

APPLICATION WHITEPAPER
**ASSAULT TEAM MANET
COMMUNICATIONS**

SUMMARY

End-to-end control of Assault Operations with connectivity between Commander and Assault Team Leader can be a challenge for traditional communications links. Broadband and High-Speed communications in the urban domain can be a challenge without an existing fixed communications infrastructure e.g. 4G/5G.

Existing communications links are typically low data rate (voice only with some IP data), unreliable or insecure in multiple floor buildings. DTC's MeshUltra™ waveform offers MANET IP connectivity with secure, seamless exchange of data with the additional capability to stream live HD video (Full Motion Video [FMV]), Audio and Cursor On Target (CoT) data. Thus, DTC MeshUltra™ capability provides Assault Commanders with real-time situation awareness feedback and enable quick decision making for successful and safe operations.

INTRODUCTION

DTC is revolutionising communications between Assault Teams and Mobile Commanders. DTC's Video MANET offers wireless IP Mesh connectivity which can be used for the secure and seamless exchange of video, data, and voice between Commander to and from Assault Team Leaders.

End-to-end control of assault operations with connectivity between mobile command post and assault team leaders can be a challenge for traditional communications links. DTC's Mobile Ad-hoc NETWORK (MANET) IP Mesh radios enable in real-time, Full Motion Video (FMV), voice, audio, positional (PLI) data from body-worn radios on the assault team, to be intra-party and to supporting platforms, and connectivity back to the command, facilitating quicker decision making. The excellent NLOS properties of COFDM mean that the RF signal can penetrate buildings with multiple floors and relay the communications using each assault member or additional 'drop bag' as a repeater node. Enabling Shared Situational Awareness (SSA) from within the building during an assault.

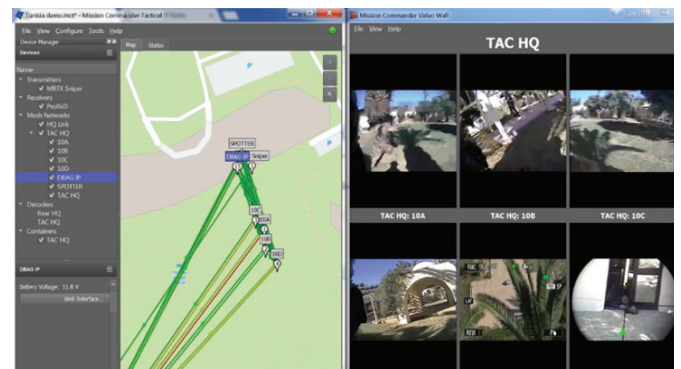


Multiple teams can be deployed on different frequencies and the system can be used in conjunction with existing voice communication radios as required.

The level of mobile vehicle integration varies with customers and DTC can provide these services or a stand-alone system with a quick deployed 5-metre mast for rapidly deployed Command posts that do not use vehicles.

OPERATIONAL DEPLOYMENT

The Assault Team Leader can wear a DTC body-worn IP Mesh radio to provide real-time video (from helmet cameras), GPS location as required to the Mobile Command Vehicle / Post.



The video, voice and GPS data can be displayed on DTC's Mission Commander (MC) that operates on a laptop in the Command Post.

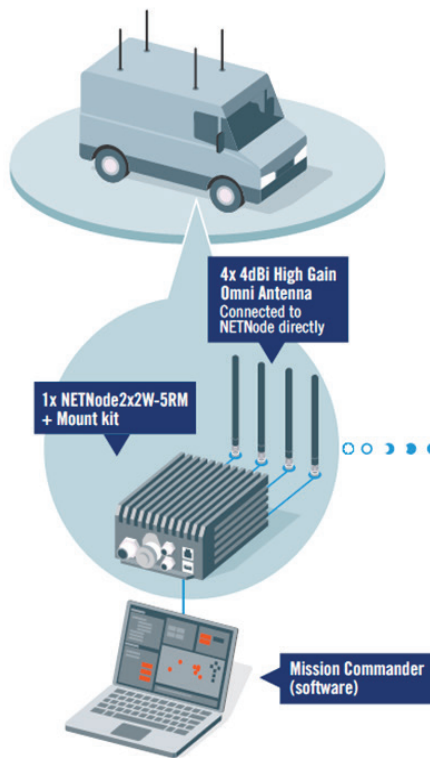
The system is software configurable and typical deployment would utilise a 6MHz RF channel for 6 x Assault Team video streams to the command vehicle.

CONCLUSION

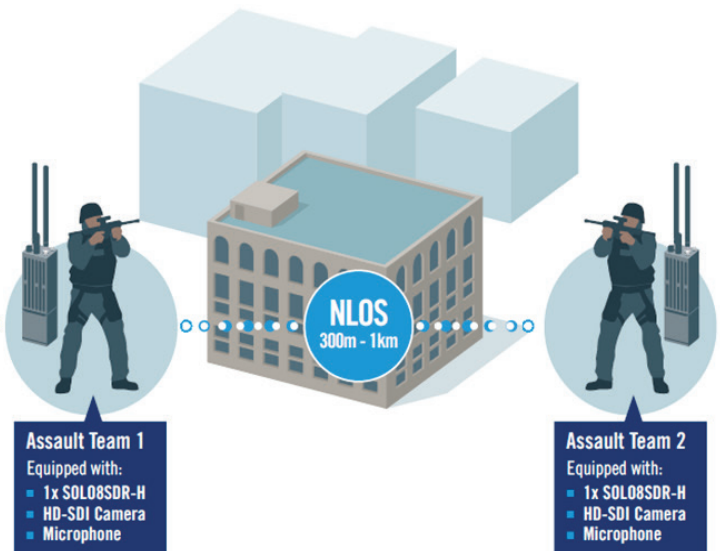
DTC's MeshUltra™ waveform has excellent RF properties that can penetrate all floors of modern urban commercial buildings. Each radio is a transceiver that enables each member of the team to be a repeater, relaying in real-time Video, Audio and IP data between the Commander and Assault Team Leader. With our modern communications, the situation awareness between the assault team and Commander ensures a safe and efficient mission.

ASSAULT TEAM BASIC KIT

Mobile Command Vehicle



Target Building



2 X ASSAULT EQUIPMENT KIT & COMMAND VEHICLE

Sniper / Spotter Team Equipment	Description	QTY
SOL8SDR-H2	Enhanced Special Role Radio 2x1W	4
AP010166	SOL8SDR-H MBITR ANIPPC148 Battery 7.0Ah	4
AP009681	2dBi Omni, Half Wave Dipole, TNC (m), Flexi Gooseneck	8
SDRAPP-ENC-PLATINUM	PLATINUM ENCODER APPLICATION BUNDLE FOR SOL8SDR	4
SDRAPP-MESH	MESH APPLICATION BUNDLE FOR SOL8SDR	4
AES256NN	AES Transmitter 256 Bit Encryption	4
AP009604	MBITR battery charger 4-way	2
AP010253	RUSH 12 Backpack - Sand Coloured - Size 24 Litre	2
AP010252	Flex Radio MOLLE Pouch - Sand Coloured	4
XXXX	Equipment case	2
AP010233	Camera for 'Leupold Mark 4 - 6.5-20' 50mm H58' (SDI output, ≥ 0.17Lux, 1980x1020 resolution)	2
CA3815	SOL8SDR-H2 SDI cable for Kaishot Camera for: 'Leupold Mark 4 - 6.5-20' 50mm H58' (SDI output, ≥ 0.17Lux, 1980x1020 resolution)	2
AP010234	Camera for 'Swarovski ATX 30-70x95' (SDI output, ≥ 0.17Lux, 1980x1020 resolution, 25fps)	2
CA3816	SOL8SDR-H2 SDI cable for Kaishot Camera for 'Swarovski ATX 30-70x95'	2

Sniper / Spotter Team Equipment	Description	QTY
NETNode2x2W-5RM	IP Mesh Node Phase 5 Robust Mobile 2x2W	1
ANT4.5N	4.5dBi High Gain Omni N-Type (m) (for NETNode-R)	2
CA3793	N-Type Plug to TNC Plug, LBC240XF, 8000mm	2
AP010251	Antenna Magnetic Mount, N Type(f) base to TNC(m) cable, 3m length	2
CA3819	Power cable, Croc clips to XLR, 3m	1
AP009562	Antenna GPS/GLONASS, 1.575-1.6GHz, SMA	1
MISC-DRTAC-P	Mission Commander Tactical Platinum Perpetual Licence, up to 20 devices	1
MCS-CMAP	Mission Commander Additional or Updated Map File	1
MCS-VW4DEC	Mission Commander Strategic, Video Wall 4 Dec	1
MCS-AES	Mission Commander AES Encryption Support	1
AES256NN	AES Transmitter 256 Bit Encryption	1

Assumes helmet camera / IR illuminator fit to picatinny rail helmet.

Excludes:

- Headset & boom microphone and Drop Bag for range extension.
- Video Management System (VMS) and customer IT equipment. Mission Commander is Milestone VMS compatible
- Command Vehicle integration or 5M mast sold separately.
- AES is subject to UK Export Approval.

ABOUT CODAN COMMUNICATIONS

Codan Communications is a global technology company that develops robust technology solutions to solve customers' communications, safety, security and productivity problems in some of the harshest environments around the world.

We provide tactical communications solutions that enable our customers to be connected, ultimately to support critical missions worldwide. With almost 60 years in the business, we have garnered a reputation for quality, reliability and customer satisfaction, producing innovative and industry-leading technology solutions.

Codan Communications is a member of the Codan group of companies.

ABOUT DTC, DOMO TACTICAL COMMUNICATIONS

DTC is the leading MIMO MESH provider in the world. DTC radio solutions provide short range high bandwidth communications suitable for the wireless transmission of video and other data applications. DTC is an established provider to customers including Military and Special Forces, Intelligence Agencies, Border Control and First Responders. DTC is headquartered in the US with locations in the UK and Denmark, with over 140 employees.

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