

AIS view

The screenshot shows the AIS-view application window. The main display area is divided into two panes. The left pane shows the decoded AIS message data, and the right pane shows the raw message ID and base station report.

Decoded Message Data (Left Pane):

```
UTC second: 011101
UTC second: 29
-----
Position accuracy: 0
Position accuracy: Low (<10m)
-----
Longitude: 0000011100110111101101111000
Longitude: 12,613747
-----
Latitude: 00111111011110110001110111
Latitude: 55,697265
-----
TypeOfElectronicPositionFixingDevice: 0001
TypeOfElectronicPositionFixingDevice: (1)
Undefined
-----
Spare: 0000000000
spare: 0
-----
RAIM flag: 0
RAIM flag: 0
-----
Communication State: 0000000
Communication State: 0
-----
```

Message ID and Base Station Report (Right Pane):

```
-----
Message-ID : 4 (1)
-----
Base station report for MMSI: 2190047
UTC : 2006-05-04 15:45:29
Lat : 55,697265 , 55
Lon : 12,613747 , 12
Checksum OK, (17,17)
-----
```

Control Panel (Bottom):

- Do this:** Convert, Invert, Revers, Show only 1, Vis bitmønster, Vis dekoding, Dekod R2, Mes4.11
- Data via RS232:** Receive, ErrEv., 1, 9600, N.8.1
- Kort. Latitude, Longitude:** 55.697265, 12.613747, Vis kort, GetLonLat, AutoMapUpd, Opdater
- Data via fil:** Open, Close, Save2file, Step
- Data via IP:** Open, Close, 192.168.1.248, 4712

Message ID and Raw Data (Middle):

```
R2: !AIVDM,1,1,,B,4025boiuIB?eM0qgKhOodMi000S:,0*17
ins clr
00010000000000000100001011010101101111100011111010110010100100011111011010110100000011100110
11110110111100000111111011110110001110111000100000000000000000
```

Fig.1 Her vises indholdet af AIS message: '!AIVDM,1,1,,B,402.....'

```
!AIVDM,1,1,,A,13eAVr0P1N0s<s@OFegbe?vp0@A9,0*6A
!AIVDM,1,1,,B,139OmB0P2bPtBgHOKRc8tgvr08A:,0*6E
!AIVDM,1,1,,B,153oS8001k0r8wnOkKbnlmLr00Rb,0*43
!AIVDM,1,1,,B,13:Etp002:0qmDHP2dW725Tp0HAM,0*45
!AIVDM,1,1,,A,13:Etp002:0qmDHP2dW725Tp0HAM,0*46
!AIVDM,1,1,,B,13@o3fgP000s0vr0iCFLDwvv2@Ad,0*16
!AIVDM,1,1,,A,13u>=MPP1c0qq`tP4<7S0gvt0@Af,0*57
!AIVDM,1,1,,A,13PioD002T0r6;n0Eu0IDoJn0<1D,0*01
!AIVDM,1,1,,A,402R3a1uIB=900r6t0P44Wi00@B0,0*78
!AIVDM,1,1,,A,14cbMp0P000sPo<Oljs008vr0@B4,0*3F
!AIVDM,1,1,,B,13A4g<0000Pr5slP4H<;PGft0D0a,0*0A
!AIVDM,1,1,,A,18152Hh01hPqlR40pL<QrQ`t05`T,0*63
!AIVDM,1,1,,A,13PicV002gPsVRnOHRoBKitr0<1c,0*36
!AIVDM,1,1,,B,402R3VQuIB=9P10knHOn`:@005`T,0*29
!AIVDM,1,1,,A,144buH001<0r60nOmW0nb5@v0D1?,0*20
!AIVDM,1,1,,A,13@nf<001bPqwwlP45Sa1W0t00S0,0*6C
!AIVDM,1,1,,B,13@nf<001bPqwwlP45Sa1W0t00S0,0*6F
!AIVDM,1,1,,A,15@F3v001`0r3aTP33ieLrfv0@Ba,0*55
!AIVDM,1,1,,B,15@F3v001`0r3aTP33ieLrfv0@Ba,0*56
!AIVDM,1,1,,B,402R3WiuIB=9P0tgk40gcCP000S:,0*1B
!AIVDM,1,1,,B,14RLkV001U0rEQtOwRdeL12v05`T,0*26
!AIVDM,1,1,,A,14QsFk@0000r6w`P3mU0gPW005`T,0*35
!AIVDM,1,1,,A,13B:gb00000om<H0fn>;3SM000SJ,0*59
!AIVDM,1,1,,B,13mCUL00000qnm@Oo?E=L4fv00S1,0*7F
!AIVDM,1,1,,B,13thlJ0028Pqt0NP45lk=2i00hC@,0*67
!AIVDM,1,1,,A,13u>Ns001S0rGb20von52T1205`T,0*3C
!AIVDM,1,1,,B,13nnm00000qaoTOpMd29VM205`T,0*64
!AIVDM,1,1,,B,13AhH:00000qbf<Oop3eIQ8v00Sm,0*6B
!AIVDM,1,1,,A,13;5Wb0P2A10RRHOV=;3SRlt00SG,0*64
!AIVDM,1,1,,B,13@ndwPPAT0rJkJOicEHUnu40@CW,0*70
!AIVDM,1,1,,A,13@ndwPPAT0rJkJOicEHUnu40@CW,0*73
!AIVDM,1,1,,A,13cT7600230r5OrOnlUeqc=40@Cc,0*6F
```

Fig.2 Eksempel på serie af AIS messages

```

private void DecodeMessage123(string BitsToDecode)
{
    string BitSlice = string.Empty;
    string MessageID = string.Empty;
    string UserID = string.Empty;
    string Latitude = string.Empty;
    int Lat = -1;
    string Longitude = string.Empty;
    int Lon = -1;
    string SOG = string.Empty;
    string TrueHeading = string.Empty;
    string COG = string.Empty;
    string RateOfTurn = string.Empty;
    string NavStatus = string.Empty;
    string PosAccuracy = string.Empty;
    string TimeStamp = string.Empty;
    string RepeatIndicator = string.Empty;
    float tal = 0;
    double dblTal = 0;

    //MessageID
    BitSlice = BitsToDecode.Substring(0, 6); //6
    MessageID = ToDecimal(BitSlice).ToString();

    if (checkBox3.Checked)
    {
        RTB1.SelectionColor = System.Drawing.Color.Green;
        RTB1.SelectedText = "MessageID: " + BitSlice + Environment.NewLine;
        RTB1.SelectionColor = System.Drawing.Color.Blue;
        RTB1.SelectedText = "MessageID: " + MessageID + Environment.NewLine;
        RTB1.SelectedText = new String('-', 42);
    }

    //Navigational Status
    BitSlice = BitsToDecode.Substring(38, 4);

    if (checkBox3.Checked)
    {
        RTB1.SelectionColor = System.Drawing.Color.Green;
        RTB1.SelectedText = "NavStatus: " + BitSlice.ToString() + Environment.NewLine;
    }

    switch (BitSlice)
    {
        case "0000": NavStatus = "(0) under way using engine"; break;
        case "0001": NavStatus = "(1) at anchor"; break;
        case "0010": NavStatus = "(2) not under command"; break;
        case "0011": NavStatus = "(3) restricted manoeuvrability"; break;
        case "0100": NavStatus = "(4) constrained by her draught"; break;
        case "0101": NavStatus = "(5) moored"; break;
        case "0110": NavStatus = "(6) aground"; break;
        case "0111": NavStatus = "(7) engaged in fishing"; break;
        case "1000": NavStatus = "(8) under way sailing"; break;
        case "1001": NavStatus = "(9) reserved for future amendment ..."; break;
        case "1010": NavStatus = "(10) reserved for future amendment ..."; break;
        case "1011": NavStatus = "(11) reserved for future use"; break;
        case "1100": NavStatus = "(12) reserved for future use"; break;
        case "1101": NavStatus = "(13) reserved for future use"; break;
        case "1110": NavStatus = "(14) reserved for future use"; break;
        case "1111": NavStatus = "(15) not used, default"; break;
    }

    ...
    ...
    ...
}

```

Fig.3 Lille bid af AIS view programmet, skrevet i C#