WINDOWS TSR-TU3A Vn 4.2

DENSO INTERNATIONAL AUSTRALIA
BHT TRANSFER UTILITY

INTRODUCTION

This utility operates in Windows 95/98/2000/NT/XP. It operates like a TSR(Terminate and Stay Resident) program - having the ability to run in the background whilst other applications run in the foreground. As soon as a BHT Portable Barcode Reader, connected to the host serial port, establishes communications, the Transfer Utility responds and uploads/downloads the file. The key difference that this utility has against other transfer utilities is that one doesn't need to interact to run and configure the utility. A user may use there own application to call this utility without the need of button-clicking normally associated with Windows transfer utilities. Hence, the utility is essentially transparent to the user.

New features:

- CONFIG Window for easy set up
- Improved data recovery
- Baud rates up to 115,200 bps
- IR Protocol compatible
- IR/BHT protocol auto detect
- Infra-red adaptor(JET-EYE) compatible
- Full compatibility with Windows NT
- Command line entry execution
- Batch transmission
- Application call upon termination
- **File up load 'Append' mode** ———— **New version 4.2 feature**

Alternative Products:

TSR-TU3a.DLL   **Developers DLL of this transfer utility for integration into custom host computer applications such as Visual Basic, Visual C, Microsoft Access and Microsoft Excel**

1. GENERAL OPERATION

As soon as the application is ran, the utility looks at a configuration file to determine whether an upload or download is requested. (This file contains other parameters detailed below.) The user can minimise the window at any time. There are 3 buttons.

Reset - This allows the user to intervene and re-start the utility in the event of an irrecoverable communications failure

Config - This allows the user to manually configure the utility

EXIT - This simply allows the user to manually exit the program at any time

It will automatically be in send/receive mode depending on what is specified in CONFIG.TXT., otherwise the user will be brought to the CONFIG window. The utility will also determine what protocol is required. When transferring, a gauge reading shows the user how far the transfer has progressed.

2.   CONFIGURATION

All configuration settings are stored in a file which should be placed in the same path as the installed utility application. The file is called CONFIG.TXT. If the utility is run without such a file, then it will immediately request that you enter some valid settings so that it may create the file. This occurs in the CONFIG Window set up explained further on.

<u>Editing CONFIG.TXT to configure TSR-TU3A :</u>

On the first line of the file, the communication settings should be entered.

E.g.   com2:19200,n,8,1

The second line may start with a 'j' to indicate whether or not the infra-red adaptor will be used (JET-EYE).

This is followed by either c or n which means :

c   This tells the utility to re-run itself when an up load is complete
n   This tells the utility to terminate when an up load is complete

Optionally, the @ symbol may be added also after the 'n' or 'c' to indicate 'Append' mode. Append mode simply appends incoming data files to the one already existing/previously up loaded on the PC .

Finally, a path/file may be entered at the end to indicate where to write the file and what to call it. (Receive mode only)

E.g. Receive a file from the scanner using communications port 3, a baud rate of 115,200 bps, n,8,1, the infra-red adaptor and place it in the path d:\files. Enable auto repeat.

CONFIG.TXT should contain the following:

com3:115200,n,8,1
jc d:\files\   ← NOTE: To indicate a path rather than a file, append a \, as shown

Alternatively, if receiving a file to be renamed prog.pd3 in the path d:\files :

com3:115200,n,8,1
jc d:\files\ prog.pd3

If sending a file(prog.pd3), then a third line should be added to specify the file type, the path and file name of the file to be sent.

com3:115200,n,8,1
jc
Pc:\bht\prog.pd3

↑

First character of the third line should contain one of the following to indicate file type.
(P - Program File, D - Data file, F - Function file)

NOTE : Jet-Eye infra red adaptor supports 19200 and 115200 bps only.
If a data file is sent then the field lengths must be specified if no FLD file exists.
(An FLD file exists only if the file has been up loaded previously using TSR-TU3A)

com3:115200,n,8,1
jc
Dc:\bht\data.txt|12,15,1

If FLD file exists then simply:

com3:115200,n,8,1
jc
Dc:\bht\data.txt

Using command line parameters to configure TSR-TU3A :

A user may call TSR-TU3A using command line parameters. The command line parameters entered will automatically configure TSR-TU3A and adjust the CONFIG.TXT file.

The parameter requirements are very similar to that when editing the CONFIG.TXT file.

Tsr-tu3a	**<COMMS>**	**<JETEYE>**	**<REPEAT>**	**<APPEND>**	**<PATH/FILE>**

E.g. Receive a file from the scanner using communications port 3, a baud rate of 115200 bps, n,8,1, the infra-red adaptor and place it in the path d:\files. Enable auto repeat.

Enter the following: *tsr-tu3a com3:115200,n,8,1 jc d:\files*

E.g 2. Receive a file from the scanner using communications port 3, a baud rate of 115200 bps, n,8,1, the infra-red adaptor and place it in the path d:\files**. Enable auto repeat, and 'Append' mode :** *tsr-tu3a com3:115200,n,8,1 jc@ d:\files*

If sending a file (prog.pd3), then the appropriate parameter should be added to specify the file type, the path and file name of the file to be sent :

tsr-tu3a com3:115200,n,8,1 jc pd:\files\prog.pd3

If a data file is sent then the field lengths must be specified if no FLD file exists.
(An FLD file exists only if the file has been up loaded previously using TSR-TU3A :
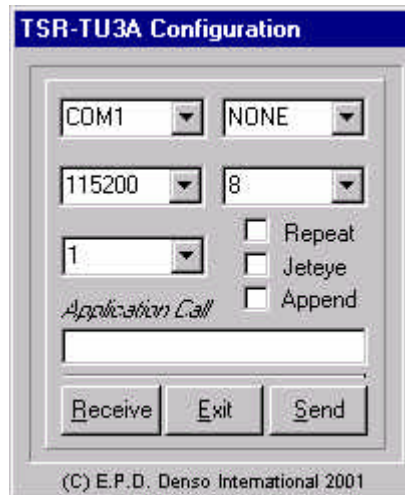This is done using the /f parameter:

tsr-tu3a com3:115200,n,8,1 jc Dc:\bht\data.txt /f12,15,1

or if the FLD file exists :   *tsr-tu3a com3:115200,n,8,1 jc Dc:\bht\data.txt*

NOTE Jet-Eye infra red adaptor supports 19200 and 115200 bps only.
Using the CONFIG window to configure TSR-TU3A
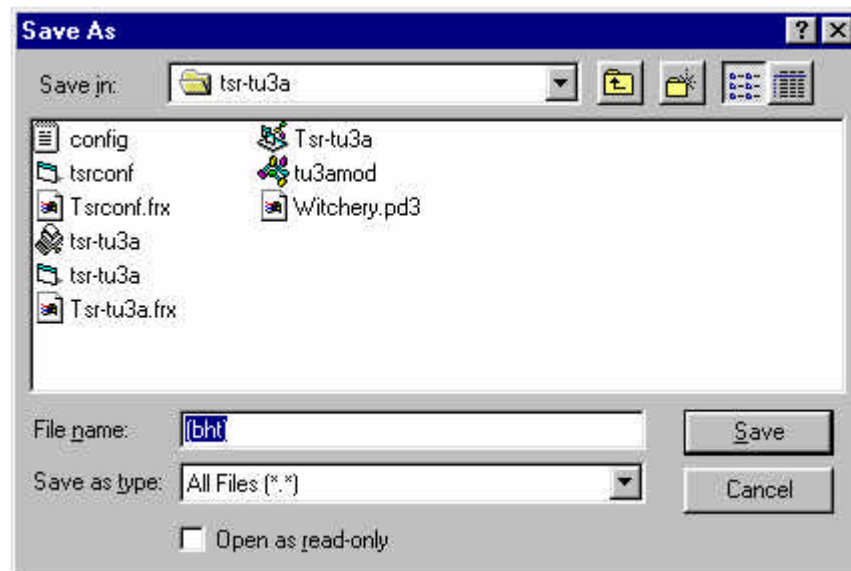
Click Config.

Simply select the desired :

- Communications Port
- Baud rate
- Parity   ← BHT Protocol only
- Data bits   ← BHT Protocol only
- Stop bits   ← BHT Protocol only
- Repeat function
- Interface (Infra-red adaptor)
- **Append mode**

Then click the desired transfer direction (Send/Recieve).

And enter a path/file. If receiving a file (bht) is the file name which should be specified. This is usually displayed by default.

3. BATCH TRANSMISSION

TSR-TU3A supports batch transmission. It can send and receive a group of files in one session. For example a user may want to send a program file to the scanner followed by a couple of data files and finally receive a few data files back. This can be done by simply setting up a special file which directs the utility to carry out the sequence. The file must be called "__list.lst" (ie underscore,underscore list.lst), and then should be set in CONFIG.TXT as a send file with no specified file type. The format for "__list.lst" is as follows:

Direction parameter	File type (file send only)	Path	Field lengths (file send only)
r - receive a file	p - program file		Only if FLD does not exist
s - send a file	d - data file		

E.g. A batch transfer may require the following:

Send "PROG.PD3"   (Path - "c:\profiles")
Send "DATA.TXT"   (Path - "c:\profiles", field lengths - 10,13,12)
Send "LOOKUP.TXT"   (Path = c:\progfiles", field lengths - 22,22,3)
Receive "RESULTS.TXT"   (Path = "c:\results")

"__list.lst" should contain the following:

```
spc:\progfiles\prog.pd3
sdc:\progfiles\data.txt|10,13,12
sdc:\progfiles\lookup.txt|22,22,
3
rc:\results\
```

and CONFIG.TXT should be set up as follows :

```
comu:vvvvvv,w,x,y
zz
<path>\__list.lst
```

,where u,v,w,x,y,z are the appropriate parameters for comms etc. <path> is simply the path where "__list.lst" exists. The setup of config.txt file can be done using any of three methods outlined before (config.txt edit, config windows or command line). The command line would be as follows :

tsr-tu3a comu:vvvvvv,w,x,y zz <path>__list.lst

4. APPLICATION CALL UPON TERMINATION

TSR-TU3A can automatically execute an application when itself terminates. The full path and name of file should be specified and placed at the end of the CONFIG.TXT file (line 4), preceded with the "/ac" parameter:

```
comu:vvvvvv,w,x,y
zzz
<path><file>
/ac<path><Application name>
```
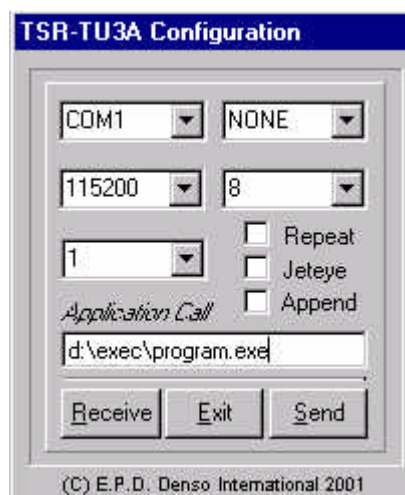
To specify this call using command line parameters simply add it to the very end of the line, prefixed by /ac.
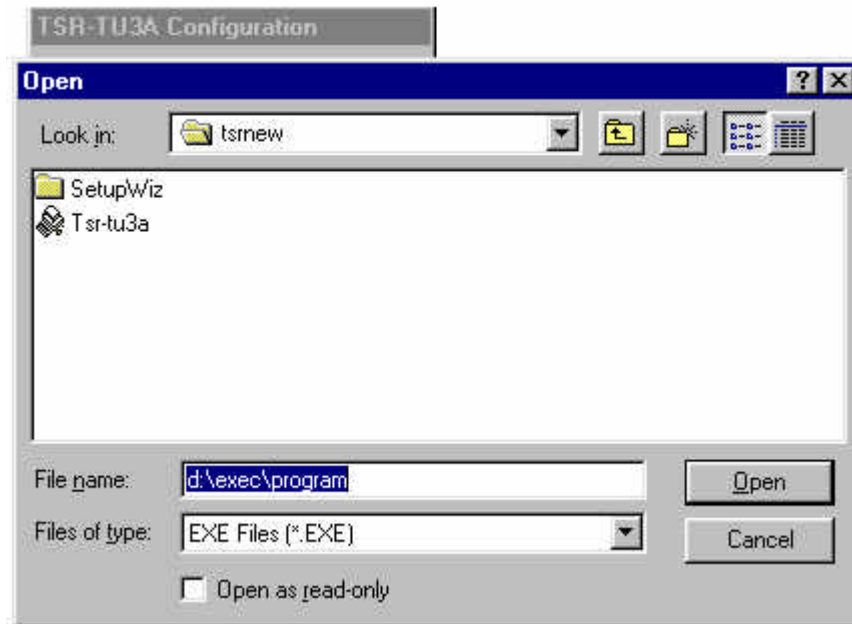
E.g.: ⇓

*tsr-tu3a com2:19200,n,8,1 jc Dc:\files\ /ac**d:\exec\program.exe***

Alternatively, the file to be executed may entered in the config window :

The file program.exe and its path are simply entered in the *Application Call* text box.

Or the user may double click this box to search for the file/path.

5. PROTOCOL

TSR-TU3A is compatible with both protocols used in the DENSO portable range of bar code readers. The most common protocol used is simply called the BHT protocol. Recently introduced is the IR (Infra-red) protocol which includes improved error correction. TSR-TU3A can automatically detect which protocol the scanner is set to when sending and receiving files. An *IR* indicator will be displayed if the IR protocol is being used. It should be noted that the IR protocol is designed to run efficiently in WIN95. It may run erratically in WIN3.1/WINNT. If this is so select the BHT protocol instead.
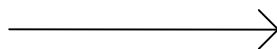
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