

XDATA Packet Example (PTU + GPS)

Send xdata packets to the iMet as ASCII with MSB-first hexadecimal numbers similar to the following example. Contact Allen Jordan (allen.jordan@noaa.gov) or Emrys Hall (emrys.hall@noaa.gov) to allocate a new instrument id. Every field after the daisy chain index is user data of any length up to the iMet's maximum bandwidth (about 80 bytes/second, aka 160 hex characters/second total for xdata instruments). Transmission is at 3.3v TTL UART levels at 9600 baud, 8 data bits, 1 stop bit, no parity, and (optional) XON/XOFF flow control.

```
xdata=FF01000142A909800B0134A2F71F42C585D2C21A02060A060C<CR><LF>
```

instrument id (your allocated instrument identifier byte)

daisy chain index (always write this as 01, it will be incremented when forwarded down the xdata instrument chain)

pressure [mb * 100]

temperature [deg C * 100]

humidity [% RH * 100]

battery voltage [V * 10]

latitude (decimal degrees, with the 32-bit float converted into 4 bytes)

longitude (decimal degrees, with the 32-bit float converted into 4 bytes)

altitude [m + 5000]

number of sats

gps time [h:m:s, 1 byte for each]

<CR><LF> should be replaced with actual carriage return and line feed ASCII characters to terminate the packet

Assume the following test data:

pressure = 826.01 [mb]

temperature = 24.32 [deg C]

humidity = 28.17 [% RH]

battery voltage = 5.2 [V]

latitude = 39.99183

longitude = -105.26127

altitude = 1658 [m]

number of sats = 6

time = 10:06:12