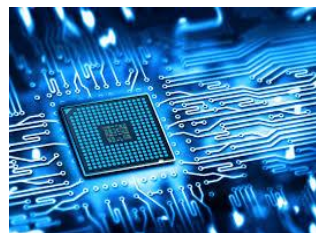


# MT50 TALKBACK

TDS-033 Issue 01 Zitel Technical Bulletin



Thank you for your interest in Zitel - we are a UK based manufacturer of PAGA and Intercom products. Our systems are mainly designed for use in the Marine, Military, Hazardous Oil, Gas and Petrochemical industries. This technical data sheet is one of a series based on the Zitel Mt50 talk back switch which was specifically developed for the offshore drilling market. Philosophy is simplicity of design to improve reliability and longevity in one of the most hostile service conditions known to man. Use in less demanding applications is therefore readily accepted. TDS033 covers the configuration of a robust two way voice communications system which specifies both headsets and telephone style handsets for subscriber positions. The package also includes the provision of high power public address loudspeaker horn-s which enable efficient site wide personnel paging. The system can be located exclusively in a potentially explosive atmosphere with no requirement for a safe area. Where specified this could also include the central switch and amplification.

## MT50 TALKBACK INTERCOM CONFIGURATION WITH HEADSET AND HANDSET SUBSCRIBER STATIONS

### Background

Zitel design and manufacture a range of equipment designed for use in critical life dependent applications, including marine, military, petrochemical sites, power generation and general heavy industry. The MT50 is a robust talk back system designed to enable a central master position to inter-communicate with up to eight subscriber locations.

A basic MT50 package therefore comprises of

- a) a master operator which is equipped with selection facilities enabling discreet or all call paging to public address horn loudspeakers, noise cancelling microphone type MG400 (safe area) or MG600 (hazardous area) and a loudspeaker to receive subscriber speech. The loudspeaker can be integrated into the master selector console or can be separated enabling flush fitting in to the ceiling or bulk head void.
- b) The MT50 is a wall / bulkhead enclosure which carries all electronics in a modular 'motherboard' format. To simplify service and improve reliability all outstations are passive. The entire system is energized at this position, no power supply is required at any field equipment location.
- c) In **MT50-HST execution** the subscriber stations can be based on the following options:
  - i) Shout back loudspeaker horn – this operates as both microphone and speaker
  - ii) Noise cancelling microphone
  - iii) Headset with integral boom microphone
  - iv) Headset jacking socket box
  - v) Telephone style handset

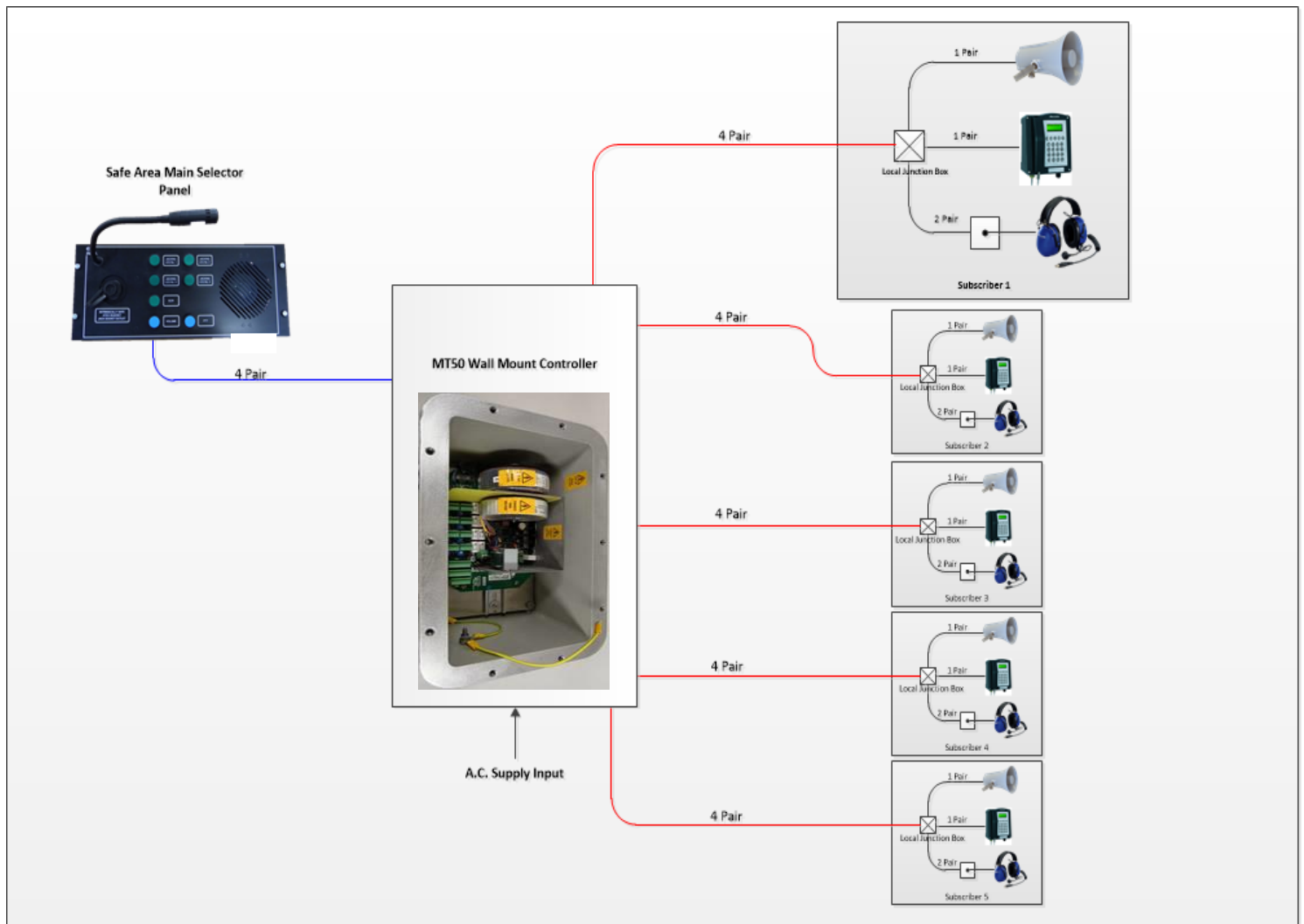
ZITTEL LIMITED

email: [sales@zittel.com](mailto:sales@zittel.com) web: [www.zittel.com](http://www.zittel.com) tel: +44 (0) 115 9202888  
mail: 96 Rolleston Drive, Arnold, Nottingham, NG5 7JP United Kingdom

All text, drawings and photography contained within this data sheet are the property of Zitel Ltd and are subject to copyright. Information may neither be transmitted or copied to third parties without the express written consent of Zitel Ltd. Zitel Ltd have a policy of continuous product improvement and contents here in are liable to change without notice.

For this data sheet the MT50 - HST application is described using Ear defender / noise cancelling headsets and Telephone style handsets at each subscriber position.

Public address horn loudspeaker-s provides paging / alert facility.



*Typical MT50 – HST application, note that the field / master panel and / or central equipment can be safe area or hazardous area packaged*

## System configuration

### Master position

The system comprises of a talkback master position which has capability to individually select each subscriber outstation to establish either a) a Paging call, b) a private two way communication. The master consists of a selector panel which is equipped with requisite number of subscriber selector illuminating buttons, noise cancelling microphone and loudspeaker.

---

#### ZIZTEL LIMITED

email: [sales@ziztel.com](mailto:sales@ziztel.com) web: [www.ziztel.com](http://www.ziztel.com) tel: +44 (0) 115 9202888  
mail: 96 Rolleston Drive, Arnold, Nottingham, NG5 7JP United Kingdom

All text, drawings and photography contained within this data sheet are the property of Ziztel Ltd and are subject to copyright. Information may neither be transmitted or copied to third parties without the express written consent of Ziztel Ltd. Ziztel Ltd have a policy of continuous product improvement and contents here in are liable to change without notice.



Typical ATEX certified Zone 1 / 2 hazardous area console mounting master position, this unit also carries possibility to plug in a noise cancelling headset and boom microphone which disables the goose neck microphone and integral explosion proof loudspeaker.

Subscriber outstation – user interface



Typical Explosion proof handset position (the system will operate with any standard analog telephone handset either dial equipped or CB hot line enabled).



Safe area ear defender headset with optional safety helmet accessory.

---

ZIZTEL LIMITED

email: [sales@ziztel.com](mailto:sales@ziztel.com) web: [www.ziztel.com](http://www.ziztel.com) tel: +44 (0) 115 9202888  
mail: 96 Rolleston Drive, Arnold, Nottingham, NG5 7JP United Kingdom

All text, drawings and photography contained within this data sheet are the property of Ziztel Ltd and are subject to copyright. Information may neither be transmitted or copied to third parties without the express written consent of Ziztel Ltd. Ziztel Ltd have a policy of continuous product improvement and contents here in are liable to change without notice.

## Operation

### Master to subscriber stations

Master depresses push to talk key – master speech issued to all paging loudspeakers

Master releases push to talk key – system quiescent

Master selects *subscriber one* button and then depresses his push to talk key – master speech audio issued to subscriber paging horn *and* either handset or headset earpiece depending which device is in service

Master releases push to talk key – return speech from subscriber Headset microphone to master loudspeaker

OR

Subscriber lifts telephone handset and subscriber headset microphone is cut off – speech to master now from telephone handset microphone

Master deselects subscriber one – system quiescent



*Master preselects a subscriber, then depresses Push to talk key to transmit speech to a selected subscriber, subscriber paging horn and handset / headset receive the master speech audio. Note that with the handset off hook the headset is disconnected to eliminate spurious back ground noise pick up.*

ZIZTEL LIMITED

email: [sales@ziztel.com](mailto:sales@ziztel.com) web: [www.ziztel.com](http://www.ziztel.com) tel: +44 (0) 115 9202888  
mail: 96 Rolleston Drive, Arnold, Nottingham, NG5 7JP United Kingdom

All text, drawings and photography contained within this data sheet are the property of Ziztel Ltd and are subject to copyright. Information may neither be transmitted or copied to third parties without the express written consent of Ziztel Ltd. Ziztel Ltd have a policy of continuous product improvement and contents here in are liable to change without notice.

## Subscriber to master position

Subscriber depresses **call master** on the headset jack box – respective subscriber selector button pulsates on the master panel, calling in bleep to master loudspeaker.

Master selects pulsating selector button – speech received from subscriber.

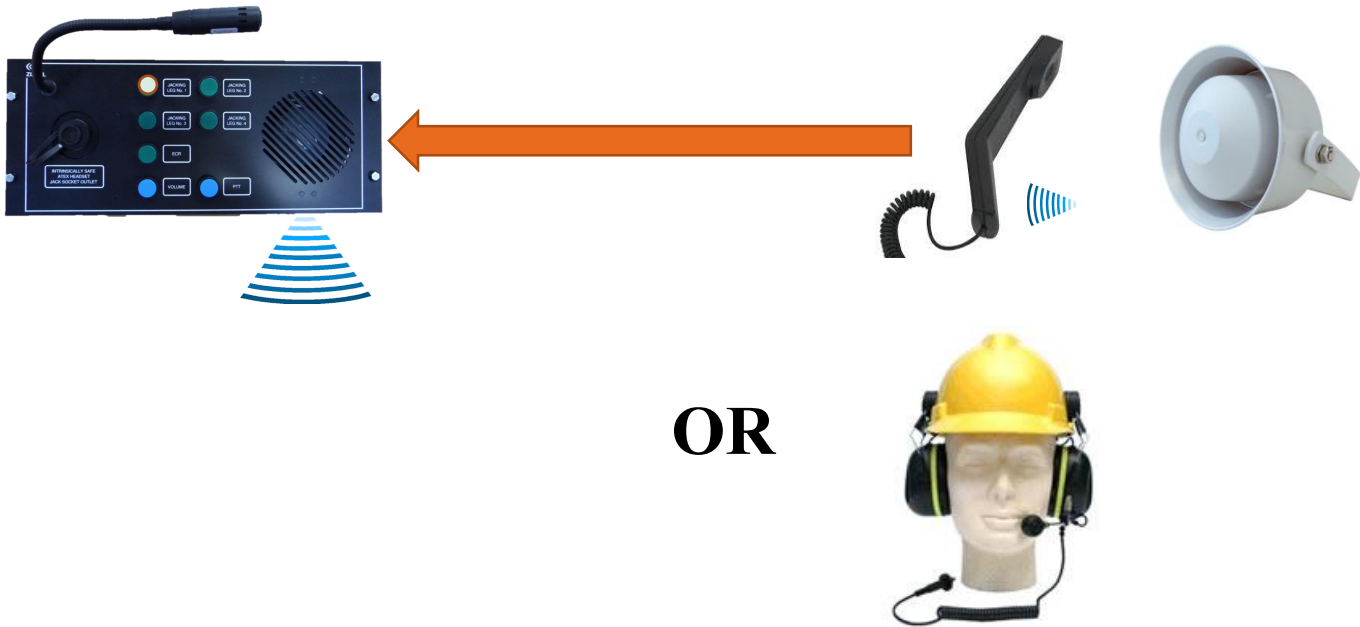
Master push to talk key – master speech transmitted to subscriber position.

Master releases push to talk key – return speech from subscriber Headset microphone to master loudspeaker

OR

Subscriber lifts telephone handset and subscriber headset microphone is cut off – speech to master now from telephone handset

Master deselects subscriber one – system quiescent



*Master preselects a subscriber, Push to talk key is released; speech from selected subscriber is delivered to the master loudspeaker. Subscriber paging horn is disabled.*

*Note that with the handset off hook the headset is disconnected to eliminate spurious back ground noise pick up.*

ZIZTEL LIMITED

email: [sales@ziztel.com](mailto:sales@ziztel.com) web: [www.ziztel.com](http://www.ziztel.com) tel: +44 (0) 115 9202888  
mail: 96 Rolleston Drive, Arnold, Nottingham, NG5 7JP United Kingdom

All text, drawings and photography contained within this data sheet are the property of Ziztel Ltd and are subject to copyright. Information may neither be transmitted or copied to third parties without the express written consent of Ziztel Ltd. Ziztel Ltd have a policy of continuous product improvement and contents here in are liable to change without notice.