MiX TALK LTE HANDS FREE CELLULAR TELEPHONE SYSTEM

The MiX Talk unit together with its accessories is a dedicated hands free cellular telephone system which will primarily be used in Fleet Management applications.

The hands free system provides superior audio quality when operating in full duplex in GSM and LTE CAT 1 networks. An external RF antenna mounted inside the vehicle's cabin is used to ensure extended network coverage.

The MiX Talk unit supports fixed dialling and fixed incoming call numbers for easy administrative management.

The MiX Talk unit can be directly setup and configured via a serial data cable connected to either a Laptop or PC or to a compatible MiX Telematics Fleet Management on board computer.

The unit can also be configured remotely via SMS. The MiX Talk Unit does not support any continuous RF data transmission.

Once installed operators and service technicians will have limited access to its SIM card. Furthermore each individual unit will have its own encoded SIM pin number for further security against unauthorised usage.

FEATURES

HANDS FREE OPERATION	The MiX Talk system consists of a main control unit together with a separate keypad, microphone, speaker and external RF antenna. These items are fixed installed inside the vehicle's cabin. The system provides complete hands-free operation only. It does not cater for any handheld microphone and/or speaker.
SEPARATE SIM CARD	The unit will have its own SIM card. Operators and service technicians will have limited access to SIM card, which is housed within the main control unit. The SIM pin number is encoded for each individual unit to further increase security against unauthorised usage.
CONFIGURABLE "DIALLING LIST" AND "INCOMING CALL LIST"	The unit provides an operator or service technician with the ability to configure and change a list of allowed phone numbers. The Dialling List can take up to 4 numbers. Apart from the numbers in the Dialling List, the Incoming Call List can take an additional 4 numbers. The Incoming Call List can also be configured as an Open Line in which case an incoming call can be from any number.
AUTO ANSWER	The unit can be configured to automatically answer an incoming call after a predefined number of rings. The number of rings is also configurable.
DIRECT AND/OR REMOTE CONFIGURATION	The MiX Talk unit can be directly setup and configured via a serial (RS-232) data cable connected either to a laptop or PC. Direct setup and configuration can also be done remotely via SMS.
KEYPAD DISPLAY	The human interface to the system is via a keypad display unit. See figure above. The keypad section has 5 buttons, and the display section consists of 6 LEDs.
SPEAKER AND MICROPHONE	The MiX Talk system comes with a separate speaker and microphone which are fixed installed inside the vehicle's cabin.
VOLUME CONTROL	The volume of the speaker is manually adjustable via a knob on the speaker unit.
RINGER / BUZZER	The unit has a buzzer that acts as a "Ringer" to ensure that the operator is always aware of an incoming call, even when the volume of the speaker is fully turned down. The buzzer also gives audio feedback to the operator when using the keypad.
RADIO MUTE FUNCTION	An open collector output from the MiX Talk unit gives it the ability to automatically Mute / Un-mute an in-cabin radio for incoming and outgoing calls.
POWER INDICATOR	The unit displays it's ON or OFF power status with a dedicated LED on the keypad.

PRODUCT VARIANTS

The following product variants are available:

PART NUMBER	OFFICIAL PRODUCT NAME
P0054MT	MiX Talk Electronic Unit (LTE)

Please note: This unit can be used in a stand-alone fashion. It is not locked to the MiX Telematics Infrastructure.

TECHNICAL SPECIFICATION

GENERAL

Dimensions	L = 100 mm W = 75 mm H = 33 mm Mix Talk Main Harness Length = 1,500 mm
Weight	~100 grams

SUPPLY

Primary supply	Rated Nominal Voltage Range: 10.5 to 33 VDC
Current Consumption at 12V (primary side)	Normal Mode: < 35mA, consumption depends on instantaneous conditions
Current Consumption at 24V (primary side)	Normal Mode: < 17.5mA, consumption depends on instantaneous conditions
Power Consumption	< 500 mW
Circuit protection	ISO7637-2 Over voltage rating: 56 V DC for 60 s
Reverse Polarity Protection	ISO7637-2 Reverse polarity: -36V DC for 60 s

MICROPHONE AUDIO INPUT

Type	Two wire mono externally biased

SPEAKER AUDIO OUTPUT

Output Power	5 Watt to achieve a Total Harmonic Distortion plus Noise of 0.1% at 1kHz into a load of 8Ω
Volume Control	Potentiometer controlled external voltage feedback

KEYPAD DISPLAY

Buttons	The external keypad display unit has 5 buttons. Four buttons are numbered from 1 to 4. The 5th button has a red telephone (end call) sign.
Volume Control	The external keypad display unit has 6 LEDs. The first 5 are red LEDs associated and positioned close to the 5 buttons. The 6th LED is a dedicated multi-colour (green and red) LED to indicate the power status of the system.

BUZZERS

Buzzer	A single buzzer is included in main harness.

MUTE

Radio Mute Function	An open collector output from the MiX Talk unit gives it the ability to automatically Mute / Un-mute an in-cabin radio for incoming and outgoing calls.

RF COMMUNICATION

Modem	SLM320-E
Voice/SMS transmission	Voice HR/FR/EFR/AMR/AMR-WB Echo cancellation and noise reduction SMS MT/MO PDU / Text mode
Band	LTE: Band 20 (850 MHz) Band 8 (900 MHz) Band 7 (2600 MHz) Band 5 (850 MHz) Band 3 (1800 MHz) Band 1 (2100 MHz) GSM: GSM 850 MHz E-GSM 900 MHz DCS 1800 MHz PCS 1900 MHz
Transmit Power	Class 4 for GSM850/900:33±2dBm Class 1 for GSM1800/1900:30±2dBm Class 3 for LTE-TDD:23±2.7dBm Class 3 for LTE-FDD:23±2.7dBm

GSM ANTENNA

Type	External Penta band
Impedance	50 Ω

SERIAL DATA PORT

Serial Data Interface	DB9 male connector. RS232 electrical standard.
Transmission Speed	Fixed 38400 Baud (with no hardware flow control)
Protection (Transient)	IEC1000-4-2 Air Discharge, 15kV, IEC1000-4-2 Direct Contact,8kV

ENVIRONMENT

Temperature	Recommended Storage: 0°C to +50°C Operating temperature: -25°C to +85°C

Temperature Shock	The product complies with IEC 68-2-14 temperature shock requirements (Soak at -25 °C for 30 min; change over in less than 3 min to 30 °C and soak for 30 min; repeat cycle 3 times)
IP Rating	Rated IP20
Vibration	In accordance with ISO 16750-3:2007(E) for 3h in each of the perpendicular axes. The vibration profile is as per table 14 of ISO16750-3:2007(E)
Shock	In accordance with Mil-Std-810F method 516.5 at a level 30g and with pulse duration of 11ms. The test consists of three shocks to be executed in each major axis and for oth positive and negative directions resulting in a total of 18 shocks (in all 3 perpendicular axes).

STATUTORY AND REGULATORY **COMPLIANCE**

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