# EXHIBIT A

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**Storm**

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(54) **PORTABLE DEVICE HAVING A TORCH AND A CAMERA LOCATED BETWEEN THE BULB AND THE FRONT FACE**

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***H04N 5/225*** (2006.01)
***H04N 5/232*** (2006.01)
***H04N 7/18*** (2006.01)
***G03B 17/48*** (2006.01)
***G03B 15/02*** (2006.01)

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(58) **Field of Classification Search** ..... 348/78, 348/151, 158, 161, 211.2, 211.3, 376, 552; 396/15, 18, 429, 433; 362/7, 8
See application file for complete search history.

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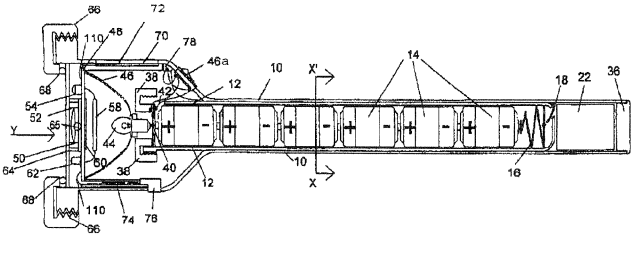
Dees, Tim; "IACP 2000 Product Report"; Feb. 2001, Law & Order. Wilmette; vol. 49, Iss. 2, p. 44.*

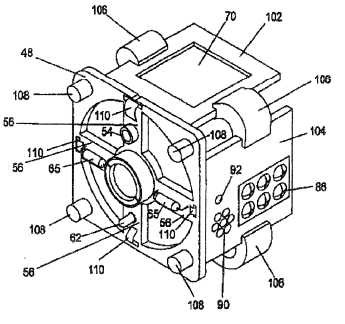
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(57) **ABSTRACT**

A torch casing (**10**) with a reflector (**46**) and a bulb (**44**) incorporates camera (**48, 50, 52**) taking pictures through front face (**64**) and employs flash tube (**58**) behind the camera chip (**50**) reflecting off reflector (**46**) and reflected onto reflector (**46**) by mirrored surface (**60**) on the back of camera chip (**50**). Captured images, still or video, are exported by radio frequency unit (**22**) to, for example, secure and supervised store (**124**). Ultraviolet unit (**65**) causes fluorescence which is photographed by camera (**48, 50, 52**). Display screen (**70**) shows camera (**48, 50, 52**) images or received images. The apparatus continuously sends its position determined by GPS navigation. Sounds can be recorded, sent and received. Iris patterns and fingerprints can be recognized from an updated store.

**5 Claims, 4 Drawing Sheets**





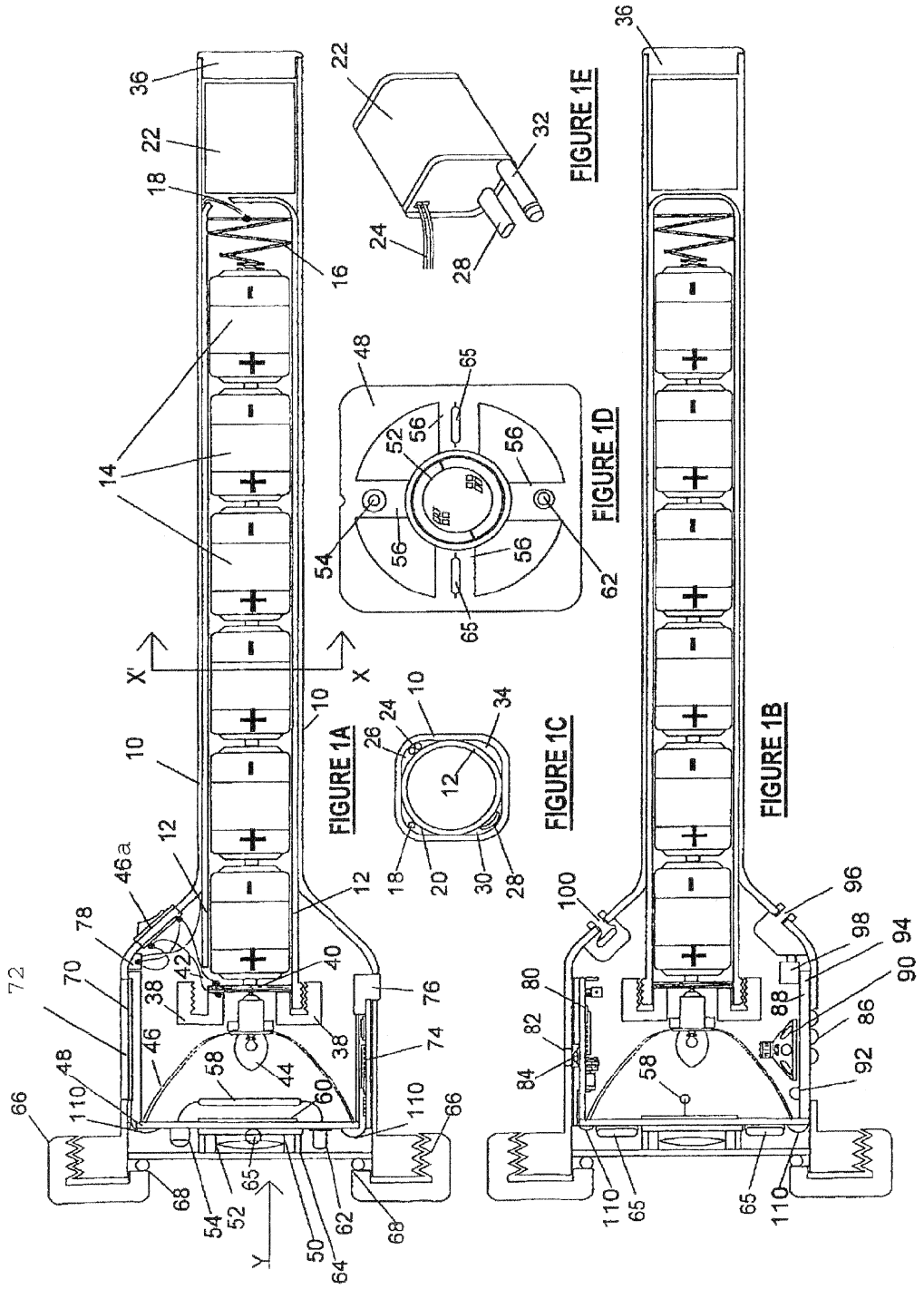
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FIGURE 1A
FIGURE 1B
FIGURE 1C
FIGURE 1D
FIGURE 1E
X
X'
Y
Y'

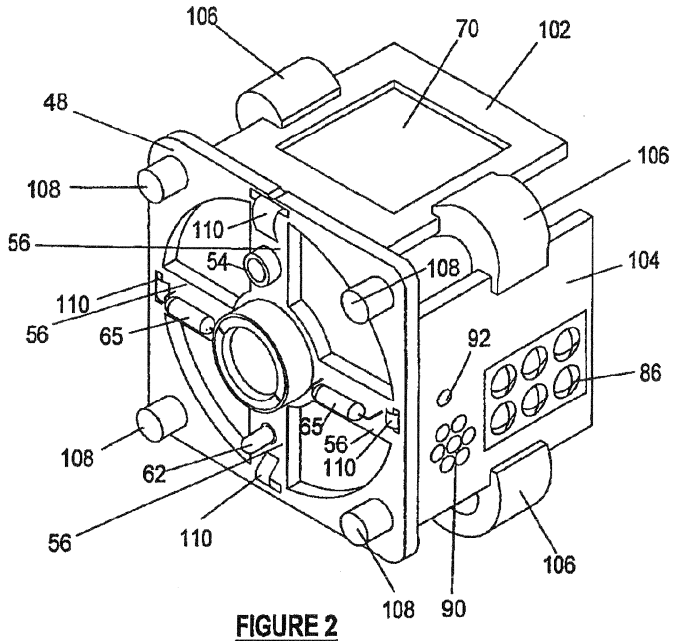



FIGURE 2

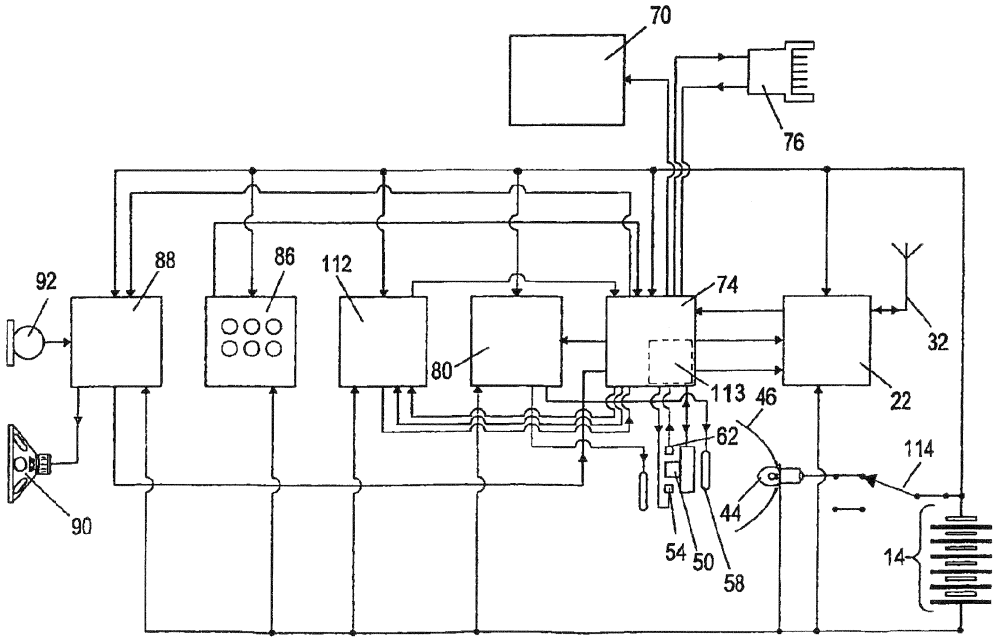



FIGURE 3

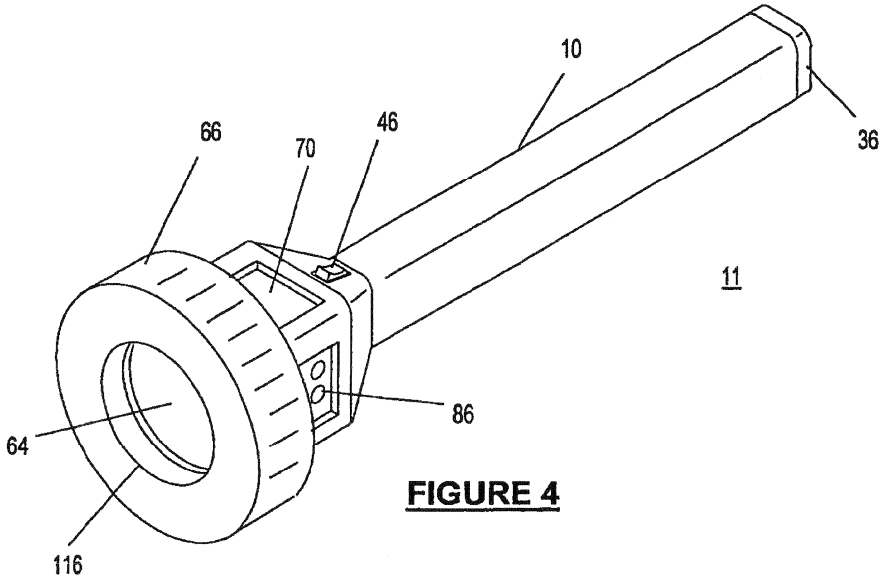



FIGURE 4

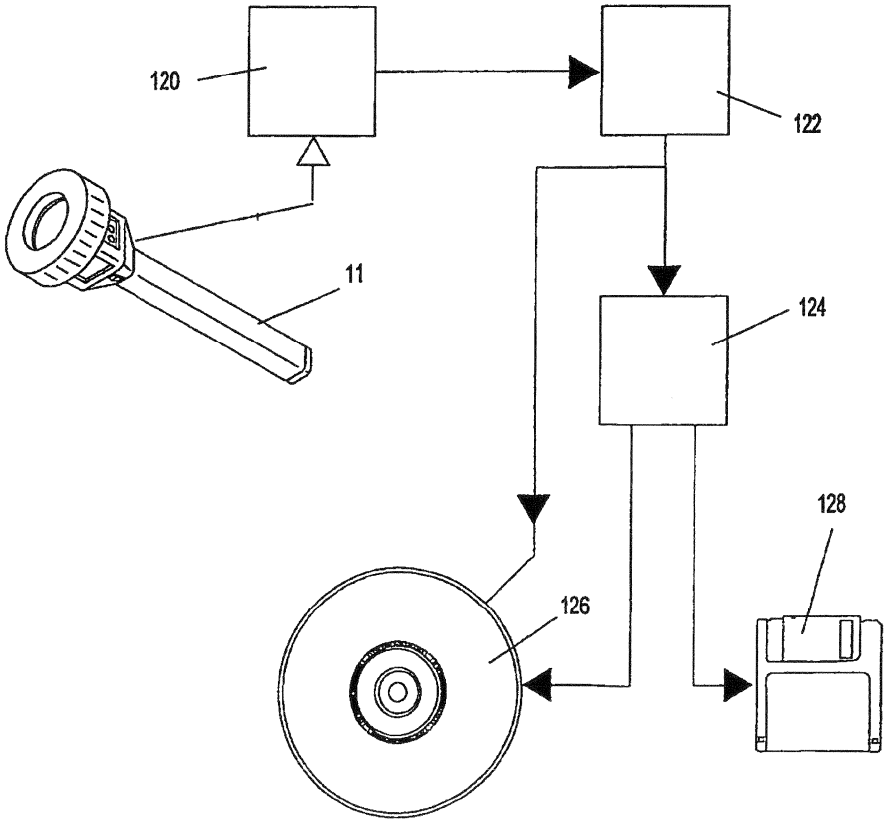



FIGURE 5

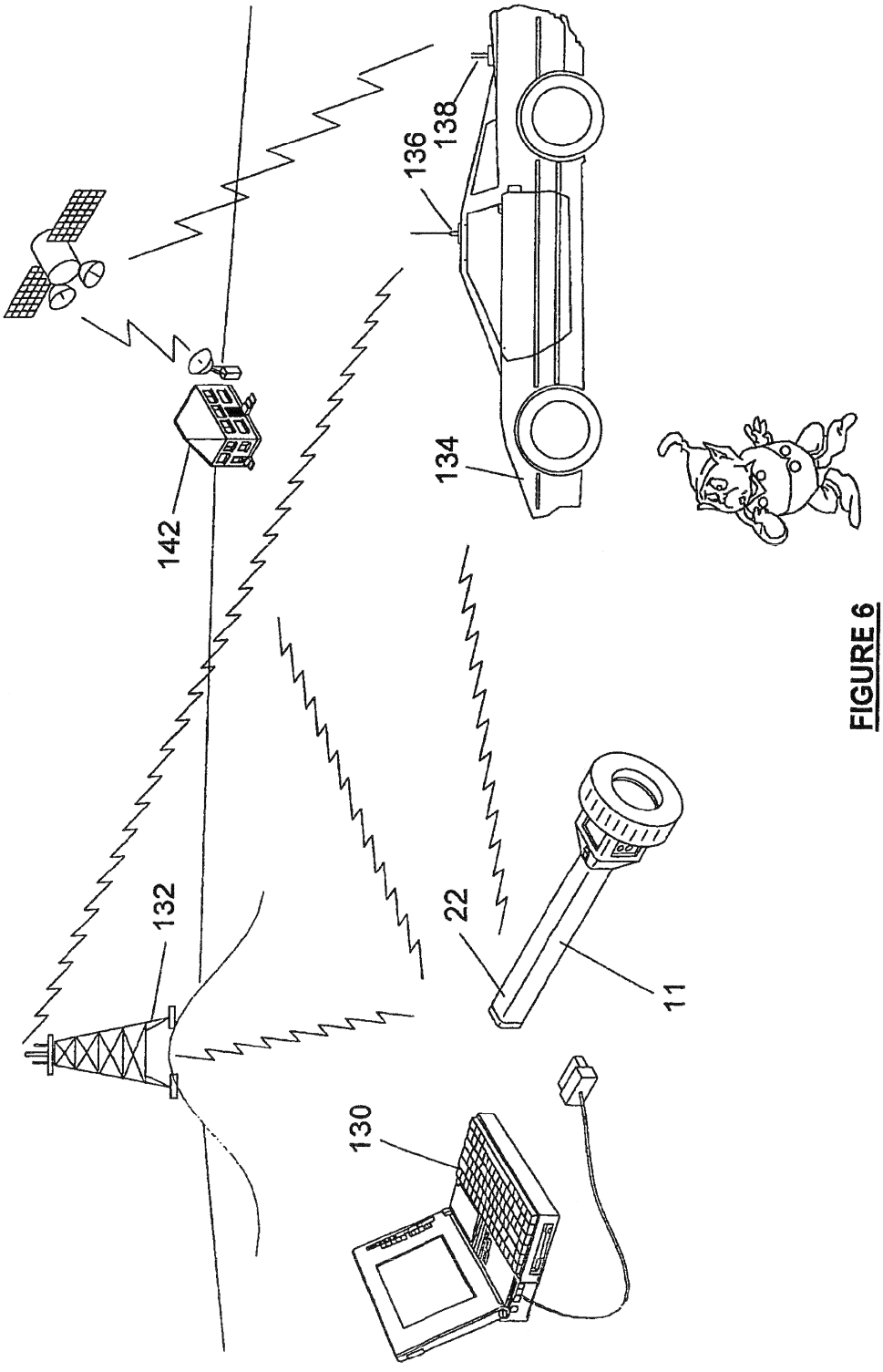



FIGURE 6

# PORTABLE DEVICE HAVING A TORCH AND A CAMERA LOCATED BETWEEN THE BULB AND THE FRONT FACE

## FIELD

The present invention relates to portable equipment of the type carried by police, security personnel or military personnel.

## BACKGROUND

Police, military and security services are all provided with items they are expected to carry about their person while going about their duties. Particularly in the case of police and security companies, incidents occur which require evidence to be submitted. The present invention seeks to provide an additional capacity for recording visual and audio evidence without adding to the number or bulk of items expected to be carried by the individual.

Recorded, visual or audio evidence must be shown to have been free of tampering or alteration if it is to be accepted in a court of law. The present invention seeks to provide a system where recorded sounds or images can be shown not to have been the subject of alteration or tampering.

In the ordinary way of things, to provide the additional capacities that the present invention seeks to provide, extra equipment would have to be carried by the individual. The present invention seeks to provide that extra ability within the compass of items already carried by the individual.

## SUMMARY

According to a first aspect, the present invention consists in a portable apparatus comprising; a torch, said torch comprising a transparent front face; illumination means for providing illumination through said front face; camera means, contained within said torch and selectably operable to capture images through said front face; and export means, operative to export images, captured by said camera means, to a remote recipient.

According to a second aspect, the present invention consists in a method for capturing images, comprising the steps of; providing a torch comprising a transparent front face; providing illumination, through said front face by employing illumination means; capturing visual images by employing camera means, contained within said torch and selectably operable to capture images through said front face; and exporting captured images by employing export means, operative to export images, captured by said camera means, to a remote recipient.

The present invention further provides that the torch can comprise a bulb and a reflector, and that the camera can comprise an optical portion, looking out through the front face, the optical portion being mounted in front of the bulb.

The present invention also provides that the camera can comprise a flash unit, the flash unit being operative to provide light from a point between the camera and the bulb, the reflector directing light from the flash unit in a forward direction.

The present invention further provides that the face of the optical unit towards the bulb can comprise a reflective surface to direct light from the flash unit and light from the bulb onto the reflector.

The present invention further provides for the provision of ultraviolet illumination to render fluorescent materials visible for imaging in visible light.



The present invention also provides an audio recorder for capturing sounds for export along with the images.

The present invention also provides that the images obtained by the camera can be downloaded to a secure memory with supervised access.

The present invention further provides that the downloading to the secure memory can be via a radio link, and that the radio link can be through a cellular telephone network, a direct radio link, or through a satellite.

The invention further provides that the cellular telephone network can be any network capable of effecting image and audio data transfer.

The present invention further provides that the means for downloading can contain an intermediate station, and that the intermediate station can be a motorised vehicle.

The present invention also provides for the use of a viewing screen, the viewing screen being capable of either or both of receiving images to be viewed by the radio link, and viewing images captured by the camera unit.

The present invention further provides for a satellite beacon operative to indicate its location at all times.

The present invention further provides for automatic recognition of human identification characteristics, such as iris patterns or fingerprints, from a captured image.

The present invention is further explained, by way of example, by the following description taken in conjunction with the appended drawings in which:

## BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1**A shows a cross-sectional view, from the side, of a torch camera according to the present invention.

FIG. **1**B shows a cross-sectional view, from above, of the torch camera of FIG. **1**A

FIG. **1**C shows a cross-sectional view of the handle section of the torch camera, cut as indicated by the line X X' and looking in the direction of the arrows (in FIG. **1**A).

FIG. **1**D shows a face-on view of the camera plate in the torch camera, looking in the direction of arrow Y in FIG. **1**A.

FIG. **1**E is an isometric view of the radio frequency unit of the torch camera FIGS. **1**A and **1**B.

FIG. **2** is an isometric view of the camera and audio elements of the torch camera, otherwise shown in FIG. **1**D.

FIG. **3** is a schematic block diagram of the torch camera.

FIG. **4** is an isometric view of the complete torch camera.

FIG. **5** is a schematic diagram showing how the torch camera can be used for reliable evidence capture.

and

FIG. **6** shows a situation where confirmable evidence capture would be advisable, illustrating the complete communications environment in which the torch camera can be used.

## DETAILED DESCRIPTION

Attention is first drawn to FIGS. **1**A to **1**E, which together show one possible mechanical construction for the torch camera. FIG. **1**A shows a cross-sectional side view of the torch camera.

The torch camera **11** comprises a torch casing **10** of generally square cross-section encompasses a cylindrical battery tube **12** containing sufficient cells **14**, in series, to form a battery of cells to power the torch camera **11**. A pressure spring **16**, forced against the negative casing of the cell **14** furthest from the front of the torch camera **11**, has a negative wire **18** electrically affixed thereto. The negative wire **18** passes through battery tube **12** wall and along a first void **20** between the inside of the torch casing **10** and the outside of

the battery tube **12** so passing energy from the negative terminal of the battery of cells towards the front of the torch camera **11**. The torch casing **10**, behind the battery tube **12**, accommodates a radio frequency unit **22** which provides communications for the torch camera **11**. The radio frequency unit **22** is powered by radio frequency unit power cables **24** which pass from the front of the torch camera **11**, to the radio frequency unit **22**, through a second void **26** between the inner surface of the torch casing **10** and the outer surface of the battery tube **12**. The radio frequency unit **22** is bi-directional. Signals received from the radio frequency unit **22**, and signals sent to the radio frequency unit **22** are provided on a data cable **28** which passes to and from the front of the torch camera **11** in a third void **30** between the inner surface of the torch casing **10** and the outer surface of the battery tube **12**. Radio signals are sent from, and received by the radio frequency unit **22** by means of an antenna **32**. When the radio frequency unit **22** is present in the torch camera **11**, the antenna **32** is accommodated at the distal (furthest from the front) end of a fourth void **34** between the inner surface of the torch casing **10** and the outer surface of the battery tube **12**. A simple conformal bung **36** holds the radio frequency unit **22** within the distal end of the torch casing **10** and provides the possibility of provision of signal connections, to the radio frequency unit **22**, there through by means of connectors, plugs or sockets (not shown).

The cells **14** are held, in the battery tube **12**, against the pressure of the spring **16**, by means of a screw retainer **38** which screws onto the end of the battery tube **12** to force a connecting plate **40** against the end of the endmost cell **14**. The connecting plate **40** is, typically, a piece of double sided printed circuit board cut to fit within the head of the battery tube **12**. A slot void **42** permits access of wires to the connecting plate **40**. A protrusion is provided on the connecting plate **42** which fits into the slot void to prevent rotation of the connecting plate **40** within the battery tube **12**. One wire is soldered to the face of the connecting plate **40** closest to the endmost cell **14**. This wire provides a constant 9-volt supply. Another wire is soldered to the face of the connecting plate **40** away from the endmost cell **14**. One terminal of the bulb **44** touches that face when the torch camera **11** is assembled. A switch **46***a* can be operated to connect the two faces of the connecting plate **40** together, thus lighting the bulb **44** which is grounded to the negative wire **18** via a metallic parabolic reflector **46**.

The parabolic reflector **46** is situated behind a camera plate **48** which carries a charge coupled device (CCD) camera chip **50** beneath a pre-adjusted lens assembly **52**. The camera chip **50** can be suitable to capture monochrome or colour images, and as single or continuous images, depending upon the selected mode of operation of the camera torch **11**.

In the preferred embodiment of the torch camera **11**, the camera plate **48** suspends the lens assembly **52** on struts **56** in the centre of the field of the reflector **46**. This example shows four struts **56**. It is to be understood that the invention also encompasses embodiments with one strut **56**, two struts **56**, three struts **56**, or more than four struts **56**. The invention also encompasses embodiments with no struts, where the lens assembly is glued or otherwise affixed onto a surface of or within a void in a transparent plate.

Light from the bulb **44**, and from a flash tube **58**, can pass around the struts **56**. A mirrored surface **60** is provided on the rear of the camera plate **48** beneath the camera chip **50** to reflect light from the flash tube **58** and the bulb **44**, which would be otherwise obstructed by the camera chip **50** and lens assembly **52** back onto the reflector **46** to be sent around the struts **56**. Approximately half of the light from the flash tube **58** is reflected out of the torch camera **11** directly from the parabolic reflector **46**. The remainder is reflected from the mirrored surface **60**, onto the parabolic reflector **46**, and thence out of the torch camera **11**.

A low power, visible light, laser diode **54**, mounted on one of the struts **56**, is operative to send a straight beam of light which can be used as an aiming device when pointing the torch camera **11** at a target to acquire images. A photo sensor **62** is employed to determine the amount of exposure required when acquiring an image. The photo sensor **62** can be omitted if the camera chip is employed for the same purpose. One or more ultraviolet emission tubes **65** provide ultraviolet illumination to render visible fluorescent substances, such as fingerprints, enabling them to be observed and photographed. A transparent front plate **64** is held within the end of the torch casing **10** by a screw-on circular flange **66** made water and moisture tight by a sealing ring **68**. A display screen **70**, for preference a low power liquid crystal device displaying at a pixel density in the region of twenty five dots per centimeter or greater, is visible through a first transparent section **72** of the torch casing **10**. A controller **74** commands and maintains the function of the communication and data reception and dissemination process. A data transfer socket **76** allows images or records of sound signals to be sent to or obtained from an external source such as a computer. A power plug **78** permits the end of that portion of the camera supporting the display screen **70** to plug the camera into the battery of cells **14** as the torch camera is assembled. This powers the entire camera. The power plug **78** also allows the torch camera **11** to be taken apart.

A flash tube power generator **80** generates the high voltages and electric charges necessary to operate the flash tube **58** and the ultraviolet emission tubes **65**. The flash tube power generator **80** is, for preference, maintained as a separate entity because of the risk of the high voltages and charges damaging sensitive low voltage semiconductor devices. The generator **80** can work by charge pumping voltage multiplication, by high frequency magnetic inversion, or by a combination of both. A second transparent section **82** in the torch casing **10** permits visibility of a neon charge indicator **84** which shows that the camera has accumulated enough flash energy to take a picture using the flash tube **58**. The ultraviolet emission tubes **65** can be operated continuously for human observation, or in a flash or continuous mode for photography.

A plurality of control buttons **86** allow the user to control the torch camera **11**. The control buttons **86** can be directly acting (directly causing a function) and/or can be interactive the controller **74** by means of messages or icons on the display screen **70** to provide menu based control.

A solid state audio recorder **88**, incorporating a miniature loudspeaker **90** and microphone **92** allows, for preference, up to 20 minutes of sound recording. Where space permits, a recorder employing a removable tape can, instead, be used. The control button board **94** also comprises a plus **98** which engages an earphone socket **96** allowing recordings to be replayed.

A battery charger socket **100** allows for recharging of the cells **14** without the necessity of their removal or replacement. Not shown, but implicit, is a battery charging unit, for used from electric mains or from an automotive electric system, operative to control the flow of current to safe limits and to terminate charging when charging is complete.

Attention is next drawn to FIG. **2**, showing an isometric view of the assembly of camera and audio elements removed from the torch casing **10**. The assembly effectively forms five sides of a "camera cuboid", at least one axis of which has a substantially square cross section.

The display screen **70**, on a display screen board **102** forms, one side of the cuboid. A control button board **104** forms a second face of the cuboid. Not visible in FIG. **2** are a controller board which supports the controller **74** and flash tube power generator board which supports the flash tube power generator **80**, which two entities form another two sides of the cuboid. The camera plate **48** forms the front face of the cuboid. The parabolic reflector **46** with the bulb **44** installed therein lies within the camera cuboid, behind the camera plate **48**. The rear face of the cuboid is vacant. Supporting clips **106** are placed between the boards **102**, **104** to provide rigidity and strength. The entire camera cuboid plugs in to, and is removable from, the torch casing. Resilient pads **108**, on the front of the camera plate **48**, maintain the spacing between the camera plate **48** and the front plate **64** such that when the sealing ring **68** is screwed down, a firm and cushioning pressure is obtained. Flexible printed circuit boards **110** allow for electrical connection between the various boards **104**, **102**, **48** of the camera cuboid. The struts **56** and the residue of the front plate **48** act as a power and signal highway for the operation of the torch camera **11**. The rear surfaces of the struts **56** are also used for power and signal conduction. The boards **102** **104** **48** can be multi-layer printed circuit boards.

It is to be appreciated that this is just one preferred way in which the torch camera **11** can be implemented. The present invention also encompasses that the cuboid can be replaced with a cylindrical mount for all the elements present behind the camera plate **48**. The present invention also encompasses all those embodiments which allow the components to be held within a torch casing, of this form, or of any other form, using this style or any other style of battery or power unit.

FIG. **3** shows a schematic block diagram of the torch camera **11**. The controller **74** sends commands and control signals to the camera chip **50** and receives image signals in return. The controller **74** can instruct the laser diode **54** to shine and can respond, for the purpose of controlling the acquiring of an image, to the output of the photo sensor **62**. The controller **74** also controls the flash tube power generator **80** to command it when to trigger the flash tube **58** or to power the ultraviolet emission tubes **65**. A memory **112** is coupled to receive image signals from the controller **74**, to receive commands from the controller **74**, and to provide image signals to the controller **74** for viewing on the display screen **70**, or transmission from the torch camera **11** via the data transfer socket **76** or the radio frequency unit **22**. The control buttons **86**, operated by the user, send instructions to the controller **74** which, in response, controls all of the elements in the camera cuboid. The voice recorder **88** sends signals to the controller **74** which the controller can then store in the memory **112** or immediately externalise. In its turn, the controller **74** can cause signals to be transferred to be heard through the earphone socket **96** or the miniature loudspeaker **90**.

Housed within the controller **74**, or at least connected to and in communication with the controller **74**, is a recognition unit **113** which can be used for recognition, from captured images, of human identification characteristics, such as the pattern of the iris of the eye, or fingerprints. A library of known characteristics is compared with the characteristic of the captured image and a match, or closest match is found. The library can be received via the radio frequency unit, received via the data transfer socket, can be stored in a memory, stored on a removable card, or any combination of these. The captured image can be sent to a remote location for comparison against a greater database of characteristics, and a report sent back and displayed. When capturing an image of a human iris, the flash tube power generator can be set to a low power mode to avoid visual damage. Alternatively, light from the bulb **44** can be employed. A relay or solid state switch can be employed to allow the controller **74** to control the illumination of the bulb **44**.

The battery of cells **14** is connected to the bulb **44** via a switch **114**. The bulb **44** can thus be switched on or off. The camera cuboid, if present in the torch camera **11**, is permanently connected to the battery of cells **14** so that the memory **112** does not lose a record of images or sounds stored therein. The control buttons **86** are able to switch the camera cuboid into a quiescent state wherein the memory **112** can sustain its records using the power in the battery of cells **14** for many months, provided the bulb **44** is not substantially used before recharging.

The controller **74** can send data (sound or images) for export via the radio frequency unit **22** or the data transfer socket **76** or can import data (sound, images or text) therefrom. Imported data can then be displayed on the display screen or played through the miniature loudspeaker **90** or the earphone socket **96**. Equally, images captured by the camera chip **50** can be recovered from the memory **112** and displayed on the display screen **70**. The same is true for sounds as for images. Sounds can be imported and played through the miniature loudspeaker **90** or through the earphone socket **96**.

Attention is drawn to FIG. **4** showing an isometric view of the torch camera **11**. The generally square outline of the main body of the torch camera **11** is clear, together with the circular outline of the flange **66** which tightens down the front plate **64**, leaving a circular aperture **116** of substantially the same diameter as the mouth of the parabolic reflector **46**. It is preferred that the torch casing **10** and the battery tube **12** are made of a plastic non-conducting material so that the antenna **32** of the radio frequency unit **22** may be free to radiate. If metallic material is used, the present invention permits that the antenna **32** can be external to the torch casing **10**. The embodiment of the invention shown can be implemented in other forms of case and with different types of battery. The embodiment shown is preferred since it is of substantially the same dimensions and outline as a standard torch as issued to police, security services, night watchmen, firemen, military personnel and utility company employees. As such it simply replaces the ordinary torch in the utility belt and thus maintains the weight, volume and form of equipment carried. If it is not desired to use the camera cuboid, so that a simple torch is obtained, it is simply achieved by removing the cuboid camera by unscrewing the flange **66**, unplugging the camera cuboid and putting it aside. The parabolic reflector **46** and its bulb **44** are retained and the space taken up by the camera plate **48** and resilient pads **108** replaced by a simple washer of the same thickness. The radio frequency unit **22** can, similarly, be removed. The torch camera **11** thus offers the options of being a simple torch, a torch with camera facilities, or a torch with camera and radio facilities or in any configuration as a sealed unit.

The camera torch **11** can operate in various modes. At night, both the flash tube **58**, and/or the ultraviolet emission tubes **65**, and/or the bulb **44** may be used to illuminate the object photographed. In lighter conditions, the picture may be taken using none of these. The display screen **70** may be used to display the image seen by the camera chip **50** before the picture is taken. The display screen **70** can also be used to display the status of the camera torch **11** such as the amount of power remaining, the amount of audio recording time remaining, the number of further images which may be taken before downloading, and so on. Equally, the camera torch **11** can receive images via its data transfer socket **76** or via the radio frequency unit **22** to display on the display screen **70**.

Attention is next drawn to FIG. **5**, showing one way in which the camera torch **11** can be used in a situation where evidence must be gathered in such a way that it cannot be the victim of tampering and the authenticity of the evidence and copies is assumable.

The camera torch **11**, having acquired sound or image data for transmission, transfers the data to its transmission apparatus **120**. The transmission apparatus can be of various kinds, whose nature and possibilities are explained and described with reference to FIG. **6** hereafter. Suffice to say that whatever is given to the transmission apparatus **120** is sent by wire or radio to a receiving station **122** where the signals are decoded and then sent to a secure memory **124** which is under supervision and under controlled access at all times. Once in the secure memory **124**, no individual has free access to change or delete any data. As an additional feature, the audio recordings and visual images from the camera torch **11** are date stamped by the camera torch before the camera torch **11** transmits them through the transmission apparatus **120**, and this date stamp is recorded in the secure memory **124**. The records are further date stamped on reception at the receiving station and on storage in the secure memory **124**. As a further precautions before storage in the secure memory **124**, the signals are recorded on a write once recordable compact disc **126** or any removable media of a similar nature. This is a non-volatile method of storage which assures the survival of the records even if the secure memory **124** should fail. A comparison recording may also be made from the secure memory **124**. Any copies of the images or sounds can be dispensed from the secure memory **124** on discs **128**. The invention also envisages that, as well as use of a write once compact disc **126**, there can also be direct photography of the reconstructed image from the receiving station **122** to make a permanent film record against which all other digital records can be compared.

Finally, FIG. **6** shows the communications environment in which the camera torch **118** can function. Simply for the sake of humorous illustration, an incident is depicted to which no credence would be given in the absence of irrefutable evidence.

At the most primitive level, records of images and sounds can be stored in or retrieved from a computer **130**. Material, stored directly on the computer **130**, is date stamped by the torch camera **11**, but this is the only improvement in establishing authenticity over those methods already known for detecting alteration.

The computer **130** can be connected through the Internet to transfer records, or can use any other file transfer system operating by wire, cable, fibre optic cable or radio, or any combination of all three. Such rapid transfer of the records, for example to the receiving station **122**, gives a high degree of trust in the authenticity of the records.

The radio frequency unit **22** can communicate directly with a cell phone system **132**. The cell phone system **132** can be of any known kind having a capability for data transfer. Not only does the cell phone capability effectively turn the camera torch **11** into a mobile telephone, but it permits direct contact with data recipients or providers without the need for an intermediate computer **130**. The types of cellular telephone network **132** can include GPS, EDGE, UMTS and GPRS which is continuously connected in both directions and any such present or future communications system.

The computer **130** can be installed in a road vehicle **134**. The road vehicle **134** can contain cell phone apparatus **136** and satellite apparatus **138**. The satellite apparatus **138** can send a signal to, or receive a signal from, a communications satellite **140** which can relay it to a receiving point **142** which is a convenient location for the receiving station **122** described with respect to FIG. **5**. The radio frequency unit **22** can provide short range communication with the road vehicle **134** which acts as a main and more powerful transmitter/receiver. Equally, the radio frequency unit **22** if strong enough, can communicate directly with the receiving point **142**.

The radio frequency unit **22** can combine a plurality of functions. Where a single antenna **32** cannot accommodate all functions, a plurality of antennae are provided.

One additional function for the radio frequency unit **22** is to act as a satellite beacon, whenever not being required to perform other functions, the satellite beacon signal able to be detected and located by a satellite location system in the same way that vehicles can be continuously tracked so that their position is always known. This facility is of importance in finding individuals who may have been the victims of accident, violence or abduction. It also serves as a location marker, and it is a part of this invention that the location of the torch camera **11** can be stored with any record received.

Another additional function of the radio unit **22** is to act as a satellite navigation receiver, whereby the torch camera **11** knows its location on the surface of the earth. The torch camera **11** can display this data on the display screen **70** when required. It is also part of this invention that the torch camera **11** can apply the current GPS reading to any records it sends for storage in addition to any other stamp such as the date stamp. In particular, the torch camera **11** can regularly update a remote facility as to the current position of the torch camera, thereby allowing any user carrying the torch camera **11** or vehicle or aircraft in which the torch camera is installed to be tracked.

The camera torch **118** can take still images, a rapid sequence of still images, or moving images. The images may be continuously downloaded to provide a constantly running record and to avoid the memory **112** becoming too full.

A particularly useful application of the torch camera is in fixed surveillance. The torch camera can be fixedly mounted by means of attachable brackets or screw holes in the case. The torch camera **11** can be trained to regard a selected point in the interior or on the exterior of a building. For example, the torch camera can be trained on a door, or on a window.

The torch camera can be associated with a movement detector. A first type of movement detector can be an ultrasound detector, suitable for use inside a building. The ultrasound detector can be integrated into the torch camera **11**, or can be provided as a separate outboard unit. A second type of movement detector can be a PIR (Passive Infra Red) detector which senses the body heat of individuals and animals and the operational heat of mechanical and electrical devices. Though bulky, this too can be integrated into the torch camera **11** or provided as a separate outboard unit. A third type of movement detector can be optical, of a type known with computer surveillance "web cams", where movement is deemed to have occurred if more than a selectable amount of the pixels constituting the instant image has changed within a selectable time, or has changed over a selectably large distance on the instant image. The internal camera on the torch camera **11** can be used for this purpose. It really does not matter what kind of movement detector is employed. It is simply required that movement of individuals is detectable.

The fixedly trained torch camera **11**, once movement is detected, takes a fixed (or moving) photograph of the portal or place on which it is trained. The image of the entrant should be present in that photograph. The torch camera **11** can immediately send the photograph to a mediation centre, such as the local police station, or can store the photograph in its memory

112 until the individual has entered or exited the building before transmitting it. The fact of having entered or exited the building can be established by operation of an entry or exit detection device (such as might be found in a burglar alarm), or by simple cessation of movement detection, or any combination of measures.

The mediation centre can take several types of action. It can immediately send the image, and an indication of the origin of the image, to the nearest police or security officer or operative. To this end, the GPS facility, previously described, where the location of a torch camera **11** can be reported, can advantageously be employed both to identify the point of origin of the image and the location of the nearest operative or officer. Alternatively, an address can be caused to accompany the transmission of the photograph to identify the origin of the image. The nearest officer can then look at the image and determine if it is necessary to take action (i.e. it may be an animal, or a known person in the picture). Alternatively, at the mediation centre, a human operative can look at the picture and send it to a nearby officer or operative only if action seems to be necessary. Alternatively, the image can be automatically scanned by computer equipment and the image sent to an officer or operative if action seems necessary.

The fixed torch camera **11** can be used to light a light, which can be its own light or an external light, whenever movement is detected. This light can serve to make the individual visible to the camera, can light the way for the individual, or both.

The pictures, taken by the torch camera **11**, can be stored to provided a record of traffic in the region surveyed.

Individuals, carrying a torch camera, and utilising the GPS facility, can transmit a picture of an assailant, the exact location and indication of the exact location of the assault to a nearby police station.

A static torch camera **11**, within an area, household or a establishment, also has the potential to receive signals from a pager. A pager can be used as a security device. If a pager sends a predetermined signal to the unit, and the unit identifies that signal, which facility is provided within the controller **74**, utility is achieved. For example, if a bank manager is assailed within his bank or house, he can operate his pager (concealed within a pocket or otherwise about his person) to send a predetermined signal to the torch camera **11** which can identify the pager signal and begin, automatically, to send alarm signals indicating the position of the torch camera **11** and the nature of the problem.

A torch camera **11**, located within a vehicle, and fitted with movement or intruder sensors, utilising GPS, can provide instant pictures and the vehicle's position to a police station.

If an associated pager is also provided with a GPS facility, a vehicle mounted torch camera **11** can keep local periodic communication with the pager and report, through the greater satellite of cellular telephone system, the position of the pager. If the associated pager does not respond for more than a predetermined period, the vehicle mounted unit will alert the authorities, on the assumption that the owner of the pager is in difficulties, or that the vehicle has been stolen. The authorities can be informed both of the vehicle's present position and state and direction of motion and of the last known position of the pager. If the pager is still within range of the vehicle mounted unit but the owner is not responding, the vehicle mounted unit will continue to report the instant position of the pager. If the vehicle is moved, without the correct response from the pager, a picture of the occupants can be forwarded to all police officers, together with registration, make, colour and other details of the vehicle.

The invention claimed is:

**1**. A portable apparatus comprising: a torch, said torch having

a bulb,

a reflector for directing light from said bulb,

a transparent front face, through which said bulb provides illumination, and

an optical portion, said optical portion being situated between said front face and said bulb,

a camera means, contained within said optical portion, and selectably operable to capture images through said front face; and

a transport means adapted to transmit images, captured by said camera means, to a remote recipient,

wherein said camera means comprises a flash unit; said flash unit being operative to provide light from a point between the camera means and the bulb; and said reflector being operative to direct light from said flash unit through said front face.

**2**. An apparatus, according to claim **1**, wherein: said optical portion comprises a reflective surface facing said bulb, said reflective surface being operative to reflect light from the flash unit and light from the bulb onto the reflector.

**3**. An apparatus, according to claim **2**, comprising ultraviolet illumination means; said ultraviolet illumination means being contained within said torch; said ultraviolet illumination means being operative to provide ultraviolet light through said front face; said ultraviolet light being operative to render fluorescent materials visible in visible light; and said camera means being operative to capture an image of said fluorescent materials in said visible light.

**4**. A method for capturing images, comprising the steps of:

providing a torch comprising a transparent front face;

providing illumination, through said front face by employing illumination means;

capturing visual images by selectively operating a camera means contained within an optical portion, and selectably operable to capture images through said front face, the optical portion being situated between said front face and said illumination means;

exporting captured images by employing export means, operative to export images, captured by said camera means, to a remote recipient, whereby, in use, a reflector directs light from said illumination means through said front face;

employing, in said torch, a flash unit;

employing said flash unit to provide light from a point between the camera means and the illumination means; and

directing light from said flash unit through said front face by means of said reflector.

**5**. A method according to claim **4**, including the steps of:

employing, as a face of said optical portion which faces said illumination means, a reflective surface; and

reflecting light from said flash unit and light from said bulb from said reflective surface onto said reflector.

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