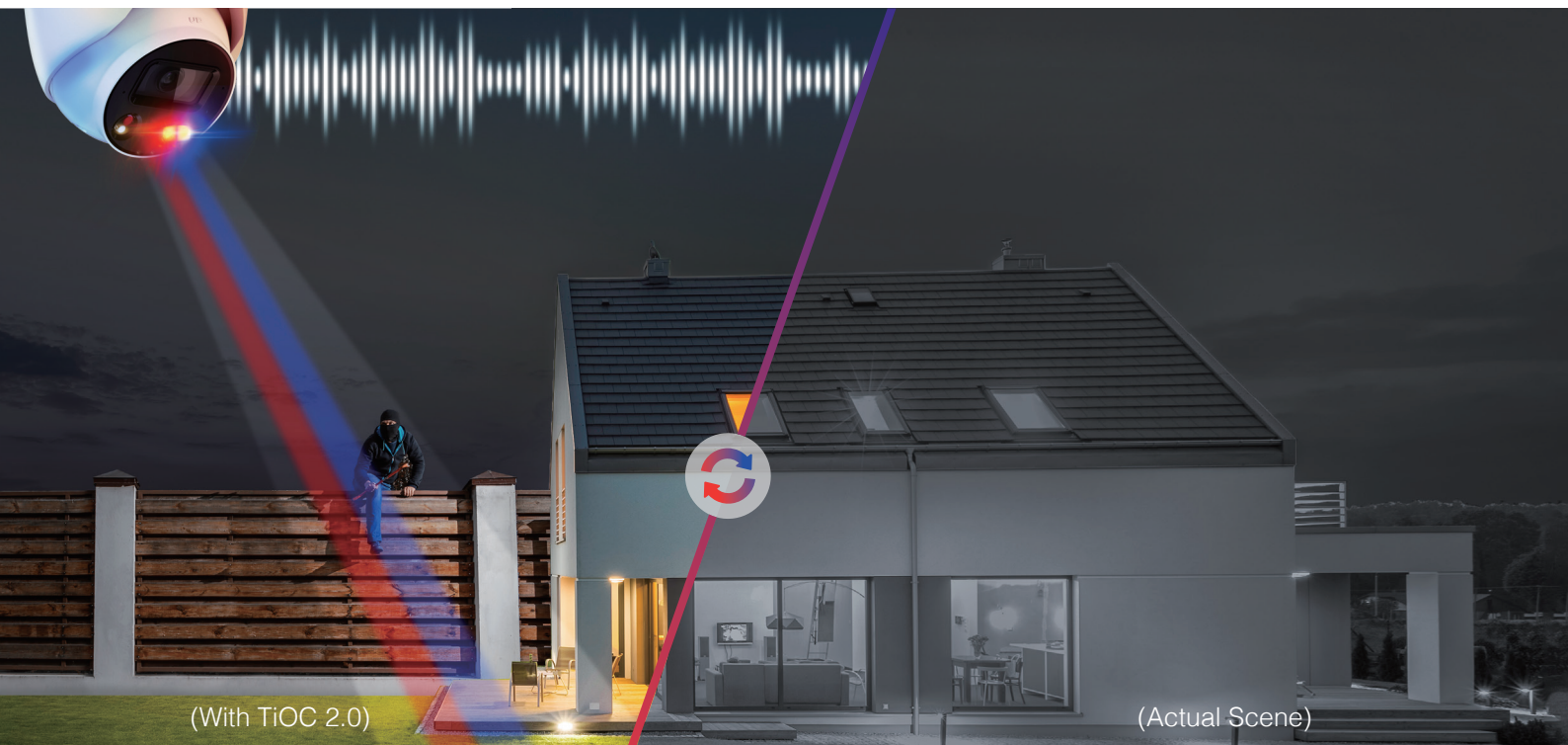


TiOC 2.0 and TiOC PTZ

The Best Cameras in the Market Just Got Even Better



(With TiOC 2.0)

(Actual Scene)



Smart Dual Illuminators

- Three Illuminator modes:
- Smart Illumination
 - Infrared (IR)
 - White Light



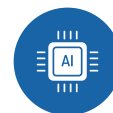
Active Deterrence

Warn off intruders with **built-in** speaker and **red/blue light**



Auto Tracking 3.0

TiOC PTZ delivers a **30%** increase in distance
PFA 3.0 (Predictive Focus Algorithm)



AI Features

+50% Smart Motion Detection distance
False alarm rate **<1%**
Target search efficiency improved by **98%**



VoiceCatcher Technology

Dual mic array design filters out **90%** of wind noise and increases pickup distance by **40%**



Exceptional Image Quality

OPC Technology and maximum **F1.0** aperture, 2.5x the light compared with F1.6




One-touch Disarming

Convenient operation and easy integration

Overview

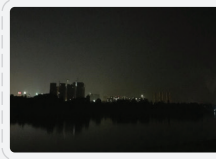
New illumination, audio and image features and technologies have been introduced with the new TiOC 2.0, delivering superior images and a better user experience.

Current Challenges



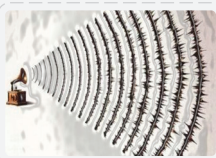
✘ Single lighting mode

Conventional solutions offer either IR illumination – which does not provide colour images at night – or white light which contributes to light pollution.




✘ Poor image quality

Limited by hardware specifications, the image quality is poor at night.



✘ Limited audio performance

Existing microphone solutions have a short pickup distance and can be affected by background noise causing interference.



✘ Complex alarm integration

Other solutions can be complicated to integrate with alarms.



Key Features



Smart Dual Illuminators

- Three** Illuminator modes:
- Smart Illumination
 - Infrared (IR)
 - White Light



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One-touch Disarming

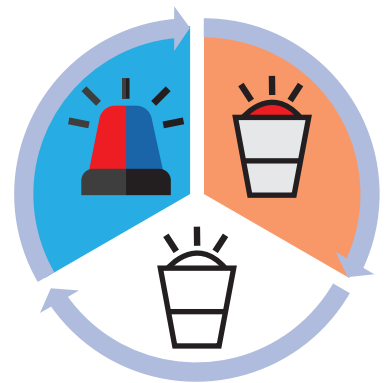
- Convenient operation and easy integration

Smart Dual Illumination



SMART DUAL ILLUMINATORS

Flexibly switch between **full-colour** and **IR mode**



- 1 Smart Illumination:** Has the ability to switch from IR Mode to white light when a target is detected. (Default)
- 2 IR Mode:** Enables only the IR illuminator to turn on for scenes where white light is not required. It also has the benefit of no light pollution.
- 3 White Light:** For events that require full colour images.

Smart Illumination Mode – Switch Illuminator using AI

Smart Illumination mode adopts a deep learning algorithm to detect targets

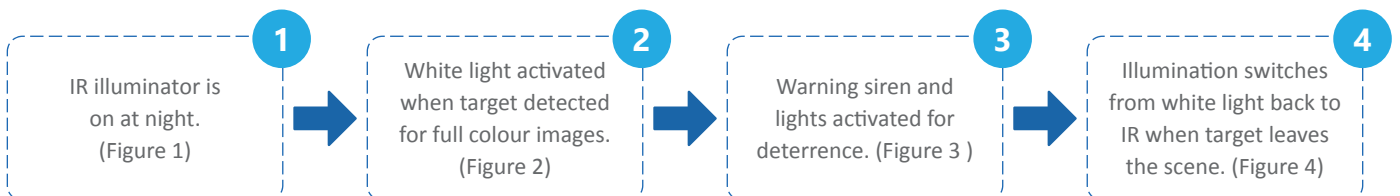


Figure 1



Figure 2

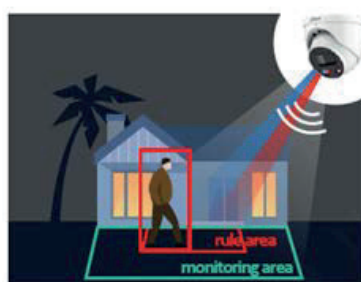


Figure 3



Figure 4

Smart Dual Illuminators – The Most Comprehensive Illumination Solution

Three different illuminations to meet all application scenarios.

Smart Illumination



😊 AI algorithm, intelligently switches between colour event video and less light pollution.

IR Mode



😊 IR illuminator through the whole process. Environmentally friendly, decreasing light pollution.

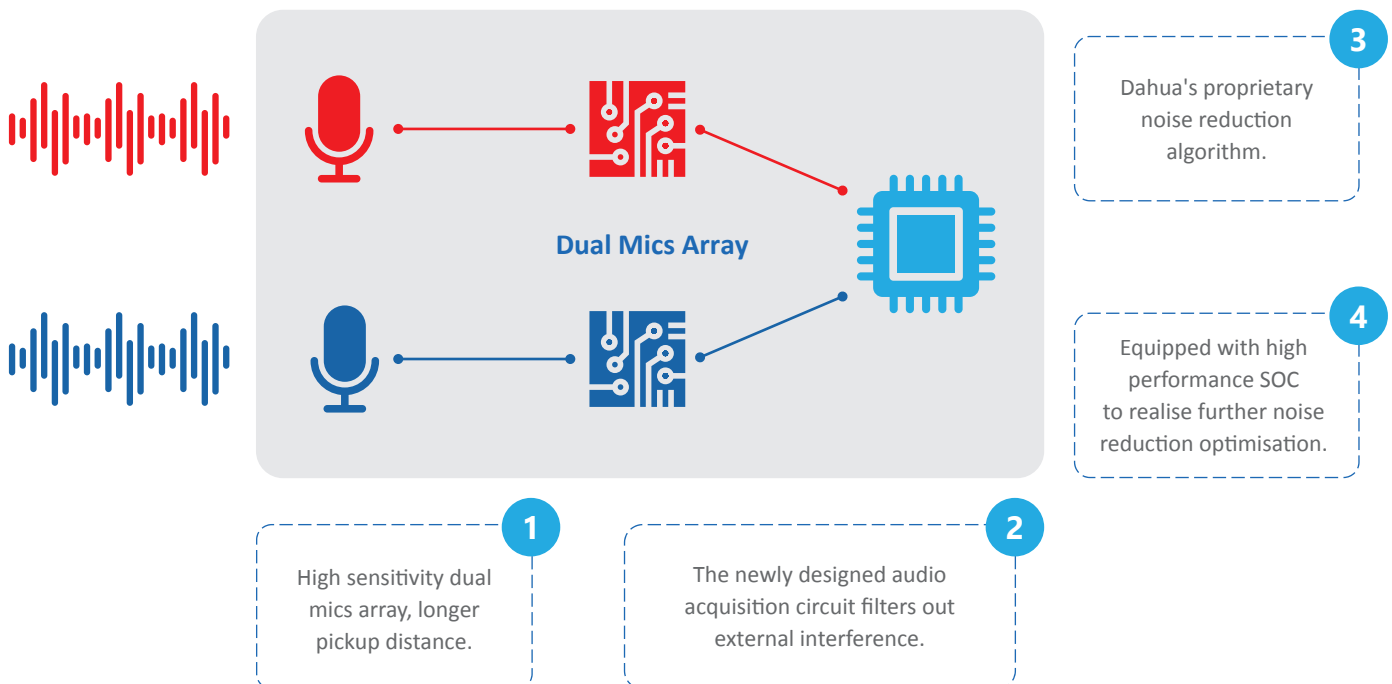
White Light



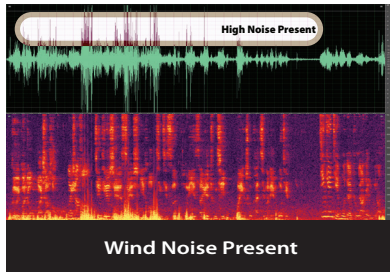
😊 White illuminator through the whole process records full colour video and captures event details.

VoiceCatcher: Crisper Audio at Longer Ranges

TiOC 2.0 dual mics array reduce 90% of wind noise and pickup distance is increased by 40%.

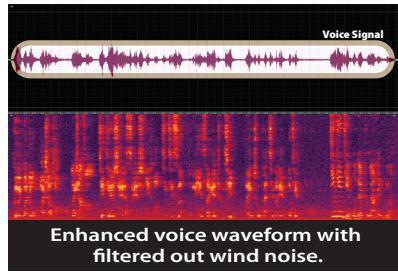


Single Mic



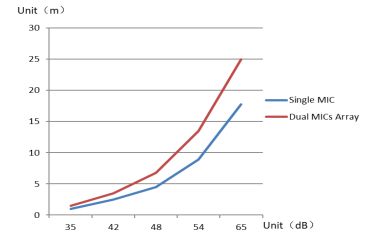
✘ High noise leads to a degradation in sound quality.

Dual Mic Array



✔ VoiceCatcher filters out the noise more effectively and delivers a purer audio signal.

Pickup Distance



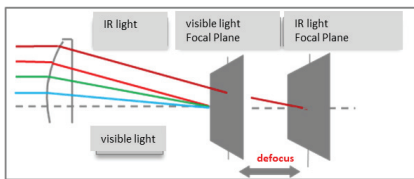
✔ The Dual Microphones enable greater pickup distances.

Exceptional Image Quality

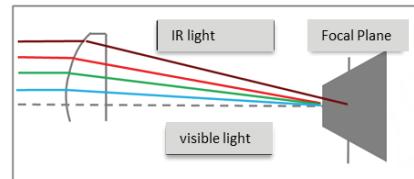
- The larger F1.0 aperture now captures 2.5 times the amount of light compared to similar products on the market.
- The TiOC 2.0 delivers real-time video at 25-30 fps with AI enabled.

New Low-light Image Experience

Powered by Optical Path Compensation technology and by correcting the angle of refraction of light rays, TiOC 2.0 outputs brighter and clearer black and white images.



Visible light and IR light focal is unable to use the same plane.



Visible light and IR light in the same plane.



⇒
With OPC
Technology



✘ The details of the trees are fuzzy and the edges of the image are dark.

✔ The details of the trees are clear and the edges of the image are bright.

IR Image with F1.6 aperture



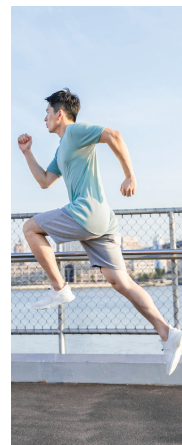
IR Image with F1.0 aperture



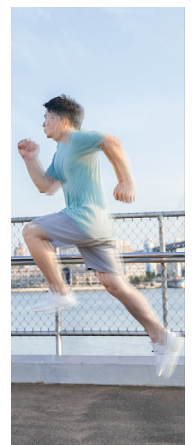
Compared to the F1.6 aperture lens, the F1.0 aperture produces a sharper and brighter image.



Outputs max. 4K (3840 × 2160) 25–30 fps even when AI is enabled.



Real-time



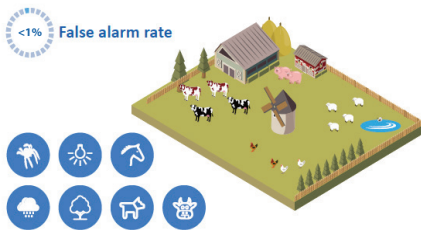
Non Real-time

AI Features

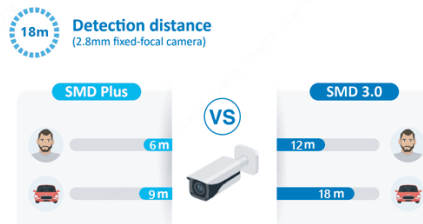
Smart Motion Detection (SMD) 3.0

SMD 3.0 is the latest version of the Smart Motion Detection feature which is now even better at filtering potential false alarms caused by animals, leaves and lights. With continuous improvement of AI capabilities, the detection range and accuracy have increased by up to **50%**.

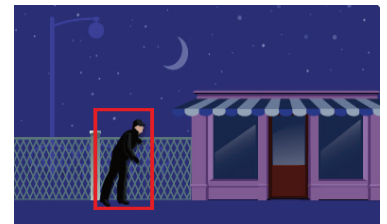
Reduced False Alarms



Longer Detection Distance



Higher Detection Accuracy



AI Features – Perimeter Protection

By using deep learning algorithms, Dahua's Perimeter Protection technology accurately detects people and vehicles. The false alarms with tripwire intrusion can now also be reduced to less than 1%.



Accurate Detection

False alarm rate **<1%**



Target Classification

Focuses on **people** and **vehicles**



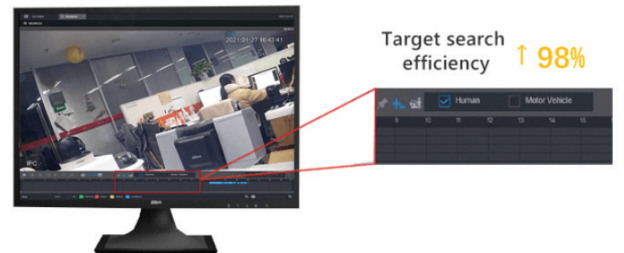
Quick Target Search

Target search efficiency up **98%**



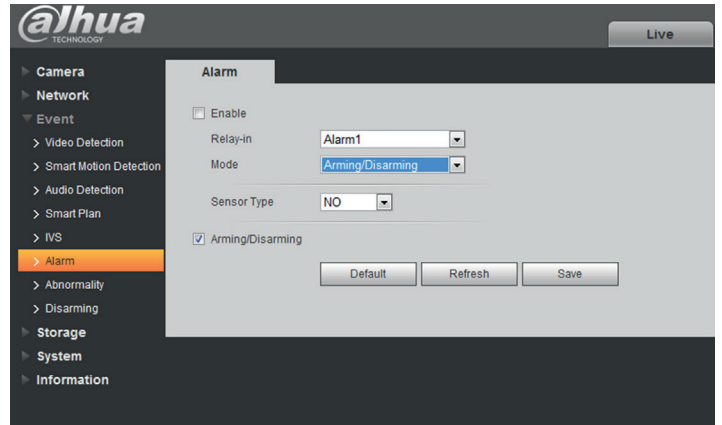
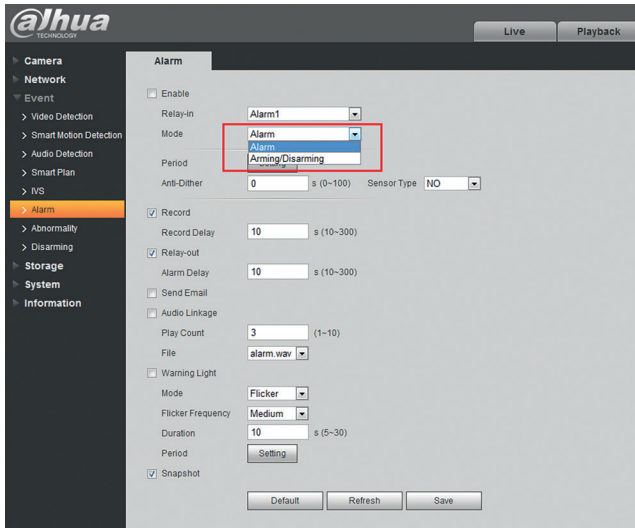
Remotely Monitor

Alarm push notifications sending time **<1s**



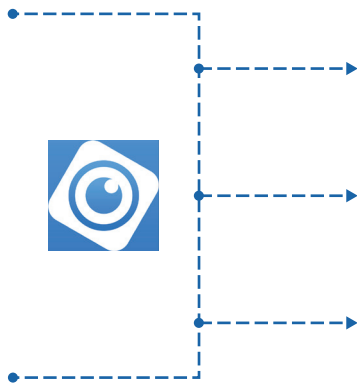
One-touch: Arming/Disarming

The alarm can be armed or disarmed with the press of a button when connected to conventional alarm systems.



If you choose arming/disarming mode, the configuration related to the alarm will be hidden.

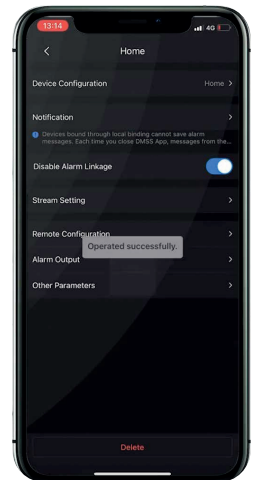
One-touch Disarming (Connected to DMSS)



Receive and confirm alarm notifications with false alarms filtered out.

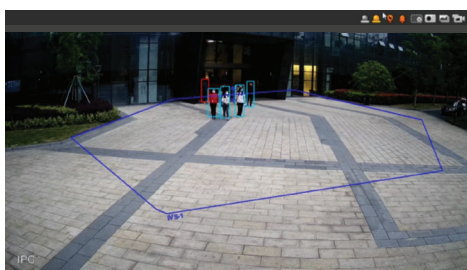
Check footage from anywhere on any device with the DMSS app.

One-touch disarming, easy to operate.

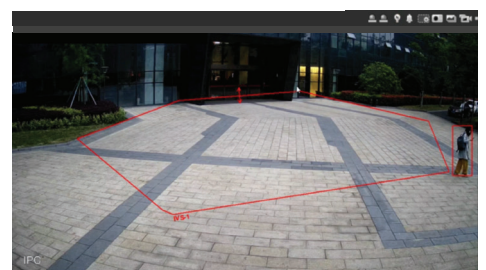
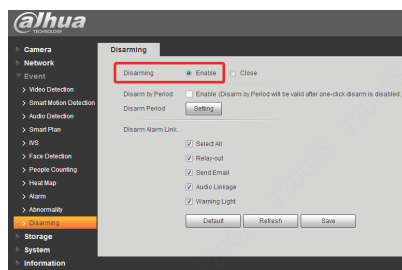


One-touch Disarming (By WEB/NVR)

Dahua's one-touch disarming function can be activated through an internet connection or via an NVR.



Disarming Disabled



Disarming Enabled

Product Selection

TiOC 2.0



IPC-HFW 3849T1-AS-PV-S3
IPC-HFW 3549T1-AS-PV-S3



IPC-HDW3849H-AS-PV-S3
IPC-HDW3549H-AS-PV-S3

- 8MP/5MP resolution
- Smart dual illuminators
- Red/blue light active deterrence
- Built-in mic and speaker
- Full colour monitoring with a 30m warm light range
- IR distance: max 30m
- SMD (Smart Motion Detection) 3.0
- Perimeter Protection
- 11 pre-recorded announcements or customised recordings

TiOC PTZ



SD6C3425XB-HNR-A-PV1

- 4MP resolution, 25 x optical zoom
- Red/blue light active deterrence
- Built-in speaker
- Full colour monitoring: 50m warm light
- IR distance: 150m



Smart Dual Illuminators

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Active Deterrence

Warn off intruders with **built-in** speaker and **red/blue light**



Auto Tracking 3.0

TiOC PTZ delivers a **30%** increase in distance **PFA 3.0** (Predictive Focus Algorithm)



AI Features

+50% Smart Motion Detection distance
False alarm rate **<1%**
Target search efficiency improved by **98%**



Motion System 2.0

Increased service life:
Slip ring – **3.5 million** times
Motor-belt system – **20 million times**
Twisted cable – **25 million times**

Note: For smart illumination in Perimeter Protection mode, the TiOC PTZ's warm light will only activate when triggered by a target.



NVRs



NVR5000-I Series

- Decoding capability: 4 ch 8MP@ 30 fps, 16 ch 1080P@ 30 fps
- Up to 16 ch Perimeter Protection
- Up to 4 ch video stream face recognition
- 16 ch picture stream face recognition (with FD camera)
- Up to 24 face images/sec processing
- Up to 20 face databases with 100,000 face images in total
- 1-8 PoE ports supports ePoE and EoC



NVR4000-I Series

- Decoding capability: 2 ch 8MP@ 30 fps, 8 ch 1080P@ 30 fps
- Up to 4 ch Perimeter Protection
- Up to 2 ch video stream face recognition
- 8 ch picture stream face recognition (with FD camera)
- Up to 12 face image/sec processing
- Up to 10 face databases with 20,000 face images in total
- 1-8 PoE ports supports ePoE and EoC



NVR2000-I Series

- Decoding capability: 1 ch 8MP@ 30 fps, 4 ch 1080P@ 30 fps
- Up to 2 ch Perimeter Protection
- Up to 4 ch SMD or all channel SMD by camera
- Up to 1 ch video stream face recognition
- 8 ch picture stream face recognition (with FD)
- Up to 10 face databases with 5,000 face images in total



Application Scenarios

Public Areas



1 Description:

In areas where active deterrence is needed to keep areas clear, such as fire or emergency exits.

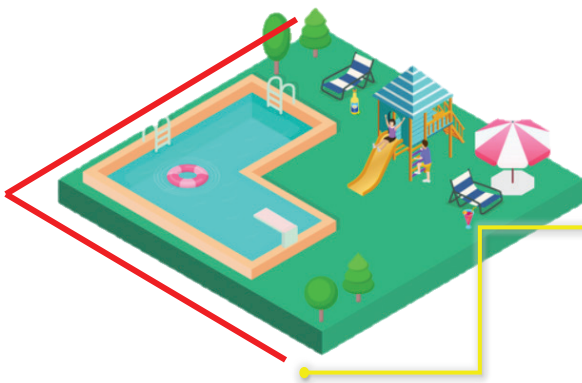
2 Application location:

- **Fire exits:** Once the exit or zone becomes blocked, the TiOC 2.0 active deterrent features will flash its red and blue lights. It will then activate its warning alarms, instructing the vehicle to leave the area.
- **Emergency exits:** The TiOC 2.0 can deliver custom warning messages to inform people for the purpose of the alarm, and how to proceed. The white light feature can also provide supplementary emergency lighting to direct people to the exit in low light conditions.

3 Advantages:

- **Colour monitoring:** For better event and target detection.
- **Active deterrence:** Customised sounds and red and blue lights to warn people not to stay in the restricted area.

Residential



1 Description:

In areas where full colour information can be captured and active deterrence features can be utilised to warn off intruders.

2 Application location:

- **Wall side:** The TiOC 2.0 camera can capture the event in full colour, while active deterrence features warn off the intruder simultaneously.
- **Garage door:** Various meta-data is acquired, such as the colour of the vehicle and its number plate details, while simultaneously offering lighting features for the parking area.

3 Advantages:

- **Colourful monitoring:** Produces full colour footage of events, capturing vivid details even at night.
- **Active deterrence:** Warns of potential intruders.
- **Two-way communication:** Ensures two way communication via the mobile application with its dual microphones for enhanced sound quality. There is no need for additional external microphones and speakers.



Driving Innovation to an AIoT Future

*AIoT is the convergence of Artificial Intelligence (AI) and the Internet of Things (IoT) where connected devices meet human interface. This is enabling unlimited possibilities through the integration of connected devices and security solutions.

* Design and specifications are subject to change without notice.

Ver. 2, Oct. 2021

Dahua UK & Ireland Head Office

Quantum, 60 Norden Road,
Maidenhead, Berkshire SL6 4AY

Dahua UK & Ireland Leeds Office

Ground Building, No.3 White Rose Office
Park, Millshaw Park Lane, Leeds LS11 0DL

Tel: +44 (0) 1628 882 210
sales.UK@dahuatech.com
support.UK@dahuatech.com



For official website

SCAN HERE ▶

dahuasecurity.com/uk

