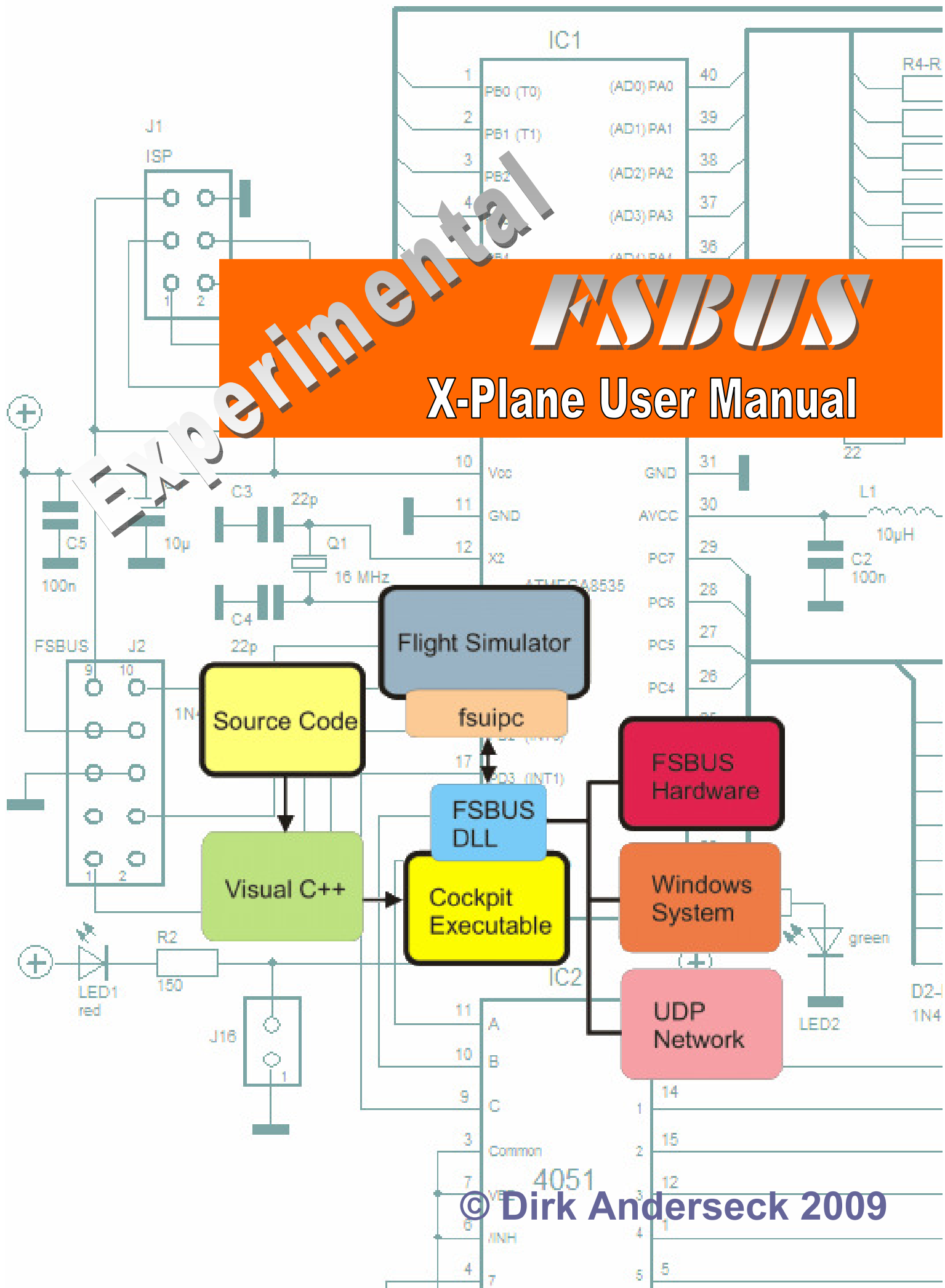


FSBUS

X-Plane User Manual





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UDP support in FSBUS

This chapter is about adding network support to fsbus. With udp you can program access to virtual cockpits, to control something in fsbus and you may read and write to X-Plane.

The services are built around the wsock32.dll. All DLL functions are bound during runtime (late binding). The application interface is at a convenient high level, so you will not have to work directly with the winsock library.

To activate a udp service, you call `MkUdpInterface(...)`. A callback function is performed when data arrives from a network peer.

Before you send data with `UdpSend(...)`, you have to define a destination host/port with `UdpDestination(...)`.

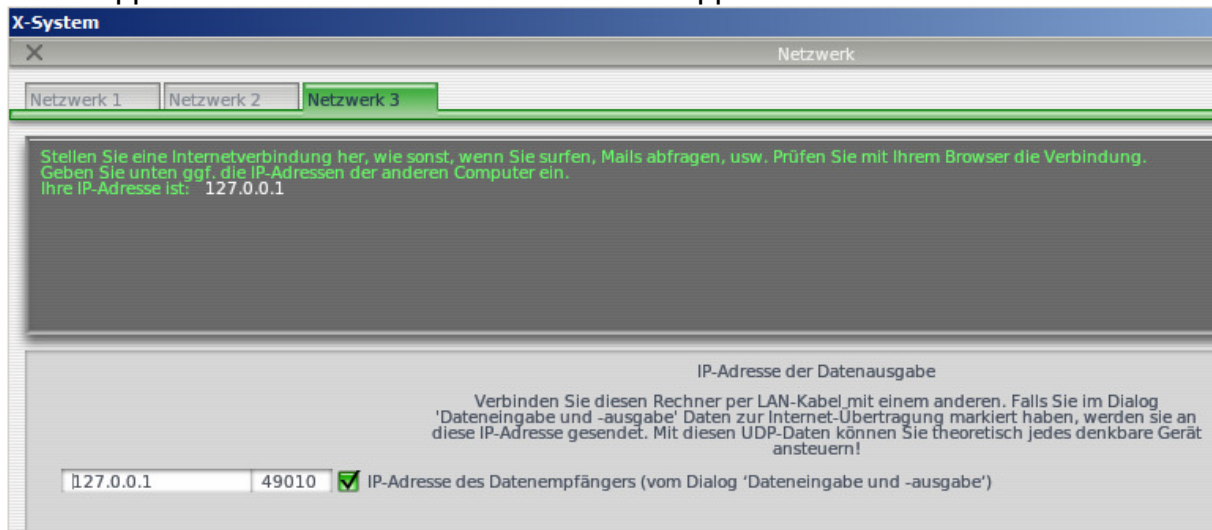
X-Planes udp interface

X-Plane always listens on port udp/49000. If you intend sending UDP data to an application running on the same machine as x-plane itself, then you have to select a different port on which your application will receive data. The IP address where both, X-Plane and your application should send it's data is 127.0.0.1 (localhost).

I have tested the following code with Version 9. In X-Plane, you have to setup the network settings as you can see in the next pictures:



The 2 upper menu items controls the network support of X-Plane.



The network 3 window lets you define a data output to port 49010 on localhost (127.0.0.1).



Here you define the transmitted data items.

```
#include <stdio.h>
#include <tchar.h>

#include "fsbus.h"

void cb (FSUDP* u);

int _tmain(int argc, _TCHAR* argv[])
{
    CheckIn();

    FSUDP* udp1 = MkUdpInterface (UDP_RAW, 49010, cb);
    UdpDestination(udp1, "127.0.0.1", 49000);

    int idx[1] = {0};

    printf ("press any key to exit ...\r\n");

    int count = 1;

    while (!_kbhit())
    {
        FsbuxMux(500);
    }
    CheckOut();
    return 0;
}

//-----
void cb (FSUDP* u)
{
    if (u->rcount > 5 && u->rcount < sizeof(u->rbuf))
    {
        if (memcmp(u->rbuf, "DATA", 4) == 0)
        {
            int idx = *(int *)(&u->rbuf[5]);
            int i = 9;
            int n = 0;
            while (i < u->rcount)
            {
                float f = *(float *)(&u->rbuf[i]);

                if (f != -999.0)
                    printf("IDX: %d Item %d = %f\r\n", idx, n, f);
                n++;
                i += 4;
            }
        }
    }
}
```

The code will receive any datagram received on port 49010. If the datagram contains the constant word "DATA" in the first 4 byte, the index, the item number and item value are shown on screen.



Please note: even if you have a single Windows Laptop with X-Plane and FSBUS running on the same machine, the tcp/ip stack requires at least 1 installed and running network. If there is no network, udp will not send any data.