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ACT-IR910SW IrDA Protocol Recording/Analysis Software

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Important Notice

1) You must read the readme.txt carefully before you start use it.

If you were not, you would lose some information. Missing any

You will need a real DOS system with at least one free COM port.

information will make it difficult to analyze IrDA protocol traffic.

2) You will need a real DOS system (not emulated DOS under Windows)

with at least one free COM port.

IR910SW records IrDA protocol conversation from 9.6K to 115.2 Kbps.

It works together with ACTiSYS IrDA PC RS232 Dual head adapter, IR910D.

You will need a real DOS system with at least one free COM port.

It does not decode OBEX or any other layers above IrLMP.

But all the information are preserved for you to read. Please see

the sample output LOG_LMP.TXT attached.

This sample is an OBEX session.

Timing information down to byte level are shown in the

LOG_PHY.TXT output file. Please see the sample file attached.

This is a three-step process. Step one is to record the IrDA traffic. Step two is to translate the

recorded data to text files. And step three is to view the text files.

(I) Recording Data

Run either "COM_1.EXE" with IR910D at COM1, or "COM_2.EXE" with IR220L+ at COM2.

You need to run under real DOS, not emulated DOS under Windows.

The Primary, the Secondary, and IR910D should be placed very close to each other and all facing the same direction. Place a white paper in front of all three about 10 cm away. This way all three can see each other by reflection. Make sure IR910D can hear both both device's talks.

The recorded data is written into a binary file LOG_RAW.BIN.

If you want to keep it, you need to rename it (or copy it) to a different file name. Otherwise, it will be replaced when you run this program again.

This file can be analyzed and translated into text files.

Note: Each byte of IrDA signal resulted in three bytes in the LOG_RAW.BIN file. The first byte is the IrDA signal itself (as received by IR910D). The next two bytes is the 16-bit integer representing the time interval between this IrDA byte and the previous one. The unit of time is 43.58 usec.

(II) Translate To Text Files

Run "XLATE.EXE" to translate LOG_RAW.BIN into LOG_PHY.TXT, LOG_PHY.TXT and LOG_LMP.TXT files.

(III) Viewing The Text Files

You may use any editor or word processor to view the ASCII text files generated.

These text files are almost self-explanatory.

But be aware of the following:

a) LOG_PHY.TXT also include timing information. However, if the warning message "Wrong_timing_info!!!" shows up anywhere, the timing information of the entire file is invalid and should all be ignored. This is usually caused by running DOS under Windows.

b) In LOG_PHY.TXT, the "#_usec" shows the time interval between the EOF of last frame and first byte of this frame.

c) In LOG_PHY.TXT, the word "Gaps!!!" indicates that gaps between consecutive bytes within this frame have been detected. These gaps are displayed with a special 3-digit code underneath the hex representation of such a byte and the ASCII representation is not shown for this byte. This 3-digit code shows the duration of the gap in number of microseconds in a fashion similar to the way values of resisters and capacitors are shown. The third digit means how many extra zeros need to be added after the first two digits. Thus:

500 means 50 usec

351 means 350 usec

402 means 4000 usec

123 means 12000 usec

etc.

d) Last but not least, the frame_# is an arbitrary sequential number assigned to each frame. All three text files share the same sequence so that you can use it to cross reference them.

## (IV) Example Using Device Embedded with IrDA Protocol IC, ACT-IR8200L:

a) The first IR traffic record:

   1. Run COM_12.exe (COM_1.exe or COM_2.exe).

   2. Turn on the Device A and IR8200L.

   3. Active IR service program under Device A.

   4. You can see "……." Or "……**********" on the DOS screen.

   5. Stop listening program, the program will generate a BIN file (LOG_RAW.BIN).

   6. Rename LOG_RAW.BIN to REC1.BIN

| HP Jornada (Device A) | < IR link > | IR8200L |

ACT IR910D1   ACT IR910D2
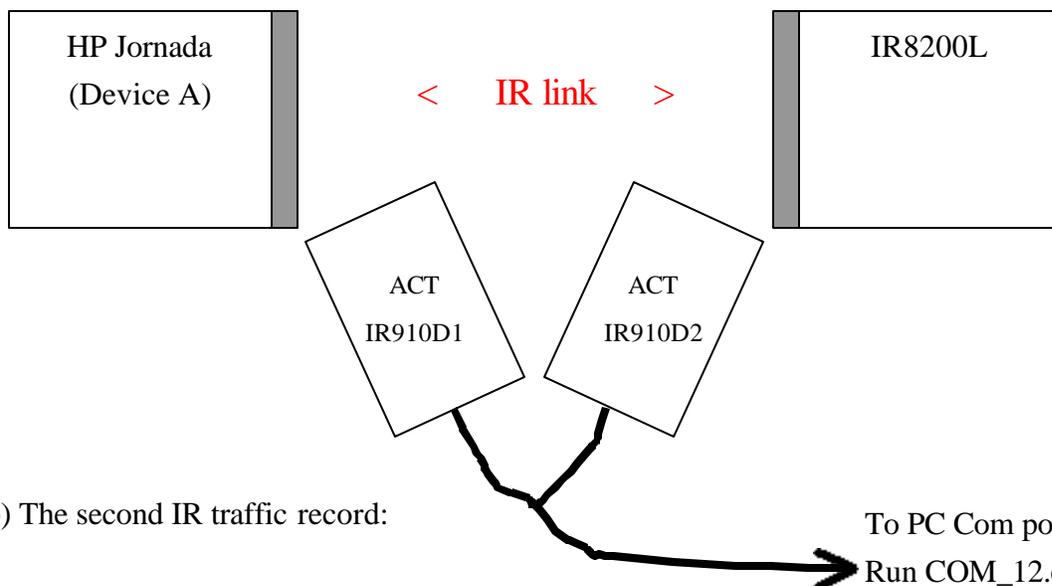
b) The second IR traffic record:

To PC Com port
Run COM_12.exe

1) Keeping IR8200L power on.

2) Run COM_12.exe

3) Turn on the Device B and then active IR service program.

4) You can see "……**********" on the DOS screen.

5) Stop listening program, the program will generate a BIN file (LOG_RAW.BIN).

6) Rename LOG_RAW.BIN to REC2.BIN
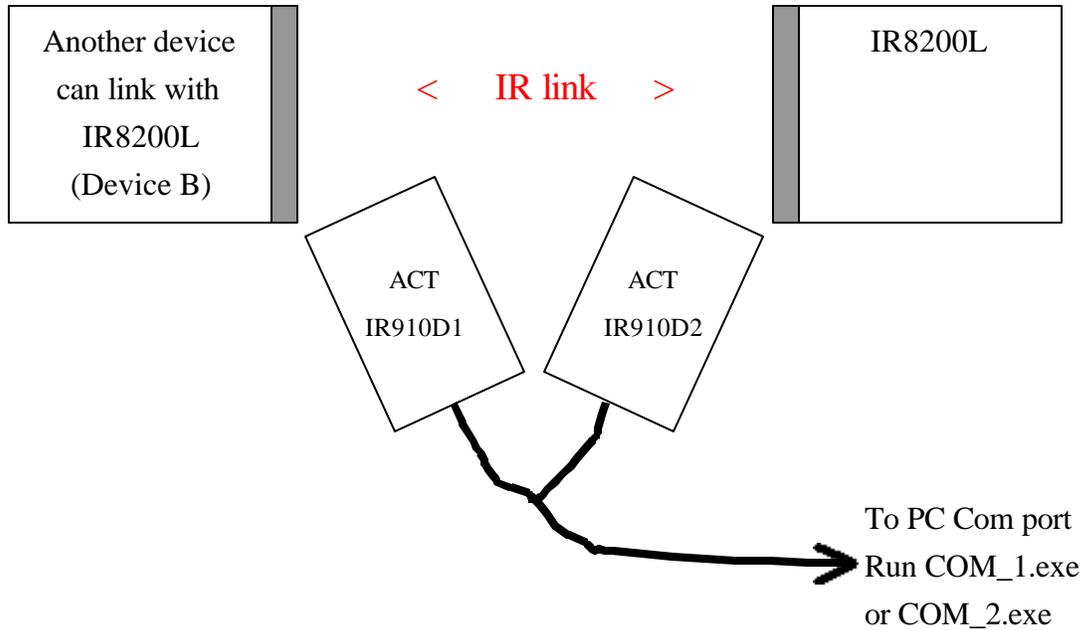
c) The third IR traffic record:

   1) Keeping IR8200L power on.

   2) Run COM_12.exe

   3) Remove Device B and then place Device A (HP Jornada).

   4) Active IR service program under Device A.

   5) You can see "……**********" on the DOS screen.

   6) Stop listening program, the program will generate a BIN file (LOG_RAW.BIN).

   7) Rename LOG_RAW.BIN to REC3.BIN

==================== END ==================