



EC-TYPE EXAMINATION CERTIFICATE

Equipment or Protective System Intended for use
in Potentially Explosive Atmospheres
Directive 94/9/EC

EC-Type Examination Certificate Number : **BAS00ATEX2098X**

Equipment or Protective System: **TYPE DB4E SPEAKER UNIT**

Manufacturer: **MEDC**

Address: **Pinxton, Nottingham, NG16 6JF**

This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

The Electrical Equipment Certification Service, notified body number 600 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential Report N°

BASEEFA Report No. 00(CI)0429 dated 16 June 2000

Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 50014: 1997 + Amds 1 & 2

EN 50018: 1994

EN 50019: 1994

except in respect of those requirements listed at item 18 of the Schedule.

If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

This EC-TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified equipment or protective system. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment or protective system.

The marking of the equipment or protective system shall include the following:-



EEx de IIC T4 (see schedule)

This certificate may only be reproduced in its entirety and without any change, schedule included.

File No: **EECS 0676/01/361**

This certificate is granted subject to the general conditions of the Electrical Equipment Certification Service. It does not necessarily indicate that the apparatus may be used in particular industries or circumstances.



Electrical Equipment Certification Service
Health and Safety Executive
Harpur Hill, Buxton, Derbyshire. SK17 9JN. United Kingdom
Tel: 01298 28000 Fax: 01298 28244



I M CLEARE
DIRECTOR
20 June 2000



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EC-TYPE EXAMINATION CERTIFICATE N° BAS00ATEX2098X


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Description of Equipment or Protective System

The Type DB4E Speaker Unit is rated up to 100V with a maximum power dissipation of 25 watts for use in an ambient temperature range of -20°C to +40°C. The unit comprises a cylindrical enclosure complete with an external horn flare manufactured in glass reinforced polyester.

The enclosure has the option of either a long or short flare arrangement, each permanently fixed to the cylindrical enclosure body to form the end wall. A stainless steel sinter is mounted internally at the centre of each horn flare to facilitate the transmission of sound energy.

The other end of the flameproof body is closed by the base of the increased safety terminal box which is secured by 6 off M5 x 25mm stainless steel socket head cap screws. The top of the terminal box is closed by a flat cover, complete with a sealing ring, which is secured by 2 off M5 x 20mm stainless steel socket head cap screws. Each screw may optionally be of grade A2-70 or A4-80 and may be machined to provide retention within the counterbores of the cover.

The interior of the terminal box comprises up to two Klippon Type BK4 Terminal Blocks or one Type BK6 Terminal Block, all to Component Certificate No. BAS98ATEX3084U, and coded  II 2G EEx e II.

Up to six conductors pass through the base of the terminal box via two potted bushings to facilitate the internal connections to the speaker driver unit and optional transformer contained within the flameproof body.

Internal and external earthing facilities are provided by a stud through the terminal box wall.

Up to three M20 cable entries are provided in the side wall of the terminal box for the accommodation of suitable cable entry devices that adequately clamp the cable and are capable of withstanding a 7 joule impact and maintaining the ingress protection of the enclosure. Any unused entries are to be fitted with a suitable stopping plug capable of maintaining the ingress protection of the enclosure.

This apparatus is to be installed and used in accordance with the appropriate codes of practice and the manufacturer's instructions.

This certification is to European Directive 94/9/EC only. Functional performance and compliance with other European directives is the responsibility of the equipment manufacturer and/or the user as appropriate.

VARIATION 0.1

Alternative internal arrangement within the flameproof body incorporating a speaker driver unit and a sound signal generating PCB to form:-

A Type DB3E Sounder Unit.



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In this form the unit may be rated up to 254V a.c. or 48V d.c. with a maximum power dissipation of 15 watts and has a Temperature Classification of T5 with an ambient temperature range of -20°C to +45°C.

VARIATION 0.2

The DB4E & DB3E arrangements above may be used at a reduced ambient temperature of -55°C. The low ambient temperature models are to remain unpainted and are redesignated as

Type DB4LE Speaker Units & DB3LE Sounder Units**VARIATION 0.3**

The maximum power dissipation of the Type DB4E & DB4LE Speaker Units may be restricted to less than 15W with a corresponding reduction in the Temperature Classification to T5 and an increased maximum permitted ambient temperature of +45°C and +55°C respectively.

MARKING SUMMARY

The following table is a summary of the permitted power rating, ambient temperature and Temperature Class combinations permitted for each type of unit:-

Type	Power Rating	Ambient temp	T Class
DB4E	≤15W	-20°C to +45°C	T5
	>15W	-20°C to +40°C	T4
DB4LE	≤15W	-55°C to +55°C	T5
	>15W	-55°C to +50°C	T4
DB3E	≤15W	-20°C to +45°C	T5
DB3LE	≤15W	-55°C to +55°C	T5

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Report No.

BASEEFA Certification Report No. 00(CI)0429.

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Special Conditions for Safe Use

1. This apparatus is not suitable for use in atmospheres containing carbon disulphide.
2. Not more than one single or multiple strand lead shall be connected into either side of any terminal, unless multiple conductors have been joined in a suitable manner, e.g. two conductors into a single insulated crimped boot lace ferrule.
3. Leads connected to the terminals shall be insulated for at least 275V and this insulation shall extend to within 1mm of the metal of the terminal throat.



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4. All terminal screws, used and unused, shall be tightened down.
5. Minimum creepage and clearance distances between the terminals and adjacent conductive parts (including cable entry devices) must be at least 5mm.
6. Painting and surface finishes, other than those applied by the manufacturer, are not permitted.

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Essential Health and Safety Requirements

Essential Health and Safety Requirements not covered by Standards listed at (9)		
Clause	Subject	Compliance
1.0.2	Analysis of possible operating faults	BASEEFA Report No. 00(CI)0429
1.0.3	Special checking and maintenance conditions	No special requirements
1.2.2	Components for incorporation or replacement	Manufacturer's Instructions
1.2.4	Dust deposits	Certification for gas atmospheres only
1.2.5	Additional means of protection	Not applicable
1.2.7	Protection against other hazards	BASEEFA Report No. 00(CI)0429
2.0.	Category M	Not applicable
2.1.	Category I	Not applicable
2.2.1	Category 2G	BASEEFA Report No. 00(CI)0429
2.2.2	Category 2D	Not applicable
2.3.	Category 3	Not applicable
3.	Requirements for protective systems	Not applicable

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DRAWINGS

<u>Number</u>	<u>Issue</u>	<u>Date</u>	<u>Description</u>
* 199-366 Sheets 1 & 2	A	03/05/00	General Arrangement Type DB4 Speaker Unit
* 219-256	A	04/05/00	General Arrangement DB3 Sounder
* 199-371	A	25/05/00	Alternative Label Positions
199-367	A	04/05/00	Ex e Terminal Box

* Drawings common to Certificate No. BAS 00ATEX2097X and are held on EECS file No. 0676/01/362

This certificate may only be reproduced in its entirety and without any change, schedule included.

BASEEFA List Keywords
2LOUDSPE



1 **SUPPLEMENTARY EC-TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use
in Potentially explosive atmospheres
Directive 94/9/EC**

3 Supplementary EC-Type Examination Certificate Number: **BAS00ATEX2098X/1**

4 Equipment or Protective System: **TYPE DB4E SPEAKER UNIT**

5 Manufacturer: **MEDC**

6 Address: **Pinxton, Nottingham, NG16 6JF**

7 This supplementary certificate extends EC-Type Examination Certificate No. BAS00ATEX2098X to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said Certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This Supplementary Certificate shall be held with the original Certificate.

This certificate may only be reproduced in its entirety and without any change, schedule included.

File No: EECS 0676/01/361

This certificate is granted subject to the general conditions of the Electrical Equipment Certification Service. It does not necessarily indicate that the apparatus may be used in particular industries or circumstances.

I M CLEARE
DIRECTOR
28 July 2000



Electrical Equipment Certification Service
Health and Safety Executive
Harpur Hill, Buxton, Derbyshire, SK17 9JN, United Kingdom
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14 **SUPPLEMENTARY EC-TYPE EXAMINATION CERTIFICATE N° BAS00ATEX2098X/1**

Description of the Variation to the Equipment or Protective System

VARIATION 1.1

Optional addition of a PCB mounted capacitor within the DB4E and DB4LE units.

Report No.

Not applicable.

Special Conditions For Safe Use

See original certificate.

Essential Health and Safety Requirements

See original certificate.

DRAWINGS

Number	Sheet	Issue	Date	Description
*199-366	1 & 2	B	17/07/00	General Arrangement Type DB4 Speaker Unit

Drawings common to Certificate No BAS00ATEX2097X held on EECS File No. 0676/01/362.

This certificate may only be reproduced in its entirety and without any change, schedule included.



SUPPLEMENTARY EC-TYPE EXAMINATION CERTIFICATE

Equipment or Protective System Intended for use
in Potentially explosive atmospheres
Directive 94/9/EC

Supplementary EC-Type Examination Certificate Number: **BAS00ATEX2098X/2**

Equipment or Protective System: **TYPE DB4E SPEAKER UNIT**

Manufacturer: **MEDC LIMITED**

Address: **Pinxton, Nottingham, NG16 6JF**

This supplementary certificate extends EC-Type Examination Certificate No. BAS00ATEX2098X to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said Certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This Supplementary Certificate shall be held with the original Certificate.

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File No: EECS 0676/01/361

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I M CLEARE
DIRECTOR
15 March 2001



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Schedule

14 **SUPPLEMENTARY EC-TYPE EXAMINATION CERTIFICATE N° BAS00ATEX2098X/2**

Description of the Variation to the Equipment or Protective System

VARIATION 2.1

Alternative terminal arrangement, incorporating thermal fuses, within the flameproof body section.

Report No.

Not applicable.

Special Conditions For Safe Use

See original certificate.

Essential Health and Safety Requirements

See original certificate.

DRAWINGS

Number	Sheet	Issue	Date	Description
*199-366	1 & 2	C	01/03/01	General Arrangement Type DB4 Speaker Unit

*Drawing common to Certificate No BAS00ATEX2097X and is held on EECS file no. 0676/01/362

This certificate may only be reproduced in its entirety and without any change, schedule included.



1 **SUPPLEMENTARY EC-TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use
in Potentially explosive atmospheres
Directive 94/9/EC**

3 **Supplementary EC-Type Examination Certificate Number: BAS00ATEX2098X/3**

4 **Equipment or Protective System: TYPE DB4E SPEAKER UNIT**

5 **Manufacturer: MEDC LIMITED**

6 **Address: Pinxton, Nottingham, NG16 6JF**

7 This supplementary certificate extends EC-Type Examination Certificate No. BAS00ATEX2098X to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said Certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This Supplementary Certificate shall be held with the original Certificate.

This certificate may only be reproduced in its entirety and without any change, schedule included.

File No: EECS 0676/01/361

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I M CLEARE
DIRECTOR
29 August 2001



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Schedule**14 SUPPLEMENTARY EC-TYPE EXAMINATION CERTIFICATE N° BAS00ATEX2098X/3****Description of the Variation to the Equipment or Protective System****VARIATION 3.1**

Extension to the scope of this certificate to include Combustible Dust Atmospheres by virtue of compliance with EN 50281-1-1: 1998.

The certification marking is now amended as follows:-

UNIT DESIGNATION	POWER RATING	MARKING
DB4E	≤15W	Ⓔ II 2 GD EEx d IIC T100°C (-20°C T _{amb} +45°C)
	>15W	Ⓔ II 2 GD EEx d IIC T135°C (-20°C T _{amb} +40°C)
DB4LE	≤15W	Ⓔ II 2 GD EEx d IIC T100°C (-55°C T _{amb} +55°C)
	>15W	Ⓔ II 2 GD EEx d IIC T135°C (-55°C T _{amb} +50°C)
DB3E	≤15W	Ⓔ II 2 GD EEx d IIC T100°C (-20°C T _{amb} +45°C)
DB3LE	≤15W	Ⓔ II 2 GD EEx d IIC T100°C (-55°C T _{amb} +55°C)

Report No.

None.

Special Conditions For Safe Use

In addition to the conditions listed on the previous certificates:-

1. When used in dust atmospheres, the flameproof cable entry devices or stopping plugs shall be selected and installed to maintain the dust tight (IP6X) integrity of the enclosure.

Essential Health and Safety Requirements

The requirements for dust atmospheres (i.e. Category 2D) are now met by virtue of compliance with EN 50281-1-1: 1998.

DRAWINGS

Number	Issue	Date	Description
*199-366 Sheets 1 & 2	C	06/08/01	General Arrangement Type DB4 Speaker
*219-256	B	06/08/01	General Arrangement Type DB3 Sounder
199-367	B	06/08/01	Ex e Terminal Box

* Drawings are common to Certificate No. BAS00ATEX2097X/4 and are held on EECS file No. 0676/01/362.

This certificate may only be reproduced in its entirety and without any change, schedule included.

Certificate Number
BAS00ATEX2098X/4



Issued 6 December 2002
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1 SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE

**2 Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

**3 Supplementary EC - Type Examination Certificate BAS00ATEX2098X/4
Number :**

4 Equipment or protective system: DB4E SPEAKER UNIT

5 Manufacturer : MEDC

6 Address : Colliery Road, Pinxton, Nottingham NG16 6JF

7 This supplementary certificate, issued by Baseefa (2001) Ltd., Notified Body Number 1180, extends EC - Type Examination Certificate No.BAS00ATEX2098X to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This Supplementary Certificate shall be held with the original Certificate

The Electrical Equipment Certification Service, Notified Body Number 0600, retains responsibility for its original documentation. Baseefa (2001) Ltd. is responsible only for the additional work relating to this supplementary certificate and any other supplementary certificate that it has issued.

This certificate may only be reproduced in its entirety, without any change, Schedule included.

Baseefa (2001) Ltd. Customer Reference No.0676

Project File No.02/0208

This certificate is granted subject to the general terms and conditions of Baseefa (2001) Ltd. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

R S SINCLAIR

DIRECTOR

On behalf of

Baseefa (2001) Ltd.

Baseefa (2001) Ltd.

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Derbyshire, SK17 9BJ



Schedule

Description of the variation to the Equipment or Protective System

Variation 4.1

Introduction of an 1/2" NPT cable entry option for the Type DB3E & DB3LE Sounder Units only.

Variation 4.2

Optional increase in the maximum permitted ambient temperature to 70°C for units rated up to 15W only.

Units marked with the 70°C ambient have a Temperature Classification of T135°C.

Report No.

Baseefa Certification Report No. 02(C)0208

Special Conditions for Safe Use

As original certificate

Essential Health and Safety Requirements

As original certificate

Drawings and Documents

<u>Number</u>	<u>Issue</u>	<u>Date</u>	<u>Description</u>
* 199-366 Sheets 1 & 2	E	08/03/02	General Arrangement, DB4 Speaker
* 219-256	C	07/03/02	General Arrangement, DB3 Sounder
199-367	C	07/03/02	EEx e Chamber, DB4 Speaker

* These drawings are common to BAS00ATEX2097X and are held with that Certificate

Certificate Number
BAS00ATEX2098X/5



Issued 11 February 2003
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1 SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE

2 Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC

3 Supplementary EC - Type Examination Certificate Number: **BAS00ATEX2098X/5**

4 Equipment or Protective System: **TYPE DB4E SPEAKER UNIT**

5 Manufacturer: **MEDC Limited**

6 Address: **Pinxton Nottingham, NG16 6JF**

7 This supplementary certificate extends EC - Type Examination Certificate No. BAS00ATEX2098X to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

The original certificate was issued by The Electrical Equipment Certification Service, Notified Body Number 0600, which retains responsibility for its original documentation. Baseefa (2001) Ltd., Notified Body Number 1180, is responsible only for the additional work relating to this supplementary certificate and any other supplementary certificate it has issued.

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa (2001) Ltd. Customer Reference No. 0676

Project File No. 03/0141

This certificate is granted subject to the general terms and conditions of Baseefa (2001) Ltd. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

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On behalf of
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Certificate Number
BAS00ATEX2098X/5




Issued 11 February 2003
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Schedule

13 Description of the variation to the Equipment or Protective System

Variation 2.1

Alternative certification option for the Type BK4 or BK6 Terminals. The terminals may now be to either EC Type Examination Certificate No. Sira 01ATEX3247U, coded  II 2GD EEx e II, or BAS98ATEX3084U as originally specified.

14 Report Number

None

15 Special Conditions for Safe Use

None additional to those listed previously

16 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

17 Drawings and Documents

Number	Issue	Date	Description
199-367	D	05/02/03	General Arrangement, EEx e Terminal Chamber



1 **SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

3 Supplementary EC - Type Examination Certificate Number: **BAS00ATEX2098X/6**

4 Equipment or Protective System: **DB4E SPEAKER UNIT**

5 Manufacturer: **MEDC Limited**

6 Address: **Colliery Road, Pinxton, Nottingham NG16 6JF**

7 This supplementary certificate extends EC - Type Examination Certificate No. BAS00ATEX2098X to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

The original certificate was issued by The Electrical Equipment Certification Service, Notified Body Number 0600, which retains responsibility for its original documentation. Baseefa (2001) Ltd., Notified Body Number 1180, is responsible only for the additional work relating to this supplementary certificate and any other supplementary certificate it has issued.

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa (2001) Ltd. Customer Reference No. 0676

Project File No. 04/0233

This certificate is granted subject to the general terms and conditions of Baseefa (2001) Ltd. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

Baseefa (2001) Ltd.

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Certificate Number BAS00ATEX2098X/6

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Description of the variation to the Equipment or Protective System

Variation 6.1

Optional addition of a diode and/or a transient voltage suppressor to the terminals of the sounder PCB in the DB3E & DB3LE Units.

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Report Number

None

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Special Conditions for Safe Use

None additional to those listed previously

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Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

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Drawings and Documents

Number	Issue	Date	Description
* 219-256	D	16/03/04	General Arrangement, DB3 Sounder Units

* This drawing is common to, and held with, BAS00ATEX2097X