EZ-232 RS-232 Serial Interface

The EZ-232 Interface, designed by Jim Brain, provides a low-speed serial port for Commodore 8-bit computers. It can operate at speeds of up to 2400bps, when configured as a standard interface, and at speeds of up to 9600bps, when configured as a UP9600 interface.

To reduce the cost of getting the prototype boards made, I decided to not have solder mask applied to the board. This can make soldering tricky, so you may notice a couple stray traces of solder on the board. They won't affect the working of the board. I've gotten pretty good at soldering these, but I'm still human, and the iron doesn't always obey my commands.

I'll first explain the jumpers and switches on this board for those of you who purchased one already assembled.

The jumpers on the board are used to change between 2400bps and 9600bps modes. As the board layout shows, if you short JP1, JP2 and Pins 2-3 of JP3, it'll be configured as a UP9600 interface. Novaterm 9.6 has a serial driver for this interface, and it will allow you to communicate up to 9600BPS on the user port. I usually leave mine jumpered this way, as it still seems to work fine at lower speeds, and with Q-Link at 1200bps. Shorting pins 2-3 of JP3, and unjumpering JP1 and JP2 return it to a standard 2400bps interface.

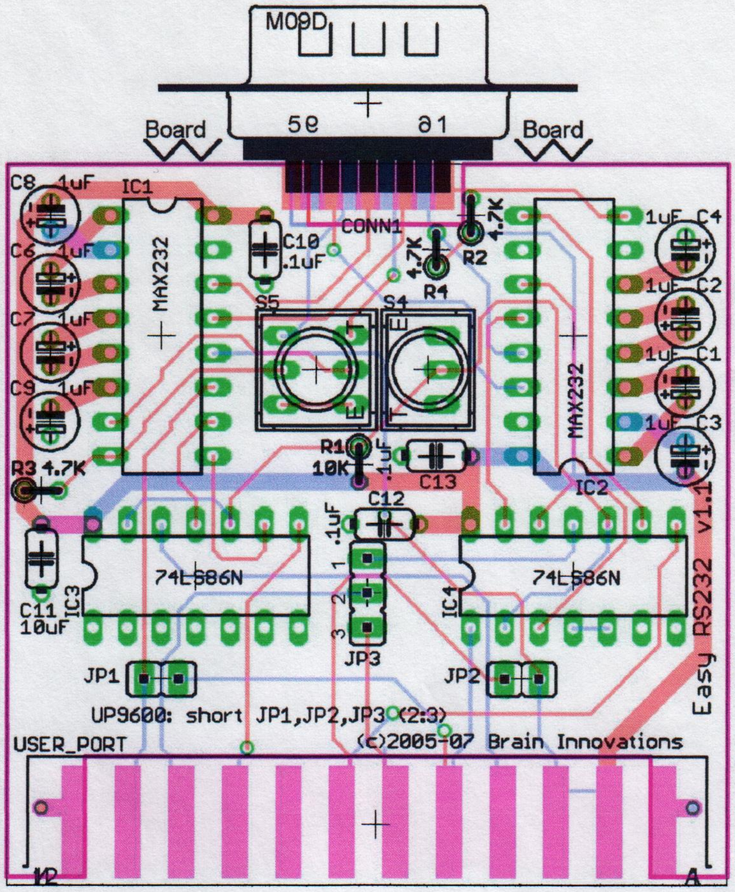
Switch S4 will invert the control lines (DCD and DTR). This is used if you wish to have an inverted carrier detect signal used. Normally this switch is in the off position, towards the DB9.

Switch S5 is the RTS/CTS loopback. If you're using software that requires RTS/CTS handshaking, but the device you're connected to doesn't provide it, then flip this switch to the on position. Normally, you'll leave it off, towards the DB9.

That's about it for using the device, now onto some tips on assembling it yourself!

I'm going to assume you have the proper equipment, and have already honed your soldering skills on other stuff before you've decided to build this. Normally, when I put these together, I start with the sockets. They're all the same height, and you can let the board sit on them while soldering. Next, I tackle the discrete components. You'll notice the solder pads for the capacitors and resistors are quite small. Yea, they're not the easiest things to solder. What I usually do, is apply heat to the lead of the component and then touch the solder to the lead as close to the board as I can. The resistors should all be installed standing straight up. The larger pads for the sockets and jumpers are much easier, as you can heat the pad and the lead at the same time while applying the solder. The last things I solder are the DB9 and edge connector. I generally use more solder on the 4 end pins on the edge connector, as they're on the largest parts of the board and can bear the most load.

Before plugging the interface into the computer, you should do a quick check with a multimeter between pins M and N on the edge connector. Make sure there's not a dead short between those two pins. If there is, check for solder jumping over the void between the solder pad and the ground plane on the board. I have found this can happen quite easily, so it's best to check the board before you apply power to it with your Commodore.



UP9600: short JP1,JP2,JP3 (2:3)

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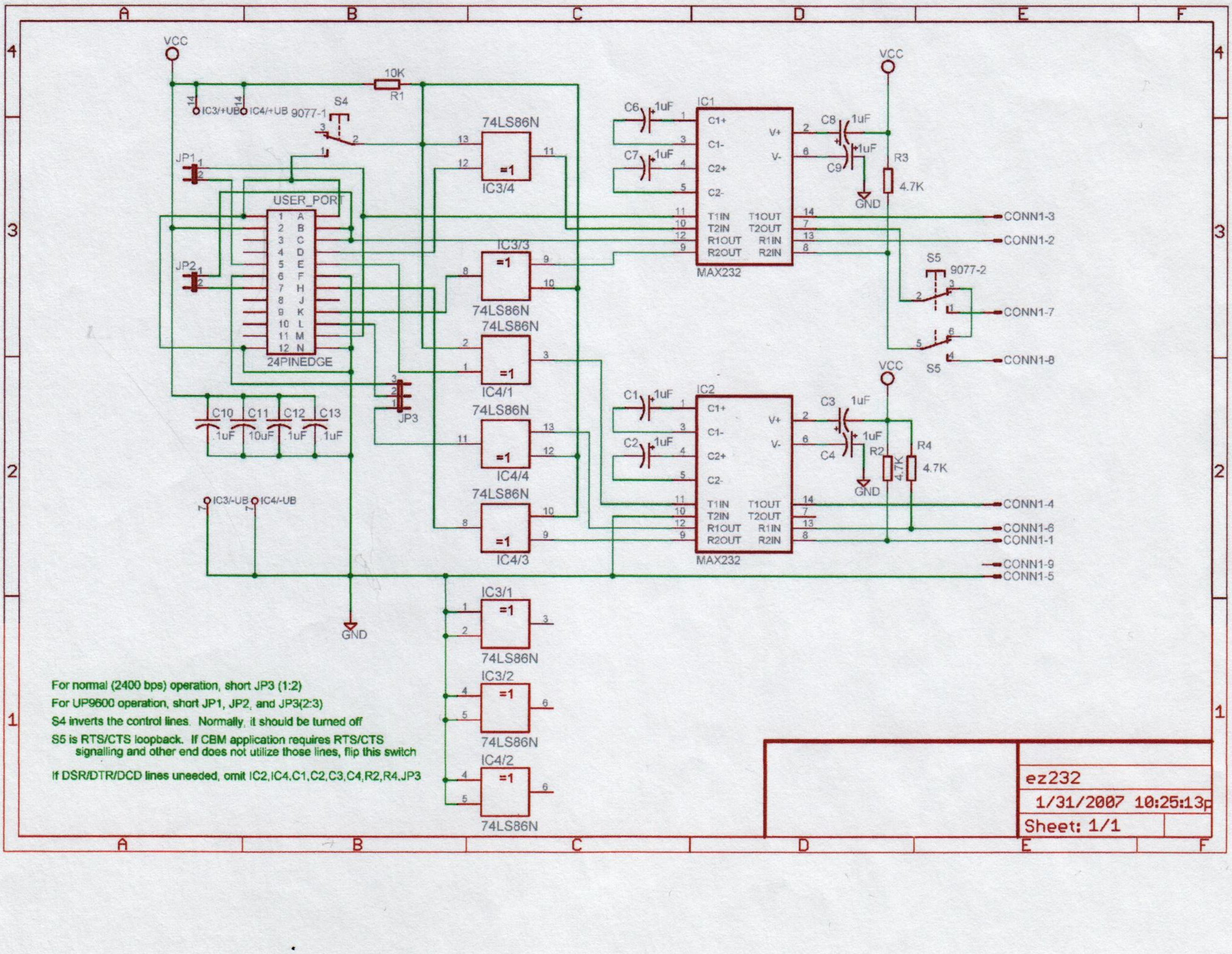
Easy RS232 v1.1



For normal (2400 bps) operation, short JP3 (1:2)

For UP9600 operation, short JP1, JP2, and JP3(2:3)

S4 inverts the control lines. Normally, it should be turned off

S5 is RTS/CTS loopback. If CBM application requires RTS/CTS signalling and other end does not utilize those lines, flip this switch

If DSR/DTR/DCD lines uneeded, omit IC2,IC4,C1,C2,C3,C4,R2,R4,JP3

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Link-232 High Speed RS-232 Serial Interface

The Link-232 Interface, designed by Jim Brain, provides a high-speed serial port for Commodore 8-bit computers. It can operate at speeds of up to 38400bps, and is compatible with all software that can utilize a Dr. Evil Labs or CMD Swiftlink cartridge.

To reduce the cost of getting the prototype boards made, I decided to not have solder mask applied to the board. This can make soldering tricky, so you may notice a couple stray traces of solder on the board. They won't affect the working of the board. I've gotten pretty good at soldering these, but I'm still human, and the iron doesn't always obey my commands.

I'll first explain the jumpers on this board for those of you who purchased one already assembled.

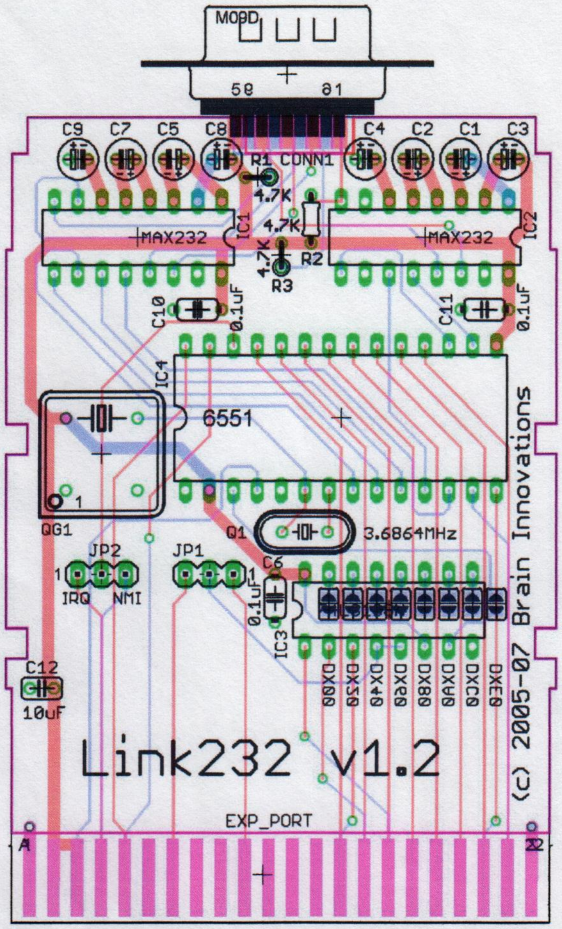
Jumper JP1 on the board is used to change the I/O address from $DE00 to $DF00. Short pins 1-2 for $DF00, and pins 2-3 for $DE00.

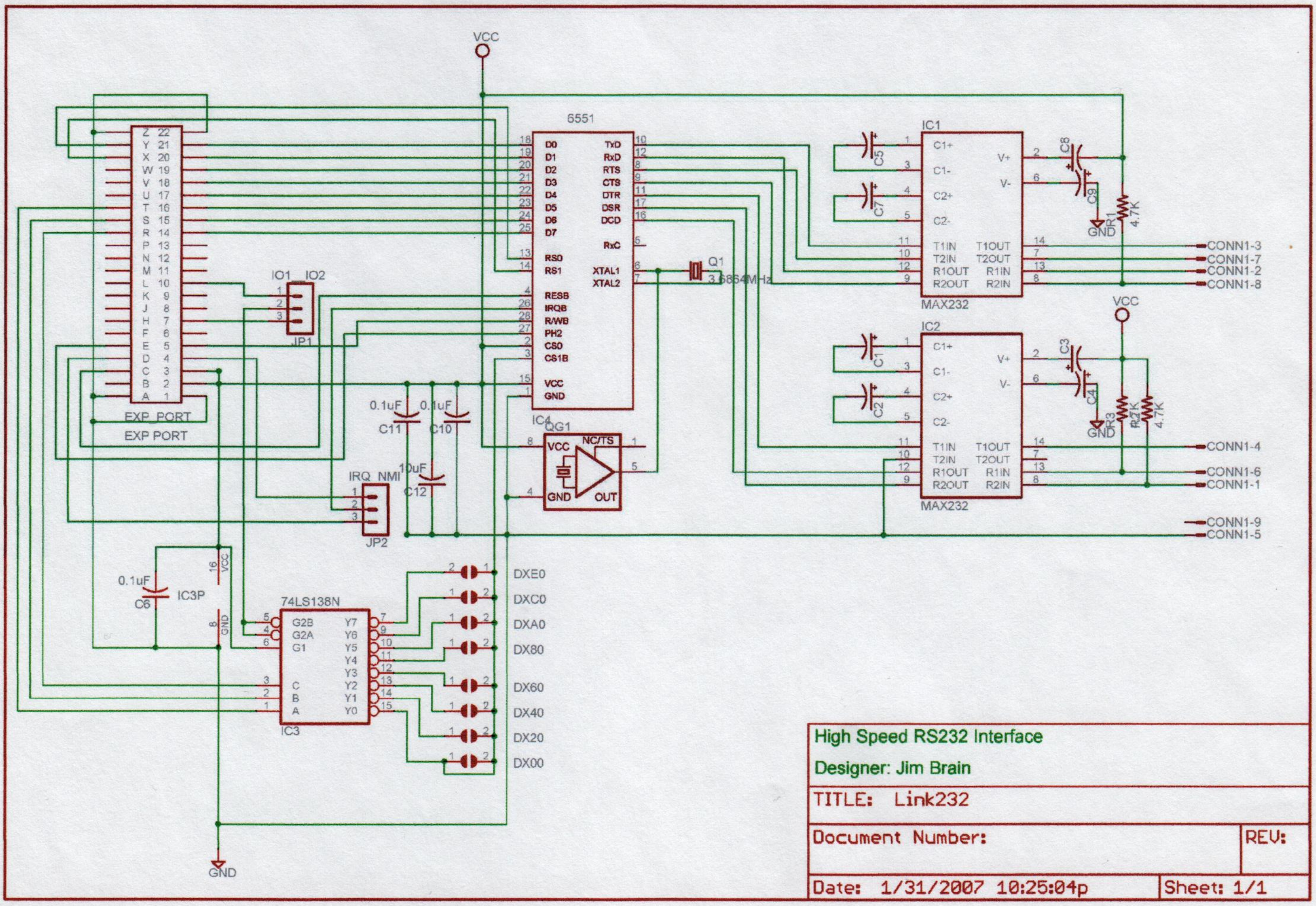
Jumper JP2 changes the ACIA interrupt between NMI and IRQ. Use NMI mode with all Commodore computers in native mode, and IRQ for the C128 in CP/M mode. Shorts pins 1-2 for IRQ, and pins 2-3 for NMI.

That's about it for using the device, now onto some tips on assembling it yourself!

I'm going to assume you have the proper equipment, and have already honed your soldering skills on other stuff before you've decided to build this. Normally, when I put these together, I start with the sockets. They're all the same height, and you can let the board sit on them while soldering. Next, I solder on the DB9 connector, as a couple of the 1uF capacitors obscure pins 1 and 5 on the DB9. Then, I tackle the discrete components. You'll notice the solder pads for the capacitors, resistors and crystal are quite small. Yea, they're not the easiest things to solder. What I usually do, is apply heat to the lead of the component and then touch the solder to the lead as close to the board as I can. The resistors should all be installed standing straight up. The larger pads for the sockets and jumpers are much easier, as you can heat the pad and the lead at the same time while applying the solder.

Before plugging the interface into the computer, you should do a quick check with a multimeter between pins 1 and 2/3 on the edge connector. Make sure there's not a dead short between those two pins. If there is, check for solder jumping over the void between the solder pad and the ground plane on the board. I have found this can happen quite easily, so it's best to check the board before you apply power to it with your Commodore.





High Speed RS232 Interface

Designer: Jim Brain

TITLE: Link232

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