

STROUD DISTRICT COUNCIL

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[REDACTED]

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Our Ref: 11/1662/FI01

3rd May, 2011

Dear [REDACTED]

Freedom of Information Request by [REDACTED]
Motocross Circuit, Frocester Hill, Frocester, Stonehouse, Glos.

The following constitutes a written response to your Freedom of Information request made on 27th April, 2011. The numbering correlates to that used in your original request.

1. Copies of Stroud District Council's Complaints and Enquiries System Procedure and Environmental Health Division Enforcement Policy are attached.
2. Stroud District Council does not maintain a technical procedure of the type described as sound level meters are precision instruments producing verifiable sound level readings in the form of a digital display. I can confirm the following equipment was used to take the sound level measurements relating to the Frocester Hill motocross circuit:-
 - a Type 1 Bruel & Kjaer 2236 precision integrating sound level meter (product data sheet attached) was used to take the measurements; and
 - a Bruel & Kjaer Type 4231 sound calibrator was used to calibrate the sound level meter before and after measurements.

Sound level meters are independently calibrated for compliance to the manufacturer's original specification every 2 years at a NAMAS accredited testing facility in accordance with British Standard BS7580 Part 1. Certificates are not retained indefinitely and thus the certificate covering usage on 16th December 2007 and 6th January 2008 is not now available.

Sound calibrators are independently calibrated for compliance to the manufacturer's original specification on an annual basis at a NAMAS accredited testing facility in accordance with British Standard BS7580 Part 1. Certificates are not retained indefinitely and thus the certificate covering usage on 16th December 2007 and 6th January 2008 is not now available.

3. See 4. below.



David Hagg: Chief Executive



4. Sound Level Measurement Records are attached providing the requested readings for both the background noise and specific noise scenarios. As you can see, the Records also provide the dates and times of the readings and the identity of the Officer. However, the location from which the readings were taken lies within the curtilage of a private dwelling and thus the exact location address has been redacted. I can, though, inform you that the location was approximately 1500 metres NNE of the circuit.

5. Within the Environmental Protection team of Stroud District Council, sound level measurements are taken by two officer grades, Principal Environmental Health Officers (PEHOs) and Environmental Protection Officers (EPOs).

The former grades are registered with the Environmental Health Registration Board as "*having produced evidence of training and of a level of qualification deemed satisfactory by the Chartered Institute of Environmental Health*". One PEHO is also an Associate Member of the Institute of Acoustics having obtained a Diploma in Acoustics and Noise Control.

EPOs are fully trained in the use of all sound level measurement equipment both externally and in-house by the PEHOs referred to above.

6. The area covered by the Abatement Notice (served on 11th January 2008) was specified in Appendix 1 of that Notice on an Ordnance Survey map of the area. I attach a copy of that appendix for your further information.

7. See attached document entitled "Basis of Limitation of Motocross Activities to 4 Days Per Annum".

8. The Abatement Notice served on the Frocester Hill circuit makes no reference to "*motocross events*" but refers to "*motocross activities*". The Abatement Notice continues to represent the existing control for the circuit and quite clearly the riding of a motocross bike around a circuit meets the criterion of a "*motocross activity*". Thus, it is entirely possible that personal use of the circuit could breach the conditions forming part of the Notice.

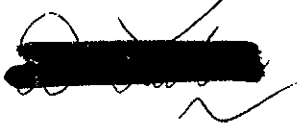
I would take this opportunity to stress that the Council always seeks to be sensible about extraordinary usage circumstances, as indeed was demonstrated the response to those recently arising from the unauthorised use of the Frocester circuit. However, you must understand that Abatement Notices are designed to control noise and any use of a circuit for motocross activity, whether it be personal or commercial in nature, has the capacity to create noise amounting to a nuisance.

9. The Council does not produce a policy specifically to assure impartiality. However, all Council activities are subject to checks and balances *via* both the management structure and elected representatives. Additionally, of course, all enforcement activities are subject to challenge *via* the legal system. If it is felt that these controls have not served to ensure impartiality then it is suggested that an approach to the Local Government Ombudsman could serve to provide an independent judgment on such a matter.

It is hoped that the above, allied to the attached documentation, serves to fully provide the requested information.

Should you wish to discuss matters further, please contact me using the details at the head of this letter.

Yours sincerely,

A handwritten signature is present, but it has been completely redacted with a thick black horizontal bar. The signature appears to be written in dark ink on a white background.

Principal Environmental Health Officer.

COMPLAINTS AND ENQUIRIES SYSTEM PROCEDURE.

1. Complaints are received by the Directorate in many ways: - Letter, Telephone, Personal visit, Memo, E-mail or Officer observation.
2. All the relevant details **must** be entered onto the *Uniform* complaints system by whoever initially receives the details. Responsibility for the accuracy of details must, though, reside with the Officer who deals with the complaint/enquiry.

See Appendix 1 for list of which parish is dealt with by each officer/team and Appendix 2 for a list of Who's Who.

3. As the job progresses, the assigned officer **must ensure that all actions and other relevant information are entered on the *Uniform* system as they occur.** It is also essential that all other officers who have any involvement with the job add their own inputs to the record immediately.
4. As soon as any paper correspondence is received, the officer **must** either:-
 - print out a Job Sheet to which the correspondence should be attached and which is then to be kept in the officer's Active Complaint File; and/or
 - scan the document and attach it to the job via the Correspondence command.

This is to make sure that during an officer's absence, other members of staff may speedily access all relevant information regarding any complaint.

5. All letters sent out **must** have the *Uniform* job number reference on it as well as the officer name, e-mail address and telephone number.
6. When closing a complaint, the officer **must** print out an updated final Job Sheet Report, attach all paperwork which has accumulated in the ACF file to it and then place it in the tray on top of the bookcase in the Environmental Protection Manager's bay.
7. ***Note: Where noise complaints are received in respect of subject properties where the occupiers are Council tenants, the matter should be referred in the first instance to the relevant Estates Officer for initial action.***

8.

COMPLAINTS INVESTIGATION PROCEDURAL UPDATE 17TH NOVEMBER 2010. ROBERT WEAVER

This revision document follows a recent ombudsman case against Test Valley District Council, where the Council failed to take into account the measures put forward in the following document:

“Neighbourhood Noise – Policies and Practice for Local Authorities – a Management Guide”.

This guidance document contains useful information on the whole process of investigating complaints and I would recommend that all Officers make themselves familiar with its content.

In relation to this update, the document makes it clear that a local authority should not approach the alleged perpetrator of a statutory nuisance until it can corroborate the allegations.

‘Corroboration’ can generally be taken as meaning that some initial evidence should be gathered in the first instance.

As a result of this guidance, the Environmental Protection standard letters have been amended to advise complainants that as a minimum, nuisance monitoring sheets will be required before further action can be taken by Council Officers. The duration over which these forms should be completed will be arranged with the complainant depending on the nature of the problem.

No letter will be sent to the alleged subject unless or until, the case Officer has some supporting information to warrant approaching the subject.

The key objective of this guidance is in preventing the Council becoming drawn into neighbour disputes and risking legal action from an unsubstantiated complaint.

The case Officer has sufficient knowledge, training and experience to determine what constitutes ‘sufficient information’ to corroborate an allegation and as part of their assessment, shall consider one or more of the following actions:

- Ensure sufficient nuisance monitoring forms have been completed and returned.
- Undertake personal monitoring visits at a time when there is a fair chance of witnessing the alleged disturbance.

In the case of visits, Officers should be mindful of the flexible working approach, allowing them to make visits either before or after normal office hours, or if required, at weekends.

- Installing and reviewing MATRON noise monitoring equipment.

The installation of MATRON without advising the subject of the complaint does not breach the requirements of Regulation of Investigatory Powers Act 2000. (RIPA).

- Requesting the assistance of Neighbourhood Warden’s in undertaking monitoring visits and reporting back to the case Officer.
- Discuss the case with colleagues and the Environmental Protection Manager to determine most appropriate course of action in relation to the specific complaint.

Once suitable and sufficient information has been obtained, the complaint will be processed in the normal way.

APPENDIX 1: List of Parishes/Officers

Parish	Parish Code	Animal Complaint	Pollution Complaint
Alderley	ALD	Alex Davies	P2
Alkington	ALK	Alex Davies	P1
Arlingham	ARL	Natasha Anderson	P1
Berkeley	BER	Alex Davies	P1
Bisley-with-Lypiatt	BIS	Natasha Anderson	P2
Brookthorpe	BRO	Natasha Anderson	P2
Cam	CAM	Alex Davies	P1
Chalford	CHA	Natasha Anderson	P2
Coaley	COA	Alex Davies	P1
Cranham	CRA	Natasha Anderson	P2
Dursley	DUR	Alex Davies	P1
Eastington	EAS	Natasha Anderson	P1
Elmore	ELM	Natasha Anderson	P1
Frampton-on-Severn	FRA	Natasha Anderson	P1
Fretherne-with-Saul	FRE	Natasha Anderson	P1
Frocester	FRO	Alex Davies	P1
Ham & Stone	H&S	Alex Davies	P1
Hamfallow	HAM	Alex Davies	P1
Hardwicke	HAR	Natasha Anderson	P1
Harescombe	HRE	Natasha Anderson	P2
Haresfield	HRF	Natasha Anderson	P1
Hillesley & Tresham	H&T	Alex Davies	P2
Hinton	HIN	Alex Davies	P1
Horsley	HOR	Alex Davies	P2
Kings Stanley	KGS	Natasha Anderson	P2
Kingswood	KWD	Alex Davies	P2

C1

Leonard Stanley	LDS	Natasha Anderson	P2
Longney & Epney	LON	Natasha Anderson	P1
Minchinhampton	MIN	Natasha Anderson	P2
Miserden	MIS	Natasha Anderson	P2
Moreton Valence	MNV	Natasha Anderson	P1
Nailsworth	NAI	Alex Davies	P2
North Nibley	NNY	Alex Davies	P2
Nymphsfield	NYM	Alex Davies	P2
Owlpen	OWL	Alex Davies	P2
Painswick	PAI	Natasha Anderson	P2
Pitchcombe	PIT	Natasha Anderson	P2
Randwick	RAN	Natasha Anderson	P2
Rodborough	ROD	Natasha Anderson	P2
Slimbridge	SLM	Alex Davies	P1
Standish	STA	Natasha Anderson	P1
Stinchcombe	STI	Alex Davies	P1
Stonehouse	STO	Natasha Anderson	P1
Stroud	STR	Natasha Anderson	P2
Thrupp	THR	Natasha Anderson	P2
Uley	ULY	Alex Davies	P2
Upton St. Leonards	UPT	Natasha Anderson	P2
Whiteshill	WHI	Natasha Anderson	P2
Whitminster	WHM	Natasha Anderson	P1
Woodchester	WOD	Natasha Anderson	P2
Wotton-under-Edge	WOT	Alex Davies	P2

STROUD DISTRICT COUNCIL

ENVIRONMENTAL HEALTH DIVISION

ENFORCEMENT POLICY

1.0 General Enforcement Policy

- 1.1 This Council supports the judicious use of its statutory enforcement powers, including the prosecution of offenders, as an effective means of ensuring that local premises, practices and activities comply with statutory requirements and do not put consumers health, safety and well being at risk.
- 1.2 The Council adopted the "Enforcement Concordat" in March 1998. Officers will put procedures in place to ensure that the principles of good enforcement are rigorously applied in all dealings with businesses and members of the public.

2.0 Principles of Enforcement

2.1 Standards

In consultation with businesses and other relevant parties the Council will draw up clear standards setting out the level of service and performance the public can expect to receive. It will publish these standards and its annual performance against them.

2.2 Openness

The Council will provide advice in plain language on the rules that are applied and will disseminate this as widely as possible. The Council will be open about how it sets about its work, including any charges that are set and will consult with interested parties. Officers will discuss general issues, specific compliance failures or problems with anyone experiencing difficulties.

2.3 Helpfulness

The Council will actively work with people to advise on and assist with compliance and will encourage individuals and businesses to seek advice and information. Officers will provide a courteous and efficient service and will provide a contact point and telephone number for further dealings with the Council. Applications for approval of licenses, registrations, grants etc., will be dealt with efficiently and promptly. The Council will try to ensure that its enforcement services are effectively co-ordinated to minimise unnecessary overlaps and time delays.

2.4 Complaints about the Service

Complaints about the service may be made in writing to the Head of Environmental Health at the Council Offices, Ebley Mill, Westward Road, Stroud. Gloucestershire, GL5 4UB or by telephoning the direct dial number 01453 754443 or, in fact, by a personal visit to the Council Offices.

2.5 Proportionality

The Council will minimise the cost of compliance for businesses and individuals by ensuring that any action taken is proportionate to the risks or wider public benefit. As far as the law allows officers will take account of the circumstances of the case, and the attitudes of those concerned. Officers will have regard to the human rights of all parties involved in a case.

The Council will take particular care to work with small businesses and voluntary and community organisations so that they can meet their legal obligations without unnecessary expense, where practicable.

2.6 Consistency

The Council will carry out its duties in a fair and equitable and consistent manner. Whilst officers will exercise judgement in individual cases the Council will have arrangements in place to promote consistency, including effective arrangements for liaison with other authorities and enforcement bodies. Officers will have regard to national codes of practice and guidelines issued by government or recognised organisations.

3.0 Prosecution and Cautioning of Offenders

- 3.1 The Director of Housing and Environmental Services is authorised to direct the Solicitor to the Council to undertake prosecutions for offences under legislation falling within his *delegated powers*.
- 3.2 The prosecution of offenders should be the ultimate deterrent to be used judiciously, but without hesitation, against those businesses or individuals which put the health and safety of consumers at risk.
- 3.3 The Director may exercise his delegated powers provided that one or more of the following conditions are satisfied: -
- i) that the alleged offence involves a clear breach of the law such that public health, safety or well being is put at risk.
 - ii) that the alleged offence involved a failure by the defendant to comply with the lawful, written directions of authorised officers and the defendant had been given reasonable opportunity to comply with those directions.
 - iii) that the offence involved a failure by the defendant to comply, in full or in part, with the requirements of a statutory notice.

If one or more of the above conditions cannot be satisfied, the Director shall report the facts of the case to the Cabinet for a decision on whether or not to prosecute.

- 3.4 Before making any decision to prosecute the Director of Housing and Environmental Services shall take into account: -

- i) the relative seriousness of the alleged offence
 - ii) the previous history of the party concerned
 - iii) any mitigating circumstances surrounding the alleged offence and any explanation offered by the offenders
 - iv) the willingness of the party to take all practicable steps to prevent a recurrence of the problem
 - v) the views of any injured party
 - vi) the probable public benefit of a prosecution and the importance of the case
- 3.5 The Director shall also consider whether some other action, such as issuing a formal caution, in accordance with Home Office Circular 59/1990, or an improvement notice or imposing a prohibition would be more appropriate or effective. In certain circumstances improvement notices or prohibition notices may be served in addition to the prosecution or cautioning of the offender.
- 3.6 The Director and Solicitor shall have regard to the criteria contained in the Crown Prosecution Services "Code for Crown Prosecutors", *Home Office Circular 18/1994 "The Cautioning of Offenders"*, and Food Safety Act 1990: Code of Practice No 2: "Legal Matters"

4.0 Statutory Notices

4.1 General

- 4.1.1 Statutory Notice procedures should be seen as a positive alternative to the more confrontational approach of prosecution in respect of contraventions of statutory requirements. *Before formal action is taken officers must provide an opportunity to discuss the circumstances of the case and, if possible, resolve points of difference. Where immediate action is necessary an explanation of why such action was required will be given and confirmed in writing.*
- 4.1.2 Enforcement officers should give a realistic time period for compliance but should also take into account any previous informal notice given to the recipient. Officers may extend the time period of statutory notices if they are satisfied that the recipient is making reasonable progress with the work or has genuine reasons for requesting more time.
- 4.1.3 The rights of appeal against formal action and advice on the appeal mechanism will be clearly set out in writing at the time the action is taken.
- 4.1.4 Failure to comply with a statutory notice will invariably result in Court proceedings or works in default and officers must not issue statutory notices unless they are satisfied that such proceedings are likely to be successful.

4.2 Improvement Notices

- 4.2.1 Should be seen as a contract between the recipient and the enforcement officer to complete programmes of remedial work within specified time limits.
- 4.2.2 Improvement Notices should be issued to secure significant improvements provided the following criteria are satisfied:
 - i) the enforcement officer has reason to believe that an informal approach would not result in the expeditious compliance with his/her requirements. (An improvement notice should always be considered following an informal approach which has failed) or
 - ii) the improvements are required to remove a significant health or safety risk.
- 4.2.3 Enforcement Officers are expected to comply with any enforcement guidance issued by Central Government or by the Health and Safety Commission, the Food Standards Agency or other authoritative body.

4.3 Prohibition Notices

- 4.3.1 The judicious use of prohibition notices will ensure that premises, practices or processes which, by their continuance, put employees or consumer's health or safety at risk, can be stopped quickly and efficiently.
- 4.3.2 Where officers believe that there is an imminent risk to health or safety then action should be taken to close the business or prohibit the process; practice or equipment giving rise to the risk. Officers must, however, ensure that the extent of a prohibition is limited to the minimum necessary to remove the risk.
- 4.3.3 Where a proprietor or employer offers to close voluntarily (this should never be prompted) the authorised officer may accept such an offer provided he/she is satisfied that there is no risk of the premises being reopened without his/her knowledge or agreement and the proprietor/employer provides written confirmation of the offer. Voluntary agreements should not be accepted in respect of practices, processes or the use of equipment.
- 4.3.4 Enforcement Officers are expected to comply with any enforcement guidance issued by Central Government or by the Health and Safety Commission or Food Standards Agency or other authoritative body.

4.4 Other Enforcement Notices

- 4.4.1 Abatement notices and notices requiring the execution of works (which by their issue create an offence) should be served where there is clear evidence that the service of the notice is necessary to ensure compliance with legislation or abatement of a situation which is prejudicial to health or a nuisance and officers are satisfied that an informal approach would not achieve the required result.

5.0 Communication

- 5.1 Advice from an officer will be put clearly and simply and will be confirmed in writing, on request, explaining why any remedial work is necessary and over what time scale, and making sure that legal requirements are clearly distinguished from best practice advice.
- 5.2 Where officers have reason to believe that a person has difficulty in understanding the requirements of a written communication they will ensure have it translated or otherwise explained to them. If necessary, officers will engage a translator to explain the requirements of the notice.

6.0 Provision for Interests of Businesses and Consumers

- 6.1 This enforcement policy has taken into account the interest of consumers and businesses in the Stroud District. Visits to businesses sometimes occur out of normal working hours to cope with their extended operating hours. Similarly, residents may only be available in the evenings, particularly in relation to noise complaints and visits are often arranged for mutual convenience. Interpreters and a translation service is available where businesses, consumers and residents do not have English as a first language.

7.0 Liaison with Other Agencies

- 7.1 The Council will maintain effective mechanisms for communication and liaison with other agencies that may have a joint enforcement role.
- 7.2 If another agency is better able to provide a service in any particular case the Council will pass on the relevant details to that agency and advise the person requesting the service accordingly.

Product Data

Precision Integrating Sound Level Meter — Type 2236

USES:

- Measuring environmental noise
- Measuring occupational noise
- Frequency analysis of sound sources

FEATURES:

- Conforms with IEC 651 (1979) and 804 (1985) Type 1
- Conforms with ANSI S1.4-1983 and Draft S1.43-199X Type 1
- Calculates and displays L_N values*

- Simultaneous RMS and Peak measurements with independent frequency weighting
- Automatic logging of results
- Performs complete statistical analyses
- 40 records of manually stored results
- Back-lit display
- Automatic-start allows for unattended measurements
- Optional octave filter

* user-definable for USA, UKe and Japanese models

Precision Integrating Sound Level Meter Type 2236 is a Type 1 instrument, designed to meet stringent standards in environmental- and occupational-noise measurement.

As Type 2236 is designed to fulfil the national standards and directives, all parameters can be obtained from the one measurement. This saves both time and money.

Measurements are displayed on a large (4 lines, 16 characters/line) LCD screen. The SPL (RMS) is continuously monitored on a quasi-analogue display. The digital output allows interfacing with personal computers and printers, for further data processing/presentation and printing.

The linearly-weighted AC output allows for a direct calibrated recording (on Digital Audio Tape, for example), enabling later analysis.

Description

Precision Integrating Sound Level Meter Type 2236 has been designed specifically for environmental- and occupational-noise measurements.

Double-detector

A unique feature of the 2236 is that RMS and Peak detection occurs in parallel. In this way the sound level meter can display both the RMS value and the Peak value of the same signal — particularly useful when analyzing transients or impulses.

Intuitive User-interface

The clearly marked arrows and symbols on the front panel, combined with the large LCD screen (with back light) make the sound level meter very easy to learn and use. The display

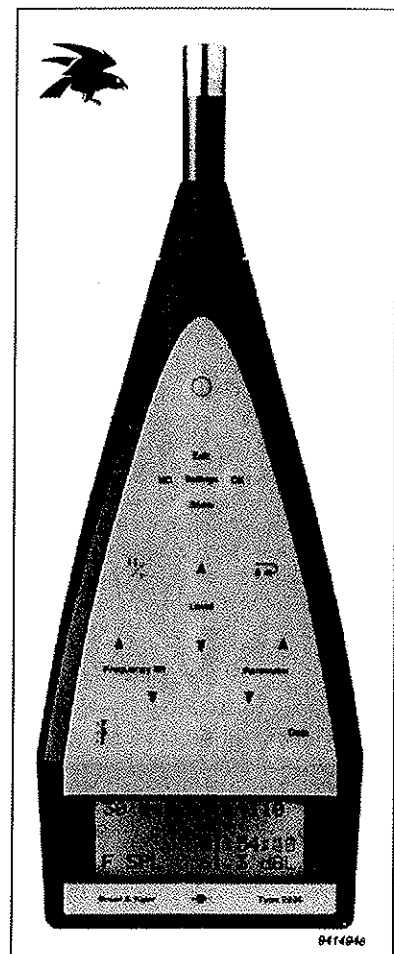
is clear and concise, and an interactive dialog guides you through your measurement, quickly and efficiently. Warnings are also given when you attempt to change a set-up parameter once you have started your measurement.

Statistics

The sound level meter has three user-definable L_N values (only two fixed ones for the International version). With the USA and UKe models you can also perform Level and Cumulative Distributions on the results, allowing basic statistics on the spot.

Real-time Clock

The 2236 sound level meter has a real-time clock for marking results with the date and time of any measurement — particularly useful for storing data for future use or pres-



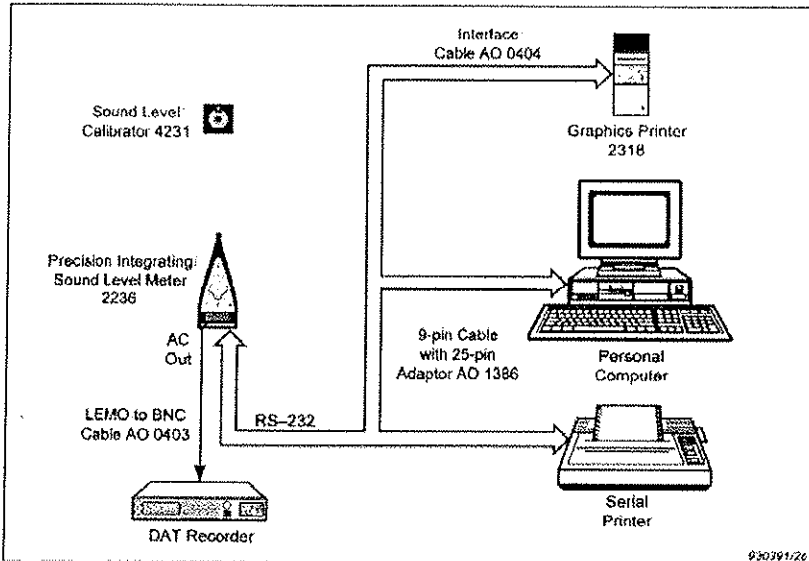


Fig. 1 System setup for printing, recording and transferring results from the sound level meter

entation. The clock can be set directly from the front panel of the sound level meter, or over the digital interface.

Auto-start

The real-time clock has a timer feature which allows you to set up the sound level meter so that it automatically starts measuring at a predefined point in time (up to one month ahead).

Data Storage & Processing

For each individual measurement, the sound level meter logs the time, L_{eq} , and depending on the version, MaxL and MaxP, or L_{10} and L_{90} . This information is stored as a set. You can store up to 21600 sets of results (for example, 6 hrs logging at 1 s intervals) in the sound level meter's 128Kbyte non-volatile memory. These results can be transferred in a spreadsheet-compatible format via the built-in serial interface to a PC for additional analysis or graphical presentation.

Interfacing to External Devices

The sound level meter communicates to external devices via the interface. By using the 9-pole to LEMO Cable AO0404, and 9-pole Cable with 25-pole Adaptor AO 1386 you can easily connect the sound level meter to Graphics Printer Type 2318, a PC or a serial printer.

The AC output of the sound level meter can also be connected to a DAT recorder via LEMO to BNC Cable AO 0403.

AC & DC Outputs

The AC output from the sound level meter is the unweighted output signal from the preamplifier. This can be recorded on a DAT recorder, and used for further spectral analysis and noise source identification.

The DC output is the analogue equivalent of whatever parameter is currently being measured, except that it does not include the correction for the range and the microphone K-factor.

Printing Results

Once you've finished measuring you can print your results, either on the lightweight Graphics Printer Type 2318, Serial Printer Types WQ 1138, EQ 4001 or EQ 4002, or any standard serial printer.

Simplified Calibration

The sound level meter employs a very user-friendly calibration technique. Once you have fitted the calibrator (Sound Level Calibrator Type 4231, Multifunction Acoustic Calibrator Type 4226 or a similar calibrator), the sound level meter calculates the correction and prompts you either to continue with the old calibration, or do an automatic re-calibration.

Optional Features

Internal Filters

Type 2236 is also available with nine built-in $1/1$ -octave filters at $1/1$ -octave

intervals. These band-pass filters have centre frequencies of 31.5 Hz, 63 Hz, 125 Hz, 250 Hz, 500 Hz, 1 kHz, 2 kHz, 4 kHz and 8 kHz.

dB2XL Software

The dB2XL software allows you to transfer the measurement results from the sound level meter directly into a Microsoft[®] Excel spreadsheet, and to produce basic graphs.

Reporter[™] Software

This, more comprehensive software, allows you to generate reports from the measurement results obtained from the sound level meter and display them.

Accredited Calibration

The sound level meter can also be sold with an accredited calibration that conforms to IEC 651 and IEC 804.

Example Printout

Fig. 2 shows a printout from Graphics Printer Type 2318 for a Level Distribution measurement.

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                Bruel & Kjaer
                SILM Type 2236

SETTINGS:
-----
F                    50-130 dB
RMS: A                Peak:C

LOGGED RESULTS:
-----
12 Apr 1993          15:11:19

hhmmss      Leq  MaxL  MaxP
            [dB] [dB]  [dB]

151119      73.8  82.0  95.7
151120      78.6  89.1  99.0
151124P     76.1  86.8  96.5
151125      78.4  92.3  102.6
151126O     75.1  91.2  103.7
151128&     78.1  93.5  103.9
151129      77.7  93.0  103.3
151130      77.7  93.0  103.3
151131      72.8  88.9  98.8
151132      74.3  91.5  101.6
151133      63.7  79.9  88.8
151134      69.3  83.8  93.1
151135      60.6  77.7  84.4
151136      70.2  88.4  98.2
151137      68.0  87.1  96.8
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Fig. 2 Printer (24 character/line) output format with short heading

Specifications 2236

STANDARDS:

Conforms with IEC 651 (1979) and 804 (1985) Type 1, and ANSI S1.4 - 1983 and Draft S1.43, 6th September, 1992 Type 1
 1/1-octave filter set conforms with IEC 225 - 1966 and ANSI S1.11-86, order 3, Type 1-D (Types 2236 C and 2236 D only)

MEASURING RANGES:

Range (dB)	Max. Peak level	Upper limit (RMS) for signals with crest factor = 10 (20dB)
10 [†] - 90	93	73
20 [†] - 100	103	83
30 - 110	113	93
40 - 120	123	103
50 - 130	133	113
60 - 140	143	123

* Only available with Types 2236 C and 2236 D when filter selected.

Level non-linearity caused by noise floor is < 0.4 dB at 30 dB(A) (re IEC 651) and < 1 dB at 26 dB(A)

† Level non-linearity caused by noise floor is < 0.4 dB at 30 dB(A) (re IEC 651) and < 1 dB at 26 dB(A)

NOISE FLOOR:

Typically: 18 dB(A)

Maximum: 20 dB(A) RMS

Includes preamplifier's electrical noise and microphone's thermal noise

DETECTORS:

Simultaneous RMS and Peak with independent frequency weightings

Linearity Range: 80 dB

Pulse Range: 83 dB

Non-linear Distortion: Too small to affect accuracy

Peak Detector Rise Time: < 50 μs

FREQUENCY WEIGHTING:

Selected independently for RMS and Peak

RMS:

A, C according to IEC 651 Type 1

L: flat from 10 Hz to 20 kHz (±2 dB) with Type 1 tolerances

Peak:

C according to IEC 651 Type 1

L: flat from 10 Hz to 20 kHz (±2 dB) with Type 1 tolerances

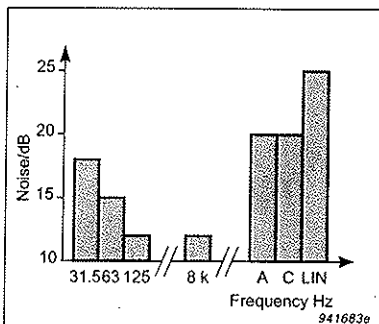
FILTER (only available with Types 2236 C and 2236 D):

Band-pass Filters: Nine 1/1-octave filters at 1/1-octave intervals (base 10)

Centre Frequencies: 31.5, 63, 125, 250, 500 Hz, 1, 2, 4, 8 kHz

Maximum Noise Floor in Each Frequency Band:

See diagram for details



TIME WEIGHTING:

Int.	USA	UKi	UKe	Jap.
S, F, I	S, F, I	S, F	S, F, I	S, F, I

according to IEC 651 Type 1

DISPLAY:

4 line LCD showing:

- Measuring range and quasi-analogue bar showing input signal
- Battery low, pause and overload with hold indicators
- Time weighting and elapsed measurement time
- Frequency weighting (Peak or RMS) or filter centre frequency (only available with Types 2236 C and 2236 D), selected parameter with level

Optional back-light

The quasi-analogue bar is updated 15 times per second

Displayed parameter level updated once per second

PARAMETERS:

Common (and UKi only): MaxL, MinL, MaxP, Peak, SPL, L_{eq}, SEL, L_{EP,d} and Overload in % of measurement time

Specific:

	Int.	USA	UKe	Jap.
L _m	✓	✓	✓	✓
Inst.				✓
IEL	✓	✓	✓	
LAE				✓
LCE				✓
LLE				✓
L _{AV,4}		✓		
L _{AV,5}		✓		✓
Variable L _N		✓	✓	✓
Defaults (fixed for Int. Version)	L ₉₅ L ₅	L ₉₀ L ₅₀ L ₁₀	L ₉₀ L ₅₀ L ₁	L ₉₅ L ₅₀ L ₅

Resolution:

L_N Values: 0.5 dB

Other Parameters: 0.1 dB

EXCHANGE RATE:

Int.	USA	UKi	UKe	Jap.
3	3, 4, 5	3	3	3, 5

RESET:

Resets Buffer (including elapsed time) to zero.

Warning prior to reset if elapsed time > 1 min.

Reset when changing frequency or time weighting

Resets all results in Log, Memory and Buffer if held down together with (Data)

Optional reset when changing level of measurement range (L_Ns not available if range change is without reset)

Resets all results in Log, Memory and Buffer if held down together with (Data)

Optional reset when changing level of measurement range (L_Ns not available if range change is without reset)

Optional reset when changing level of measurement range (L_Ns not available if range change is without reset)

Optional reset when changing level of measurement range (L_Ns not available if range change is without reset)

MICROPHONE:

Type 4188 polarized free-field 1/2" condenser microphone

Sensitivity: -30 dB re 1V/Pa ±2 dB

Frequency Range: 8 Hz to 12.5 kHz ±2 dB

Capacitance: 12 pF

MEMORY:

40 Records of Overall Results

RESULT LOGGING:

Int.	USA	UKi	UKe	Jap.
L _{eq}	L _{eq}	L _{eq}	L _{eq}	L _{eq}
MaxL	L ₁₀	MaxL	L ₁₀	L ₅
MaxP	L ₉₀	MaxP	L ₉₀	L ₉₅

Log Rate	Log Cap.	Int.	USA	UKi	UKe	Jap.
0.1s	36 m		✓		✓	✓
1s	6 h	✓	✓	✓	✓	✓
10s	2 1/2 d		✓	✓	✓	✓
30s	7 1/2 d			✓	✓	✓
1m	15 d	✓	✓	✓	✓	✓
5m	75 d			✓	✓	✓
10m	150 d		✓	✓	✓	✓
15m	225 d			✓	✓	✓
30m	450 d		✓	✓	✓	✓
60m	900 d		✓	✓	✓	✓

* only L_{eq} logged at this rate

Logged To: log or interface

Memory Capacity: 128Kbytes (Types 2236 A and 2236 C). Equivalent to 21600 sets of results (for example, 6hrs of 1s logging).

512Kbytes (Types 2236 B and 2236 D). Equivalent to 86400 sets of results (for example, 24hrs of 1s logging)

SERIAL INTERFACE:

Compatible with EIA-574

Compatible with EIA-232-E with 25-pole adaptor

Baud Rate: 1200 - 19200 (1200 - 9600 for Japanese version)

Data Bits: 8

Stop Bit: 1

Parity: None

Handshake: Hardwire, XON/XOFF or None

Result Output Formats	Int.	USA	UKi	UKe	Jap.
Overall	✓	✓	✓	✓	✓
Logged (Printer)	✓	✓	✓	✓	✓
Logged (2318)	✓	✓	✓	✓	✓
Logged (Spreadsheet)	✓	✓	✓	✓	✓
Level Distribution		✓		✓	✓
Cumulative Distribution		✓		✓	✓
Distribution Resolution (dB)		1 or 5		1 or 5	0.5, 1, 2, 5, 10

Heading: Long or short (only short for USA model)

DC OUTPUT:

Short-circuit protected coaxial LEMO socket (series 00)

Output: 50mV/dB equivalent to 0 – 4.15V
Output Resistance: 100Ω
Output Parameter: Same as the Displayed Parameter (Detector Output on Japanese model)
Updated: every second (160 times/second for Japanese model)

AC OUTPUT:

Short-circuit protected coaxial LEMO socket (series 00)
Max. Output: 0.5V RMS corresponding to the top of the selected measurement range ±2dB depending on the microphone's sensitivity
Output Resistance: 100Ω
Output: Output signal from preamplifier (L frequency weighting)

CLOCK:

Real-time (calendar) and measurement duration
 Factory set to CET (GMT+1)

WARM-UP TIME:

<5s

SETTLING TIME:

At Range Change without Reset: <4ms

CALIBRATION CONDITIONS:

Reference Frequency: 1000Hz
 Reference SPL: 94dB

Reference Range: 50 – 130dB (set automatically during calibration sequence)
Reference Direction of Incidence: Frontal
Calibration Correction with Extension Cable: 0dB

ENVIRONMENTAL EFFECTS:

Storage Temperature: –25 to +70°C (–13 to +158°F)
Operating Temperature: –10 to +50°C (14 to 122°F)
Effect of Temperature: <0.5dB (–10 to +50°C)
Effect of Humidity: <0.5dB for 30%<RH<90% (at 40°C, 1kHz)

VIBRATION SENSITIVITY:

<80dB with L-weighting at 1m/s²

EFFECT OF MAGNETIC FIELD:

80A/m (1Ørsted) at 50Hz gives <34dB (L)

ELECTROMAGNETIC COMPATIBILITY:

Designed to Fulfil:

Emission:

EN50081–1: residential, commercial and light industry (including EN55022 class B)
 EN50081–2: industrial environment

FCC class B part 15J

CISPR22 class B

Immunity:

EN50082–1: residential, commercial and light industry
 prEN50082–2: industrial environment

BATTERIES:

Four 1.5V LR6/AA size alkaline cells
Lifetime (at room temperature):
 Typically > 12hrs for Types 2236A and 2236B
 Typically > 10hrs for Types 2236C and 2236D
Internal back-up battery:
Charging time: ~10hours (1st time)
 Keeps clock and memories operating for at least 6months (typically) if fully charged

EXTERNAL POWER SUPPLY:

Must fulfil the following specifications
Voltage: regulated or smoothed 7–15V DC
Voltage Ripple: <100mV peak to peak
Maximum Current: 400mA
Average Current: ~100mA at 7V

Socket:

Pin: Positive
 Casing: Signal Ground
 Pin Diameter: 2.0mm
 External Diameter: 5.5mm

PHYSICAL CHARACTERISTICS:

Size: 257×97×41mm
 Weight: 460g (including batteries)

Ordering Information

- 2236A–xxx Precision Integrating Sound Level Meter with 128 Kbyte memory
- 2236B–xxx Precision Integrating Sound Level Meter with 512 Kbyte memory
- 2236C–xxx Precision Integrating Sound Level Meter with 128 Kbyte memory and 1/1-octave filter set
- 2236D–xxx Precision Integrating Sound Level Meter with 512 Kbyte memory and 1/1-octave filter set

The –xxx extension refers to the particular English-language version.

Version	–xxx Extension
International (Int.)	–002
United States (US)	–007
United Kingdom Industrial-noise (UKI)	–008
United Kingdom Environmental- and Industrial-noise (UKE)	–009
Japanese (Jap.)	–010

- Includes the following accessories:**
- 4 × QB0013 1.5V LR6/AA alkaline cells
 - Type 4188 Prepolarized Free-field 1/2" Microphone
 - KE0323 Shoulder Bag
 - UA1236 Protective Cover

Optional Accessories

For Measuring:

- Type 4231 Sound Level Calibrator
- Type 4226 Multifunction Acoustic Calibrator
- UA1251 Tripod
- UA0801 Tripod
- UA1254 Microphone Holder (for tripod)
- UA0459 Windscreens (Ø 65 mm)
- AO0408 Microphone Extension Cable (3m)
- AO0409 Microphone Extension Cable (10m)
- ZT0326 Octave Filter Set Upgrade
- Type 4189 Prepolarized Free-field 1/2" Microphone

For Transferring Results to a PC:

- AO1386 9-pole Cable with 25-pole Adaptor

For Recording on a DAT Recorder, Transferring Signals to an Analyzer or Using with Headphones:

- AO0403 LEMO to BNC Cable

For Printing:

- Type 2318 Graphics Printer
- WQ1138 Serial Printer (Euro version)
- EQ4001 Serial Printer (US version)
- EQ4002 Serial Printer (UK version)
- AO0404 9-pole to LEMO Cable (for 2318)
- AO1386 9-pole Cable with 25-pole Adaptor (for serial printer)

Upgrades:

- ZT0326 Octave Filter Set (for A and B models)

Carrying Case:

- KE0325 Carrying Case with insert for sound level meter, Sound Level Calibrator Type 4231, Serial Printer WQ1138 and Tripod UA1251

Services available with delivery:

- EK0102 Accredited Calibration re IEC 651 and IEC 804

Brüel&Kjær reserves the right to change specifications and accessories without notice



WORLD HEADQUARTERS:

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 United Kingdom and Ireland (0181) 954-236 6 · USA 1 - 800 - 332 - 2040

Local representatives and service organisations worldwide

RP 1535–11

Sound Level Measurement Record.

GENERAL DESCRIPTION OF PROBLEM: NOISE FROM MOTOCROSS @ FROCESTER HILL

DATE: 16/12/07 OFFICER: D. JACKSON JOB NO: JN 76999/77002

INSTRUMENT: B&K 2236 - 1778099 WITHIN CALIBRATION Y/N

WEATHER CONDITIONS: DRY, COLD, BREEZE BETWEEN ESE to SE - 2.6 m/s.

	MEASUREMENT 1	MEASUREMENT 2	MEASUREMENT 3	MEASUREMENT 4
LOCATION NOTES	<div style="background-color: black; width: 100px; height: 15px; margin-bottom: 5px;"></div> LEONARD STANLEY FRONT GARDEN 11:20 → 12:20			
PRE-CALIBRATION	dB(A) 0.4			
MIN L	dB(A) 36.1			
MAX L	dB(A) 78.9			
OVL	(%) 0			
L90	dB(A) 46.0			
L10	dB(A) 60.0			
L1	dB(A) 65.5			
Leq	dB(A) 56.7			
POST-CALIBRATION	dB(A) 0.4			

FREQUENCY ANALYSIS

	MEASUREMENT 1	MEASUREMENT 2	MEASUREMENT 3	MEASUREMENT 4
LOCATION NOTES				
31.5Hz				
63Hz				
125Hz				
250Hz				
500Hz				
1kHz				
2kHz				
4kHz				
8kHz				
16kHz				

SIGNATURE OF OFFICER: 

Sound Level Measurement Record.

GENERAL DESCRIPTION OF PROBLEM: BACKGROUND NOISE @ [REDACTED] LEONARD STANLEY

DATE: 6/1/08 OFFICER: D. JACKSON JOB NO: JN7899/77002, etc

INSTRUMENT: B&K 2236 - 1778099 WITHIN CALIBRATION N

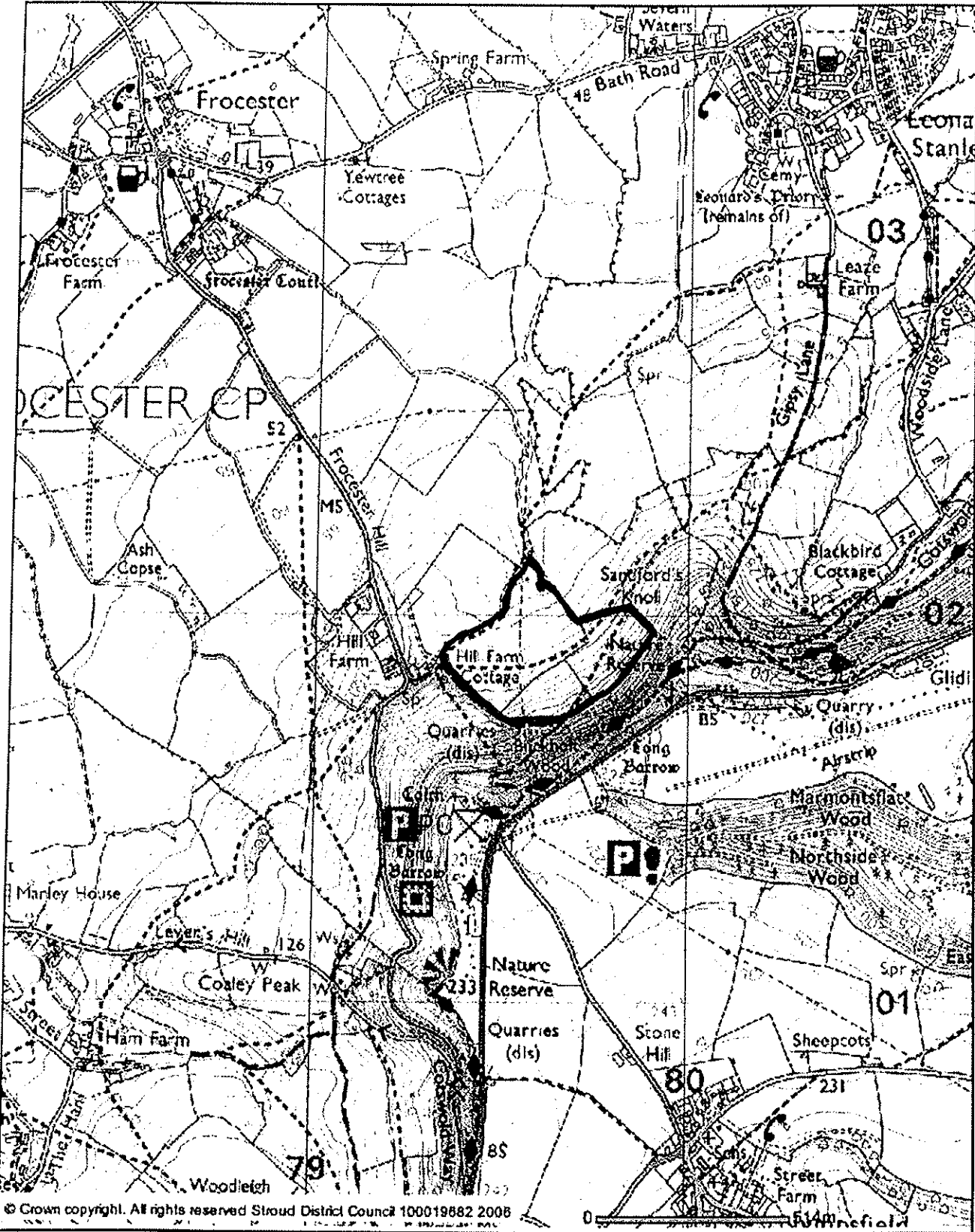
WEATHER CONDITIONS: DRY, MILD (~9°C) with very light breeze (~0.3 m/s)

	MEASUREMENT 1	MEASUREMENT 2	MEASUREMENT 3	MEASUREMENT 4
LOCATION NOTES	[REDACTED] LEONARD STANLEY FRONT GARDEN. 11:20-12:20			
PRE-CALIBRATION dB(A)	0.4			
MIN L dB(A)	33.4			
MAX L dB(A)	65.7			
OVL (%)	0.0			
L90 dB(A)	38.0			
L10 dB(A)	54.5			
L1 dB(A)	61.0			
Leq dB(A)	50.8			
POST-CALIBRATION dB(A)	0.4			

FREQUENCY ANALYSIS

	MEASUREMENT 1	MEASUREMENT 2	MEASUREMENT 3	MEASUREMENT 4
LOCATION NOTES				
31.5Hz				
63Hz				
125Hz				
250Hz				
500Hz				
1kHz				
2kHz				
4kHz				
8kHz				
16kHz				

SIGNATURE OF OFFICER: *D. Jackson*



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Hub ARCIMS Viewer Map



Stroud District Council,
Council Offices,
Ebley Mill,
Westward Road,
Stroud,
GL5 4UB

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The scale depicted on the map above is intended as a guide.

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Basis of Limitation of Motocross Activities to 4 Days Per Annum.

1. Historic:

Guidance was available to landowners and organisers for many years (since the 1980s) when motocross Club representatives organising meetings within the Stroud District were approached by the Environmental Health Service with a view to addressing a rising number of noise complaints at that time. In response, the clubs voluntarily agreed to limit the number of events at any one location to approximately 4 *per annum*. This accorded with the Clubs' need to hold up to 4 events *per annum* to retain their status in the eyes of the sport's governing body. Over many succeeding years, few major noise issues were experienced in relation to motocross activities. The majority of complaints thereafter were related to either the introduction of new track locations or to changes of occupancy close to existing tracks causing concerns as to the prevalence of motorcycle noise. In the vast majority of those instances, complainants were satisfied to discover that such noise would only occur on an infrequent basis. Thus, it may be clearly seen that restriction of the frequency of usage of noise sensitive track locations served to reduce the number of adverse comments and complaints relating to noise.

2. Arlingham Circuit:

No major motocross issues were experienced by Stroud District Council from the 1980s through to January, 2006 when LA Sporting Ltd began operating a practice circuit at Arlingham. This eventually led to the service of an Abatement Notice in March, 2006 requiring, among other things, that use of the circuit for motocross activities should be restricted to a maximum of 4 individual days *per annum*. The company exercised its right to appeal that Notice.

An Appeal Hearing was heard in front of Deputy District Judge Matthews at Cheltenham Magistrates' Court in September, 2007. At the Hearing, the District Judge chose to slightly vary the Abatement Notice to add a condition framed to allow the carry-over of one day *per annum* in the event of "exceptionally adverse weather conditions". Thus, the key condition relating to a maximum of 4 days *per annum* was confirmed. DDJ Matthews stated in her Judgment that "*I do not find that the restrictions as to the number of events were unreasonable or unnecessary.*"

3. SDC's "Guidelines for Landowners and Organisers of Motor Sport Activities Within the Area of Stroud District Council" – September 2007:

Following the Arlingham appeal, Stroud District Council produced the above document (attached) which sought to consolidate the lessons of the case and to provide up-to-date information utilising the available guidance. The document was made available on the Council's website.

A key element reads as follows:-

"The number of meetings permissible at a particular track will obviously vary depending on the specific location and local topographic and environmental factors. Experience within the Stroud District has clearly shown that restriction of activity to a maximum of 4 days of activity per calendar year will usually serve to minimise the degree of adverse comment and complaint."

Furthermore, the Guidance states that:-

“Landowners and organisers should clearly note that there may be some proposed track locations where it will be necessary to discourage their use completely. Factors likely to lead to such discouragement will include instances where proposed locations are:-

- *in close proximity to noise sensitive properties, particularly dwellings;*
- *in areas where “normal” background noise levels are low;*
- *lacking in appropriate natural screening and thus likely to propagate noise over large distances; and*
- *in close proximity to existing tracks leading to potential concentration of activity within that particular area.*

More suitable track sites are likely to be located on land where there is little impact on the amenities of adjacent areas and local residents. Examples might include locations very close to existing noise sources, for example motorways or airfields.”

4. Tinkley Lane Circuit:

In July 2008, an Abatement Notice was served in respect of the use of the Tinkley Lane practice circuit on Thornbury MX Ltd and the landowner. This followed a meeting attended by representatives of both of those parties who signed an agreement to the effect that the Schedule to the Notice should restrict usage to 4 days *per annum*.

5. Sport England Planning Bulletin for Land-Based Motor Sports – Issue 6 - October, 1999:

“most clubs appreciate that some sites cannot support 14-28 days of motor sport use a year and work to self-imposed limits much lower than would legally be allowed.”

6. The Noise Council Code of Practice on Noise from Organised Off-road Motor Cycle Sport, 1994:

Includes the following:-

Methods listed as potentially having to be used to minimise “*the impact of noise heard by neighbours*” include:-

- *“times and duration of events”;*
- *“numbers of machines in operation simultaneously”;* and
- *“physical barriers provided to reduce sound propagation”.*

A judgement needs to be made on the suitability of a site taking into account the proposed frequency of its use. It is suggested that a site be used for not more than 10 days per year, with at least 4 weeks between events. In practice many

clubs only require a site for 3 or 4 meetings a year."

7. LACORS - Noise from off-road motorcycles: An overview of approaches and sources of information:

Quotes one noise control method as limitation "*to a certain number of activity days per year (examples ranged from one to twelve)*".

Guidelines for Landowners and Organisers of Motor Sport Activities Within the Area of Stroud District Council.

1. Proposed Sites.

Where a site is proposed for usage for motor sport activities, prior consultation should take place with Stroud District Council's Environmental Protection Service.

This should enable an assessment of the site to be undertaken with a view to ascertaining the likely need to provide noise control measures.

Advice can be given on the best layout of the track to utilise available natural screening, the best positioning of pits and start areas and the use and control of any proposed public address system.

Landowners and organisers should clearly note that there may be some proposed track locations where it will be necessary to discourage their use completely. Factors likely to lead to such discouragement will include instances where proposed locations are:-

- in close proximity to noise sensitive properties, particularly dwellings;
- in areas where "normal" background noise levels are low;
- lacking in appropriate natural screening and thus likely to propagate noise over large distances; and
- in close proximity to existing tracks leading to potential concentration of activity within that particular area.

More suitable track sites are likely to be located on land where there is little impact on the amenities of adjacent areas and local residents. Examples might include locations very close to existing noise sources, for example motorways or airfields.

2. Number of Days of Activity Per Annum.

Following assessment of the proposed location, guidance can then be provided on the appropriate number of days of activity there in any calendar year.

The number of meetings permissible at a particular track will obviously vary depending on the specific location and local topographic and environmental factors. Experience within the Stroud District has clearly shown that restriction of activity to a maximum of 4 days of activity per calendar year will usually serve to minimise the degree of adverse comment and complaint.

Organisers should further seek to produce an annual activity list at the earliest opportunity and provide copies well in advance to Stroud District Council, relevant Parish Councils and potentially affected local residents.

3. Frequency of Activity.

The number and frequency of activity days in a particular area display a very

strong correlation with adverse public reaction. It is recommended that activity days are separated by a minimum of 14 days. The holding of two-day or three-day events at a track is inadvisable.

4. Duration of Activity Days.

- No racing or practice shall commence prior to 9:30 a.m.
- All racing or practice shall be completed by 6:00 p.m.
- In the case of Sundays, special provision may be necessary to avoid inconvenience or disruption of services in places of worship.

5. Control of Exhaust Noise.

Exhaust sound levels should, as an absolute minimum, comply with the current standards relating to the relevant motor sport, for example motocross vehicles should comply with FIM/ACU Regulations. Organisers should note, however, that compliance with such standards is no guarantee that noise generated by activities will not cause a nuisance to local residents. Equally important factors include appropriate site location, screening and the number and frequency of events.

6. Public Address Systems.

- Use of public address systems shall be restricted, as far as is practicable, to announcements relevant to the racing or practice;
- No music shall be played;
- The volume of the system shall be attenuated to minimise any likely impact on local residents;
- The numbers, siting and direction of loudspeakers shall be selected to minimise any likely impact on local residents;
- In some cases the use of any public address system may be inadvisable.

7. Dust Control.

- Where wind direction and other weather conditions are such that a nuisance may be caused to residential or other properties, appropriate timely steps must be taken to prevent the emission of dust from the track;
- Exhaust gases from competitors' machines must not be discharged so as to raise dust.

N.B. Organisers and landowners are reminded that any guidance provided prior to track usage may be superseded in the light of assessment of the eventual impacts during actual activities. In particular, Stroud District Council has a statutory duty to investigate noise and dust complaints under the provisions of the Environmental Protection Act, 1990.