W, 5 W, 2.5 W or 1.25 W.
- It shall comply with all RoHS standards.

TECHNICAL SPECIFICATIONS:

Electrical

Rated power	10 W
Tappings 100 V	10 / 5 / 2.5 / 1.25 Watts
Sensitivity BS EN 54-24 at 1 W / 1 m	89 dB
Frequency range (Hz)	150 Hz – 20 kHz
Dispersion angle (1 kHz / -6dB)	214° (H) x 219° (V)

Mechanical

Dimensions (L x Speaker Diameter)	195 mm x Ø 140 mm
Weight	2.62 Kg
Colour	White (RAL 9003)
Thermal fuse	150° C
Operating temperature range	-25° C to +55° C
IP rating	IP 65

BS EN 54-24 certificate no.	**0359/CPD/0172**
Model:	**Honeywell 10 Watt Sound Projector** **Part no. 582473**

582474 | 20 Watt Uni-Directional Sound Projector

The 20 Watt, 100 V, uni-directional sound projector has a broad frequency range, high acoustic sound pressure level and a high degree of efficiency. It shall have a certified declaration of performance certificate no. CPR-DoP-2014002, in accordance with BS EN 54-24, and in compliance with BS 5839-8 and shall have the following characteristics:

- There shall be a full aluminium speaker housing.
- The housing shall be resistant to moisture.
- The speaker shall be white (RAL 9003).
- It shall be possible for the speaker to be sprayed in any RAL colour specified.
- The speaker shall be mounted using a corrosion-proof aluminum installation bracket.
- There shall be an integrated ceramic terminal block and thermal fuse.
- The 20 W sound projector shall be rated to IP 65 and suitable for external use.
- There shall be a one metre length of fire rated connecting cable included.
- There shall be four power input levels, set via adjustable tappings – 20 W, 10 W, 5 W or 2.5 W.
- It shall comply with all RoHS standards.

TECHNICAL SPECIFICATIONS:

Electrical

Rated power	20 W
Tappings 100 V	20 / 10 / 5 / 2.5 Watts
Sensitivity BS EN 54-24 at 1 W / 1 m	89 dB
Frequency range (Hz)	150 Hz – 20 kHz
Dispersion angle (1 kHz / -6dB)	214° (H) x 219° (V)

Mechanical

Dimensions (L x Speaker Diameter)	195 mm x Ø 140 mm
Weight	2.65 Kg
Colour	White (RAL 9003)
Thermal fuse	150° C
Operating temperature range	-25° C to +55° C
IP rating	IP 65

BS EN 54-24 certificate no.	**0359/CPD/0172**
Model:	**Honeywell 20 Watt Sound Projector** **Part no. 582474**

582475 | 20 Watt Bi-Directional Sound Projector

The 20 Watt, 100 V, bi-directional sound projector features a broad frequency range, high acoustic sound pressure level and a high degree of efficiency. It shall have a certified declaration of performance certificate no. CPR-DoP-2014002, in accordance with BS EN 54-24, and in compliance with BS 5839-8 and shall have the following characteristics:

- There shall be a full aluminium speaker housing.
- The housing shall be resistant to moisture.
- The speaker shall be white (RAL 9003).
- It shall be possible for the speaker to be sprayed in any RAL colour specified.
- The speaker shall be mounted using a corrosion-proof aluminum installation bracket.
- There shall be an integrated ceramic terminal block and thermal fuse.
- The 20 W sound projector shall be rated to IP 65 and suitable for external use.
- There shall be a one metre length of fire rated connecting cable included.
- There shall be four power input levels, set via adjustable tappings – 20 W, 10 W, 5 W or 2.5 W.
- It shall comply with all RoHS standards.

TECHNICAL SPECIFICATIONS:

Electrical

Rated power	20 W
Tappings 100 V	20 / 10 / 5 / 2.5 Watts
Sensitivity BS EN 54-24 at 1 W / 1 m	87 dB
Frequency range (Hz)	150 Hz – 20 kHz
Dispersion angle (1 kHz / -6dB)	214° (H) x 219° (V)

Mechanical

Dimensions (L x Speaker Diameter)	195 mm x Ø 140 mm
Weight	3.23 Kg
Colour	White (RAL 9003)
Thermal fuse	150° C
Operating temperature range	-25° C to +55° C
IP rating	IP 65

BS EN 54-24 certificate no.	**0359/CPD/0172**
Model:	**Honeywell 20 Watt Bi-Directional Sound Projector Part no. 582474**

Column Loudspeakers

582476 | 20 Watt Column Loudspeaker

The 20 Watt, 100 V, column loudspeaker has a broad frequency range and a high acoustic sound pressure level. It shall have a certified declaration of performance certificate no. CPR-DoP-2014003, in accordance with BS EN 54-24, and in compliance with BS 5839-8 and shall have the following characteristics:

- There shall be a full aluminium speaker housing.
- The housing shall be resistant to moisture.
- The speaker shall be white (RAL 9003).
- It shall be possible for the speaker to be sprayed in any RAL colour specified.
- The speaker shall be mounted using a corrosion-proof aluminum universal swivel bracket.
- There shall be an integrated ceramic terminal block and thermal fuse.
- The 20 W column loudspeaker shall be rated to IP 66 and suitable for external use.
- There shall be a one metre length of fire rated connecting cable included.
- There shall be four power input levels, set via adjustable tappings – 20 W, 10 W, 5 W or 2.5 W.
- It shall comply with all RoHS standards.

TECHNICAL SPECIFICATIONS:

Electrical

Rated power	20 W
Tappings 100 V	20 / 10 / 5 / 2.5 Watts
Sensitivity BS EN 54-24 at 1 W / 1 m	91 dB
Frequency range (Hz)	300 Hz – 15 kHz
Dispersion angle (1 kHz / -6dB)	146° (H) x 87° (V)

Mechanical

Dimensions (W x H x D)	165 mm x 344 mm x 150 mm
Weight	3.75 Kg
Colour	White (RAL 9003)
Thermal fuse	150° C
Operating temperature range	-25° C to +55° C
IP rating	IP 66

BS EN 54-24 certificate no.	**0359/CPD/0173**
Model:	**Honeywell 20 Watt Column Loudspeaker** **Part no. 582476**

582477 | 40 Watt Column Loudspeaker

The 40 Watt, 100 V, column loudspeaker has a broad frequency range and a high acoustic sound pressure level. It shall have a certified declaration of performance certificate no. CPR-DoP-2014003, in accordance with BS EN 54-24, and in compliance with BS 5839-8 and shall have the following characteristics:

- There shall be a full aluminium speaker housing.
- The housing shall be resistant to moisture.
- The speaker shall be white (RAL 9003).
- It shall be possible for the speaker to be sprayed in any RAL colour specified.
- The speaker shall be mounted using a corrosion-proof aluminum universal swivel bracket.
- There shall be an integrated ceramic terminal block and thermal fuse.
- The 20 W column loudspeaker shall be rated to IP 66 and suitable for external use.
- There shall be a one metre length of fire rated connecting cable included.
- There shall be four power input levels, set via adjustable tappings – 40 W, 20 W, 10 W or 5 W.
- It shall comply with all RoHS standards.

TECHNICAL SPECIFICATIONS:

Electrical

Rated power	20 W
Tappings 100 V	20 / 10 / 5 / 2.5 Watts
Sensitivity BS EN 54-24 at 1 W / 1 m	94 dB
Frequency range (Hz)	300 Hz – 15 kHz
Dispersion angle (1 kHz / -6dB)	147° (H) x 48° (V)

Mechanical

Dimensions (W x H x D)	165 mm x 568 mm x 150 mm
Weight	5.75 Kg
Colour	White (RAL 9003)
Thermal fuse	150° C
Operating temperature range	-25° C to +55° C
IP rating	IP 66

BS EN 54-24 certificate no.	**0359/CPD/0173**
Model:	**Honeywell 40 Watt Column Loudspeaker** **Part no. 582477**

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