

a guide to the
maintenance and servicing
of CCTV surveillance systems



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1. Introduction

Effective and regular maintenance of a CCTV surveillance system is essential to ensure that the system remains reliable at all times. Regular maintenance by the service company, and effective failure reporting by the user, will enable potential problems to be identified at an early stage so that appropriate action can be taken.

These guidelines give advice on the maintenance of CCTV surveillance systems installed and maintained in accordance with the following published European standards:

BS EN 50132-1 : CCTV Systems – General Requirements (not yet issued)

BS EN 50132-7 : CCTV Systems – Application Guidelines

2. Maintenance agreement

A maintenance agreement should be between the service company and the user of the CCTV system:

a) When a police response to an activation is required.

Note: A unique reference number (URN) will be allocated to the CCTV system by the police.

b) When images from the system are required for evidential purposes.

The maintenance agreement should be drawn up based on the CCTV system specification drawn up by the CCTV installing company. The specification should identify the location of all equipment installed and the coverage of all cameras. A copy of the specification should be kept in a secure location on site and should be made available to the CCTV company service engineer during visits.

3. Maintenance requirements

3.1 European standards requirements

BS EN 50132-7 states that “CCTV systems should be maintained in accordance with the schedule supplied by the system designer or supplier”, but does not detail any specific maintenance requirements. These guidelines give specific advice for the maintenance of CCTV surveillance systems, and provide examples of the type of documentation required to be used by the service company.

3.2 Types of maintenance

There are three types of maintenance that are required to be carried out on a CCTV system.

Planned maintenance

Planned servicing of a system, carried out on a scheduled basis.

Service call

Emergency servicing of a system, or part thereof, carried out in response to the development of a fault.

User maintenance

Basic maintenance/fault reporting tasks, as detailed by the installing company, carried out by the System Manager and System Operator.

These are described in detail in sections 4, 5 and 6.

4. Planned maintenance

4.1 Recommended frequency of maintenance

A planned maintenance visit allows the CCTV engineer to carry out a complete audit of the CCTV surveillance system, the documentation associated with the CCTV system, and the training requirements of operators.

The CCTV surveillance system should receive at least one planned maintenance visit each year. However, additional planned maintenance visits may be required depending on the complexity of the system, the environmental conditions, and the need to change 'perishable items' e.g. wiper blades, cassettes etc.

Note: These planned maintenance visits are in addition to any service call visits which may be required.

4.2 Planned Maintenance Checklist

The service engineer should complete a Planned Maintenance Checklist during a planned maintenance of a CCTV system. A copy of the checklist should be given to the System Manager on completion of the planned maintenance.

A sample of a Planned Maintenance Checklist is shown at **Annex B**.

4.2.1 Video cassette recorder (VCR)

It is essential that all VCRs are serviced during each planned maintenance visit, and inspected during all other visits. As VCRs are subject to heavy usage, it is recommended that the heads are replaced annually.

4.3 Planned Maintenance Report

A Planned Maintenance Report is required to be completed by an engineer following the planned maintenance of a system. The report should list any deviations of the system from the fully functional state, and should list relevant comments about the system e.g. Camera 1 wiper will require a new blade at the next visit.

A copy of the report should be given to the System Manager on completion of a visit. The report will help the System Manager to monitor the reliability of the CCTV system, will ensure there is an audit trail if a CCTV picture is required for evidence, and allow for the budgeting of any replacement parts required in the future.

A sample of a Planned Maintenance Report is shown at **Annex A**.

5. Service calls

5.1 Response time

Service calls are the emergency servicing of a system, or part thereof, carried out in response to the development of a fault. The response time should be agreed in writing between the user and the service company.

5.2 Service call report

On completion of a service call, the service engineer should complete a Service Call Report and give a copy to the user.

A sample of a Service Call Report is shown at **Annex C**.

6. User maintenance

User maintenance is the responsibility of the System Manager and the System Operator.

6.1 System manager

The System Manager should ensure all fault reporting on the CCTV system is undertaken in a methodical and timely manner. The following should be considered:

- a) Ensure all operators are trained on a regular basis in the actions to take in the event of a system fault.
- b) Ensure faults are reported as soon as possible after they are discovered, and that details are entered in the fault reporting book.
- c) Inspect the fault reporting book weekly to ensure all faults are dealt with efficiently and effectively.
- d) Decide if the fault can be corrected in-house or whether the service engineer is required.
- e) Liaise with the CCTV company when a service engineer is required.
- f) Ensure the service engineer has access to site and equipment at an agreed time and date.
- g) After repair has been carried out, sign and keep a copy of the service call report for the CCTV system file.
- h) Sign off the work from the fault reporting book.

A fault reporting procedure is shown at **Annex D**.

6.2 System operator

6.2.2 Checks carried out during each shift

The System Operator should normally be the first to notice a fault with the CCTV system. To ensure the CCTV system operates effectively the operator should:

- a) Check the fault logbook at the start of a shift to see if there are any outstanding faults on the system.
- b) Check the operation of the system at the start of a shift and report any faults to the System Manager. In addition, details of the fault should be entered in the fault reporting book.
- c) If the fault is not cleared during the operator's shift, the next shift should be informed of the fault and what corrective measures, if any, have been actioned.

6.2.2 Additional checks carried out by the System Operator

- a) Clean the monitor screens daily.
- b) Clean the control surfaces daily.
- c) Change the tapes after an agreed number of recordings.
- d) Carry out tape head cleaning as advised by the CCTV installing company.
- e) Clean computer air vents monthly.
- f) Carry out any other functions designated by the CCTV installing company.

7. Documentation

The following documentation is required to be held by the CCTV company providing maintenance to the CCTV system:

- CCTV system specification*
- Handover check list/completion certificate
- Maintenance agreement
- Planned Maintenance Report (see Annex A)
- Service Call Report (see Annex B)
- Installed equipment manuals*

* A copy of these documents should be held on site.

8. Perishable items

The service company should maintain a record of all components with limited lifetime, and components replaced when required.

Attachments

Annex A	Planned Maintenance Report
Annex B	Planned Maintenance Check list
Annex C	Service Call Report
Annex D	Fault Reporting Procedure

Annex A

Example of a Planned Maintenance Report

Company name and address:		Job number:	
PLANNED MAINTENANCE CHECK LIST			
User:		Account number:	
Address:		Tel. number:	
ITEM	CHECKED	TICK WHEN COMPLETE	COMMENTS
1	Check fault reporting book and system log, and update if required		
2	Carry out planned maintenance as per Maintenance Check list		
3	Carry out any repairs as required		
4	Replace consumable items as required		
5	Update operator training if required		
6	Update fault reporting book and system log		
7	Inform System Manager of actions taken		
8	Complete documentation and leave copy with System Manager		
Actions: 			
The CCTV system has been left in full working order apart from the items listed above, or on the Maintenance Check List. Copies of the Planned Maintenance Report and the Maintenance Check List have been given to the System Manager.			
Engineer's name:		Signature:	
Date:	Time on site:	Time off site:	
User's name:		Signature:	

A CONTROL PANEL AND MONITOR		CAMERA NUMBER							
		1	2	3	4	5	6	7	8
1	Pan control								
2	Tilt control								
3	Lens function controls								
4	Washer function								
5	Wiper function								
6	Auxiliary lighting								
7	Auxiliary functions								
8	Monitors								
9									
10									
B CONTROL EQUIPMENT		NUMBER							
		1	2	3	4	5	6	7	8
1	Multiplex encoding								
2	Multiplex decoding								
3	Internal battery								
4	Video switcher								
5	Oscilloscope 1v peak to peak								
6									
7									
C VRC/TAPE MANAGEMENT		TAPE INFORMATION							
1	Check tapes are up to standard								
2	Tapes changes after how many 'passes'	No. of passes: []							
3	Are unique tape serial numbers used?	Yes [] No []							
4	Check for correct VCR operation								
5	Replace VCR heads/rollers as required								
6									
7									
D PC BASED SYSTEMS		CHECK							
1	Ensure original installation disks are available	[]							
2	Check for disk damage	[]							
3	To speed up functions, defragment hard disk	[]							
4	Clean PC surfaces	[]							
5	Check air vents are clear (if possible)	[]							
6	Run diagnostic check	[]							
7	Establish regular back-ups are taken	[]							
8	Check for adequate PC ventilation	[]							
9									
10									

E	CAMERAS	CAMERA NUMBER							
		1	2	3	4	5	6	7	8
1	Check fixings for security								
2	Check adjustments								
3	Check camera is aligned to user specification								
4	Check condition of winch cables								
5									
F	CAMERA HOUSING ASSEMBLY	CAMERA NUMBER							
		1	2	3	4	5	6	7	8
1	Check all fixings								
2	Check copex and fittings								
3	Clean viewing window								
4	Check weather seals								
5	Check thermostatic heater								
6	Check window wiper blade								
7	Check washer resevoir								
8	Check thermostatic heater								
9									
G	PAN AND TILT ASSEMBLY	CAMERA NUMBER							
		1	2	3	4	5	6	7	8
1	Check all fixings								
2	Check electrical connections								
3	Clean pan and tilt functions								
4	Check limit switches								
5	Visually check weather seals								
6	Check accuracy of preset positions (if applicable)								
7	Check cable for physical damage								
8									
H	AUXILIARY LIGHTING EQUIPMENT	CAMERA NUMBER							
		1	2	3	4	5	6	7	8
1	Check infrared luminary 1								
2	Check infrared luminary 2								
3	Clean white light 1								
4	Clean white light 2								
5	Check alignment of all lamps								
6	Check photocell								
7									

I CABLING		CAMERA NUMBER							
		1	2	3	4	5	6	7	8
1	Check integrity of all cabling								
2	Sample check external insulation for damage								
3	Clean cable fixing for security								
4									
J FASTSCAN SYSTEMS		CAMERA NUMBER							
		1	2	3	4	5	6	7	8
1	Check general assembly								
2	Check video connection								
3	Check transmitter								
4	Check audio quality								
5	Check received picture quality								
6	Check auxiliary function								
7	Check alarms against specification								
8									
K OTHER EQUIPMENT		CHECK							
1									
2									
3									
4									
5									
6									
7									
8									
L TRAINING AND EDUCATION		NOTES							
1	System explained to user								
2	Functions explained to user								
3	User maintenance explained								
4									
5									
6									
7									

Annex C

Example of a Service Call Report

Company name and address:		Job number:	
SERVICE CALL REPORT			
User:		Account number:	
Address:		Tel. number:	
Reported problem:			
Source of problem: Customer related [<input type="checkbox"/>] Equipment related [<input type="checkbox"/>]			
Action taken:			
Materials used:			
Chargable: YES [<input type="checkbox"/>] NO [<input type="checkbox"/>]			
The CCTV system has been left in full working order apart from the items listed above. A copy of this Service Call Report has been give to the System Manager.			
Engineer's name:		Signature:	
Date:	Time on site:	Time off site:	
User's name:		Signature:	
Office use:	Time on site:	Travel time:	
Cost of materials: £			

Annex D

Fault reporting procedure

