

Embedded Control Characters

When using WaveWare mode it is not necessary to make use of the **<SUB>** control character. Since WaveWare mode does not use the **<CR>** control character it is only necessary to hit carriage return on your keyboard to have it show up on the pager display.

To embed a control character in a **TAP** mode paging message however, it is necessary include a **<SUB>** control character followed by an offset version of the control character you want to embed. You offset the control character by adding **40 HEX** to the control character, to make the character printable. Adding **40 HEX** to Carriage Return gives you **M**. Adding **40 HEX** to Line Feed gives you **J**. The character combination of **<SUB>M** causes a Carriage Return control character to be embedded in the encoded paging message, while **<SUB>J** causes a Line Feed control character to be embedded. The **<SUB>** character needs to be passed to the **WaveWare v8 Paging Encoder** as a **HEX** character.

In the **WaveWare v8 Paging Encoder Setup** software, you can embed a Carriage Return by entering **<CR>** in the message body, and embed a Line Feed character by entering **<LF>** in the message body. The use of the **<SUB>** character will be done by the software.

In the **Microsoft Visual Basic** programming language, you can use the following code example to define the embedded control character string to be delivered through the serial port to the paging system. In this example, we are embedding only the **Carriage Return** control character:

```
DIM CarriageReturnString As String,  
DIM MessageLine1 As String  
DIM MessageLine2 As String  
DIM TXString As String  
CarriageReturnString = Chr(26) & "M"  
LineFeedString = Chr(26) & "J"  
MessageLine1 = "Line 1 of test message"  
MessageLine2 = "Line 2 of test message"  
TXString = MessageLine1 & CarriageReturnString & MessageLine2  
form1.MSComm1.Output = TXString
```

This completes the “Embedded Control Characters”