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INVESTIGATION OF DOMESTIC NOISE

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INTRODUCTION

Domestic noise can be defined as noise which affects people in their homes or gardens as a direct result of the activities of their domestic neighbours, their guests or their animals.

In the experience of the author, this type of noise disturbance can cause the most severe stress in the recipient. The disturbances often occur at unsocial hours, are unpredictable in nature and, in many cases, only affect one or two individuals. As a consequence, these individuals can feel persecuted, isolated and relatively powerless to remedy the situation.

There is absolutely no doubt that domestic noise nuisance is an escalating problem. For example, recent evidence collated from Environmental Health Departments across the country (Ref 1), showed a five-fold increase in complaints of noise from domestic premises between 1978 and 1988. Furthermore, the results of a Building Research Establishment survey carried out in 1986/87 (Ref 2), suggested that around 14% of the adult population of England was bothered by one or more sources of neighbour noise. The survey also indicated that 34% of neighbour noise complaints concerned amplified music, whilst a further 33% concerned noise from dogs. The vast majority of these complaints related to noise emanating from domestic premises.

In view of the preceding statistics, it is clearly evident that domestic noise must be considered the major obstacle to a quieter Britain in the 1990's. Unfortunately, until recently it has been the source of noise often given the lowest priority by local authorities. This paper is not concerned with the reasons why the problem of domestic noise has now reached almost epidemic proportions, particularly in densely populated cities like Birmingham where, last year, 2500 separate domestic noise complaints were received by the Environmental Services Department. Nevertheless, it will hopefully stimulate further discussion on the subject. The paper is concerned with the responsibilities of local authorities and the procedures which they adopt to investigate complaints of this nature. In particular, it examines the 'good practices' adopted over recent

years by Birmingham Environmental Services Department, in the hope that this may be of help to other local authorities in their battle against domestic noise nuisance.

ROLE OF LOCAL AUTHORITIES IN DOMESTIC NOISE COMPLAINTS

Unfortunately, it is a widely-held view that people who suffer persistent domestic noise disturbance from loud music and barking dogs, particularly out of normal office hours, are often severely let down by their local authority. Individual authorities have traditionally adopted a widely-varied approach to the investigation of such complaints. Some, like Birmingham, have taken the problem extremely seriously and have undertaken to investigate all complaints, often by means of time-consuming, night-time visits to make observations and take measurements. For personal safety reasons, these visits are made by at least two Environmental Health Officers. Unfortunately, it is not uncommon for the disturbance in question to be mysteriously absent, or allegedly less severe than normal during the period of the visit.

Other local authorities have simply decided that they do not possess the resources to investigate 'run of the mill' complaints of this type, unless a group of residents have complained. In these cases, individuals are frequently advised of their rights to take private action against their neighbours and are left to their own devices, unless they can enlist the help of a local councillor, member of parliament, or are successful in organising a petition. However, with the advent of the Environmental Protection Act 1990, local authorities now have a statutory duty 'to take such steps as are reasonably practical to investigate complaints'. Obviously, this statement is open to some interpretation but it is to be hoped that the result will be a more consistent approach to the investigation of domestic noise complaints across the country.

PROCEDURES FOR INVESTIGATING DOMESTIC NOISE IN BIRMINGHAM

It is the policy of Birmingham Environmental Services Department to fully investigate <u>all</u> complaints of noise, irrespective of the nature of the source. Where the noise is considered to amount to a nuisance, and the source is not exempt from the relevant legislation, a 'section 80' abatement notice is served. However, undertaking all these investigations is a massive task. The statistics for April 1990 to March 1991 show that, City-wide, around 2500 complaints of domestic noise disturbance alone were

made to the authority. Many of these complaints were resolved by a simple visit by an Environmental Health Officer to the complainant and/or to the person or persons allegedly causing the problem. However, an increasingly large proportion of complaints appear to concern intermittent noise which occurs in the evening, at night and/or at weekends. For reasons of efficiency, most complaints of this nature are now investigated using tape recording techniques which were originally devised for the investigation of non-domestic noise sources (Ref 3).

The procedure is simple. The complainant is asked when they anticipate that the next period of domestic disturbance will occur. A calibrated two channel tape recorder is then left at the complainant's house during the period in question. In the case of noise which passes through a party wall or floor, the microphone is normally placed inside the most affected habitable room. In the case of externally-generated noise, the microphone is normally placed one metre outside a window of the most affected habitable room. The complainant is provided with a remote on/off (pause) switch which merely controls the tape transport mechanism. Therefore, the recorder is always 'on' from the moment of installation but will not record until activated. The recorder is coupled to an external time code generator, via channel 2. Thus, whenever a noise recording is made on channel 1, the date and exact time is also automatically recorded on the second channel. The tamper-proof date and time generators and readers used by Birmingham are purpose-built from readily available electronic and electrical components. However, suitable devices are also available commercially. The entire set up is shown in figure 1 along with the approximate costs.

Before the equipment is left on site, the complainant is advised that a minimum of 1.5 hours of recording time is available and to use it to their best advantage during the planned period of the exercise. This period is normally kept to 48 hours or over a weekend. The complainant is also advised to keep a written record of the date, time and duration of each recording, along with a description of the noise source in each instance as this could be required in evidence if any formal procedures are instigated.

The recordings are subsequently analysed in the laboratory using the equipment shown in figure 2. This array of equipment, which includes a measuring amplifier for signal conditioning and a level recorder for a noise level versus time print-out, is fairly elaborate and expensive. An alternative system which will

provide adequate analysis facilities in most cases, which uses a standard sound level meter for signal conditioning and processing, is shown in figure 3, along with approximate costs.

DISCUSSION

The technique of using tape recorders to investigate domestic noise complaints has now been used extensively in Birmingham since the beginning of 1990. A summary of the action taken as a result of these investigations is shown in Table 1.

The results in Table 1 show that only around 20% of complaints concerning intermittent noise disturbance originating from domestic premises actually constituted a nuisance in the opinion of an Environmental Health Officer and, therefore, warranted any formal action on the part of the local authority. Furthermore, the results from the first half of 1991 indicate that now this monitoring technique is being more extensively used by Birmingham's Environmental Health Officers, over 30% of the investigations carried out in this manner were concluded by simply offering to carry out a noise monitoring exercise. It is reasonable to assume that these complaints either concerned domestic disturbances which were of a very temporary nature, or were simply unjustified or malicious in the first instance. A great deal of time and effort would have been wasted investigating these complaints by means of out of office hours visits.

CONCLUSIONS

This paper has been prepared in an effort to show that local authorities can investigate, and deal more effectively and efficiently with, the ever increasing number of domestic noise complaints by adopting modern tape recording techniques. It demonstrates that with minor modifications, the technology is available and that the equipment costs are not excessive. For example, a very basic field and laboratory system would cost no more than £4600 provided the authority in question already has a sound level meter and calibrator. The author suggests that authorities should consider investing in this type of equipment as an alternative to extremely expensive sound and frequency analysers, which are generally of no use for investigating domestic noise complaints. After all, the available evidence suggests that of all the sources of noise that presently bombard us in our day to day lives, the general public are most concerned with noise disturbance from domestic premises.

The paper also demonstrates that, contrary to some opinion, tape recorded evidence, if properly documented and supported by statements of evidence, will be accepted in court in connection with domestic noise complaints. However, it should be borne in mind that during the 18 month period referred to in this paper, only 12 prosecutions resulted from 210 separate investigations. This shows that using the technique described, most complaints are resolved at a very early stage because hard evidence is obtained which does or does not substantiate the existence of a nuisance.

The views and opinions expressed in this paper are those of the author and not necessarily those of Birmingham Environmental Services Department.

ACKNOWLEDGEMENTS

I should like to acknowledge the work of Mr A S Jellyman who designed and constructed the dedicated time code generators and reader used in Birmingham.

REFERENCES

Ref 1 Environmental Health Officers Association, Environmental Health Report 1987/88.

Ref 2 Disturbance Caused by Neighbourhood Noise, W A Utley. Presented at 56th Conference of National Society for Clean Air, 1989.

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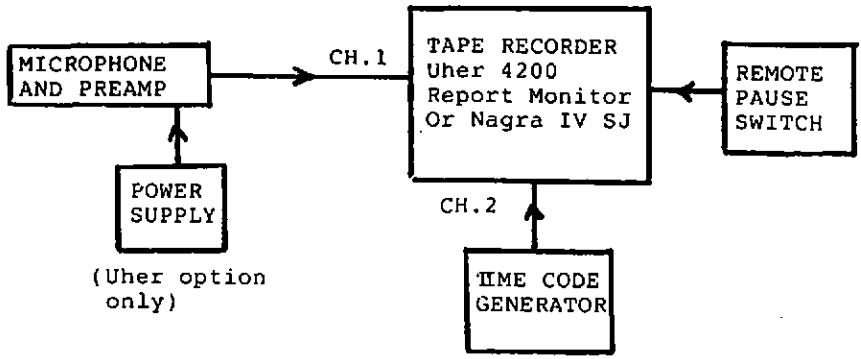
TABLE 1

OUTCOME OF DOMESTIC NOISE COMPLAINTS INVESTIGATED USING TAPE RECORDING TECHNIQUES

	Period 1/1/90 to 31/12/90		Period 1/1/91 to 30/6/91	
	Number	Percentage of All Investigations	Number	Percentage of All Investigations
Investigations Where Nuisance Not Substantiated				
1. Offer to instal equipment declined	16	14.4)	31	31.3)
2. Equipment installed - no recordings made	2	1.8) 78.4	11	11.1) 78.8
3. Recordings made - no nuisance	69	62.2)	36	36.4)
Investigations Where Nuisance Substantiated				
4. Verbal/written warning resolved problem	2	1.8)	1	1.0)
5. Notice served - resolved problem	15	13.5) 21.6	15	15.2) 21.2
6. Prosecution taken to resolve problem	7	6.3)	5	5.0)
TOTAL NUMBER OF INVESTIGATIONS	111		99	

INVESTIGATION OF DOMESTIC NOISE

FIGURE 1



APPROX COSTS: B&K 4155 microphone £650, B&K 2639 preamp £550
Power supply £100, Uher (incl minor mods) £2200
Time code unit £500
TOTAL £4000

FIGURE 2

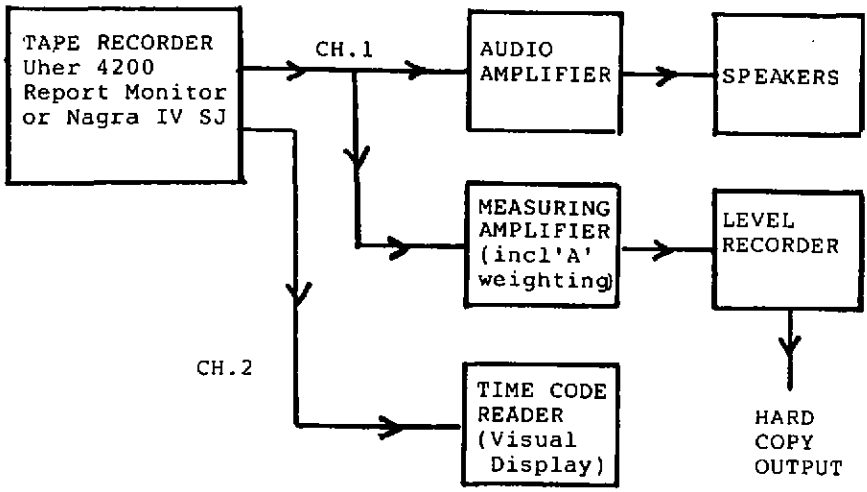


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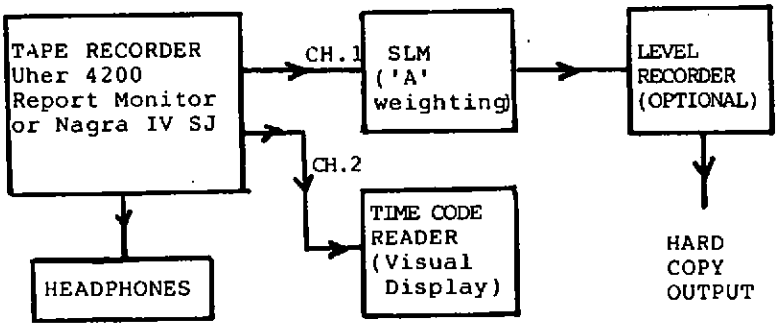
FIGURE 3



APPROX COSTS: Headphones £100, Time Code Reader £500
B&K Level Recorder (Optional) £4500
SLM - most local authorities should have a suitable meter
TOTAL, excluding Level Recorder, £600