

**Aakash Universal Ltd. (CORE)**



**Introduction to CCTV**

**Technical Tips**

**Order Process**

**Demo Kit**

**Core Surveillance Advisor Manual**

*Safety In Safe Hands*





**There is a vast range of CCTV products and prices to choose from in the market place, but little information to help discriminate between them. Here are some examples**

A camera described as good in low-level light will often not produce images at night unless there is additional lighting. There may also be no explanation or qualification of the term low-level light. Camera can be fitted in hours with the wiring cables to run back to your TV or monitor. They also require a power source.

### **. What is a CORE SURVEILLANCE ADVISOR (C.S.A).**

A C.S.A professional CCTV installer is a personal, who gives a site survey and recommends appropriate products. Modern technology has now made CCTV products much more affordable. A C.S.A helps customer choose the correct products and complete systems for domestic and commercial use.

### **Choosing a Camera Specification**

The main criteria of a camera's performance are its sensitivity and resolution. Secondary considerations are colour or monochrome and indoor or outdoor suitability. Sensitivity is the camera's ability to respond to light levels. Resolution defines the amount of picture detail in the image produced by the camera.

### **Camera resolution:**

This is expressed as the number of television lines that the camera is capable of producing. For example the C101 camera is classed as 420 lines or usually 420 TVL. These are typical figures for CCD cameras; CMOS cameras are usually lower. Higher resolution camera over 500 TVL are available for selected applications. For example, trying to read the number plate of a fast moving car would need the best resolution. You should be able to read a stationary number with a resolution of 420 TVL. Below 420TVL cameras even facial features will be difficult to distinguish. These are very broad guidelines and also depend on the light levels and shadow conditions.

### **Indoor/Outdoor Cameras:**

If a camera is to be sited outside and is not going to be mounted in an enclosure it must be classed as weather resistant. The cable entry points are sealed and most bullet cameras come with trailing leads that allows the connections to be made inside the building. Typically 18ins (45cm) should be sufficient.

The strength and durability of the casing is difficult to quantify but at core we have rejected cameras with flimsy plastic enclosures, particularly wireless cameras where the antenna dish looks like it could be easily damaged. The range of CORE bullet cameras have strong metal bodies and sealed cable entry points and were selected for these features.

### **Light Levels:**

Choosing the correct camera to operate in the ambient light conditions is possibly the most important although most tricky specification to understand. Light levels are usually measured in Lux. This is a measure of the light energy arriving on an area 1m<sup>2</sup> of surface per second.

Typical light levels are:

1. Full Summer Sunlight: 50,000 Lux
2. Dull Daylight: 10,000 Lux
3. Shop/Office environment: 500 Lux
4. Dawn/Dusk: 1 - 10 Lux
5. Main Street Lighting: 30 Lux
6. Side Street Lighting: 0.5 - 3 Lux





## INTRODUCTION TO CCTV

The golden rule when deciding which camera to use for a given lighting condition is not to choose one that will only just give a picture. Try to give the camera approximately 10 times its quoted minimum scene illumination. Most cameras will be able to cope with excess light. The major problem is when they do not have enough light to produce a picture. The sensitivity of covert cameras with pin-hole lenses are often quoted as 0.1Lux @f1.4. This seems to indicate that the camera will work in ¼ moonlight. Actually the pin-hole lens will have an aperture ratio of something like f4 and so the camera will need approximately 1 Lux to produce a picture. Unless any house is directly under main-street lighting the light level is probably less than 1 Lux at the front and even lower at the back. Bright security flood lights in theory help but often produce dark shadows a short distance from the house. A monochrome camera rated at 0.05 Lux will produce reasonable results. Colour needs a little more. However, colour cameras achieve good night-time vision by switching to a monochrome mode. You will never get good night time colour pictures without huge amounts of additional lighting. So think carefully about the added cost of colour over monochrome cameras. As most people are used to colour television it sets a standard so it is very common to still select a colour camera knowing it will switch to monochrome mode at night. Monochrome cameras respond well to additional IR (infra red) lighting. With this in mind true night-vision cameras include a ring of IR LEDs. Colour cameras also offer IR illumination but as stated previously will switch to monochrome at night even with the IR LEDs turned on. These are true night-vision cameras and are rate at 0 Lux.



## INTRODUCTION TO DVR

### DIGITAL VIDEO RECORDER (DVR)



A DVR greatly improves the quality of the video while a DVR will keep recording images onto a hard disk drive for years without any degradation. The average hard disk today has a mean time before failure (MTBF) of 10 to 12 years. A big misunderstanding about image quality is the assumption that it can be measured by the number of pixels the DVR will record. A pixel count of 640 x 480 will have a higher picture quality, and these losses get larger as the compression ratio gets bigger. Better quality, however; is not the only reason why DVRs should be purchased. Ease of evidence transfer and increased storage are two other pluses. It is extremely easy to transfer evidence from a DVR. Many DVRs have a built-in CD/RW drive where the desired video file may easily be burned to the CD, which may then be played back on any PC. Images can also typically be saved in a BMP format and printed on any conventional laser jet or inkjet printer. The amount of storage will depend on a number of factors, such as the size of the hard drive, the number of cameras that are recording and the frame rate: The frame rate is typically a range from less than one frame per second (FPS) up to 30 FPS or more. Another factor in storage capacity is the type of compression that a manufacturer uses. With JPEG, the software, Examines blocks of pixels and decides which blocks are redundant and not essential to creating the image. The blocks that are essential re transmitted, therefore only the changes in Images are recorded and or transmitted. Wavelet captures a complete video image with each frame and determines the content of every pixels in the image. H.264 is commonly used in video teleconferencing. It is similar to JPEG except that it only transmits the pixels in each image that have changed from the last image, rather than full images. As a result, it sends only the differences from one frame to the next. The compression format used is determined by the nature of customer's application. H.264 would typically be used where storage and transmission are priorities, and JPEG & Wavelet may be used when image quality take precedence over speed and storage. Authorized company managers can also remotely tap into the security system from any laptop computer that has the appropriate software installed. These users can watch and interact with their stores, solving the issue of having to physically travel to each location. Remote management enables cost-effective operational management, employee training, mystery shopper services (monitoring the behavior and performance of employees), and the ability to resolve issues quickly and easily. Remote access may be via a plain old telephone system (POTS), ISDN or LAN / WAN. The advantage of a network connection is faster speed. Additionally, some transmitters and DVRs have the capability for multiple users to access the recorder / transmitter simultaneously when they are connected on a network



## INTRODUCTION

### - THE IMPORTANCE OF GOOD CONNECTIONS

- Reliable video signal continuity through a CCTV system is paramount to picture performance and durability. Making good connections is just as critical as choosing the right products and has a significant effect on the long term operation of a CCTV system. On its travels from the camera to the monitor the analogue video signal has to pass through a number of separate pieces of equipment such as switchers, VCR's, multiplexers and so on. Each piece of equipment requires a video input, and usually a video output or loop through, to pass the signal on to the next piece of equipment. At each of these points it is usually necessary to terminate the coax cable with a male BNC in order to make the connection. Often there may be as many as 6 or 8 BNC connectors between the camera and the monitor, if the BNC connectors are made poorly the chances of a clean video signal drop proportionally. The different type of BNC connectors on the market has their own advantages and disadvantages but the same fundamentals always apply;
  - Always use the correct tools for stripping and crimping
  - Always use the correct BNC on the correct grade of coax cable
  - Follow the connector manufacturer's instructions and strip the coax to the specified lengths

What does a CSA get?

- |                          |                                  |
|--------------------------|----------------------------------|
| ➤ ID Card (Company name) | ➤ <u>Demo Kit contains-</u>      |
| ➤ CSA Visiting Card      | ➤ Two Cameras (Dome & IR camera) |
| ➤ Product brochures      | ➤ One 4 Channel DVR              |
| ➤ Product Price list     | ➤ One Power supply -2AMP         |
| ➤ Order sheet forms      | ➤ Two Cables (5 X 2 meter)       |
| ➤ Advertisement support. | ➤ 7"inch Screen                  |
| ➤ Demo Kit               | ➤ Mouse                          |
|                          | ➤ Spike guard                    |



## INTRODUCTION

# PROCEDURES

### Selection of material

1. Before a Demo is given the C.S.A should understand the requirement of the client regarding the coverage area and its specifications if any.
2. Before giving a Demo the C.S.A should take care of the following:
  - a) The camera should not be facing the direction towards the source of light.
  - b) Check to it that the dome and the lens of the camera is not dusty and is clean.
  - c) The height where the camera is to be placed.
  - d) For outdoor cameras the C.S.A should take into consideration the distance Between the camera and DVR.
  - e) Power supply needed when the distance between the camera and the DVR is more.

### Estimate/Quotation

1. The C.S.A has to write his code in the code box.
2. The warranty period has to be specified as one year or as may be applicable to the products.
3. The type of camera has to be specified along with the distance coverage.
4. Cabling charges and cable can be built approximately with respect to the purpose and calculated according to the procedures taught in the training.
5. If additional wires required it will be directly billed by the Technical Team.
6. Kindly go through the terms and conditions as the same is to be explained to the client.

A quick reckoner will help you make our quotes faster and more efficient

- a. Number of cameras required
- b. DVR Required with any specification that customer want to have e.g Mobile viewing
- c. Do not forget to mention the Power supply in the quote
- d. Also mention that the warranty is void under what circumstances
- e. The wire should be calculated on per mtr basis
- f. The conducting if required should be specified
- g. mention the cable such as 4+1 vrg or any special required
- h. the distance between camera and Dvr is more then video balloon should be mentioned
- l. the hdd requirement
- j. monitor requirement
- k. Internet and ip address requirement which has to be done from the customers end

### Purchase Order (PO) and execution of PO

The C.S.A should take note of the following while preparing the PO.

1. The C.S.A should note properly the type and model number of the camera and DVR., The Power supply required and any other accessories required.
2. The approximate cable length estimated should be rechecked.
3. Cabling and installation charges to be confirmed with the latest price list sent to the C.S.A.
4. The PO should be submitted to the respective local C.S.A contact office along with the payment received.
5. The goods shall be delivered to the client after the realization of the payment.
6. The cabling work shall begin on the next working day after the realization of the payment.
7. The C.S.A will be informed about the work progress.
8. C.S.A should explain to the customer all the terms and conditions as stated above.



## INTRODUCTION

# PROCEDURES

### **Annual Maintenance Contract (AMC) for CCTV and DVR**

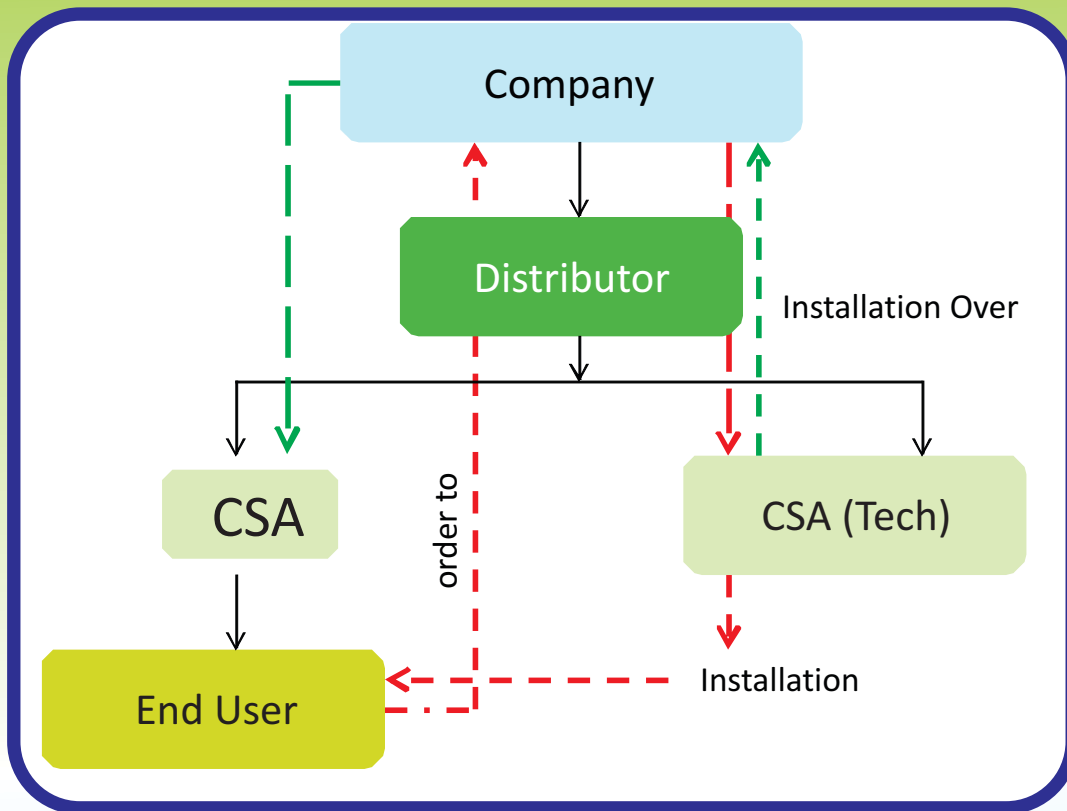
1. The C.S.A makes a note of all the cameras, its model numbers, the type of Product, its condition and then makes a remark note on it.
2. The procedures for the AMC are given behind the First and the Second page of the contract.
3. The C.S.A shall make a rough diagram on the third page along with the layout and placement of cameras.
4. The C.S.A then has to pass the copy of AMC to the company.
5. The frequency of the AMC is four times in a year. The contract is noncomprehensive.
6. The AMC contract first copy is for the customer and the second and the third copy is for the company records.
7. Same procedures are followed for other products.

### **Generation and Execution of a SERVICE CALL**

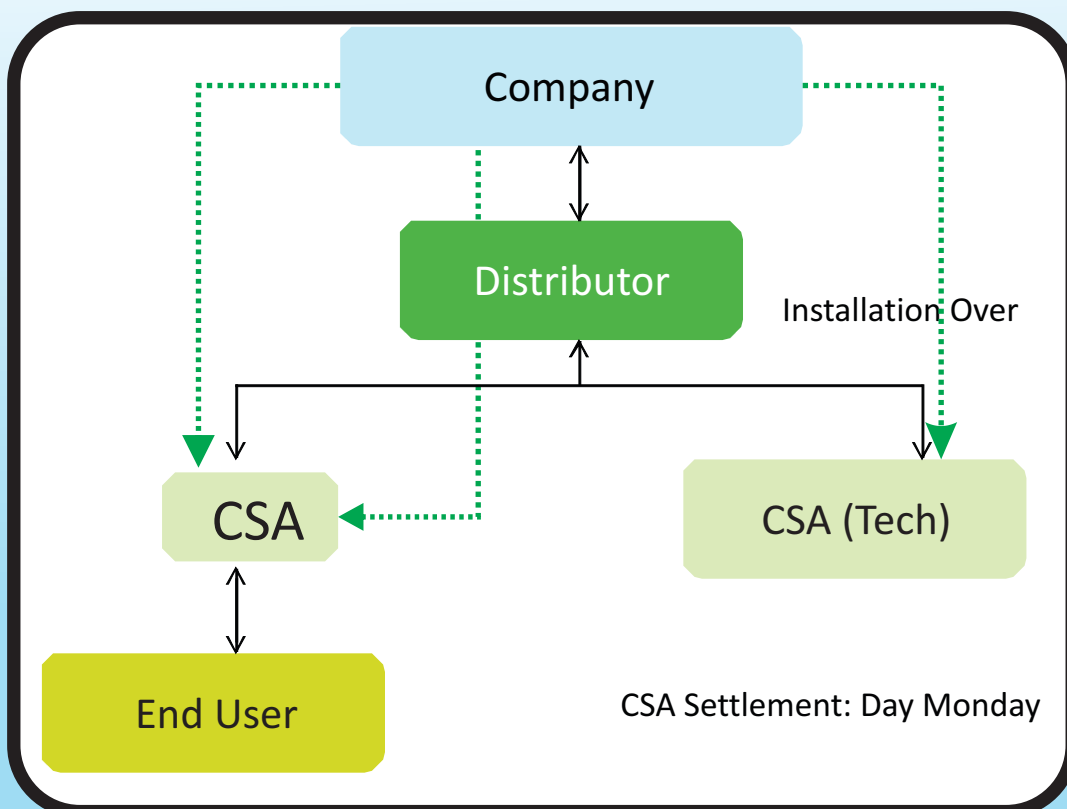
1. The customer gives a call to the C.S.A/ Helpline support number. The customer is then given a complain number by the helpline executive.
2. If the customer gives a call to the C.S.A, the C.S.A gives him a complain number by registering the complaint with the helpline on behalf of the customer.
3. The helpline number passes the call to the concerned Technical Team.
4. The concerned Technical Team gives a visit within 24 hours and does the needful.
5. After the complaint is solved the Technical Team reports back to the helpline number who in turn confirms with the customer and after confirmation informs the C.S.A of the successful completion of the Service Call.



### PROCESS CHAT



### PAYMENT FLOW CHAT





## GLOSSARY

Short Terms	Description
4 CIF	Four-times common Intermediate Format, a format of color images,704x576 pixel (PAL) 704x480 pixel (NTSC)
2 CIF	Two-time common Intermediate Format, a format of color images,704x288 pixel (PAL) 704x240 pixel (NTSC)
DCIF	Double times Common Intermediate Format, a format of color images, 528x384 pixel (PAL) 528x320 pixels (NTSC)
CIF	Common intermediate Format of color images, 352x288 pixels (PAL)352x240 pixel (NTSC)
QCIF	Quarter Common Intermediate Format, a format of color images,176x144 pixel (PAL) 176x120 pixel (NTC)
BNC	Short form for Bayonet Nut Connector, a connector for coaxial cable
DNS	Domain name system, for translating computer hostnames to IP addresses In a user-friendly way .- .
H.264	A kind of Video Compression Standard
IDE	A type of HDD interface
IP	Internet Protocol
PPPoE	PPP on Ethernet
SDK	Software Development kit.
USB	Universal Serial Bus
UTP	Unshielded twisted pair cable
Frame Rate	Number of frames per second
Motion Detection	Analysis of whether there are change in video images
Video Mask	Hide some video region in the image





# ORDER PROCESS

## PRODUCT



**DOME CAMERA**

**BULLET IR CAMERA**



**4 CH, 8 CH, 16CH DVR**



**VIDEO DOOR PHONE**



**PAN TILT SCANNER**



**1 AMP, 2 AMP, 5 AMP**



**BIOMETRIC AND ACCESS CONTROL**



**RF ID CARD**



**FIRE ALARM**



**GAS LEAKAGE DETECTOR**



**SOLAR PRODUCT**



**ACCESSORIES**





## ABOUT CORE

### **1) What We Do**

Aaksh Universal Ltd. (Brand : Core) is the importer, mfg and Channel partner for brands across the Globe; it provides a robust link between the Customers and its Channel Partners. We are based in Mumbai, India but we are often found traveling around the globe to participate in marketing events and meet ups. We are also incredibly fortunate to have the most helpful and strong team of technicians, marketing, and support staff working hand in hand as a CORE Family.

### **2) Promotions & PR at CTSP**

We spend dedicated time developing CORE Products The Marketing team of CTSP is headed by the CMD Mr. Rahul Ambegaokar, having a marketing experience for about 2 decades. The Company plans to take part in exhibitions across the globe to promote all the Products in its banner. The first one being SECUTECH INDIA 2013.

### **3) Community and Business Opportunity**

We are in process of forming the most vibrant CORE CSA community with over 20,000 members in next 5 Years to be working as a Core Sales Partners on Global scale and we are also Inviting Joint Partners for the CSA Concept which is the first in the Industry. The CORE Team at its Head Office is willing to discuss and share the latest news about what works and what doesn't. We love highlighting the expertise of our Team through, Q&A,. Additionally, very soon our CSA Family has access to educational resources such as our Beginner's Guide to Security Industry and the comprehensive Learn CSA section on the web site.