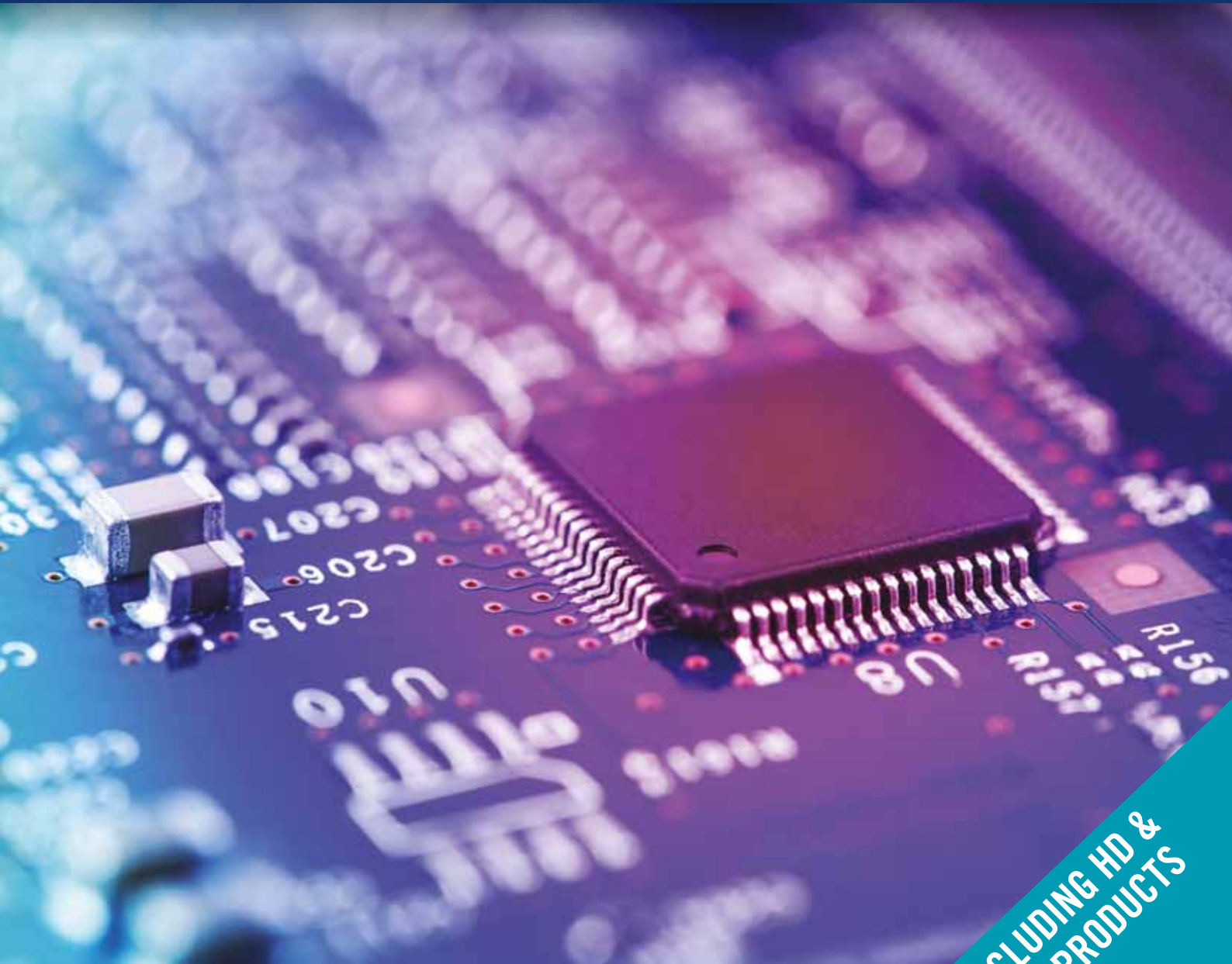


# DTC

## OEM products

The professional choice



Domo – Video, IP and Sensors

**INCLUDING HD &  
SDR PRODUCTS**

## PCB Dimensions

Basic Outline	Dimensions
	<b>D300</b> L 160mm W 9mm D 18mm
	<b>D330</b> L 200mm W 175mm D 30mm
	<b>D350</b> L 100mm W 65mm D 5.6mm
	<b>D360</b> L 100mm W 65mm D 5.6mm
	<b>D516</b> L 60mm W 60mm D 15mm
	<b>D55x</b> L 83mm W 45mm D 6.5mm
	<b>D730</b> L 60mm W 94mm D 9.5mm
	<b>D1500</b> L 38mm W 26mm D 14mm
	<b>D1600</b> L 48mm W 52mm D 15mm
	<b>D1100</b> L 60mm W 30mm D 12mm
	<b>D84x</b> L 90mm W 85mm D 12mm
	<b>D68x</b> L 52mm W 63mm D 15mm
	<b>D17XX</b> L 90mm W 81mm D 12.3mm
	<b>D812</b> L 50mm W 35mm D 7mm
	<b>D813</b> L 62mm W 35mm D 8mm
	<b>D850</b> L 110mm W 69.5mm D 10.2mm
	<b>D1400</b> L 60mm W 30mm D 15mm
	<b>D15XX</b> L 26mm W 38mm D 10mm

## Video FPGA based OEM

	Secondary capability	PCB family card	PCB family description	PCB variants	RF in base card	Associated cards	Supported licensing																												
							Modulation					Standards					Other features																		
							DVB-T	2.5MHz	1.25MHz	625KHz	UMVL	MPEG-2	MPEG-4 ASP	MPEG-4 H.264	SD	HD	Licence exempt	ASI	4:2:0	4:2:2	Data	Chaining	Audio	IP stream	Diversity	HD to SD down conversion	Recording	Control							
Receivers	Decoder	D300	The DTC D300 PCB is a dual digital diversity video receiver/decoder PCB, designed specifically for professional broadcast and high end surveillance applications. The system allows wireless digital video and audio reception in mobile, urban and NLOS scenarios.		IF	All Down-converters																							2				RS232		
	Decoder	D350	The DTC D350 PCB is a digital diversity video receiver PCB, designed specifically for compact mobile receiver applications. The system allows wireless digital video and audio reception in mobile, urban and non-line-of-sight scenarios.	D351	No	D358 and Matched Down-converters, control panel - D588 required																							2		6MBs		IP and RS232		
	Decoder	D360	The DTC D360 PCB is a digital diversity HD video receiver PCB, designed specifically for compact mobile receiver applications. The system allows wireless digital video and audio reception in mobile, urban and non-line-of-sight scenarios.		No	D358 and Matched Down-converters, control panel - D588 required																							2		6MBs		IP and RS232		
	Decoder	D330	The DTC D330 PCB is a dual channel digital diversity video receiver/decoder PCB, designed specifically for professional broadcast and high end surveillance applications up to 8 way diversity. The system allows wireless digital video and audio reception in mobile, urban and non-line-of-sight scenarios.	D331	IF	Down-converters and Tuners (D29X)																								8		12MBs		IP and RS232	
	Encoder	D516	COFDM digital video transmitter, designed specifically for use in security and military applications operating at UHF and above. The transmitter employs MPEG4 encoding.	D510	No	Matched to 11XX Upconverters																									N/A	N/A		RS232	
Transmitters	Encoder	D55X	COFDM digital transmitter with small size and low power consumption of the D55X, product of choice for covert video hides, long term battery power deployments, UAV and Bodyworn concealments.	D546 to D556	Card specific	D570, D571 and D572 Interface																								N/A	N/A		RS232		
	Encoder	D730	D730/D731 PCBs are a COFDM digital video transmitter, designed specifically for use in law enforcement surveillance or sports and news link applications.	D731, D732	No	Paired to 11XX Upconverters																								N/A	N/A		RS232		
	Encoder	D1500	Increased compression efficiency of the H.264 encoder offers Users additional bitrate saving with benefit of small size, low latency and low power consumption.		No	Paired to 15XX Upconverters																								N/A	N/A		RS232		
	Encoder	D1600	Ultra-miniature COFDM digital video transmitter solution, designed specifically for body-worn applications. HD/H.264 encoder offers superb image quality with the added benefit of small size, low latency and low power consumption.		No	Paired to 15XX Upconverters D1605																										Via D1605 or	N/A	N/A	

## Multi-bearer, connectivity and recording

	PCB family card	PCB variants	Features						
			IP Streaming	Wi-Fi	Bluetooth	Recording	Storage	3G	4G
	D812								
	D813								
	D850								
	D1400								
	D15XX								

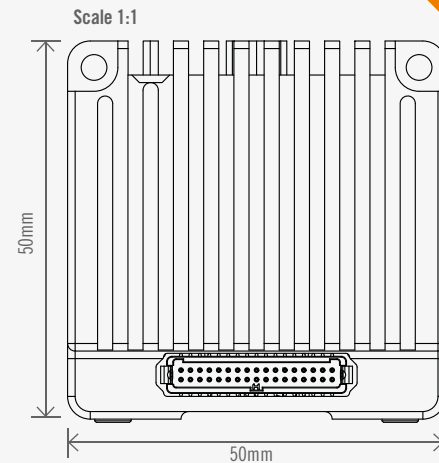
## Encoding only

	PCB family card	PCB variants	Features		
			IP Streaming	SD (composite) dual channel	HD single channel
	D850/D851				

## SOL8SDRC footprint - the smallest Mesh capable radio in the DTC range

### SOL8SDRC - a new OEM concept.

This unit is supplied with simple to use connectors and interfaces, making OEM integration easier on the new SDR platform.



**NEW**

## Range extension

A range of 500mW, 1W, 2W and 5W Amp with switching capability. UHF frequencies up to 5GHz.



## Matched downconverters D350/ D360 Receivers and Mesh only

Base PCB	Frequency
D674	230 – 240MHz
D675	220 – 240MHz
D678	340 – 470MHz
D681	1000 – 1500MHz
D682	1650 – 2380MHz
D683	2170 – 2550MHz
D685	3100 – 3700MHz
D688	4400 – 5000MHz
D690	5500 – 5950MHz
D695	8100 – 8600MHz

## Downconverters for IF receivers

Base PCB	Frequency	Associated card
D1401	1000 – 1500MHz	Hi/Lo Switch*
D1402	1600 – 2025MHz	Hi/Lo Switch*
D1403	2025 – 2555MHz	Hi/Lo Switch*
D1404	1980 – 2700MHz	Hi/Lo Switch*
D1405	3100 – 3600MHz	Hi/Lo Switch*
D1408	4400 – 5000MHz	Hi/Lo Switch*
D1410	5500 – 6000MHz	Hi/Lo Switch*
D1412	6400 – 7000MHz	Hi/Lo Switch*
D1413	7000 – 7500MHz	Hi/Lo Switch*
D1415	8100 – 8600MHz	Hi/Lo Switch*
D1416	8400 – 8900MHz	Hi/Lo Switch*
D1422	1750 – 2380MHz	Hi/Lo Switch*

\* for short and long cable runs





## Upconverters for transmitters

Base PCB	Frequency	Associated card
D1100	340 – 470MHz	D516 and D730
D1101	1000 – 1500MHz	D516 and D730
D1102	1500 – 2000MHz	D516 and D730
D1103	2000 – 2500MHz	D516 and D730
D1104	2500 – 3000MHz	D516 and D730
D1105	3000 – 3700MHz	D516 and D730
D1106	3500 – 4000MHz	D516 and D730
D1107	4000 – 4500MHz	D516 and D730
D1108	4400 – 5000MHz	D516 and D730
D1109	5000 – 5500MHz	D516 and D730
D1110	5500 – 6000MHz	D516 and D730
D1510	200 – 300MHz	D1500 and D1600
D1512	300 – 470MHz	D1500 and D1600
D1513	450 – 600MHz	D1500 and D1600
D1515	1000 – 1500MHz	D1500 and D1600
D1516	1650 – 2400MHz	D1500 and D1600
D1517	1980 – 2700MHz	D1500 and D1600
D1520	3000 – 3700MHz	D1500 and D1600
D1525	5500 – 6000MHz	D1500 and D1600
D1527	6400 – 7000MHz	D1500 and D1600
D1528	7000 – 7500MHz	D1500 and D1600
D1530	8100 – 8900MHz	D1500 and D1600
D1540	4400 – 5000MHz	D1500 and D1600

## Transmitters with integral RF

Base PCB	Frequency	Associated card
D546	RF not fitted to encoder only	D55X
D547	300 – 450MHz	D55X
D548	450 – 675MHz	D55X
D550	1000 – 1500MHz	D55X
D551	2000 – 2500MHz	D55X
D553	3000 – 3700MHz	D55X
D554	4400 – 5000MHz	D55X
D556	5500 – 6000MHz	D55X

## Single card Mesh with integral RF

	PCB family card	Product description	Frequency band
	D1703	Single card Mesh	450 – 600MHz
	D1705	Single card Mesh	1140 – 1500MHz
	D1707	Single card Mesh	1980 – 2550MHz
	D1713	Single card Mesh	4400 – 5000MHz

Other frequencies are available on request.

## IP Mesh

	PCB family card	Product description	Matching downconverter card	Frequency band
	D835	IP Mesh – VHF (200–300MHz)	D675	220 – 240MHz
	D836	IP Mesh - UHF Low (300–470MHz)	D678	340 – 470MHz
	D844	IP Mesh, Mk3 (S Band 3.0–3.7GHz)	D685	3100 – 3700MHz Dual TDD Downconverter
	D845	IP Mesh, Mk3 (C-band 5.5–6.0GHz)	D690	5500 – 5950MHz Dual TDD Downconverter
	D849	IP Mesh, Mk3 (X-band 8.1–8.9GHz)	D695	8100 – 8600MHz Dual TDD Downconverter

All DTC OEM products are supplied with comprehensive integration documents and customer support helpline details.

# Useful Licence abbreviations explained

Abbreviation	Description
<b>AES</b>	Advanced Encryption Standard (AES) is a specification for the encryption of electronic data established by the U.S. National Institute of Standards and Technology. DTC offer two different AES key lengths: 128 and 256 bits. AES 256 uses double the ASCII hexadecimal characters of 128 and is therefore stronger.
<b>ASI</b>	Asynchronous Serial Interface, or ASI, is a streaming data format which often carries an MPEG Transport Stream. Mostly used by engineers and broadcasters.
<b>Chaining</b>	The DTC term for multiplexing and de-multiplexing video streams into a single RF bearer. The interface is used to connect encoders of one board type to modulators of another board type, i.e. TX to TX, TX to RX, TX to Ethernet.
<b>COFDM</b>	COFDM is a modulation scheme that divides a single digital signal across multiple signal carriers simultaneously. The signals are sent at right angles to each other (hence, orthogonal) so they do not interfere with each other.
<b>DVB-T</b>	DVB-T is an abbreviation for "Digital Video Broadcasting — Terrestrial"; it is the DVB European-based consortium standard for the broadcast transmission of digital terrestrial television. This system transmits compressed digital audio, digital video and other data in an MPEG transport stream, using COFDM.
<b>DVB-T2</b>	DVB-T2 is an abbreviation for "Digital Video Broadcasting – Second Generation Terrestrial"; DVB-T2 is the world's most advanced digital terrestrial television (DTT) system, offering more robustness, flexibility and at least 50% more efficiency than DVB-T and includes additional bandwidth of 1.7MHz and 10 MHz.
<b>Genlock</b>	Genlock (generator locking) is a common technique where the video output of one source, or a specific reference signal from a signal generator, is used to synchronize other television picture sources together. Generally 'broadcast use' only to manage different video feed latency.
<b>H.264</b>	H.264 or MPEG-4 Part 10, Advanced Video Coding (MPEG-4 AVC) is a video compression format that is currently one of the most commonly used formats for the recording, compression, and distribution of video content. The H.264 standard and the MPEG-4 AVC standard (formally, (MPEG-4 Part 10, Advanced Video Coding) are jointly maintained so that they have identical technical content.
<b>HD</b>	HD High-definition video is video of higher resolution and quality than standard-definition. While there is no standardised meaning for high-definition, generally any video image with more than 480 horizontal lines (North America) or 576 lines (Europe) is considered high-definition. 720 scan lines is generally the minimum however DTC HD greatly exceeds that i.e 1080P. HD typical provides about 5 times the number of pixels of SD.
<b>HDMI</b>	HDMI (High-Definition Multimedia Interface) is a proprietary audio/video interface for transferring uncompressed video data and compressed or uncompressed digital audio data from an HDMI-compliant source device, and in this context from a camera to a compatible radio device.
<b>IP Streaming</b>	IP streaming refers to video content delivered live over an IP Network and ,requires a form of source media (e.g. a video camera), an encoder to digitize the content, a media publisher, a content delivery network to distribute and deliver the content and a decoder to view the content.
<b>MPEG-2</b>	MPEG-2 (aka H.222/H.262) is a standard for the generic coding of video and associated audio information. While MPEG-2 is not as efficient as newer standards such as H.264, backwards compatibility with existing hardware and software means it is still widely used.
<b>MPEG-4</b>	MPEG-4 is a method of defining compression of audio and visual (AV) digital data. MPEG-4 absorbs many of the features of MPEG-2 and other related standards. MPEG-4 is still an evolving standard and the key parts to be aware of are MPEG-4 Part 2 (including Advanced Simple Profile) and MPEG-4 part 10 (MPEG-4 AVC/H.264).
<b>Narrowband</b>	Proprietary Narrowband (2.5, 1.25 MHz and 625kHz). – Spectrally efficient transmission modes. These are DTC Unique Selling Points (USP's). See Bandwidth versus instance table in the Video Product Guide for the benefits.
<b>SD</b>	SD Standard-definition is a television system that uses a resolution that is not considered to be high-definition television (1080i, 1080p).The two common SD signal types are 576i, (576 interlaced lines of resolution), derived from the European-developed PAL and 480i based on the American National Television System Committee NTSC system.
<b>SDI</b>	Serial digital interface (SDI) is a family of digital video interface standards for broadcast grade video. Initially developed for Standard Definition SD additional standards have been subsequently added for HD known as HD-SDI. These standards are used for transmission of uncompressed, unencrypted digital video signals (optionally including embedded audio and time code) within television facilities; they can also be used for packetized data.
<b>UMVL</b>	UMVL- Ultra Mobile Video Link. UMVL is a mix of technologies between DVBT and Narrowband. It is optimised for use in high speed mobile environments (like car racing for example). UMVL is also excellent when you are using high frequency (4 GHz and above) transmissions.

## Frequently Asked Questions

<b>Are there restrictions on purchasing OEM products?</b>	DTC make available OEM products to a variety of markets and organisations. This is usually to support integration into a larger solutions or working with partners who have local regulatory experience. There are some limitations due to export control or commercial considerations.
<b>What will we get in technical support?</b>	Each OEM sale is supported with comprehensive integration documents, however the customer will need the necessary engineering experience to integrate this into a solution. Additional engineering support is available and how this is delivered is agreed at the point of sale, i.e. training courses, phone support, new engineering features, etc.
<b>I am not sure if I need OEM or a complete product?</b>	An OEM solution will require a significant investment by both suppliers and customer. Typically MOQ's of 20 are required however evaluation board sets at lower volumes are available during the evaluation period.
<b>Can I manufacture my own boards and just purchase a licence?</b>	Invariably, the volume purchase benefits of PCB manufacture will make it cost-effective. For very high volumes, licence and technology transfer packages are available on some products.
<b>What is the most economical way to buy?</b>	High volume production runs will generate price reductions through manufacturing efficiency and DTC pass these benefits onto customers who place larger single orders. There may be benefits of buying unlicensed PCB's in volume at lower prices and adding licencing later at an additional cost and we would be pleased to discuss the options to give you the best value and fit for your business model.

## Technology you can trust at the heart of your products

### DTC - OEM products for the professional

**Established in 2001, DTC's Video and Mesh radio business is widely recognised as the global leader, selling into over 110 countries. DTC continues to develop these technologies, combining innovation and ingenuity with reliability and performance.**

#### Versatile Technology

DTC on-going commitment to investing in research and development, combined with an award-winning engineering team, ensures a continual release of new video and ad hoc mesh radio technology. DTC is unique as it combines video encoding/decoding and COFDM (Coded Orthogonal Frequency Division Multiplex) RF technology expertise all in one team, combined with the flexibility that FPGA-based platforms offer developers.

DTC technology is particularly suited to supporting solutions in unmanned ground vehicles, unmanned aerial vehicles, security, surveillance, safe cities and remote control applications.

#### Special Developments

Most solutions can be derived from existing standard software and hardware capabilities. However, DTC can also offer specially funded development solutions. These become especially attractive when the one-off costs are amortised over larger production runs.

#### Encoder/Decoder Standards

DTC adopt all main video standards such as MPEG4 ASP and MPEG4 (H.264) with every product release in addition to proprietary modulation for range extension and improved non-line-of-sight performance. If a customer already has an encoder or decoder, DTC will investigate compatibility with company standard encoder/decoder and will support compatibility studies, including the reduction of latency. DTC ensures that all products can be decoded by the market-leading COTS video viewing platform as part of the standard product development. Products can be integrated into large solutions adopting encoder/decoder or RF element.

#### IP Technologies

DTC's fluid self-healing mesh solutions are widely adopted in many applications, including Law Enforcement, Military Radios, Safe Cities and Natural Resources. This is an attractive solution for 'data only' requirements as it offers class-leading Non-Line-Of-Sight (NLOS) penetration and range; maintains bandwidths to support multiple high-quality video (typically up to 16 Mbs); automatically adjusts for short and long range applications and has proven network management software.

#### Always Secure

All DTC radios are available with embedded encryption standards that offer a basic commercial encryption and then increases in strength to AES 256. This may be subject to export control. If special encryption standards or external encryption needs to be considered, the DTC technical team will assist with the necessary integration.

#### Leading the Way

Whether the customer is purchasing existing products or taking part in initial design and development discussions on new projects, DTC's team is fully committed to ensuring all products and solutions are delivered on time and to budget, managing every aspect from new product launches to through-life service, obsolescence and support agreements.

With customers in over 110 countries and tens of thousands of units in service, DTC continues to lead the way, working in partnership with key customers to deliver best-in-class products and solutions.

#### A Wide Range of Solutions

DTC OEM video products are all part of the SOLO family, offering point-to-point and point-to-multipoint, digital wireless products and solutions. Utilising industry compression standards, MPEG-2 and MPEG-4 (H.264) along with DVB-T and DVB-T2 standard COFDM waveforms, DTC's digital composite (SD) and HD video performance is leading the way in both the surveillance and broadcast industries.

#### Award-Winning

DTC also recognises that, for some customers, basic standards are not enough and that they require industry-specific enhancements. Therefore, narrowband, ultra-narrowband, ultra-low delay and other optional software improvements have been developed to ensure the customer always has the right tools to complete their tasks. This attention to detail is why DTC has been recognised on two occasions, winning The Queen's Award for both Innovation and Export.

**For further information on DTC Mesh or any other of our range of surveillance solutions contact your Sales Account Manager or email [solent.info@domotactical.com](mailto:solent.info@domotactical.com)**

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