Xpression

Voice Alarm Data Sheet

Flexible, Bespoke Service for Voice Alarm & Public Address Systems

Product Overview

This system combines advanced audio management with a flexible architecture to deliver an advanced voice alarm and public address system suitable for a wide range of applications

Voice alarm systems are not only used for public buildings with a high number of visitors, but are also being used more and more for public address and entertainment systems. A PA VA system integrated with fire detection delivers significant economies of scale along with the security of operation associated with a life safety system.
Integration of the fire detection technology and evacuation systems offers substantial benefits over separate systems.

At the heart of the system, 2 variants of DOM manage 4 audio channels to either 8 or 24 loudspeaker circuits:

Audio quality and graphic equalisation

• Monitoring of the audio signal from source to loudspeaker
• Configuration of emergency evacuation
• Routing of paging and entertainment

Advantages

• Scalable modular system to suit any building size

• Flexible paging and voice alarm supports both simple and the most complex communication needs

• Integrated life safety operation with Morley-IAS fire systems and certified to EN54 part 16
• High efficiency Class D amplifiers deliver high quality digital audio

• High band width network for large distributed systems

• Simple management of system configuration using windows based tool

MORLEY IAS
FIRE SYSTEMS
by Honeywell

Digital Output Module DOM4-8 & DOM4-24

The Digital Output Module (DOM) is the central control element of the Xpression Voice Alarm System. It has interfaces to all input/output modules, manages and monitors the loudspeaker circuits.

The Digital Output Module (DOM) is the heart of the Xpression. Managing either 8 or 24 zones the DOM routes up to 4 channels of audio via amplifiers to any individual zone or groups of zones.

Any complex system configuration can be implemented through the networking of multiple DOMs via built-in Ethernet. The DOM4-8 and DOM4-24 modules are equipped with four independent audio outputs in order to access four channels. Each audio output controls connected loudspeaker zones: the DOM4-8 operates two zones (total of 8 circuits) while the DOM4-24 operates six zones (a total of 24 zones).

Features

• Certified to EN54-16
• Message store for pre-recorded emergency messages
• Network ready for larger systems and / or distributed rack system
• Continuous monitoring of all vital system components
• Automatic and dynamic switching to backup amplifier
• Automatic volume control (AVC) on all channels
• Remote monitoring and configuration via ethernet across internet or VPN
• Emergency standby power supply via 24 V DC
• Monitoring of complete audio path including loudspeaker circuits
• 4 connections for paging and emergency microphones via proprietary Digital Audio Line (DAL)

The 2 variants of the DOM, the DOM4-8 and DOM4-24 modules are both equipped with four independent audio outputs in order to access four channels. Each audio channel controls up to 8 loudspeaker zones (DOM4-24) with each DOM managing 8 zones (DOM 4-8) or 24 zones (DOM 4-24). The loudspeaker circuits are constantly monitored for short-circuiting, earth fault and failure as well as for impedance deviation. Defective loud speaker zones are isolated with the operation of all other zones unaffected.

Each DOM has storage for up to 260 seconds of audio recordings, for voice alarm texts and attention tones.

The volume of each audio source and each channel amplifier can be individually controlled and the quality of audio managed with additional filters such as parametric equalizers, high and low pass filters and delays.

All critical areas of the system are monitored and faults are identified, and announced within seconds.

Networking

Larger Xpression, voice Alarm and public address systems are established by connecting DOMs within a rack via a dedicated ethernet network. For very large systems a fault redundant network of copper or fibre may be built to form a distributed system capable of managing hundreds of simultaneous messages.

Modern, user-friendly configuration tools allow flexible system planning with minimal training and costs.

Connections

• Four digital audio links (DAL) for connection of microphones and interface modules.
• Four automatic volume control (AVC) inputs
• Four power amplifier inputs
• Four backup power amplifier inputs
• Loudspeaker zones:
       DOM4-8: 4 channels, 2 circuit relays each (8 loudspeaker zones)
       DOM4-24: 4 channels, 6 circuit relays each (24 loudspeaker zones)
• Eight potential free output control contacts
• TWI databus for connection to other systems
• 230 V AC mains supply input
• 24 V DC emergency power supply input

Input/Output

• Push-button for sequential monitoring of local audio channels
• Monitor loudspeaker

Ethernet

The DOM has a 4-Port Fast-Ethernet- Switch for communication with other system components (DOM, SCU) occurs. The maximum range according to the norm with a CAT 5 cable is 90m (plus 2 x 10 m patch cable). Increased operating distance/ range and networking over fibre optics is possible with standard ethernet media converters.

Automatic Volume Control Inputs (AVC)

The integrated automatic volume control function can continually regulate the volume of one or more of the amplifier channels of the DOM according to the sound level of the surrounding environment.

Four sensor microphone inputs with a nominal level of -51 dB are available for this purpose. Up to two sensor microphones can be connected to each channel.

Power-Save Mode

The Power-Save Mode enables the automatic termination of announcements during a power failure. For example, background music or advertising announcements will no longer be carried out.

Monitor push-buttons

The audio input/outputs can be played back on the DOM using the monitor push buttons.

Xpression Designer

The Xpression Designer is a comprehensive software tool that facilitates the planning and configuration of complex Xpression public address systems. With the help of the Xpression Designer, systems can be individually created and subsequently configured.

Xpression Designer:
• System planning (hardware)
• Individual configuration (software)
• Generate configuration data
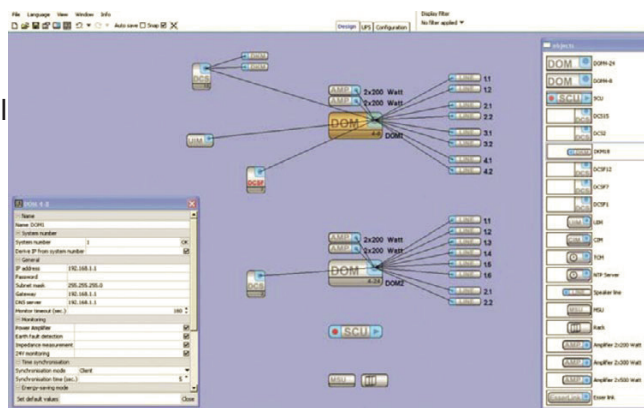
DOM Specifications

Mechanical

	DOM 4-8	DOM 4-24
Height	44 mm	44 mm
Width	483 mm	483 mm
Depth	345 mm / 1HE, 19"	345 mm / 1HE, 19"
Weight	5.7 kg	6.8 kg
Housing Colour	grey, similar to RAL 7016	grey, similar to RAL 7016

Audio Output

Output type	electronically balanced
Nominal level	0 dB
Max. output level	+6 dB
Transmission Range	20 Hz to 20 kHz
Max. deviation from the linear transmission	±1 dB in transmission range
Harmonic distortion at the nominal level	< 0.03 % at 1 kHz
Max harmonic distortion	0.1 % in transmission range
Unweighted signal-to-noise ration at the harmonic level	> 75 dB (A) > 70 dB
Load impedance min.	5 kΩ, max. 500 pF

Sensor Input (AVC*)

Input type	symmetric ungrounded
Nominal level	-51 dB
Nominal level for emergency	0 dB
Telephone station	
Transmission range	100 Hz to 8 kHz
Max. deviation from the linear transmission	±6 dB in transmission range
Harmonic distortion at the nominal level	< 0.2 % at 1 kHz
Max. harmonic distortion	1 % in transmission range
Unweighted signal-to-noise ration at the nominal level	> 65 dB (A) > 60 dB
Load impedance typ.	200 Ω

Control Contacts

Max. voltage	100 V DC / 1 A
surge voltage resistant	> 2.5 kV

* Automatic Volume Control

Connection Contacts

Max. voltage	250 V AC, 30 V DC / 5 A
surge voltage resistant	> 1.5 kV

Mains Voltage

Voltage range	90 V AC to 264 V AC
Frequency range	47 Hz to 440 Hz

Power consumption
    DOM4-8 with/without 4 x DAL
    DOM2-24 with/without 4 x DAL
	
	40 W/70 W @ 230 V AC
	50 W/80 W @ 230 V AC

Emergency Power Supply

Nominal voltage	24 V DC
Power consumtion	24 W

General

Smaple rate	100 V DC / 1 A
AD/DA converter	> 2.5 kV
Max. power consumption	150 mA

Environmental

Ambient temperature	-5 ˚C to +55 ˚C
Humidity	15% to 90% relative humidity (non condensing)

View Control Module (VCM)

The VCM (View Control Module) forms part of the Xpression voice alarm system and provides the user inter-face for EN54-16 compliance.

It enables the standardized display of messages and has a 5-button operator control panel. At least one VCM is required for EN54-16 systems.

Features

• Module for displaying collective messages from the Xpression voice alarm system
• For displays and operation in accordance with EN54-16
• 5 operating buttons
• LEDs as visual indicators
• Buzzer for acoustic signaling
• EN 54-16 approved

If several rack cabinets are installed in a room and form a single system, one VCM is sufficient. Cabinets in other areas may require their own VCM if local displays and operations, e.g. "Lamp test", are required. If all operations and displays can be handled by a central VCM no additional units are needed.

The VCM can be programmed easily and conveniently using a macro in the "Designer" programming sof ware. The audio connections to the amplifiers are managed by the VA system Digital Output Module (DOM). Inputs are via a combined audio and control cable for each channel for ease of connection. The amplified 100V output is routed back to the DOM where output to the loudspeaker lines is managed.

VCM Specifications

Mechanical

Height	44 mm
Width	483 mm
Depth	33 mm
Weight	approx. 2 kg
Housing colour	grey, similar to RAL 7016

General

Max. current consumption	20 mA at 24 V
Ambient temperature	-5 ˚C to +55 ˚C
Relative humidity	15% to 90%

System Communication Unit (SCU)

The System Communication Unit (SCU) serves as digital audio memory for the Xpression voice alarm and public address system. The SCU can simultaneously record and play back multiple audio data streams.

Features

• Digital audio memory for Xpression voice alarm and public address system
• Connection to Xpression system via ethernet
• Certified to EN 54-16
• Can be used to log and record announcements
• Automatic temporary storage and playback of interrupted messages
• Emergency power supply via 24 V DC

Connection to other Xpression Modules via Ethernet is continuously monitored. The SCU has two audio memory options, the first for alarms and evacuation announcements on non-volatile flashmemory with a capacity of approximately 2 hours. The second is a hard drive for other audio files such as announcements, music or advertisements with a capacity of approximately 1000 hours.

The SCU can also be used to log and record announcements. These are also saved on the hard drive and are backed up with date, time and activation details.

Automatic temporary storage allows announcements to be played which are momentarily interrupted ensuring all areas receive the announcement.

Connections

• Ethernet connection 100 Mbit/s
• Mains supply
• 24 V DC emergency power supply input

SCU Specifications

Mechanical

Height	44 mm
Width	483 mm
Depth	360 mm / 1 HE. 19˚
Weight	3 kg
Housing colour	grey, similar to RAL 7016

Technical

Flash memory	20 mA at 24 V
Hard disk	-5 ˚C to +55 ˚C
Nominal voltage	15% to 90%
Nominal frequency	47 Hz to 63 Hz
Current rating	typ. 0.5 A @ 230 V AC

Emergency Power Supply

Nominal voltage	24 V DC
Power consumption	32 W

Environmental Specifications

Ambient temperature	-5 ˚C to +55 ˚C
Humidity	15% to 90% relative humidity (non-condensing)

Universal Interface Module (UIM)

The Universal Interface Module UIM serves as an interface module of the Xpression voice alarm and public address system, connecting two analogue audio inputs, two analogue audio outputs as well as 48 control contacts. 8 of the contacts are monitored for short / open circuit.

The UIM is connected to the Xpression DOM via the digital audio link.

Features

• Two analogue potential free audio inputs / outputs
• 48 contacts as freely programmable inputs and outputs / 8 inputs can be monitored
• Digital Audio Link (DAL) to DOM
• Implementation as 19"-mountable unit
• Facilitates connection to a wide range of audio sources

The UIM converts two analogue audio inputs to digital for connection of, for example, a CD player or security system and transfers the signal to the Xpression DOM via the DAL connection. Two analogue audio outputs are provided to connect to other equipment such as an audio loop.

The 48 contacts can be configured as either contact inputs or outputs. In this way, the voice alarm system can be controlled externally, and provide information as to the status of the system.

UIM Specifications

Mechanical

Height	44 mm
Width	483 mm
Depth	345 mm / 1 HE, 19˚
Weight	approx. 3.6 kg
Housing colour	grey, similar to RAL 7016

Audio Inputs

Nominal level	0 dB
Max. level	+6 dB
Transmission range	20 Hz to 22 kHz
Signal-to-noise ratio	> 95 dB
Harmonic distortion (at the nominal level)	< 0.05 %
Input impedance XLR-socket	100 k Ω, symmetric floating output
Input impedance Cinch-socket	1 k Ω, asymmetric floating output

Audio Outputs

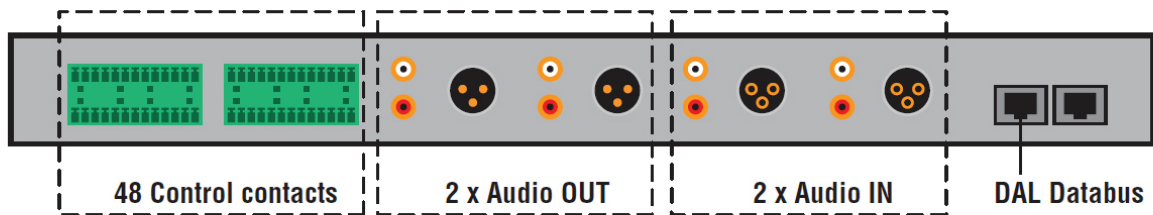|	
Nominal level	0 dB
Transmission range	20 Hz to 22 kHz
Signal-to-noise ratio	> 85 dB
Harmonic distortion (at the nominal level)	< 0.05 %
Output impedance XLR-socket	200 k Ω, symmetric floating output
Output impedance Cinch-socket	200 k Ω, asymmetric floating output

Control Contacts - Input

Max. input voltage	+ 36 V DC

Control Contacts - Output

Contact rating	36 V DC/50 mA
Short-circuit proof against +24 V	1 s

Environmental

Ambient temperature	-5 ˚C to +55 ˚C
Humidity	15% to 90% relative humidity (non condensing)

48 Control contacts   **2 x Audio OUT**   **2 x Audio IN**   **DAL Databus**

Signal   ERROR   POWER   UIM   VARIODYN D1

Class D Power Amplifiers

Xpression class D power amplifiers are components of the Xpression Voice Alarm system from Morley-IAS by Honeywell. The Xpression system combines the latest in digital audio technology with the integrity necessary for emergency Voice Alarm systems to satisify the requirements of EN54 part 16.

Features

• Power amplifier, 2-channel, Class D, 100 V outputs
• Two models available: 2 x 250 W / 2 x 400 W
• 80% efficiency factor
• 24 V DC emergency power supply
• Control and monitoring via DOM
• Integrated electronic protection against thermal overload and short-circuits during output
• Certified to EN 54-16
• Full power rating on 24 V standby power operation

The D400 and D250 voice alarm power amplifiers comprise of two independent amplifier channels with 100 V output compatible with the Xpression voice alarm system. The power amplifiers are controlled and monitored by the Xpression DOM4-8 (Digital Output Module) and DOM4-24 modules.

Audio line level inputs and 100V outputs

The audio connections to the amplifiers are managed by the VA system Digital Output Module (DOM). Inputs are via a combined audio and control cable for each channel making connection simple and problem free. The amplified 100V output is routed back to the DOM where output to the loudspeaker lines is managed

Connections

• Combined AF / control inputs
• Dual-channel 100 V output
• 230 V AC Power supply
• 24 V DC emergency power input

General indicators

• 230 V AC mains voltage
• CPU status
• Common fault
• 24 V DC emergency power supply

Indicators per amplifier channel

• Operation
• Amplifier channel status
• Amplifier channel fault
• Clip display

Class D Power Amplifier - 2 x 250W / 100V

The D250 voice alarm power amplifier comprises of two 250 W independent amplifier channels with 100 V output compatible with the Xpression voice alarm system. The power amplifier is controlled and monitored by the Xpression DOM4-8 (Digital Output Module) and DOM4- 24 modules.

Class D Power Amplifier - 2 x 400W / 100V

The D400 voice alarm power amplifier comprises of two 400 W independent amplifier channels with 100 V output compatible with the Xpression voice alarm system. The power amplifier is controlled and monitored by the Xpression DOM4-8 (Digital Output Module) and DOM4- 24 modules.

Amplifier Specifications

Mechanical

Height	88 mm
Width	402 mm / 2 HU, 19"
Depth	483 mm

Weight
    D250
    D400
	
	approx. 16.5 kg
	approx. 19 kg

Housing colour	grey, similar to RAL 7016

Technical

|	
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)	50 Hz to 22 kHz
Signal-to-noise ratio	>90 dB, A - unweighted
Harmonic distortion at full load / 1 kHz	<0.03%
Channel separation	> 42 dB
Input impedance	> 20 k Ω, el. balanced

Electrical

	D250	D400
Rated power output (sin.)	2 x 250 W	2 x 400 W
Voltage consumption (230 VAC)	2.8 A	4.5 A
Voltage consumption (24 V DC / Sinus continuous tone*) (24 V DC / Announcement/ 1/3 load) (24 V DC / Announcement/ 1/8 load)	25 A * 8.75 A * 3.6 A	40.5 A * 13.9 A * 5.6 A
Power consumption in standby mode (230 V) separated f. mains supply	approx. 0 VA	approx. 0 VA
Dissipation loss 230 V AC (Idle) 24 V DC (channels off) 24 V DC (channels on)	25 W max. 3 W max. 10 W max.	30 W max. 3 W max. 12 W max.

Environmental

Ambient temperature during operation	-5 ˚C to +55 ˚C
Humidity	40% to 93% relative humidity (non condensing)

Emergency Power Supply 24 V / 12 Ah - 150 Ah
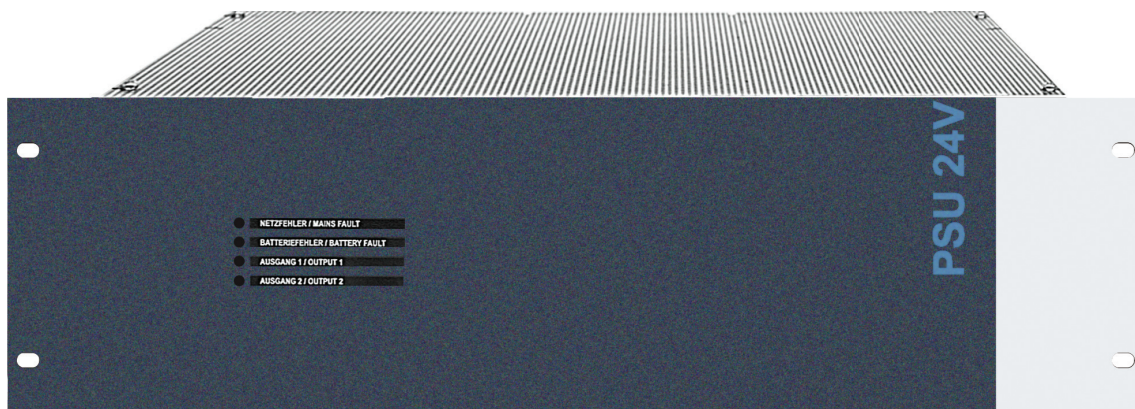
The Xpression emergency power supply unit serves as a secondary power supply for the Xpression voice alarm system and provides a stabilised, short circuit isolated, 24V DC output with enhanced filtering.

Features

• Continuous monitoring of fuses
• Monitoring of battery charging current
• Control of battery discharge status
• LED indicators for power, battery, load output
• Temperature sensor
• Potential-free contacts for power, battery, load output
• 19" model, 3 height units (HU)
• Battery capacity up to 2 x 12 V / 150 Ah
• EN 54-4 (A2) approved,

Security monitoring

• Permanent monitoring of all fuses (power, load output and battery fuses)
• Continuous monitoring of the batteries
• Monitoring of the battery charge state
• Monitoring of the battery charging current

Emergency Power Supply Specifications

Mechanical

Height	133 mm
Width	482 mm
Depth	395 mm
Weight	10 kg
Housing colour	grey, similar to RAL 7016

Electrical - Input

Voltage	230 V single phase ± 15 %
Frequency	50 / 60 Hz
Grounding method	TT, TN, IT
Class	1
Starting current	limited to 30 A
Primary current	< 3.2 A
Power eficiency at rated load	> 80 %

Electrical - Output

Nominal voltage	24 V
Floating potential (Un)	27.2 C ± 2 % at 25˚C & half load
Output current In / max. paeak current	12 A / 100 A
Current limiting short-circuit current	From in to in +15% at output voltage >50% from Un.
Battery current (charging)	Limited to 75 % of in.
Eff. Residual ripple, low frequency	< 0.2 %
Output voltage regulation	< 0.5 %
Battery power consumption	650 mA @ 24 V (without mains power)

Environmental Specifications

Operating temperature	-5 ˚C to + 40 ˚C (at 100 % load)
Storage temperature	-5 ˚C to +50 ˚C (at 75 % load)
Humidity	20% to 85% relative humidity (non condensing)

Contact Interface Module (CIM)

The Contact Interface Module (CIM) serves as an interface module for the Xpression voice alarm system. The CIM provides 8 control contacts – four of these can be monitored for short circuits and interruption.

The CIM is connected to the DOM module of the Xpression system via the TWI databus.

Each of the 8 contacts can be configured as either inputs or outputs enabling the system to be controlled externally and to provide system status information.

Features

• Enables third party systems to interface with the Xpression voice alarm system
• 8 freely programmable contacts as inputs or outputs
• Up to 4 contacts can be monitored
• Two-Wire Interface (TWI) to DOM
• EN 54-16 approved

CIM Specifications

Mechanical

Height	40 mm
Width	105 mm
Depth	105 mm
Weight	approx. 0.31 kg
Housing colour	grey, similar to RAL 7016

Monitoring Contacts / Inputs

Contact load max.	+ 36 V

Output

Contact load	36 V DC / 50 mA
Short-circuit-proof against + 24 V	1 sec

Environmental

Ambient temperature	-5 ˚C to +55 ˚C
Humidity	15% to 90% relative humidity (non-condensing)

DCS15 / DCS2 Paging Microphone

The paging microphones DCS15 and DCS2 with the paging microphone keyboard module DKM18 allow for the selection of loudspeaker circuit, the transmission of voice announcements as well as various gongs and alarms. Each microphone is connected to the available DAL-bus (Digital Audio Link) on the DOM (Digital Output Module) via a standard Cat5 cable. All control signals as well all audio signals are transmitted digitally.

Features

• Cost-effective Cat5 cabling
• Constant monitoring of the microphone and the transmission line to the subsequent interface module
• Built-in loudspeaker for microphone monitoring, playback of messages, and for intercom operation
• Additional audio input/output (DCS15); for example, for audio devices such as CD players
• Talk-back function with other communication stations via integrated loudspeaker

Up to 4 paging microphones can be connected to one DOM. Each paging microphone in the system can generate and also receive different voice transmissions and control signals independently.

A paging microphone can be located up to 300 m away (which can be increased to 2,000 m using fibre optic cabling) and can be expanded by up to six paging microphone keyboard modules DKM18, whereby the total number of available controls and LEDs increases to 120 per paging microphone station. The function of the paging microphone is permanently monitored. The DCS15 provides a further external audio input and output, which can be used to connect audio devices such as CD players.

Options

• A flush fitting kit is available for console mounting of the microphone.
• Key covers to protect against accidental operation.

Models

• Paging microphone DCS15 with 12 freely configurable keys, 13 LEDs, 1 microphone and 1 loudspeaker, 1 external audio input and 1 external audio output
• Paging microphone DCS2 with one freely configurable key, 2 LEDs, 1 microphone and 1 loudspeaker
• Paging microphone keyboard module DKM18 with 18 freely configurable keys, and 18 LEDs

Paging Microphone Specifications

Mechanical

Height	71 mm
Width	123 mm
Depth	180 mm
Weight	approx. 1.6 kg
Housing colour	black, similar to RAL 9005 grey, similar to RAL 7037

Microphone

Swan neck	300 mm
Frequency range	100 - 15,000 Hz

Loudspeaker

Power	1 W

Audio Input

Nominal level	0 dB
Max. level	+6 dB
Transmission range	20 Hz to 22kHz
Signal-to-noise ratio	> 95 dB
Harmonic distortion (at the nominal level)	< 0.1 %

Audio Output

Nominal level	0 dB
Transmission range	20 Hz to 22 kHz
Signal-to-noise ratio	> 85 dB
Harmonic distortion (at the nominal level)	< 0.1 %
Output impedance	180 Ohm

General

Sample rate	48 kHz
AD/DA converter	24 bit
Max. power consumption	150 mA

Environmental

Ambient temperature	-5 ˚C to +55 ˚C
Humidity	15% to 90% relative humidity (non-condensing)

Firefighters' Microphones

The Xpression system offers a range of fully digital emergency firefighters' microphones used to select and broadcast pre-programmed alarm messages and live voice announcements during emergency situations.

Features

Firefighters' / Emergency Microphone DCSF1
• Freely configurable key
• 2 LEDs
• Hand-held microphone
• Integrated loudspeaker for monitoring and intercom function

Firefighters' / Emergency Microphone DCSF12
• 12 configurable control buttons
• 13 status indication LEDs
• Integrated loudspeaker for monitoring and intercom function

The DCSF microphones each have a hand held microphone for live voice messages routed to preconfigured groups of zones selected by buttons on the units. Buttons with LED status indicators may also be used to control the routing of pre-recorded messages to individual zones. The DCSF 15 may be extended to up to 120 control buttons for larger sites.

Built-in loudspeaker allows the microphone to be actively monitored and for the station to be used as an intercom for 2-way communications across the system as well as monitoring the messages status of zones across the system.

Connection to the microphones is via standard CAT5 cable to the digital audio line of the Digital Output Module (DOM) controlling the system. Power for the microphones is provided by the DOM with no requirement for local power supplies. Microphones may sited up to 300m from the VA rack and, if required, this may be extended to a distance of 2000m using the fibre optic option.

The range of DCSF emergency microphones is certified for use with the Xpression system to EN54 part 16.

For protection against unauthorised use control keys may be protected by optional clear covers which need to be lifted before the button may be operated.

The Xpression System can operate many DCSF firefighters' microphones at the same time and each microphone can simultaneously broadcast live voice messages to different parts of the system. The microphone provides a solution to both simple and complex evacuation strategies.

Firefighter Microphone Specifications

Mechanical

	DCSF12 / DCSF1
Height	194 mm
Width	133 mm
Depth	40 mm
Weight	approx. 1.6 kg
Housing colour	black, similar to RAL 9005 grey, similar to RAL 7037

Microphone

	DCSF12 / DCSF1
Swan neck	300 mm
Frequency range	200- 12,500 Hz

Loudspeaker

	DCSF12 / DCSF1
Power	1 W

General

	DCSF12 / DCSF1
Sample rate	48 kHz
AD/DA converter	24 bit
Max. power consumption	150 mA

Environmental

Ambient temperature	-5 ˚C to +55 ˚C
Humidity	15% to 90% relative humidity (non-condensing)

DCSF12 / DCSF1
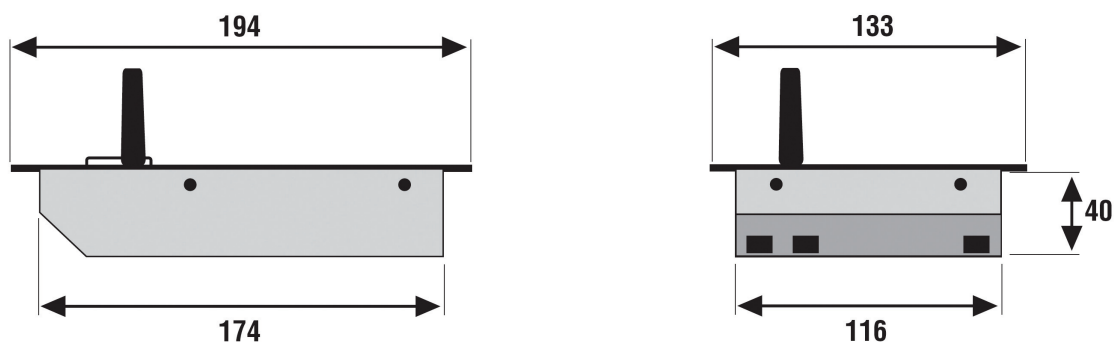
Time Control Module GPS

The time control module is connected directly to the DOM4- 8/4-24 and ensures time synchronization via GPS signal. This facilitates exacttiming of automated announcements (e.g. school bells), timed volume a justments (e.g. reduction of volume level at night for train stations) or simply the exact documentation of announcements or malfunctions.

Features

• Module for time synchronization of all Xpression voice alarm systems
• Can be connected to any DOM in the system
• Time synchronization via GPS signal
• EN 54-16 approved

The module is connected either directly to the TWI bus (RJ45 plug) via a standard CAT5 cable (max. 10 m) or to the 9-pin D-sub socket of a DOM using the included adapter cable. Both failure of the module as well as loss of satellite transmission are signaled.

The GPS signal is transmitted to the receiver via antenna and coaxial cable. The antenna should have as much access to open sky as possible in order to be able to receive signals from several satellites. The most suitable options for positioning the antenna are thus close to a window or even on top of a roof.

TCM GPS Specifications

Mechanical

|	
Height	115 mm
Width	55 mm
Depth	25 mm
Antenna cable length	max. 33 , (type RG174) max. 66 m (type RG58)

Loudspeakers

Morley-IAS by Honeywell's EN54 part 24 approved ceiling speakers deliver even sound distribution in any type of building and their flush mounted design makes them ideal for suspended ceilings.

All Morley-IAS loudspeakers have built in protection to ensure that any damage to the loudspeakers does not result in a failure of the loudspeaker circuit, so the integrity of the system is maintained for alert or instruction messages to still be delivered from loudspeakers on the same circuit in other areas. This ensures full compliance to BS5839 part 8.

The loudspeakers are easily installed using the mounting spring on the unit, and the fire dome then slides into place. The unique flying lead wiring arrangement in our loudspeakers makes their installation very easy. The loudspeakers are equipped with ceramic terminal blocks, a thermal fuse and heat resistant, high temperature wiring to comply with EN54 part 24.
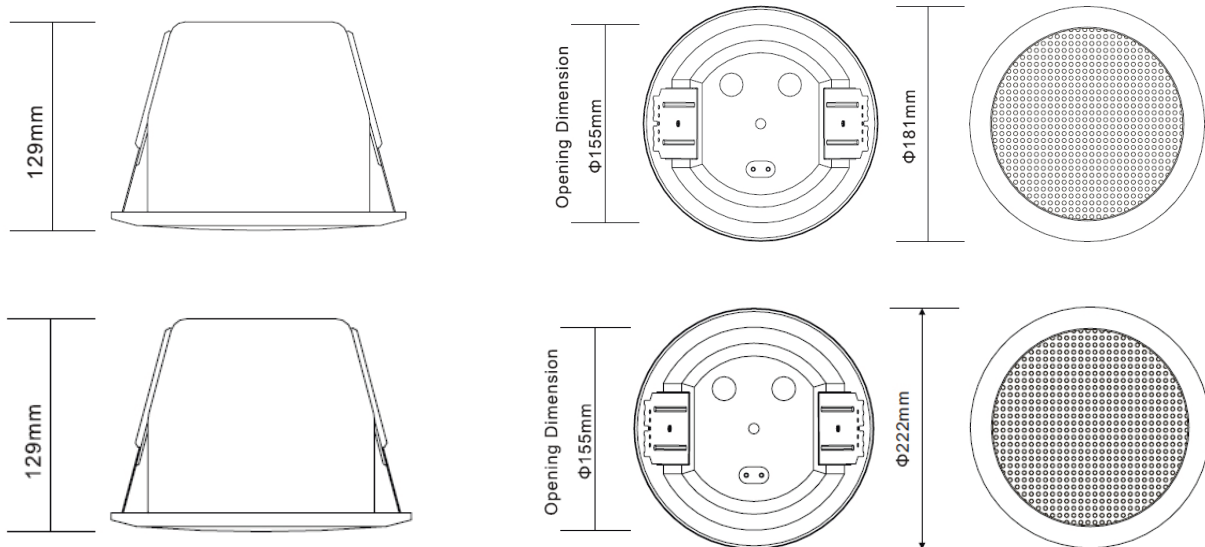
Loudspeaker Specifications

Environmental

Ambient temperature	-25 ˚C to +55 ˚C
Storage temperature	-40 ˚C to +70 ˚C
Humidity	< 95% relative humidity (non-condensing)

Mechanical & Audio

Loud Speaker Type	5 " Round Ceiling Loudspeaker	6.5" Round Ceiling Loudspeaker	Wall mounted cabinet Loudspeaker (rectangle)	Wall Mounted cabinet Loudspeaker (round)	10 W Horn Loudspeaker	15 W Horn Loudspeaker	30 W Horn Loudspeaker	10 W Sound Projector	20 W Sound Projector
Power (W)	6W	6W	6W	10W	10W	15W	30W	10W	20W
Power Tap @ 100V	6/3/1.5/0.75W	6/3/1.5/0.75W	6/3/1,5 W	10/6/3/1,5 W	10/5/2,5/1,25 (20) W	15/7,5/3,75/1,87 (20) W	30/20/10/5 (20) W	10/6/3/1,5 W	20/15/10/5 W
Frequency Range	180Hz–20kHz	170Hz–20kHz	200–17.400 Hz	291–18.126 Hz	400–10.000 Hz	300–12.500 Hz	300–6.000 Hz	200-16.000 Hz	180–16.000 Hz
SPL 1W/1m	91 dB	91 dB	95.6 dB	98.8 dB	102.4 dB	107.3 dB	110.1 dB	94.1 dB	98.1 dB
Dimensions	181 x 129 mm	222 x 129 mm	257 x 192 x 80 mm	170 x 75 mm	142 x 210 mm	208,5 x 271,5 mm	238 x 302 mm	167 x 163 mm	167 x 163 mm
Operating Temperature Range	-25°C to +55°C	-25°C to +55°C	-25°C to +55°C	-20°C to +150°C	-20°C to +150°C	-20°C to +150°C	-20°C to +150°C	-20°C to +150°C	-20°C to +150°C
Dispersion angle (-10dB)			180° (H) / 180° (V)	180° (H) / 180° (V)	140° (H) / 140° (V)	140° (H) / 140° (V)	130° (H) / 130° (V)	360°	360°
Weight	1.29kg	1.29kg	2.45 kg	1.3 kg	1.42 kg	1.92 kg	2.62 kg	3.10 kg	3.15 kg
IP Rating	IP21	IP21	IP54	IP54	IP66	IP66	IP66	IP65	IP65
Installation Instructions	Flush with metal dome	Flush with metal dome	Surface mount to wall	Surface mount to wall	Wall-mounting bracket	Wall-mounting bracket	Wall-mounting bracket	Wall-mounting bracket	Wall-mounting bracket
Connector	Ceramic Terminal	Ceramic Terminal	Connecting Terminals	Connecting Terminals	Connecting Cable	Connecting Cable	Connecting Cable	Connecting Cable	Connecting Cable
Colour	RAL 9003 (Dome: RAL3000)	RAL 9003 (Dome: RAL3000)	Connecting Terminals	Connecting Terminals	Connecting Terminals	Connecting Terminals	Connecting Terminals	Connecting Terminals	Connecting Terminals

Part Numbers

Part Number	Description
583361.21.HO	Digital Output Module DOM4-8
583361.21.HO	Digital Output Module DOM4-24
583351	View Control Module (VCM)
583381.22	System Communication Unit SCU
583703	Mounting kit 1
583331.21	Universal Interface Module UIM
583703	Mounting kit 1
580231	Class D Power Amplifier - 2 x 250W / 100V
580232	Class D Power Amplifier - 2 x 400W / 100V
583491	DOM-XV cable for amplifier audio inputs and remote control
583477.21	XV-DOM cable for amplifier and audio outputs (for 2 amplifiers)
581720.VD	Emergency power supply 24 V / 12 A - 100 A
581730	Battery for emergency power supply 12 V / 105 A
581731	Battery for emergency power supply 12 V / 150 Ah
583341.21	Contact Interface Module (CIM)
583301.21	Paging microphone DCS15
583302.21	Paging microphone DCS2
583306.21	Paging microphone keyboard module DKM18
583311	Keyboard cover
583312	Mountingset, Callstation DCS in Desk
583316.21	Fibre optic converter OIM
583317.21	Fibre optic converter DCS
583315.02	Power supply for FO Converter DCS O
583318	Key cover Set (12 pcs)
583387.21	Time Control Module GPS (TCM GPS)
LSC-506	5" Round Ceiling Loudspeaker
LSC-606/DC	6.5" Round Ceiling Loudspeaker
582421	Wall Mounted Cabinet Loudspeaker (rectangle)
582423	Wall-mounted Cabinet Loudspeaker (round)
582430	10W Horn Loudspeaker
582431	15W Horn Loudspeaker
582432	30W Horn Loudspeaker
582440	10W Sound Projector
582441	20W Sound Projector

Quality Systems Certificate No. 154
Assessed to ISO9001

For further details on these or any other Morley-IAS products please contact your local distributor, Morley-IAS Business Manager or via our contact details found below. Morley-IAS by Honeywell - Providing a control panel solution, for fire industry professionals, committed to supporting our device partners.

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