

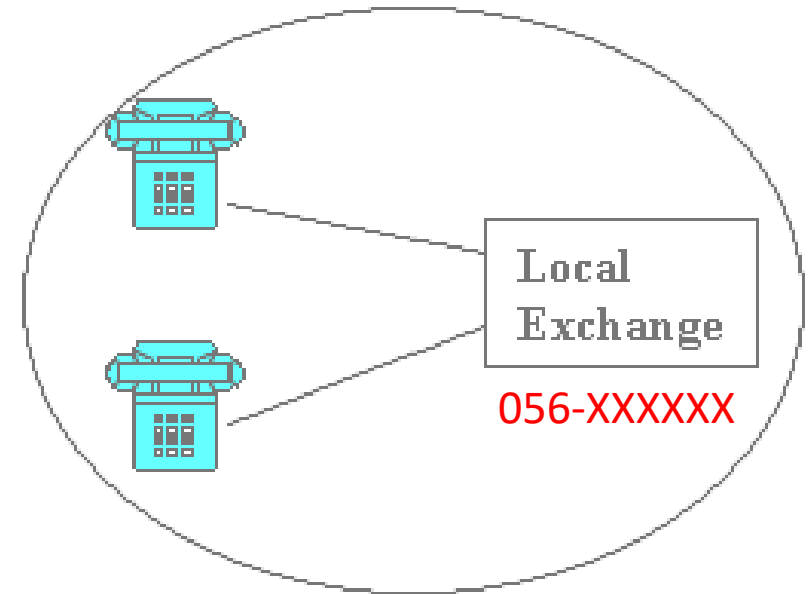
TELEPHONE CALLS & CONNECTIONS IN THE FIXED COMMUNICATION NETWORKS

EEEN 462 – ANALOGUE COMMUNICATION

Monday, 29 June 2025

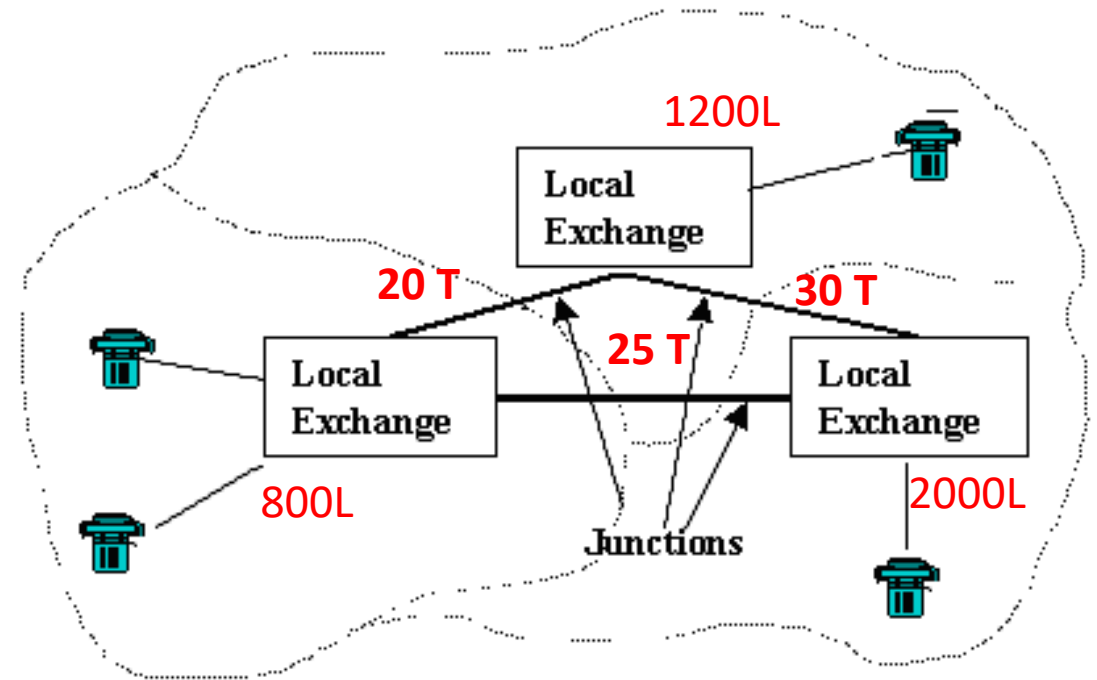
LOCAL EXCHANGE (FOLDED)

1. A local area in telecommunications is a geographic area within which calls are charged at the same rate.
2. Subscribers of a local area are connected to their respective telephone exchange called local-exchange or local switch or terminal exchange.

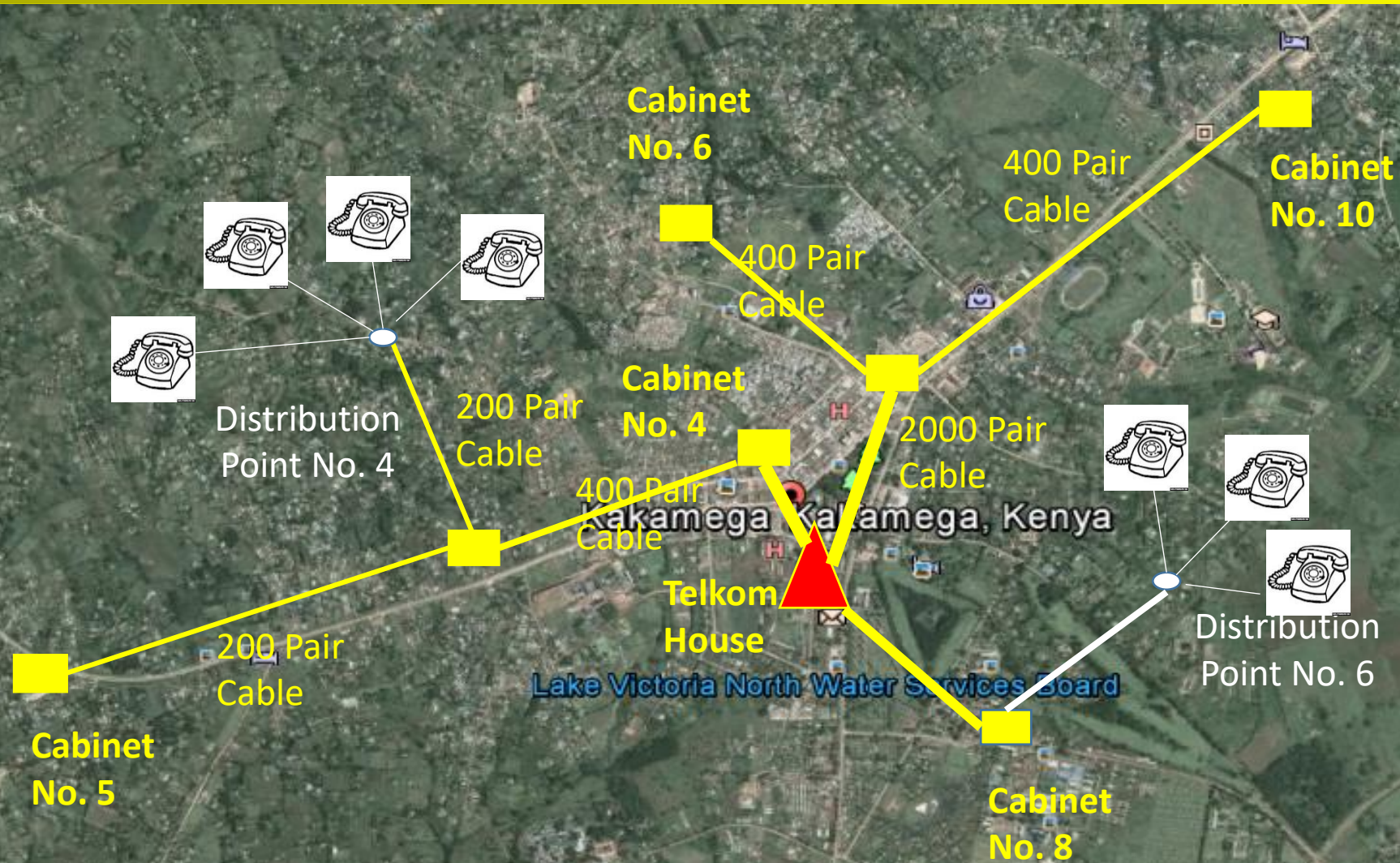


LOCAL MULTI-EXCHANGE AREA

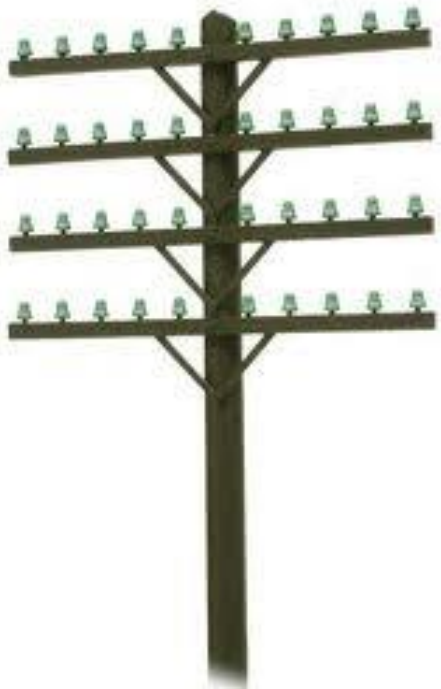
1. A **multi-exchange local area** has a large number of subscribers one exchange cannot effectively and economically serve all of them, e.g. Nairobi.
2. In this case **each local exchange has its own area called exchange area** and the envelope of all exchange areas would be the local area.
3. The **capacity of the junctions** is based on the peak-hour traffic between the local exchanges.



PRACTICAL LOCAL EXCHANGE IN FIXED TELEPHONY



FADING FIXED TELEPHONE NETWORK COMPONENTS



**Open Wire Transmission Lines
(Obsolete)**



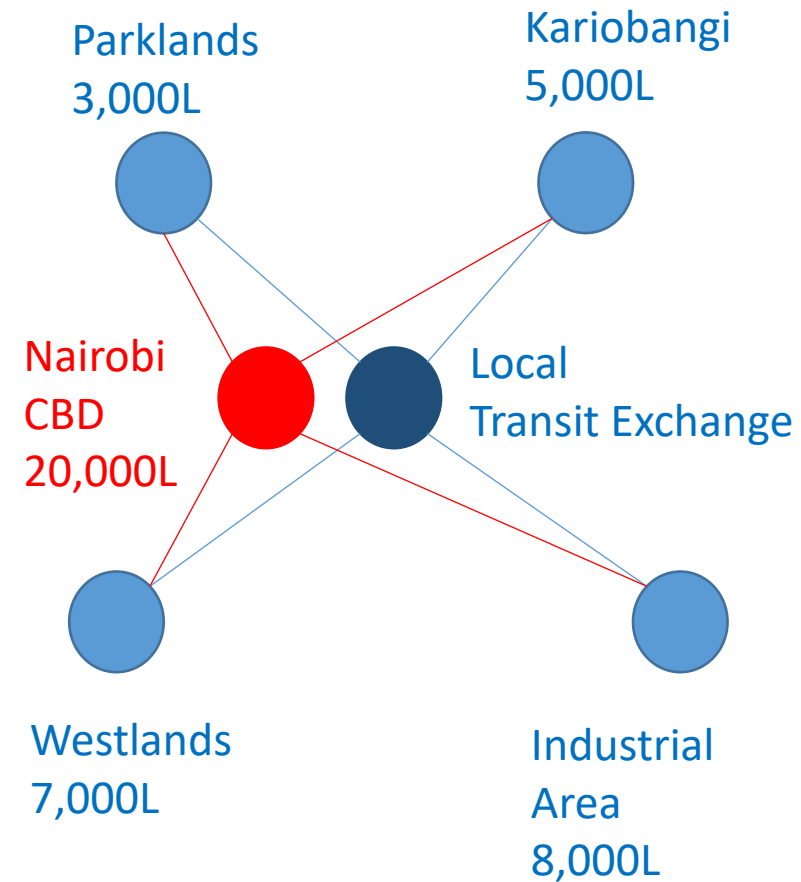
**Telephone Cabinets
(Still in Use in Urban Areas)**



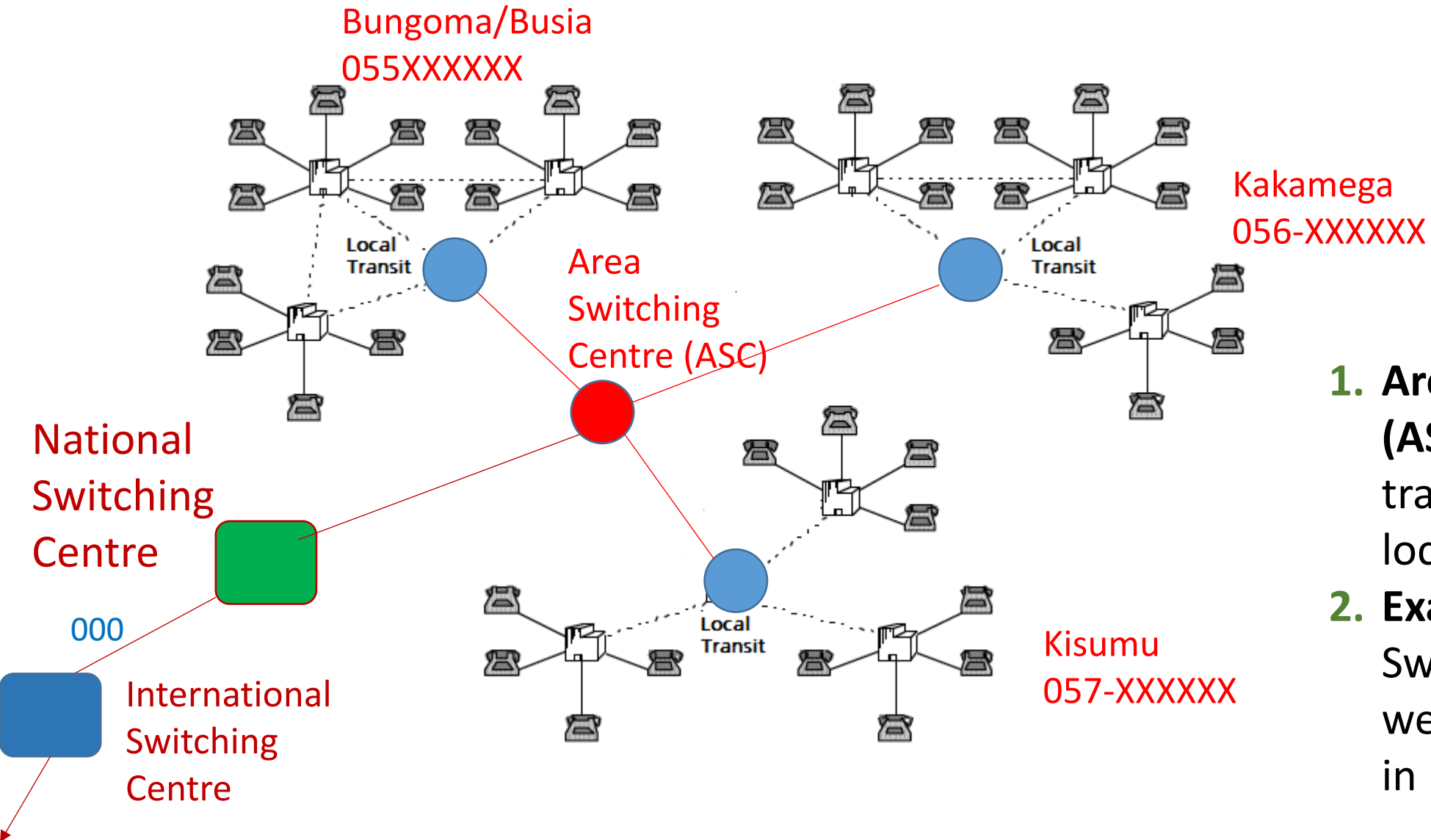
**Telephone Drop Points (DPs)
(Still in Use in Urban Areas)**

LOCAL TRANSIT EXCHANGE

1. A multi-exchange local area may have a **transit (also called local transit) exchange**.
2. A **transit**, unlike a local exchange, does not have subscribers connected to it and therefore does not act as a source or sink for traffic in the network.
3. It only collects and redirects the traffic among the exchanges in the local area.



REGIONAL AND INTERNATIONAL EXCHANGES



1. **Area Switching Centre (ASC)** switches transit traffic between different local exchanges.
2. **Example:** The Area Switching Centre for western region is based in Kisumu.

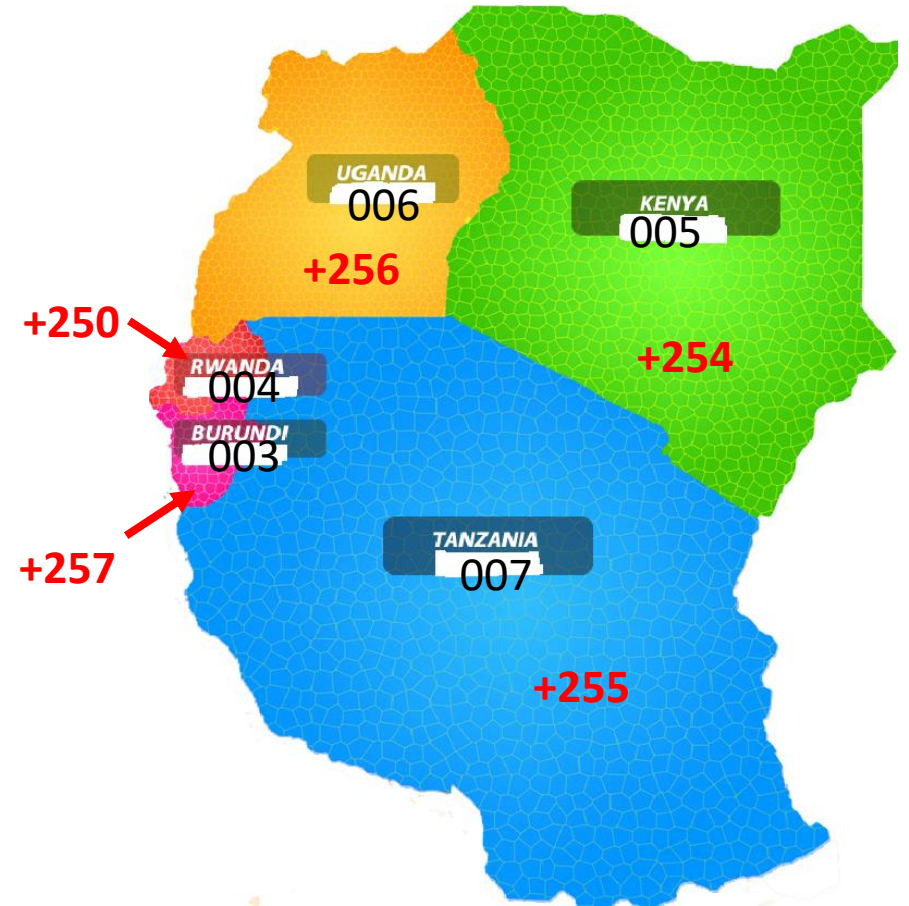
NATIONAL DESTINATION CODES (NDCs) FOR FIXED TELEPHONY SERVICES

20 Nairobi City
40 Kwale Town area
41 Mombasa, Mariakani and Kilifi towns
42 Malindi, Lamu and Garsen towns
43 Voi, Taveta, Wundanyi and Mwatate towns
44 Machakos, Makueni, Kitui and Mwingi
45 Ngong, Kajiado, Loitokitok and Athi River
46 Garissa, Hola, Wajir and Mandera
50 Naivasha and Narok
51 Nakuru
52 Kericho and Bomet
53 Eldoret, Turbo, Kapsabet, Iten and Kabarnet
54 Kitale, Moisbridge, Kapenguria and Lodwar

55 Bungoma and Busia
56 Kakamega, Butere, Mbale and Mumias
57 Kisumu, Maseno and Siaya
58 Kisii, Kilgoris, Oyugis and Nyamira
59 Homabay and Migori
60 Muranga and Kirinyaga
61 Nyeri
62 Nanyuki
63 Reserved for future use
64 Meru, Maua and Chuka
66 Thika and Ruiru
67 Kiambu and Kikuyu towns
68 Embu
69 Marsabit and Moyale

INTERNATIONAL ACCESS CODES/MOBILE ACCESS

- 000** International Dialling Access
- 004** East Africa Regional Access Code for Rwanda
- 005** East Africa Regional Access Code for Kenya
- 006** East Africa Regional Access Code for Uganda
- 007** East Africa Regional Access Code for Tanzania
- 07** Telephony or "Find me anywhere" Services



INTERNATIONAL DIALING CODES /01



INTERNATIONAL DIALING CODES /02

