



KTeck

## K 6000

### TRUNKING SYSTEM for your organisation

For business and mission critical communications ETSI standard, trunked radio solutions are modular and **flexible. A Tier III trunking system supports high levels of traffic,** maximises capacity and works across multi-site geographies.

The KDT system is a spectrally efficient solution, giving expanded capacity and future-proofing your investment through capabilities such as smooth migration from MPT1327 to DMR Tier III trunking and remote network management with IP connectivity.

Tier III Trunking is developed in compliance with the open DMR Tier III standard. Tested using the IOP certification program developed by the Association, providing confidence of multi-vendor interoperability.





## Fully integrated communications

KTeck solutions provides customers with unparalleled expertise in the integration of radio with telephony, IoT devices and other communication technologies. Legacy systems such as TierII and traditional analog are supported as well as 4G and E1 connectivity.



### Key Trunking System Features

- Ultra-narrowband 6.25kHz equivalent technology for DMR
- 2 x TDMA channels in one 12.5kHz channel for both voice and data
- Migration Capability from analog to DMR Tier III
- Efficient system infrastructure scalability based on IP connectivity
- OTAP over the air subscriber unit programming
- Detailed alarm monitoring and reporting of critical system parameters
- High availability fail-over between network components
- Software upgradeable to add new features and functionality
- Rugged construction with efficient front-to-rear fan-forced cooling
- 19-inch rack design facilitates simple installation and maintenance

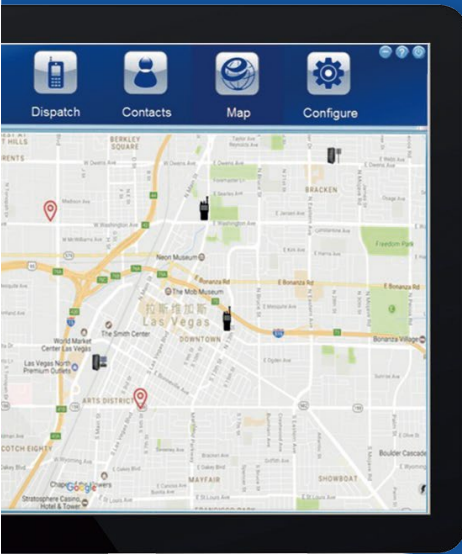
### Voice and Data Features

- Individual calls
- Group calls
- Calls to all users
- Broadcast calls
- Emergency calls
- PSTN / PABX calls
- Semi-duplex calls
- Text & status message
- GPS & Packet data transmission
- Support of call priorities & emergency call
- Supporting services e.g. late entry to an existing call

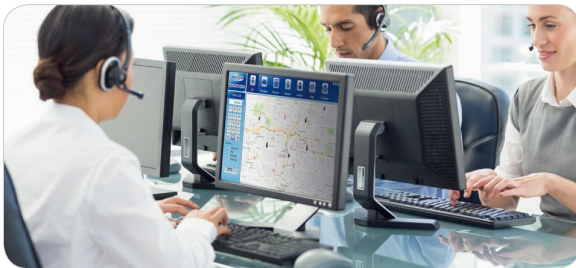


## Dispatch Workstation

This provides system communication management and includes individual calls, group calls, short message and enhanced functions such as emergency call, call priority, call status, voice recording & message logs.



With comfortable, ergonomic design and digital technology for user security, the KP990 Portable and KM840 Mobile Digital Radios provide improved management efficiency and responsiveness in crisis situations. The Radio series is THE cost-effective solution when you've decided to migrate from analog to digital.



### Transportation

A core service for motorways, public bus systems, taxi fleets, airports, etc. For these mid-sized networks with large numbers of users the system offers flexibility and interconnection with other information systems.



### Retail & Industry

For everything from hotels to property management, retail through to construction. Here our radio solutions work on everything from single to multiple sites meeting the changing needs of business.



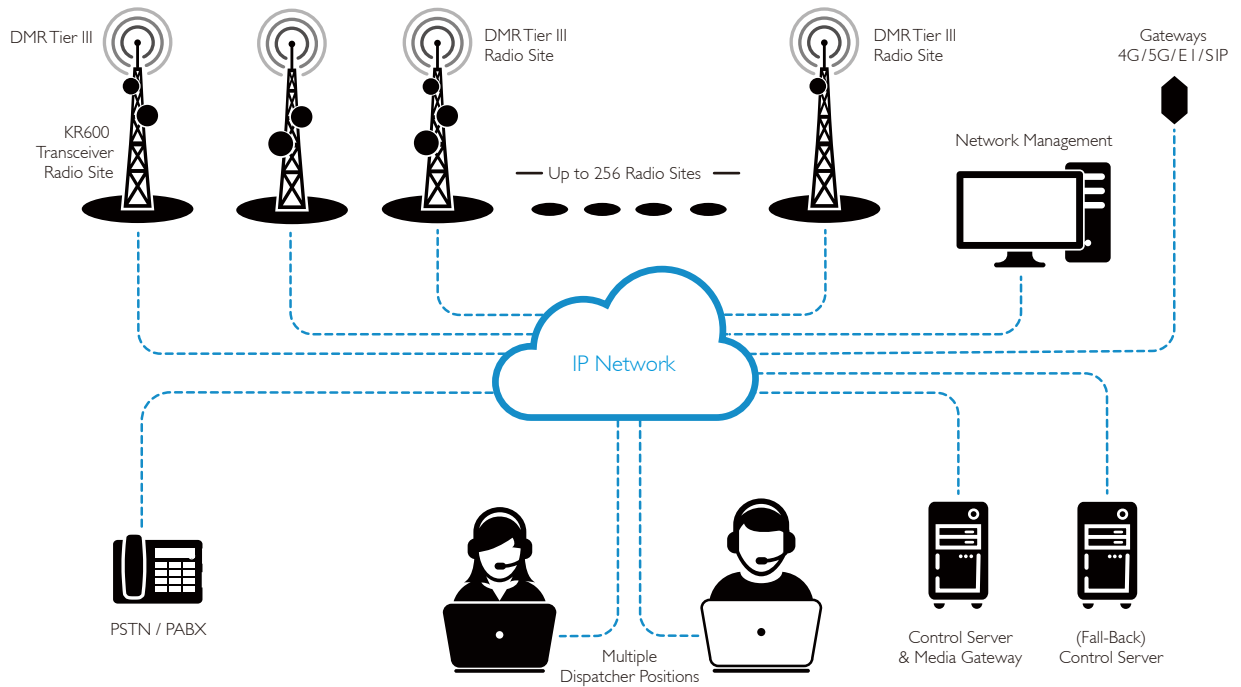
### Public Sector & Security

Education, Healthcare, Forestry, Water etc. Unique multi-site systems offering communication and security for everyday operations and special projects.



### Energy

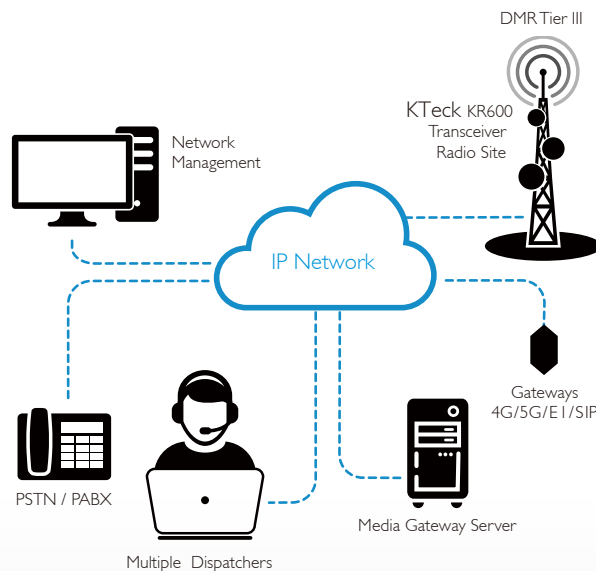
Work in this arena i.e. Oil and Gas, Mining, Electric Power, Nuclear and more: - the system pulls together communication over multiple sites with many diverse users.



### Scalable Network Architecture

KTeck's truly scalable system architecture has been designed to meet the needs of a single site as well as catering for larger regional network providers. KTeck systems deliver the same gateways and features across the entire product portfolio; allowing for expansion at your pace.

### DMR Tier III Single Site

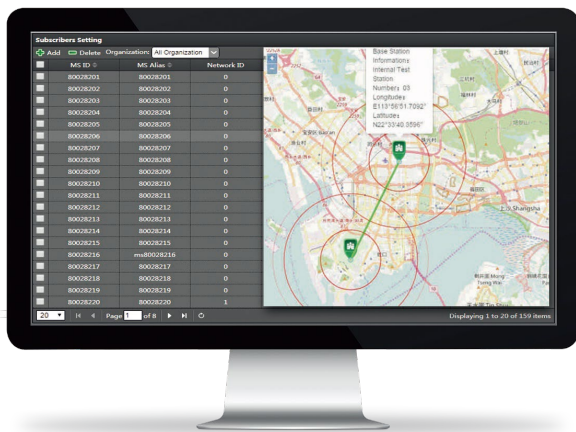


With our KDT core components a single site Tier III system can support up to 800 subscribers; providing the same connectivity and expandable features as any larger network including migration connectivity from conventional system.



## System Management Tools

A single workstation connected using IP with high levels of network security will give you complete control over the system. Detailed alarm monitoring, reporting and programming of critical system parameters as well as complete subscriber control including OTAP Over The Air unit Programming.



## Security

All voice, data and control traffic within the IP network is encrypted, and all radios are securely authenticated. You can remotely disable and re-enable a device if it is misplaced or stolen. Support of the Association procedure for encryption transmission via the air interface with End-to-End encryption of voice and data using 128 or 256-bits AES cryptographic systems.

## Connectivity

Our solutions are compatible, via different interfaces, with many other systems including: PSTN, Conventional, etc.

## Migration

The KTeck Tier III Trunking system supports a smooth migration From DMR TierII and Analog to DMR TierIII.

**The ETSI DMR Tier III compliant system means that you are investing in open standard technology with global support.**



## High Performing tough and resilient KR600T Transceivers for mission critical and non-mission critical networks with 100% duty cycle.

### Class Leading Distributed Controller Software Architecture

A major advantage of the trunking systems over competitors is our distributed controller functionality using software not with additional hardware. In each of the KR600T transceivers is embedded software that enables each KR600T to act as a controller. If a KR600 transceiver acting as control fails, the next transceiver will automatically and seamlessly assume control of the site.

The system will even fall back to a Tier II mode if other resources fail. This fail-safe functionality means that a System will always work, even in a lesser trunking mode.

### Efficient Heat Management

The unique cooling design of the KR600T combines a built-in heat pipe and three fans to ensure efficient heat dissipation, preventing the transceiver from over-heating, increasing reliability for when it really counts.



### KTeck are proud to be Category One members of the Digital Mobile Radio Association.

The Association maintains and oversees the standards that ensure that Digital Mobile Radios are interoperable across manufacturers. KTeck can guarantee our diligence in working and complying with these standards.

Tier III covers trunking operation. This standard also specifies two-slot TDMA in 12.5kHz channels. DMR TierIII Trunking is a technique used in data communications transmission systems to provide many users with access to a network by sharing multiple lines or frequencies. As the name implies, the system is like a tree with one trunk and many branches. DMR TierIII Trunking is commonly used in VHF/UHF radio and telecommunication systems.

Tier II is for users who require spectral efficiency, advanced voice features and integrated IP data services in licensed bands for high-power communications. Tier II specifies two-slot TDMA in 12.5kHz channels.

KTeck's systems are compliant and interoperable with Tier II and Tier III equipment that have also been tested by the Association. [www.dmrassociation.org](http://www.dmrassociation.org)



K 6000 System	
Frequency Range	136~174MHz, 350~400MHz, 400~470MHz
Radio Site Capacity	Total = 24 Carriers (48 time-slots)
Single Site Subscribers / Users	The suggestion Subscribers of A Single time-slot *30 users, depending on the required grade of service.
Sites (Wide Area System)	Up to 256 Sites
System Wide Subscribers	100,000 subscribers being on-line at any one time
Digital Vocoder Type	AMBE+2™
Frequency Stability	± 0.5ppm

System Hardware	
Size(KR600 Transceiver)	482.6mmx450mmx44mm
Weight(KR600 Transceiver)	10.8Kg
Normal Operating Voltage	100 / 240 VAC, 47 to 63Hz (DC: 13.6Volts Built In)
Maximum Duty Cycle	100%

Note: 22u rack configuration consists of 4 x Transceivers (channels), Antenna Combiner, Splitter, Duplexer & IP Switch.

System Environmental Specifications	
Operating Temperature	- 30 C ~ +60 C
Storage Temperature	- 40 C ~ +85 C

DR600T Transmitter	
Transmit Power	50W (Each channel frequency) 100% continuous working period for 24 hours
Modulation Maximum Deviation	± 5.0kHz @ 25kHz
Transmit Signal to Noise Ration	≥45db @ 25KHz, ≥40db @ 12.5KHz
Spurious Emissions	-36dBm <1GHz / -30dBm >1GHz
Adjacent Channel Power	≤ -60dB @ 12.5KHz, ≤ -70db @ 20 / 25KHz
Modulation Characteristics (300-3000Hz)	+1, -3dB
Modulation Distortion	≤3%
FM Modulation Mode	11K0F3E \ 16K0F3E \ 4FSK

DR600T Receiver	
Sensitivity	Analog: 0.3uV (12dB SINAD), 0.22uV (typical) Digital: 5% BER : 0.3uV
Inter Modulation	≥75dB (TIA-603-D)
Adjacent Channel Sensitivity	≥70db @ 25KHz (TIA-603-D)
Spurious Response Rejection	≥70db @ 25KHz (TIA-603-D)
Audio Distortion	≤3%
Received Signal to Noise Ratio	≥45db @ 25KHz
Audio Response	+1, -3db
Conducted Spurious Emission	≤ -57dbm

For more information please contact:

Due to continual product development and improvement, KTeck reserves the right to change specifications without notice.



ISO9001: 2008 Accredited Designer & Manufacturer

**If you have any questions about KTeck and our products, or our membership of the Association and interoperability please don't hesitate to get in touch.**



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