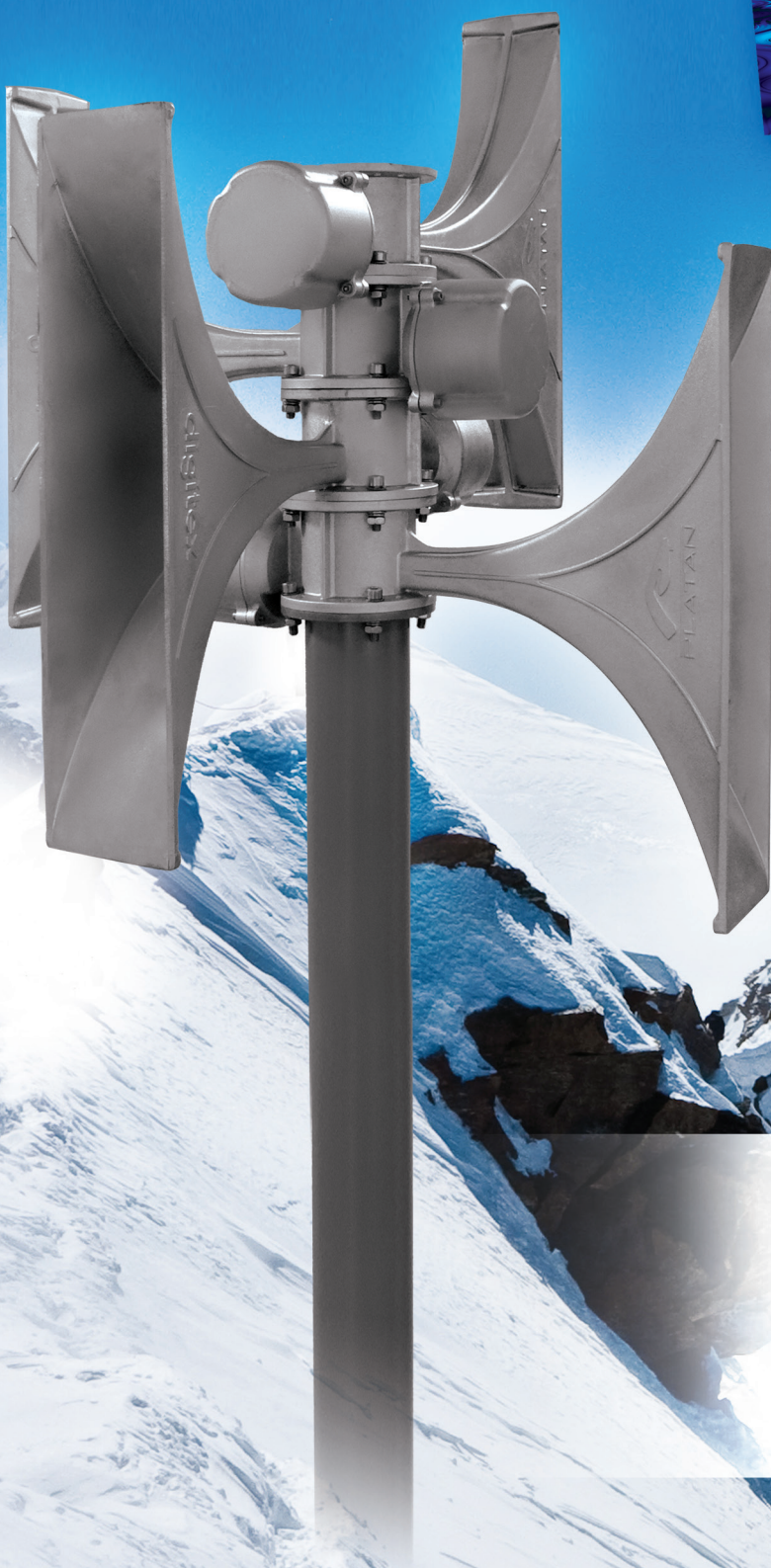


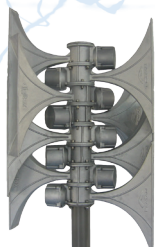
We are heard everywhere

DSE electronic sirens



digitex[®]
od 1985

DSE ELECTRONIC SIRENS



DSE Electronic sires with slotted speakers
DSE-300S-3000S



DSE Electronic sires with tube speakers
DSE-600



Mobile Siren DSE-200M



Mobile Siren (wheeled) DSE-300M



Mobile Siren DSE-600M

DSE series electronic sirens are manufactured by PLATAN (with **digitex**[®] brand name) for the purpose of public warning and alerting (e.g. ecological, military, terrorist, catastrophic and other hazards).

These hi-tech facilities support the alerts generated in any applicable alarm modes as specified by the Fire Services, Civil Defence, and other rescue services. They also are parts of public evacuation systems used e.g. in large production areas, at army bases, airports, industrial quarters, in lands exposed to floods, at water dams, as well as at other strategic sites and structures.

DSE sirens are adapted to the co-operation with any warning system, specifically with **digitexCZK/FSK**, and **digitexCZK/IP** systems operated by the Civil Defence and Fire Services. A **DSE** siren is controlled via analog VHF/UHF radio networks, digital radio networks of DMR (TDMA) and NXDN (FDMA) standards, and IP networks (LAN/WAN, VPN). It can be also adapted to wireless-operated systems based on GSM, GPRS, 3G, CDMA, TETRA, WiMax, and

LTE technologies as well as the systems which use conventional PSTN lines or leased lines.

Each electronic siren is composed of slotted or horn loudspeakers (their number depending on the siren power: from 300 W to 3000 W) and control block with control module and signal generator, WSE-300 amplifier modules, ZSE-24 amplifier module, two maintenance-free batteries of capacity of 33 Ah up to 120 Ah, and other actual warning system adapters, all of which are enclosed in a metal box.

DSE sirens may be installed as fixed units on the roofs, poles, street lanterns, etc., as well as mobile (transportable) units in suitcases, on carriages, single or double-axle trailers, and open load-carrying bodies of pick-up vehicles.

Thanks to its modular structure the **DSE** electronic siren may be easily expanded by means of additional elements, such as e.g. amplifiers and loudspeakers, thus enhancing its acoustic power and sound intensity.

DSE sirens are used for real-time transmission of voice messages, either from a remote (control station) or local (microphone installed on the control block) site. As an additional feature, **DSE** sirens can broadcast any sound messages saved to the system memory as wave or mp3 files.

DSE sirens co-operate with external systems, such as e.g. weather stations, chemical, biological, and radioactive contamination sensors, water-level gauges, as well as control elements of road traffic signalling systems, gate opening systems, etc. Power supply may originate from the mains (230 V/50 Hz) or solar panels.

Configuration:

what a DSE-type electronic siren can contain?



Example of configuration:

1 3 4 6 8 17 18 20 21

DSE siren with slotted loudspeakers (1), control block (3) equipped with digital radiotelephone Kenwood (4) and control module PC550A (6), clock module SZS-24 (17), gate GSM DTG-53 (18), external manipulator DMS-21 (20), and mast MSE-05 1.5 m (21). The siren will be adapted to METEO station (8).



Call Export department to agree upon ordering details.



NOTE: The order should contain information on the siren power which should range from 300 W to 3000 W (multiple of 300 W) and/or on necessary acoustic level SPL (dB); these parameters will define the number of loudspeakers and amplifiers as well as battery capacity for the control block.

Benefits of Electronic sirens DSE

- ✓ DSE electronic sirens are compatible with any analog and digital public warning and alerting systems in Poland
- ✓ Their modular structure ensures the expansion depending on current and future needs
- ✓ DSE electronic sirens generate any voice messages (live and recorded; on site and from remote location) as well as any other irregular records (such as e.g. anthems, clock ringing, chimes, etc.)
- ✓ Macro-sound combination option, e.g.
 - ▶ voice message ▶ alarm ▶ voice message

-

[illegible]

Siren operation control modules for individual systems

Analog radio link



SWA-3

Siren operation control module for DSP-50 system, used in Civil Defence and Fire Services:

- 2 programmable inputs with optical insulation and 2 relay outputs
- inputs for DKA, DKF
- audio output for radiotelephone
- RS interface for communications with GSM DTG-52/53 terminal and GSE-24P generator



RUW-4000

Siren operation control module for RSSS-2000/3000:

- inputs for DKA, DKF
- 4 sets of numbers (districts, cities, sirens and sectors)
- option to integrate with 4 various alarming systems (such as e.g. OC, PSP/OSP)



MDS-24

Siren operation control module for MDSA-21 system, used in Civil Defence:

- RS interface for integration with GSE-24P generator



MDS-25

Siren operation control module for digitexCZK/FSK system, used in Civil Defence and Fire Services, industrial facilities, water dams, etc.:

- RS interface for integration with GSE-24P generator
- option: mechanical siren control

Digital radio link



PC-500

Siren operation control module for digitexCZK/IP system: digital radio link DMR TDMA (Motorola):

- MS Windows XP
- compatible with DSE digital sirens and Radio Access Points (RAP)
- alarm and voice message playing from internal disc
- communication with local service server through IP and digital radio network
- support of acoustics from IP channel
- local support from keyboard (available in GSE-25)
- presentation of general siren status on LCD of GSE-25 generator (number; time; power supply; voltage; test)



PC-550A

Siren operation control module for digitexCZK/IP system: digital radio link NXDN FDMA (Kenwood):

- compatible with DSE digital sirens
- alarm and voice message playing from SD card
- support of acoustics from IP channel
- local support from keyboard
- presentation of general siren status on LCD display (number; time; power supply; voltage; test)

Control manipulators



DMS-18B

Desktop manipulator - local support of DSE electronic siren:

- activation of master siren and 8 various macros
- voice message broadcasting by means of microphone
- option to integrate with external audio source



DMS-21

Manipulator (installed inside or outside the control block, e.g. wall-mounted, or in metal housing):

- local support of DSE electronic siren
- activation of master siren and 8 various macros
- voice message broadcasting by means of microphone
- backlit keys and screen

DMS manipulators will be functional in any case where local activation of warning signals and voice message broadcasting are required apart from siren remote (radio) control.

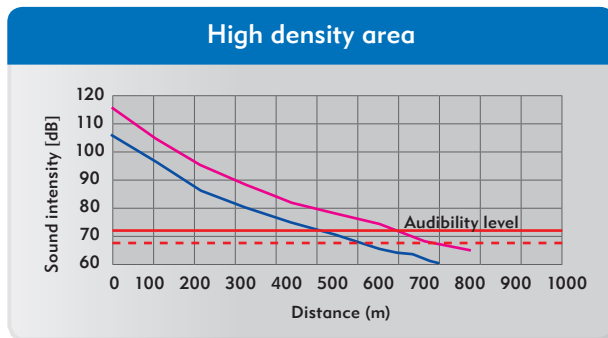
Propagation of Sound Pressure Level (SPL)

Shown below are formulae to be used for the purpose of sound pressure level (SPL) estimation at a distance 'd' from sound source, in compliance with recommendations issued by FEMA (Federal Emergency Management Agency, USA):

- $SPL(d < 800 \text{ m}) = SPL(30) - 20 \cdot \log(d/30)$, where the distance is less than 800 m, and
- $SPL(d > 800 \text{ m}) = SPL(30) - 33,3 \cdot \log(d/30)$, where the distance exceeds 800 m

where SPL(30) means sound intensity in dB, measured at a distance of 30 m from the siren; this parameter is specified by siren manufacturers. Average city noise level of 70 dB should be assumed for the purpose of siren reach estimation.

Shown below are examples of relationship between sound intensity and distance from DSE-600S and DSE-1200S sirens.

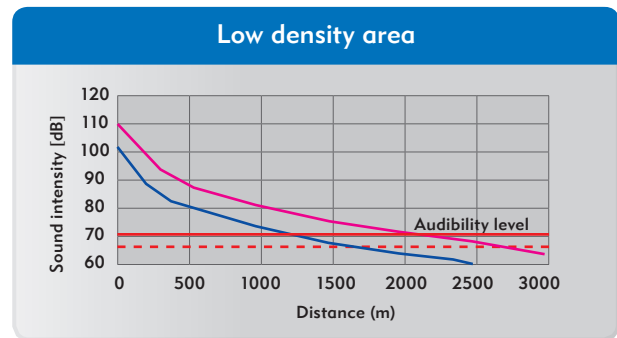


Surface:

DSE-600S – around 1 km²

DSE-1200S – around 1.5 km²

— DSE-600S
— DSE-1200S
— Audibility level
- - - Ambient noise level



Surface:

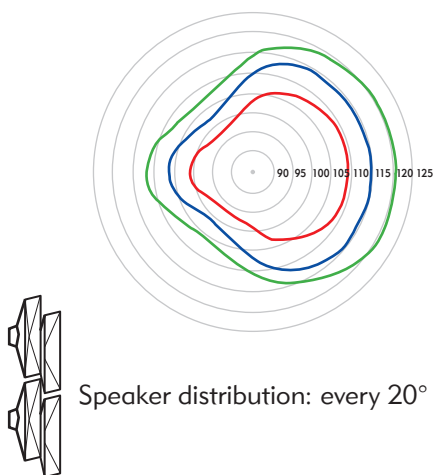
DSE-600S – around 5 km²

DSE-1200S – around 11 km²

NOTE: All the above mentioned relationships and calculations should be treated as estimates only. Actual siren reach may be different

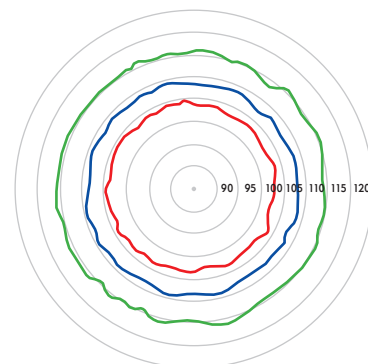
Characteristics of directional sound pressure level (SPL)

Power of 300 W, 600 W, and 1200 W



Speaker distribution: every 20°

— DSE-300S
— DSE-600S
— DSE-1200S



Speaker distribution: every 90°

Design and validate the reach of your Public Warning and Alerting System in your area:



digitex®
od 1985

INTEGRATED NOTIFICATION SYSTEMS

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