DEPARTMENT OF THE ARMY
UNITED STATES ARMY INTELLIGENCE AND SECURITY COMMAND
FREEDOM OF INFORMATION/PRIVACY OFFICE
FORT GEORGE G. MEADE, MARYLAND 20755-5995

REPLY TO
ATTENTION OF:

June 19, 2001

Freedom of Information/
Privacy Office

Mr. John Young
CRYPTOME
251 West 89th Street
Suite 6e
New York, New York 10024

Dear Mr. Young:

References:

a. Your Freedom of Information Act (FOIA) request of March 29, 2001, for records concerning British Intelligence Services, ZF400014W. Your request was received in this office on May 7, 2001.

b. Our letter of April 20, 2001, advising you of additional time needed to review the records and we were unable to comply with the 20-day statutory time limit in processing your request..

We have conducted checks of the automated Defense Clearance and Investigations Index and a search of the Investigative Records Repository to determine the existence of Army intelligence investigative records responsive to your request.

We have completed a mandatory declassification review in accordance with Executive Order (EO) 12958. As a result of this review, information has been sanitized from these records and three pages are denied in their entirety as the information is currently and properly classified CONFIDENTIAL according to Sections 1.3(a)(3) and 3.4(b)(1) of EO 12958. This information is exempt from the public disclosure provisions of the FOIA pursuant to Title 5 U.S. Code 552 (b)(1). It is not possible to reasonably segregate meaningful portions of the withheld pages for release. Fees for processing this request are waived. A brief explanation of the applicable sections follows:

Section 1.3(a)(3) of EO 12958 provides that information shall be classified CONFIDENTIAL if its unauthorized disclosure reasonably could be expected to cause damage to the national security.

Section 3.4(b)(1) of EO 12958 provides that information more than 25 years old is exempt from automatic declassification if it would reveal the identity of a confidential human source, or reveal information about the application of an intelligence source or methods or reveal the identity of human intelligence source when the unauthorized disclosure of that source would clearly and demonstrably damage the national security interests of the United States.

The withholding of information by this office is a partial denial of your request. This denial is made on behalf of Brigadier General Keith B. Alexander, the Commanding General, U.S. Army Intelligence and Security Command, who is the Initial Denial Authority for Army intelligence investigative and security records under the FOIA. You may appeal this decision to the Secretary of the Army. If you wish to file an appeal, you should forward it to this office. Your appeal must be postmarked no later than 60 calendar days from the date of this letter. After the 60 day period, the case may be considered closed; however, such closure does not preclude you filing litigation in the courts.

If you have any questions concerning this action, feel free to contact Mrs. Reilly at (301) 677-4742. Please refer to case 749F-01.

Sincerely,

Russell A. Nichols

Russell A. Nichols
Chief, Freedom of Information/
Privacy Office

Enclosure

THIS MUST REMAIN T O P D O C U M E N T

DOSSIER NO. ZF4000/4

As of 4/5/78 (Date) all material

included in this file conforms with

DA policies currently in effect.

Daisy Stevenson 4/5/78
(Signature) (Date Signed)

DAISY STEVENSON
(Printed Name) (Grade)

THIS MUST REMAIN T O P D O C U M E N T

IC Form 315
1 Sep 72

DISPOSITION FORM

(AR 340-15)

REFERENCE OR OFFICE SYMBOL	SUBJECT
ACSI-DSCC	Safeguarding and Dissemination of Sensitive ( ) Reports

TO Ch, PSD
ATTN: Ops Br

FROM Ch, CI Div

DATE 13 JUL 1966 CMT :

LTC Leick/slb/73596

1. (U) Reference is made to CI Branch DF, ACSI-SC, above subject, dated 19 December 1960.

2. (U) It is requested that the inclosed ( ) Summary of Information (SOI) be forwarded to USAIRR with appropriate instructions to ensure they will be placed under continuing dissemination control according to the provisions of AR 381-50. The following information is submitted in compliance with paragraph 7a, AR 381-50:

a. Category of control requested: I

b. Reason for request: Paragraph 5b(3), AR 381-50

c. Duration of control: Indefinite

d. Personal data: See inclosure

e. Additional stipulations:

(1) Recipients of the information contained in SOI must be authorized representatives of the United States Federal intelligence or security agencies.

(2) The ( ) must not be identified to any recipient as the source of information.

(3) The content of the SOI must not be used by any recipient in other than paraphrased form and must be handled as sensitive information.

5 USC 552 (b) (1)

1 Incl:
SOI subj (

RUSSEL K. LEICK
Lt Colonel, GS
Chief, GIAB
Counterintelligence Div

for MERRILL T. KELLY
Acting Chief
Counterintelligence Div

(CONFID) 20 Apr 66

VA 021628

WARNING NO [redacted]

CONTROLLED DISSEM
NO FOREIGN DISSEM

GDS/E-3
Downgraded at 12 year intervals;
not automatically declassified

DA FORM 1 FEB 62 2496 REPLACES DD FORM 96, EXISTING SUPPLIES OF WHI ISSUED AND USED UNTIL 1 FEB 63 UNLESS SOONER

[redacted] (Not Classified Unless Data Entered) [redacted] 02 16 28

SUMMARY OF INFORMATION

(SR 380-320-10)

DATE: 20 April 1966

PREPARING OFFICE: [redacted]

SUBJECT: [redacted]

CODE FOR USE IN INDIVIDUAL PARAGRAPH EVALUATION

OF SOURCE:	OF INFORMATION:
COMPLETELY RELIABLE . . . . A	CONFIRMED BY OTHER SOURCES .1
USUALLY RELIABLE . . . . . B	PROBABLY TRUE 2
FAIRLY RELIABLE C	POSSIBLY TRUE 3
NOT USUALLY RELIABLE . . . . D	DOUBTFULLY TRUE 4
UNRELIABLE . . . . . E	IMPROBABLE 5
RELIABILITY UNKNOWN . . . . F	TRUTH CANNOT BE JUDGED . . .6

SUMMARY OF INFORMATION

On a recent ( )ecurity education visit ( ) attached items of possible interest were picked up. ( )

)R1

One of the specific areas noted was a permanent type IPW compound with concrete walls topped by barbed wire aprons. ( )
(A-2)

Another area noted was a classroom for physical security and alarms. Lock emphasis seemed to be on CHUBB lever locks for security including the use of CHUBB detectors. In commenting on combination locks the comment was made that unfortunately their CHUBB combination locks were not satisfactory and were not as good as US Top Grade built-in combination locks. They also mentioned that they had no adequate combination padlocks and that CHUBB Battleship locks were used in places requiring use of padlocks. Personnel of the school further mentioned their use of "Combination Blisters" to keep keys to sensitive areas which were secured by CHUBB lever mortise locks. Also displayed in this classroom was a number of alarm systems most of which appeared to be ordinary proprietary systems, i.e. door and window contact switches and tape for windows and stripping for doors. One system currently being utilized ( ) was displayed in the room and mentioned very favorably by the instructors. This system is a pressure differential alarm system for which a brochure is attached. Also discussed in the brochure is ultra sonic alarm systems on which no comment was offered. The instructors also did not favor the use of capacitance alarms because their testing had indicated instability. It appeared from their statements that they had not tried capacitance alarms for object protection but only as area protection. (A-2)

5 USC 552 (b) (1)

Family quarters are being constructed on the ( )nstallation and both an officers mess and a non-commissioned officers mess were noted. In the officers mess the bar, lounge, entrance hall, mess and administrative offices were located on the ground floor. Individual rooms with sinks were located on the two top floors. Common toilet and bath facilities are located at the outside end of each wing. (A-2)

3

[redacted]

Continued

DOWNGRADED AT 12 YEAR INTERVALS;
NOT AUTOMATICALLY DECLASSIFIED
DOD DIR 5200.10

DISTRIBUTION

CONTROLLED DISSEM
NO FOREIGN DISSEM

SUMMARY OF INFORMATION
(SR 380-320-10)

DATE 20 April 1966

PREPARING OFFICE [redacted]

SUBJECT [redacted]

CODE FOR [redacted] INDIVIDUAL PARAGRAPH EVALUATION

OF SOURCE:		OF INFORMATION:	
COMPLETELY RELIABLE	A	CONFIRMED BY OTHER SOURCES	1
USUALLY RELIABLE	B	PROBABLY TRUE	2
FAIRLY RELIABLE	C	POSSIBLY TRUE	3
NOT USUALLY RELIABLE	D	DOUBTFULLY TRUE	4
UNRELIABLE	E	IMPROBABLE	5
RELIABILITY UNKNOWN	F	TRUTH CANNOT BE JUDGED	6

SUMMARY OF INFORMATION (Continued)

Attached are maps of the location ( ). (A-1)

5 USC 552 (b) (1)

4

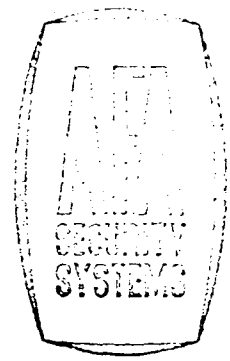
[redacted] METHODS INVOLVED

DISTRIBUTION

[redacted] CONFIDENTIAL

CONTROLLED DISSEM

CONFIDENTIAL



THE PRINCIPLES OF PRESSURE DIFFERENTIAL AND ULTRA SONIC ALARM EQUIPMENT.

5 USC 552 (b) (1)

CONFIDENTIAL

DERIVED FROM: INSCOM SCG 90-01,
HUMINT & CI ACTITIES, 16 NOV 90,
USAINSCOM
DECLASSIFY ON: X-1
DATE OF SOURCE: 20 April 1966

THE PRINCIPLES OF PRESSURE DIFFERENTIAL

AND

ULTRA SONIC ALARM EQUIPMENT

Some years ago, the introduction of the Pressure Differential and Ultra Sonic systems heralded the advent of a new era in Security Engineering. Consideration of the relative strength of walls and other parts of the structure, became of less importance because employment of either of these systems offered volumetric protection to the entire enclosure.

The systems often afford advantages over other forms of protection, but both have some limitations in their application and it is the purpose of this article to present the basic principles and their application to assist those who have not had practical experience of the equipment.

The equipment forms that part of an alarm installation which detects the presence of an intruder, and is connected to the alarm control relays in much the same way as would be a contact, closed circuit wiring, rays or any other alarm sensing device. It follows therefore, that these systems may be combined with other detecting devices where necessary, to form part of a composite installation.

Both systems share the merit of being inconspicuous and causing little or no disfigurement to the general appearance of the protected areas.

THE PRESSURE DIFFERENTIAL ALARM SYSTEM

The system is simple in concept. A fan is installed and may be made to extract air from the room to be protected.

Providing this room is reasonably draught proofed, then with the fan running the air pressure will be a little lower than the atmospheric pressure existing in adjoining rooms or corridors.

A separate unit known as the diaphragm is mounted in the dividing partition or wall between the protected room and another room, corridor, etc., functioning as the reference pressure and the unit may be regarded as looking at, and comparing the pressure each side of the dividing wall. The diaphragm is so designed that it remains in balance whilst a prescribed difference exists between the lowered pressure in the protected room and the atmospheric level in the reference zone. A margin of tolerance is provided above and below the optimum pressure difference to ensure stability of the system.

Built into the diaphragm are double platinum contacts which are connected to the control circuit, the whole obeying the fundamental alarm principle of "fail to alarm". This means that a supervising current constantly monitors the circuit when the alarm is set.

The fan has been described as exhausting and therefore lowering the pressure in the protected zone, but often for technical considerations an intake fan is used raising the pressure in the zone. The principle of operation is the same; that of maintaining a pressure difference between the protected area and the reference volume.

The word "pressure" is sometimes misleading as it may suggest that a much greater pressure difference is necessary than is actually required in practice. A pressure difference capable of displacing water in a 'U' tube by 1/50 inch is general in use, and is of the order of a barometric change.

From the principle of operation it will be obvious that the zone to be protected must be an enclosure in which it is possible to restrict leakage. Hermetic sealing is not necessary, and indeed would hardly ever be encountered in practice, excepting perhaps in certain strongrooms. The essential requirement is that draught proofing will restrict leakage and that any leakage existing will remain constant.

The equipment is fully self protecting and any attempt to obstruct the diaphragm apertures would create back pressure and throw it out of balance. The fan is the pump maintaining the pressure differential and consequently interference with the mains supply or the fan itself will cause loss of pressure difference and the alarm to operate.

Atmospheric temperature changes whether natural or due to heating systems, will not affect the stability, because the pressurising unit (fan or centrifugal blower) is functioning as a 'pump'.

The size of the fan required for a given installation bears a relationship to the volume of the protected area and the amount of leakage to be tolerated, so that sufficient air is moved per unit time to maintain a constant pressure difference. Well sealed strongrooms often require only a small diameter blower unit.

The system provides universal protection to the walls, floor and ceiling alike, and a small aperture of a few square inches, made anywhere, will be sufficient to allow the pressure difference to change causing the alarm to operate.

It is especially suitable for stock rooms, strongrooms and similar enclosures where air leakage can be controlled. Due to the very low pressure employed, the control of leakage is a simple matter, and indeed paper stuck over ventilator bricks would be effective. Linoleum usually provides adequate sealing to timber floors whilst the various draught excluder strips are sufficient for badly fitting doors. A fireplace is easily sealed with a removable panel.

Where strong rooms are to be protected and ventilators exist these will serve as the apertures for the fan and diaphragm. If there are no ventilators then apertures are easily provided by using diamond cutting tools; the usual rate of boring through hard concrete is about one inch per minute. The speed with which numer[illegible] strongroom walls can be bored is a disquieting thought for a security man.

For many years closed circuit wired cabinets have been the accepted method of protecting safes, but recent attempts at removing the outer layer of plywood (or other material) to afford access to manipulate the wiring circuits have led to the logical development of the Pressure Differential Safe Cabinet.

A sizeable cabinet built to enclose two or three large safes will operate efficiently with a two inch blower unit and it will be obvious that a far greater degree of security is provided by this system.

An outstanding feature of the Pressure Differential System is its remarkable stability. The equipment is robust and, although in balance, it remains stable and is unaffected by mains surges due to the momentum of the fan.

Statistics covering many hundreds of installations over several years show that the fault experience is negligible.

The following are a few of the more usual questions asked in connection with the Pressure Differential Protection.

Q. Can the alarm be circumvented by cutting the mains supply or otherwise stopping the fan?

A. No. This causes loss of pressure and the diaphragm to fall out of balance, operating the alarm.

Q. Will plugging the diaphragm aperture overcome the alarm?

A. No. A bleed which develops back pressure is provided, throwing the diaphragm out of balance to the alarm condition.

Q. Will temperature or barometric pressure changes cause false alarms?

A. No. Such changes are slow and infinitesimal when considered against the volume of air which the fan is capable of moving.

Q. How large a volume can be protected by the Pressure Differential System?

A. There is no prescribed limit except that the system is not practical for very large volumes. Up to 30,000 cubic feet is commonplace, but zones over this capacity require consideration by experts. Much depends on the degree and constancy of the sealing which can be effected.

-o-o-o-o-o-o-o-

ULTRA SONIC SYSTEMS

The equipment consists of a Master Unit, Speakers and Receivers. A small installation consists of a Master Unit located within the protected area in any suitable position, and one speaker and one receiver normally secured to the walls or ceilings.

Within the Master Unit an oscillator generates an audio-frequency producing a note radiated by the speaker, which is inaudible, being beyond the range of the average human ear. The note is picked up by the receiver and fed into the Master Unit where it is compared with the radiated note. So long as the radiated and received note signals are at the same frequency a relay is maintained in the energised condition and the supervising circuit remains closed. Should a change in the frequency, lasting for a predetermined fractional time period occur, then the relay will be released, opening the supervising circuit and operating the alarm.

A change of frequency occurs if a body moves within the protected zone and this phenomenon is known as the Doppler Effect.

The Doppler Effect is the tendency of motion to cause a different frequency to be received from a transmitter than the frequency emitted by it. This change in frequency occurs because it takes wave energy a finite time to travel between those two locations, so that at any instant there is always a number of waves in transit - waves that have left the transmitter but have not yet arrived at the receiver. Any motion changes the number of emitted waves that have not yet been detected and that change must be picked up by the Receiver as a modification in the number of waves it would have received if there was no motion. The rate at which the waves are received is the frequency, so that motion modifying that rate by changing the waves in transit modifies the received frequency. Echoes from a moving body such as an intruder are subject to the same effect.

The Doppler Effect is frequently experienced, by way of the changing note heard when a car passes with the hooter sounding, or a train with the whistle blowing.

There are two types of Ultra Sonic Equipment is use, one originally of American design and employing thermionic valves, and the other known as the Trans-Sonar Equipment of English design and manufacture which is fully transistorised.

The Trans-Sonar Equipment is more economical both in initial cost, maintenance and running costs. It has an additional advantage in that being fully transistorised, and therefore requiring only a very small power input, it has been possible to incorporate a De-Ac Cell, which will supply the equipment for about eight hours, should the A.C. mains supply fail. When the mains supply is restored the cell is automatically re-charged.

When specifying protection by Ultra Sonic methods there are a number of factors to be taken into consideration.

Fundamentally it must be remembered that the principle is that of sound waves in air. Air turbulence therefore must lead to instability and false alarms. The equipment cannot be used where forced draught ventilation systems or fan heaters are in use when the alarm is set.

Usually the normal heating from radiators can be compensated, but any sudden rise in temperature or any form of combustion will cause air turbulence and operate the alarm. In this respect an alarm will be given in the early stages of an outbreak of fire.

The acoustic properties of the area to be protected and "shadows" caused by stacks of commodities must be considered in siting the Speaker and Receiver Units. Where the absorption factor is high, as would be found with fabric lined walls, or where stacking arrangements are continually changing, then additional speaker and receiver units are required. Usually not more than two speakers and two receiver units are connected to one Master Unit.

The size of the zone to be protected coupled with the acoustic considerations dictate the number and positions of speakers and receivers necessary to create an effective field of protection. Where more than two speakers and receivers are required additional Master Units are usually installed and interconnected so that one Unit operates as a master oscillator, locking the frequency of the other unit (or units) which are then functioning as slaves. This inter-locking is necessary to avoid the development of a beat frequency.

As the sound waves travel through the air they become attenuated, the degree of attenuation being dependent on the particular conditions, such as frequency, temperature and humidity. In actual practice it has been shown that a plane sound wave in the 10 to 20 kcs range would be attenuated to approximately $\frac{1}{2}$ its energy in 100 ft. Consideration of these factors will show that there is a practical limit to the size of zone which can be protected if the equipment is to remain stable in performance.

Freedom of Information Act/Privacy Act
Deleted Page(s) Information Sheet

Indicated below are one or more statements which provide a brief rationale for the deletion of this page.

☑ Information has been withheld in its entirety in accordance with the following exemption(s):

1.3(a)(3) a 3.4(b)(1)

It is not reasonable to segregate meaningful portions of the record for release.

☐ Information pertains solely to another individual with no reference to you and/or the subject of your request.

☐ Information originated with another government agency. It has been referred to them for review and direct response to you.

☐ Information originated with one or more government agencies. We are coordinating to determine the releasability of the information under their purview. Upon completion of our coordination, we will advise you of their decision.

DELETED PAGE(S)
NO DUPLICATION FEE
FOR THIS PAGE.

Page(s) 13-15