amitec MOBILE COMMUNICATION TRAINING SYSTEM MCT10

Amitec MCT10 Features:

* 2 mobiles and 2 base station units
* Different types of Mobile Antennas
* PLL Synthesized Base station and Remote units
* Full Duplex Voice & Data Communication link
* Propagation environment experiment
* Automatic retry mode
* Successful or failed data packet acknowledgment

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The system consists of a set of two tripods – one for mounting the transmitting antenna and another tripod for mounting the receiving antenna, 10 different types of Mobile antennas, two Base station PLL synthesized units , two Mobile PLL synthesized units and all the necessary cables and accessories. This stand-alone equipment combines both hardware and software and is able to carry out Mobile communication experiments. It provides same conversation quality as commercial products in the market and is expected to lead students quickly settle into work environment.

Area & scope of Experiments:

1. Introduction of full duplex communication equipment.
2. To establish cellular network and study frequency reuse.
3. To establish a call processing operation and call a mobile in other network with base station.
4. To study system acquisition procedure of mobile.
5. To establish a voice communication link.
6. To perform compression and expansion of voice.
7. To establish a data communication link.
8. To establish open loop power control
9. To establish closed loop power control
10. To establish hard call handover.
11. To perform soft call handover.
12. To allocate a phone address number to a mobile unit.
13. To measure frame error rate.
14. To transmit and receive a text message via BTS.
15. To study the effect of noise jamming in mobile units.
16. To study interfering signals and effect on mobile units.
17. To study spectral distribution of channels.
18. To study multipath fading in propagation environment.
19. To measure system C/N ratio.
20. To measure system S/N ratio.
21. To study antenna parameters for cell formation.
22. To study error correction techniques.
23. And many more.

Amitec MCT10 Technical specifications:

Base station Units	2 Nos.
Frequency range	2 Nos.
Base station Tx & Rx	902~907 & 933~937 MHz
Mobile unit Tx & Rx	922~927 & 891~896 MHz
Data Speed	300bps ~ 100Kbps
Number of channel	16
Communication system	fully duplex
Mode	Addressed with acknowledge
Operation	Broadcast and automatic retry
Bandwidth per Channel	300 KHz
RF impedance	50 ohms
Modulation system	GFSK
Receiving Sensitivity	Over 20 dB SINAD
Frequency Stability	±5 ppm
Transmit power	0dbm Typical
Attenuation	in steps of 10dB
Modulation level for voice	25KHz
Voice frequency response	200Hz ~ 15KHz
Modulation level for data	60KHz
S/N ratio	> 30dB
PLL lock up time	< 100 ms
Sensitivity	< -95dbm
Audio distortion	< 5%
Audio output level	80mV
Data output level	TTL/RS232

Antennas: Monopole, DipoleX2,Biconical,Discone, Log Periodic, Sleeve, Slot, Log Spiral, Patch, Parabolic Reflector.

Directional Coupler: Directional Coupler is provided with 1 GHz frequency response and 20 dB directivity for antenna forward & reverse power & VSWR measurements.

Serial Communication Software

E manual: Installation DVD

Specifications are subject to upgrade due to constant innovation. Accessories shown in the photograph are not part of standard equipment.

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