

Technology

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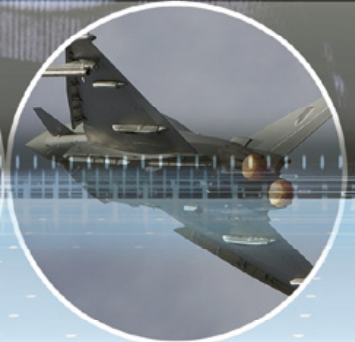
helps

humans

stay

human

'Everyone  
can speak,



Everyone  
can listen'

## **Command and Control 'Push To Talk'**

**SPEAKERBUS**

VOICE WITH VISION

## ***Introduction to Speakerbus***

Speakerbus, established in 1984, is a privately owned British company with over 150 employees. The company maintains a global infrastructure with 11 offices in major cities across the world backed up by a network of 30 agents. It was in the Financial sector that Speakerbus made its first breakthrough, but now its products are an indispensable tool in numerous industries worldwide. Current clients include businesses across the Financial, Motorsport, Broadcasting, Oil & Gas, Government, Defence and Security sectors.

Our clients now demand more cost effective and immediately deployable forms of communication than ever before. Effective communication isn't optional, it's a necessity. Speakerbus has built its reputation on providing tailored solutions that meet and exceed these demands. Where markets require voice and video communications that are instant, reliable and of the highest quality, Speakerbus' unique combination of modular communications platforms has the flexibility to provide instant, open audio or video communications over a variety of networks including IP, PSTN, SATCOM and UHF/Microwave/Wi-Fi radio's.

# Push to Talk

## **Background**

Security and defence forces now demand more cost effective and immediately deployable forms of communication than ever before. Effective communication is not Optional, but a necessity.

Speakerbus has built its reputation on providing tailored solutions that meet and exceed these demands. Where markets require voice and video communications that are instant, reliable and of the highest quality, Speakerbus' unique combination of modular communications platforms has the flexibility to provide instant, open audio or video conferences over local, wide area or global networks.

Government bodies stipulate that solutions need to be:

- Highly cost effective
- Simple to deploy and use
- Compatible with commercial, off the shelf technology
- Designed using standards-based technology
- Adaptable to continuously changing environments

## **What is Push to Talk?**

'Push to Talk' (PTT) is the common element in each unique military or government voice solution.

Push To Talk uses technologies ranging from simple analogue voice to leading edge Voice or Video over Internet Protocols (VoIP). This flexibility ensures the solution is fit for its purpose, uses the best infrastructure available and is always simple to use.

Each Speakerbus product element is optimised for a specific purpose and work environment. They can be individually distributed worldwide but can also be combined to form a much wider, seamless solution thanks to our standards-based design philosophy.

This means:

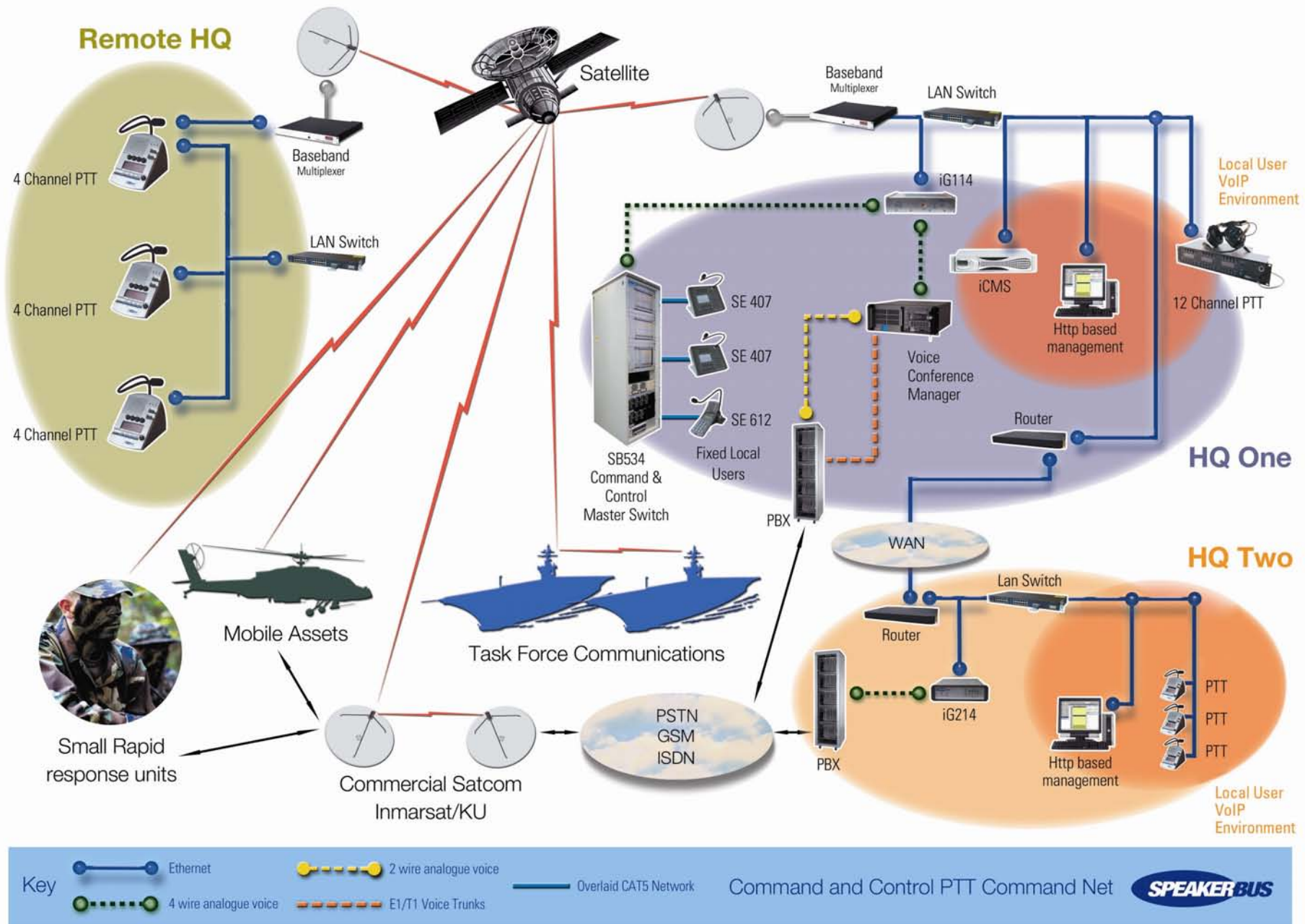
- Solutions are swiftly and individually tailored to each customer's needs
- Solutions interface with both legacy equipment and future technologies
- Solutions are adaptable as PTT can be rapidly re-deployed in different environments
- Clients enjoy the efficient, cost-effective benefits of modular development

## PTT System Features

The essence of the PTT system is the ability to deliver an open conference where everyone can talk and everyone can listen: everyone at HQ, the field command centres and everyone in rapid response units.

Some key features:

- Simple multi-party communications supporting 1000's of users.
  - Single button "push to talk" conference entry
  - Simultaneous access to open conferences
  - Multiple call types to each user simultaneously
  - Multiple simultaneous talkers
  - Voice and Video interface
  - Multiple locations
- Optimum voice quality
  - Wide ranging configuration options
    - Latency control
    - Configurable echo cancellation (PSTN Networks)
    - Configurable tone clamping (PSTN Networks)
    - Configurable DTMF clamping (PSTN Networks)
    - Configurable listen only configuration
    - Jitter buffer configuration
  - Resilient to poor quality networks
- Operation over a wide range of networks including
  - Private 4 wire analogue circuits
  - 2 wire analogue PSTN
  - Ethernet
  - E1 / T1 digital voice trunks
  - GSM
  - Satellite networks
  - UHF/Microwave/Wi-Fi Radio
- Bandwidth optimisation
  - Selectable Audio compression Coding Selection
    - G711
    - G729
    - G723
  - Variable packet configuration
  - Voice activity detection (VAD)
- Recording Options
  - Dedicated comprehensive voice recorder
  - Medium level voice recording capability



Command and Control 'Push To Talk'



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## PTT User Features

Speakerbus has twenty one years' experience of developing hardware and software, and of deploying both in the field. Systems and endpoints therefore both have compact footprints and wide-ranging features:

- ***i series***
  - Instant open conferences
  - Instant open point to point calls with group alert
  - Instant boot-up
  - IP netted voice networks H.323 compliant
  - Distributed architecture with no central switch
  - Small footprint, mobile capability
  - Remote support and configuration
  - End points
    - iD114
    - Access to 4 simultaneous conferences
    - Point to point with group alert
    - Choice of handset, headset, gooseneck mic.
    - Rotary controls for rapid volume level adjustment
    - Bright electro luminescent display
    - Rugged, hardened enclosures available on request
- ***Voice Conference Manager***
  - Attended, unattended, instant and static open and closed conferences
  - Simple intuitive conference set up and monitoring
  - Sub conferencing
  - MS Outlook scheduling and reservation
  - Dial in / Drag and drop dial out with 2<sup>nd</sup> number search
  - 480 lines per server
  - E1/T1 FXS, E&M interface
  - Conference recording and play back
  - End points
    - PSTN telephone
    - Mobile telephone
- ***SB 534 instant voice and video solution***
  - Four call audio and video call types with divert
    - Instant global open conferences
    - Instant global point to point calls
    - Instant point to point with group alert
    - Instant global one to many calls
  - Up to 250 programmable forced calls with priority settings
  - Easy alphabetic name searching
  - Global Free seating enables users to log on to any desk station
  - Global Chinese walls allows communication between permitted parties only
  - Multiply global system administration points with Comprehensive diagnostics
  - Wide ranging network interfaces (PSTN, GSM, IP, ISDN)

- o A range of user end points including

***iD114***

- o IP interface
- o 4 simultaneous channels of instant open conference
- o Instant global point to point with group alert
- o Choice of handset, headset, gooseneck mic.
- o Rotary controls for rapid volume level adjustment
- o Choice of speaker, handset, headset, gooseneck mic.
- o Bright electro luminescent display



***iD1112***

- o IP interface
- o 12 simultaneous channels of instant open conference
- o Instant global point to point with group alert
- o Choice of handset, headset, gooseneck mic.
- o Rotary controls for rapid volume level adjustment
- o Choice of speaker, handset, headset, gooseneck mic.
- o 3 Bright electro luminescent display



***SE 407***

- o CAT5 interface
- o 8 simultaneous channels of instant open conference
- o Global intercom interface
- o Instant global point to point with group alert
- o Choice of gooseneck mic.
- o Rotary controls for rapid volume level adjustment
- o Bright electro luminescent display



**SE 612**

- o CAT5 interface
- o Single channel of instant open conference
- o 16 speed dial option
- o Global intercom interface
- o Choice of gooseneck mic.
- o Bright electro luminescent display



## Global Administration

A PTT system often extends to thousands of users dispersed over many remote sites. As applications frequently change, we have centralised system support – with the option of multiple central support locations – so problems can be solved and adds, moves and changes administered 24/7.

One of PTT's key characteristics is its built-in resilience, designed to maximise operational reliability. System administration is built-up from key core modules with these features:

- ***i series***
  - Browser based end point and gateway configuration
  - End point hardware configuration
  - Channel type configuration
  - Conference configuration
  - Conference membership
  - Talk and Listen / listen only configuration
  - Auto discovery tool
    - Finds endpoint and gateway devices on network
    - Discovers IP addresses
  - Remote software upgrade
  - Network statistical analysis
- ***Voice Conference Manager***
  - Browser based administration interface
  - User, group, conference, static line configuration
  - Real time conference monitoring
  - Recording configuration
  - Password, PIN Protection 4 levels of security classification
  - Open closed conferences for greater access control
  - Central SQL database using RAID5 server
- ***SB 534 instant voice and video solution***
  - Client based web enabled administration and hardware configuration
  - User data base (SQL Server) configuration
  - Password, PIN Protection 4 levels of security classification
  - SNMP interface to industry standard Network Management System NMS software
  - Central SQL database using RAID5 server
  - Dual power supplies with failure warning
  - Flexible numbering schemes of 3 to 8 digits

The iCentralised Management System (*i cms*) provides enterprise network and voicemanagers a single network aware application to globally manage multiple *i* series devices. Based on a Microsoft Windows server environment with a database infrastructure founded on Microsoft SQL coupled with a browser based client interface.

**Benefits of *i cms*:**

- Location independent management – management is possible from any location either via the LAN, WAN or the Public Internet
- Rapid and reduced deployment cost – a global network of *i* series devices can be managed through a single web portal
- Real time seamless management process – *i* CMS simplifies the process of pre-planning new and existing deployments
- Reduced management cost – *i* CMS contains a scalable licensing mechanism to facilitate future proof, manageable and cost effective expansion
- Lower total cost of ownership – provides automatic updates of *i* series profiles
- Out of the box secure access controls – embedded security provides a choice of permission control management
- Life style working possible utilising free seating – users are able to work from any location saving travel time , avoiding high transport costs, escaping congested roads, improving work-life balance
- Asset management – enables tracking of individual *i* series devices providing a centralised repository of devices

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