

CCTV: Making It Work

Time And Date Displays

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POLICE
SCIENTIFIC
DEVELOPMENT
BRANCH

HOME OFFICE
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Management Summary

This report provides guidance for closed circuit television (CCTV) operators and managers on the assessment of time and date accuracy.

The customers for the work on which this document is based are the Police Force CCTV Liaison Officers' Forum (which reports to the ACPO Crime Prevention Sub-Committee) and the Home Office Crime Prevention Agency.

The material in this document may be of value to any organisation which operates CCTV systems.

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1 INTRODUCTION

CCTV security systems are common in many United Kingdom town centres, public areas and commercial premises. The images produced are often recorded with time and date information to help operators create accurate records. This information can also be used to help police officers locate and check events relating to a recorded incident.

This document describes a test that can be used to check and maintain accurate time and date displays, without the need for training. Performance records can therefore be generated which may then be used to demonstrate the consistency and accuracy of the system.

Issues which may affect the accuracy of time and date displays are outlined in this document.

The customers for PSDB's CCTV Effectiveness programme, which started in 1993, are the Police Force CCTV Liaison Officers' Forum (which reports to the ACPO Crime Prevention Sub-Committee) and the Home Office Crime Prevention Agency. The programme concluded at the end of 1996/97 and was followed by a one year programme called *CCTV Making It Work*. This publication is a product of these two programmes and is one of a number of tests designed for use by CCTV operators and managers.

Other PSDB documents providing advice on good practice for methods of improving CCTV system performance include:

- *Recruitment and Selection of CCTV Operators;*
- *Training Practices for CCTV Operators;*
- *Operational Requirements Manual;*
- *CCTV Control Room Ergonomics;*
- *Police Interaction with CCTV; and*
- *CCTV User Picture Detail Requirements.*

2 THE IMPORTANCE OF CHECKING THE TIME AND DATE DISPLAY

System equipment performance levels may reduce with time, either gradually or instantaneously. Testing will help identify and record any changes so that appropriate remedial action can be taken.

The time and date text displayed on a monitor screen, video tape or still print is important for a number of reasons, including

- to help an operator make accurate logs;
- to time and date an incident from a recording;
- to allow investigating officers to locate quickly and check relevant images; and
- to assist in the tracking of a targets movement between one system and another.

If the displayed information is incorrect and a time log has not been kept, the value of recorded evidence may be questioned.

As well as routine checking, additional checks should be made:

- when clocks change between GMT and BST;
- after maintenance work;
- after power failures;
- every leap year (February 29);
- at the millennium; and
- when lightning strikes might have occurred.

3 ACCURACY

Surveys and pilot trials have demonstrated that most CCTV time and date displays are not regularly checked, resulting in many systems displaying incorrect times. Of twenty town centre CCTV systems surveyed, 70% had time display errors of between 5 and 810 seconds.

Police CCTV Liaison Officers have suggested that the date display should be 100% accurate, while the time display should not have an error greater than five seconds.

4 THE MILLENNIUM

It is not yet clear what the full impact of year 2000 will be on CCTV time and date generators. However, it is known that some of the existing systems will not function correctly. Records should be kept to help demonstrate the consistency and accuracy of the time and date display through the transition to year 2000 and beyond.

5 THE DISPLAY TEXT

The choice of style, size and background of displayed text used by CCTV systems should be chosen carefully, as it may conceal important elements of an image.

If the text brightness is set too high it may lead to clipping or compression of the video signal voltage, thus reducing the level of picture detail displayed. It is therefore important to set the intensity of a text display only to a level bright enough for the information to be read clearly.

6 TIME AND DATE TEST PROCEDURE

This section describes a test for use by operators to check and maintain accurate time and date displays. If an error is identified, the result sheet may be used to notify management and record corrective action.

6.1 Equipment

To carry out this procedure the following equipment will be needed:

- A photocopy of the Time and Date result sheet. (Appendix A Page 4).
- An accurate time source (e.g. BTs speaking clock on '123' or the Rugby clock).

6.2 Preparation

STEP 1. Complete sections 1 &2 of the Time and Date result sheet.

If there is more than one clock in the system this procedure should be repeated for each. (This should include computer logs and clocks in the control room).

6.3 Checking the accuracy of the date display

STEP 2. Set-up the system so the time and date text is clearly displayed.

STEP 3. Record in section 3 of the result sheet the correct date and the date displayed on the monitor screen.

ACTION If this check has identified that the displayed date is incorrect, the date should be corrected as soon as possible. (Management should be notified using the result sheet and corrective action taken).

6.4 Checking the accuracy of the time display

STEP 4. Confirm the correct time is being displayed by using an accurate time source.

STEP 5. Record in section 4 of the result sheet the correct time and the time displayed on the monitor screen.

ACTION If this check has identified that the displayed time is incorrect, the time should be corrected as soon as possible. (Management should be notified using the result sheet and corrective action taken).

6.5 Recording the time display accuracy

The time displayed should be checked for seven consecutive days to verify its accuracy. (This check should be carried out at about the same time each day).

STEP 6. Confirm the correct time each day using an accurate time source, e.g. the BT speaking clock (on BT '123'). Fill in section 5 of the time and date result sheet.

7 ANALYSIS OF THE RESULTS

If a time error remains the same for the seven days it can be reasonably assumed that the time source is accurate, and the cause of the error is due to the incorrect setting of the display. If during the seven days the error changes are less consistent then the time generator may be the cause. Further investigations should be carried out.

APPENDIX A TIME AND DATE RESULT SHEET

Ref :

Section 1

| | | |
|-----------------|-----------------------|-------------|
| Operator name : | | |
| | (PLEASE USE CAPITALS) | (Signature) |

Section 2

Time And Date Display

The time and date display to be assessed is generated by the:

Time/Date Source :

(i.e. Text Generator, VCR, Computer, Multiplexer, System clock, wall clock, camera, unknown, etc.)

The time/date is usually set: *(Please Tick)*

- | | |
|--|--|
| <input type="checkbox"/> Automatically. | <input type="checkbox"/> Manually by system operators. |
| <input type="checkbox"/> Manually by a service engineer. | <input type="checkbox"/> Manually by the system manager. |
| <input type="checkbox"/> Unknown. | |

Section 3

The Date Display

| | | | | | |
|----------------------------------|----------------|----------------------|----------------------|-----------------------|----------------------|
| Reference date | : __ / __ / __ | Initials | Date | Attention Required | Corrected |
| The date displayed by the system | : __ / __ / __ | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |

Section 4

The Time Display

| | | | | | |
|----------------------------------|-----------------|----------------------|----------------------|-----------------------|----------------------|
| Reference time | : __ / __ am/pm | Initials | Date | Attention Required | Corrected |
| The time displayed by the system | : __ / __ am/pm | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |

Section 5

Recording Time Display Accuracy

Note: If possible the clock should be accurately set at the beginning of the test, with no further adjustments made during the test period. If adjustments are made, record the time displayed and note the error daily.

| Day | Speaking Clock | Time Displayed | Time Error (seconds) | Comments |
|-------|----------------|----------------|----------------------|----------|
| Day 1 | | | | |
| Day 2 | | | | |
| Day 3 | | | | |
| Day 4 | | | | |
| Day 5 | | | | |
| Day 6 | | | | |
| Day 7 | | | | |

| | | | | | |
|-------------------------|----------------|----------------------|----------------------|-----------------------|----------------------|
| Worst error of the week | :seconds | Initials | Date | Attention Required | Corrected |
| | | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |

Action

If it has been identified that there is a significant time error, then the time source should be changed or regularly re-set to the correct time, with each change being carefully logged. If there is a constant error over time then the equipment should be serviced.



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