

6.SYSTEM OPERATION

6-1. Outline of communication

FDK01TU010 is the wireless modem unit to communicate with FDK02TU010. To send data to FDK02TU010 through serial port(RS-232C, 485, 422) of FDK01TU010, apply command @TXT or @TBN. Refer to the instruction manual about detail of @TXT or @TBN command. Communications on the air through feeder line and coupler are performed with packet data transmission mode.

6-2. Preparation of communication on the air

Before making communication on the air with FDK02TU010, it is necessary to choose frequency and choose the port of two couplers of transmitter and receiver. The frequency of each FDK01TU010 and FDK02TU010 must be same.

6-3. Data communication with serial port of the wireless modem

6-3-1.Transmission

To send data to FDK02TU010 through serial port(RS-232C, 485, 422) of FDK01TU010, apply command @TXT or @TBN. If there was response ACK from FDK02TU010 on the air, FDK01TU010 make OK output to its serial port(RS-232C, 485, 422). If there was no ACK from FDK02TU010 on the air, then FDK01TU010 make twice retransmission of normal packet on the air. And on third to fifth retransmission, FDK01TU010 transmits BCH mode packet. After all, there was no ACK from FDK02TU010, then FDK01TU010 make NG output through its serial port(RS-232C, 485, 422).

6-3-2.Receiving

FDK01TU010 recognise packet mode of FDK02TU010 from which is normal or BCH automatically, then calculate CRC and make address recognition and make data output through its serial port(RS-232C, 485, 422).

6-3-3.Data packet format

Data packet format is described below.

Preamble	Header	Data	CRC
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Preamble : 32 times repetition of 1 and 0.

Header : address of recipient, and address of transmitter, number of retransmission, number of packet, and so on.

Data : data to be sent up to 1024 bytes.

CRC : CRC16 calculated with Header to Data.

6-3-4.Communication on 1:n mode

One FDK01TU010 able to perform 1:n communication with defined number of FDK02TU010. To make 1:n communication, define plural address on address part of @TXT or @TBN command. Addresses input through serial port(RS-232C, 485, 422) of FDK01TU010 will be added to its header.