

1. Introduction

2411EZYLINK-E is a point-to-multiple-points wireless data networking system. It can be used by internet service providers as a means of last-mile connection to the users. It can also be used to form a campus network. Its data-transmitting burst rate is 11 Mbps.

1.1 Theory of Operation

The 2411EZYLINK-E consists of the Base Station 2411EZYLINK-E-BST and the Client Station 2411EZYLINK-E-CPE. The Base Station consists of the Access Management Unit (AMU) 2411EZYLINK-E-BST-AMU and the Base Radio Transceiver 2411EZYLINK-E-BST-TRX. The base station is installed at the site that has access to the Internet backbone or at the central site of a campus network. The Client Station consists of the Client Radio Transceiver 2411EZYLINK-E-CPE-TRX and/or the Buffer Box 2411EZYLINK-E-CPE-BFB. The client station is installed at the Internet service subscribers' site or the satellite site in a campus network.

All the 2411EZYLINK-E equipment is designed to work with Ethernet interface. The Radio Transceiver converts the Ethernet data packets into radio packets and uses direct sequence spread spectrum modulation to turn the data packets into 2.4 GHz radio signals.

The Base Radio Transceiver and the Client Radio Transceivers each has a unique RFID. A packet to be relayed between two stations uses the RFID of the originating transceiver as its source address and the RFID of the intended receiving transceiver as its destination address. The packet transmitted by the originating transceiver can be received by all the transceivers within the effective receiving range. Only the transceiver with the correct RFID matching the destination address will process the information contained in the packet. All the other stations will discard the packet.

Each packet is encrypted before being transmitted by the radio. The RF channel and the encryption code have to be set the same for two stations to communicate with each other. The Base Station and all the Client Stations are pre-configured in the factory with the same default RF channel and encryption code. The user system administrator can use OTC's system administration software to change the settings (see Chapter 4 for details).

The communication between the Client Stations and the Base Station is based on a polling process. The RFID of each Client Station to be served by a Base Station needs to be registered in a polling list stored in the Base Station transceiver. The OTC's system administration software can be used to add or delete the RFIDs of the Client Station transceivers in the Base Station transceiver.

In addition to the Client Station access management, The Access Management Unit (AMU) provides the following functions:

1. Flow control between the network backbone and multiple Base Radio Transceivers.
2. SNMP and Web based Interface for monitoring and configuring the multiple Base Radio Transceivers (one AMU can be connected to up to 4 Base Radio Transceivers via a switching hub) and the Client Radio Transceivers served by each Base Transceiver Radio.
3. Ethernet bridging, including Spanning Tree support.

The use of the Buffer Box at the Client Station is optional. If the client site has only a small number of computer stations, the use of the Buffer Box may not be required. When the number of computer stations on the client site is greater than eight, it is recommended that a Buffer Box be used with the Client Radio Transceiver.

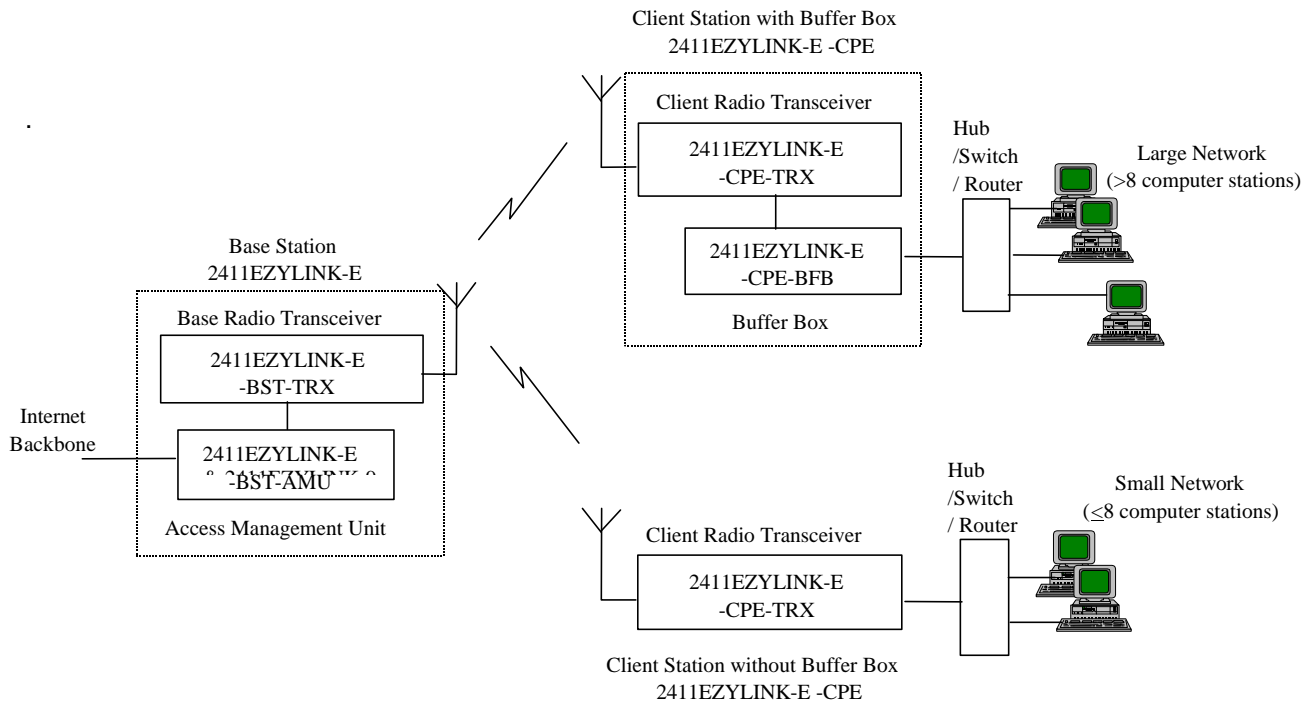
The Buffer Box provides the following functions:

1. Flow control between the client's local network and the Client Transceiver Radio.

2. Ethernet bridging, including Spanning Tree support.

Please refer to Chapters 3 and 4 for using and configuring the AMU and the 2411EZYLINK-E network system.

1.1 Typical System Configuration using 2411EZYLINK-E (Single Radio Base Station)



Multiple-radio Base Station

