

EME SYSTEM – TRACKING – DDE dialog

By Jean-Jacques F1EHN – 14/08/2006

The tracking program of EME System can dialog via a DDE channel. It includes 2 modes selectable into the EME Setup module :

- ARS EA4TX dedicated for a dialog with the ARS Win program edited by Pablo EA4TX. Information at http://www.ea4tx.com/support/Setup_F1EHN.htm
- DDE server dedicated to open the real time module Tracking to other program needing accurate position and Doppler calculation.

This second use is described in the following text.

1. TRACKING AS A DDE SERVER

Tracking use a text box "Tracking_Server" to establish the DDE dialog.

The DDE dialog has defined as :

- Link Topic = "Tracking|EME_System_Data"
- Link Item = "Tracking_Server"

2. CLIENT APPLICATION

The example of Client was made with Visual Basic 6. The source code is detailed below but I can supply the VB project named "DDE_Client". A form includes a Command button to start the dialog. A Text box "TxtData" receives the DDE data. A few more lines permit to extract the angular information (Az/EI) and the Doppler Shift value and display them on 3 captions. Then you have to complete this application to interface it with your need.

```
Private Sub Command_Click()  
    TxtData.LinkMode = 0          'Close an existing link  
    'Define the application Name and Topic  
    TxtData.LinkTopic = "Tracking|EME_System_Data"  
    TxtData.LinkItem = "Tracking_Server"      'Define the item  
    TxtData.LinkMode = 1          'Automatic link mode  
End Sub  
  
Private Sub TxtData_Change()  
    Dim LenText As Integer  
    Dim TxtStr As String  
  
    Dim TxtPtr1 As Integer  
    Dim TxtPtr2 As Integer  
    Dim TxtPtr3 As Integer  
  
    TxtStr = Trim(TxtData.Text)  
    LenText = Len(TxtStr)  
  
    If LenText > 10 Then 'Verify the string is complete  
        TxtPtr1 = InStr(1, TxtStr, "AZ") + 3  
        TxtPtr2 = InStr(1, TxtStr, "EL") + 3  
        TxtPtr3 = InStr(1, TxtStr, "DS") + 3  
        Azim.Caption = Trim(Mid(TxtStr, TxtPtr1, (TxtPtr2 - 4 - TxtPtr1)))  
        Elev.Caption = Trim(Mid(TxtStr, TxtPtr2, (TxtPtr3 - 4 - TxtPtr2)))  
        DoppSh.Caption = Trim(Right(TxtStr, LenText - (TxtPtr3 - 1)))  
    End If  
End Sub
```

3. DDE DIALOG

The tracking operator is able to enable or disable the dialog with using the check box « Send data ». A single string containing the following data is transmitted every 2 seconds :

- "AZ:##0.00 EL:##0.00 DS:####0" where # depends on the numerical value - 0 = significant figure

Tracking must be running when you press the Command button of the DDE Client. Then the DDE dialog is automatic.

This running is available for an automatic tracking and an automatic positioning for a terrestrial traffic operation. The data format is :

- AZ: in degree (accuracy = 0.01°)
- EL: in degree (accuracy = 0.01°)
- DS: in Hz - it is the Doppler shift or mutual Doppler shift

- Example of use

