Service manual for the communications program TransDNC in WIN95/98/NT

Installation

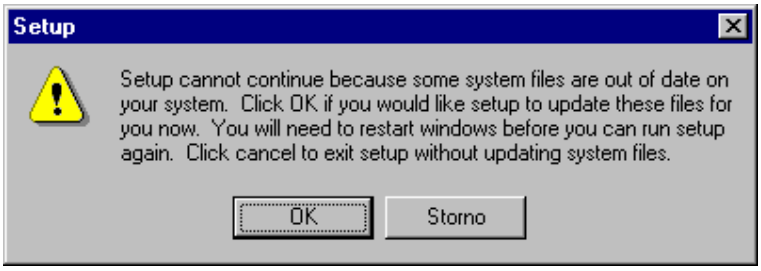
Installation is carried out in the standard way, by executing SETUP.EXE from installation disk 1. During the installation, the following messages may appear:

„Copying initialization files …	Kopíruje inicializační soubory …
(These files will be removed if setup is cancelled)	(Soubory budou odstraněny, pokud bude instalace přerušena)
Please insert the disk labeled: „Disk 2„ into drive A:\	Vložte instalační disk č.2
TransDNC Setup Welcome to the TransDNC installation program Setup cannot install system files or update shared files if they are in use. Before proceeding, we recommend that you close any applications you may be running	TransDNC Setup Instalační program TransDNC Vás vítá Setup nemůže instalovat systémové soubory nebo obnovit sdílené soubory, jestliže jsou používány. Před pokračováním doporučujeme uzavřít všechny ostatní aplikace.
Begin the installation by clicking the button below	Začátek instalace stiskem tlačítka dole
Click this button to install TransDNC software to the specified destination directory	Stiskněte toto tlačítko pro instalaci softwaru do specifikovaného adresáře
Directory: C:\Program Files\TransDNC\	Adresář C:\Program Files\TransDNC\
Change Directory	Změna adresáře
TransDNC Setup was completed successfully	SETUP byl úspěšně ukončen

As long as we agree to the offer, the program is installed in the directory Program Files\TransDNC.
A shotcut icon called TRANSDNC is created in the start menu.

Note.:

Program TransDNC uses system applications which may already be out of date on your computer. If this is the case, the following dialogue window will appear.



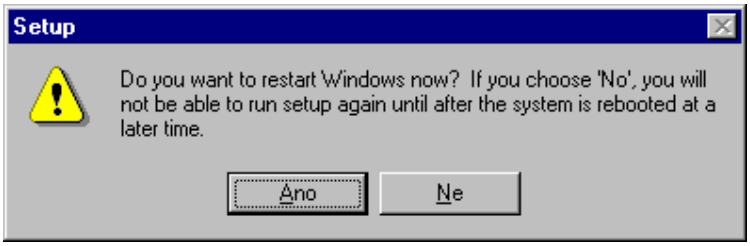
STORNO = CANCEL in Czech

We click OK and YES (ANO in Czech) to confirm our choice. copying from disk 2 is complete, installation restarts.

ANO=YES IN CZECH

NE=NO IN CZECH

Starting the Program



The Program can be executed from the start menu. Start > Programs > TransDNC, or we can create an icon on the desktop.
In a moment, a window appears, which after a while disappears to the bottom list. An icon for TransDNC is created. (illustration 2).

Obr.1

When we double click on this icon with the mouse, the window shown in illustration 2. appears again.
If we check the box "start when executed" ("Pří spuštění" in Czech), the communication appears automatically as soon as the program is started, as long as the TransDNC icon (ill. 1) is in the bottom part. This case applies to the programs whose transfer is controlled by TRANS keyboard. If the box isn't checked, the communication starts once "Spustit" ("execute") is chosen (See picture 2). The main window of the line appears as shown in picture 3. If the box left of the name of the line is checked (communication which has already been activated) and we want to show the window of the corresponding line, all we need to do is choose "Zobrazit" (View) (see illustration 2). During the first execution after installation, we select "Spustit".

Note: Checking the box "Při spuštění" ("start when executed") is not recommended before configuration and network operation has been verified.

For switching on the line, highlight it with the mouse (without checking the box to the left of the line text. It appears automatically when the line is switched on.) and click "Spustit"(Execute). The choice "Vypnout" (shut down) is used for getting out of the selection. The choice "Skryt" (Hide) is used for hiding the window for the line, without interrupting the communication

Illustration 2

Structure of directories in the DNC network

When working with DNC, there are two types of programs, known as **source** formats and **machine** formats. The **source** format is a partprogram created by a technologist (either by hand, or automatically by the programming system). This partprogram exists in text form, meaning it can be read by a person. The **machine** format (also machine code) is a partprogram which results from the conversion of source code. The machine format is not easy for a person to read. It needs to be "read" by a control system. The machine format of the program is, for example, in ISO code, EIA code or tape recorder code. For an overview, it is recommended to create a directory structure in the computer that separates source formats of partprograms from machine codes.

We are including an example of possible structure for directories in six machines, which we are going to call up in this manual. Some machines will be the same, and will therefore use the same partprograms. This will specifically involve three **WHN13** machines, two **FSQD** machines and one **VXR5** machine.

The source partprograms (in text form, readable) will be created and kept by the technologist in the directory **PARTPROG** in subdirectories which will be named according to the corresponding machines:

C:\PARTPROG\WHN13
\FSQD
\VXR5

For machine formats (machine codes) of partprograms, the structure in the directory **STROJ** is created as shown

C:\STROJ\WHN13
\FSQD
\VXR5

The names of subdirectories can be the same for both the source and the machine formats.

Note:
Alpha numeric names of files containing partprograms cannot have more than eight characters, like their DOS names.
Long "Windows" names cannot be used, because they would not be big enough to fit on the TRANS. If older types of TRANS are used with 5 character keyboards, the name for a partprogram may only be five digits.

Inportant notice

The structure of the directories must be created before the configuration of the TransDNC program is done. Because of the compatibility with older versions, the names for directories may have no more than 8 characters each. (This applies for version TransDNC 1.20)

Line window of the DNC network

The window of the line in the DNC network is intended mainly for control of transfers in the net, starting configuration dialogues and other functions of the program TransDNC. The window is shown in illustration 3. Contol using a scrolling menu or icon is compatible with the windows standard.

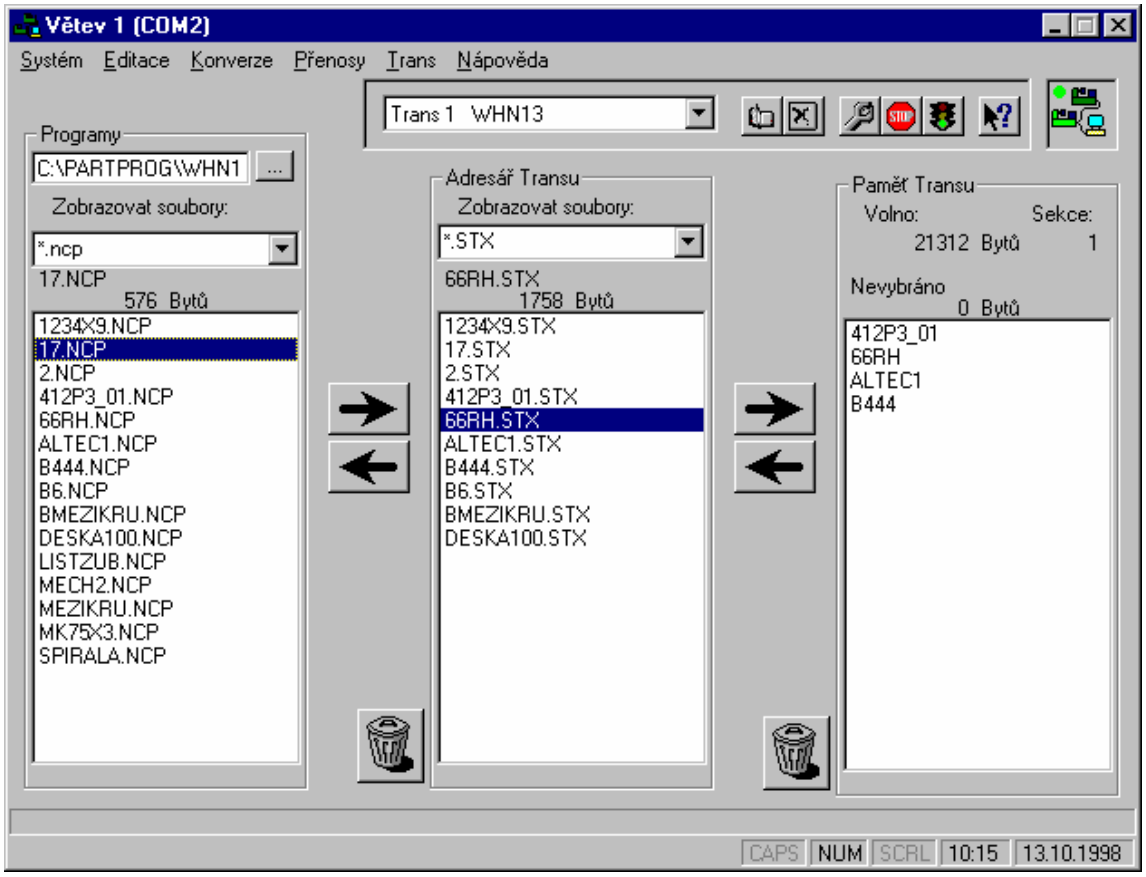


Illustration 3

Illustration 3 shows the window of line 1 for the DNC network. In the top center, Trans 1 (connection to one of the WHN 13 machines) is selected. In the left part of the window under "Programy" (Programs) there is a view of source files for the WHN13 machine which is located in the directory C:\PARTPROG\WHN13. These can have extensions such as NCP or TXT, or others can be randomly selected. For viewing, the corresponding filter *.NCP, *.TXT, *.* or another is in use. Files shown in this window can be edited with a Windows editor such as **Notepad,** chosen from the menu **Edit** or by double clicking the mouse on the selected file. The directory for selected programs is together with the TRANS selection, so when choosing a different TRANS the corresponding source directory is also switched. **The partprograms cannot be deleted** from the source directory in the TransDNC program environment.

In the middle of the Trans directory area (Illustration 3), converted partprograms are shown for specific machine codes (ISO, EIA etc.).

Programs are converted to their corresponding codes based on the set configuration (see further) by labeling them in the left space and using the right arrow (in the direction source format > machine format). The arrow to the left < on the other hand converts the machine form files back to text firnat. During conversion, files are copied between directories. When using the arrow on the right, a dialogue window appears (see illustration 4). In the area **File name** the selection is shown. If we overwrite the name, it is saved to the source directory with its new name. (If more source programs have been marked, it is here as *, which cannot be changed. These marked programs will be written to the machine directory with original names.) The **file type**, and also its extension can also be changed. If no conversions are to be done even if the configuration is set for them, the box for **no conversion** is to be checked. This can occur if we want to place binary (system) files in the directory and give them an extension such as SDG.

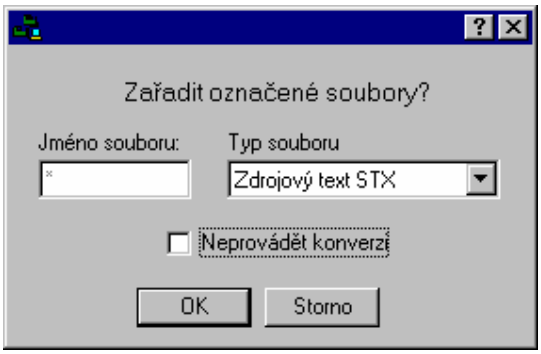


Illustration 4

TRANS memory in the right part of the window (illustration 3) shows a list of partprograms for the TRANS selected. Transfers between the directory for the selected machine and the TRANS are controlled with the arrows to the right and to the left between the middle and right windows. During these transfers, no more conversions are done. For transfers between the directory and the source partprograms, the machine directory and the TRANS, an extension system is implemented, in order to differentiate between the files originally created by a technologist and files changed on the machine and sent to the computer for archiving. (This only applies to CNC systems.) During copying and conversion from the directories of source programs to directories with machine codes, the program is given the extension *.STX (unless explicitly changed). During transfers from the TRANs to the directory with the machine codes, the program is given the extension *.WTX. Therefore, two files with the same name can appear in machine form, but with different extensions depending on where they came from.

Note.:
*If we don't require these differences, it is possible to use the same extension for both files, for instance *.STX.*

With the **trash,** we can delete the highlighted partprograms in the TRANS (the trash located in the "TRANS memory" area). For conversion, transfers and deletions, the task selected is done for all **highlighted** files.

Configuration of DNC line

During the first run, the configuration needs to be set. The configuration window will appear when **Network System configuration** is chosen, or by clicking o the **configuration icon** (a key symbol).
A window appears as shown in illustration 5.

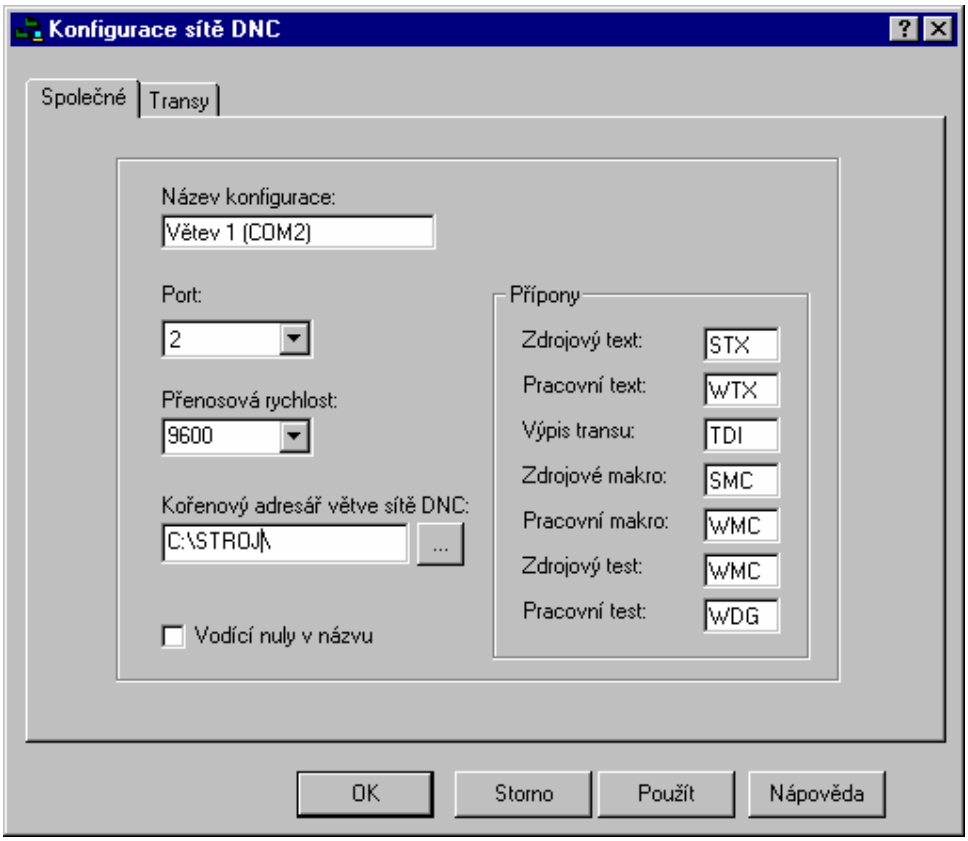


Illustration .5

Since the DNC network may not work right if the configuration is bad, the following warning also appears befor it is displayed.

Attention: wrong configuration settings can cause problems during use of the DNC network!

YES is selected to continue.

The **common part** for all the one-line TRANS units is configured one way, and then individual TRANS units in the combined part are configured in the following way. (See Ilustration 5)

Common configuration

Configuration name – This is only for information and appears when the network is activated from the window (Illustration 2) and window title of the corresponding line for the DNC network (Illustration 3). Implicit texts "Line 1" (respectively "Line 2" ...) can be changed, for example "(COM2) adjustments" if only one kind of machine is connected to the entire link, in this case adjustments. It is recommended to include the Label of the serial port (COM) with the text, especially for diagnostic purposes.

Port – This idicates use of the serial port (1 = COM1, 2 = COM2 etc.) This can be changed only if communication is interrupted. We stop communication by using the STOP icon in the window for the corresponding line before configuration dialogue. If the communication is activated, the change is blocked.

Baud rate - The exact transfer speed is selected from the menu 110,300,1200,2400,4800, 9600, 14400, 19200, 28800, 38400 Bd. For TRANS units, the maximum speed allowed is 9600Bd. If there aren't any communication problems, using this speed has advantages.

The root directory for the line in the DNC network – The entire path from the root directory, where the folders with machine code files or partprograms are found. In our example, we use C:\MACHINE\. Don't forget the backslash at the end of the path. For folder selection, it is possible to use the button on the right labeled with three dots. After clicking on it, a dialogue appears which asks that a folder be selected.

Leading zeros in the name – This is shown only for the compatibility of older types of TRANS. In some cases, it was necessary to keep the original zeros in the filename. With TRANS version 7.9, it has no significance (as long as they aren't configured for compatibility with older TRANS units.)

Extensions - Implicitly, the following extensions are used which can appear in folders with machine code partprograms. The extensions can be changed if needed, but such changes don't have any practical meaning, except if we choose the same extension for transfer from TRANS (instead of WTX, we choose STX).

STX a file extension for conversion from source form to machine code.

WTX a file extension for partprogram transfer from TRANS to directories on specific machines.

The additional extensions SMC, WMC, SDG and WDG are special and are used for things such as transfers of system files to control systems. A description can be found in the manual for TRANS. The extension TDI is for temporary work, and is meaningless for the user.

TRANS unit configuration

On one line, 10 TRANS units can be connected. For every TRANS, configuration must be given which provides support in the entered directory for machine code and prefixes for partprogram names. in the entered directory, an indication that TRANS is online and and indication of input and output conversion. The TRANS configuration window is shown in illustration 6.

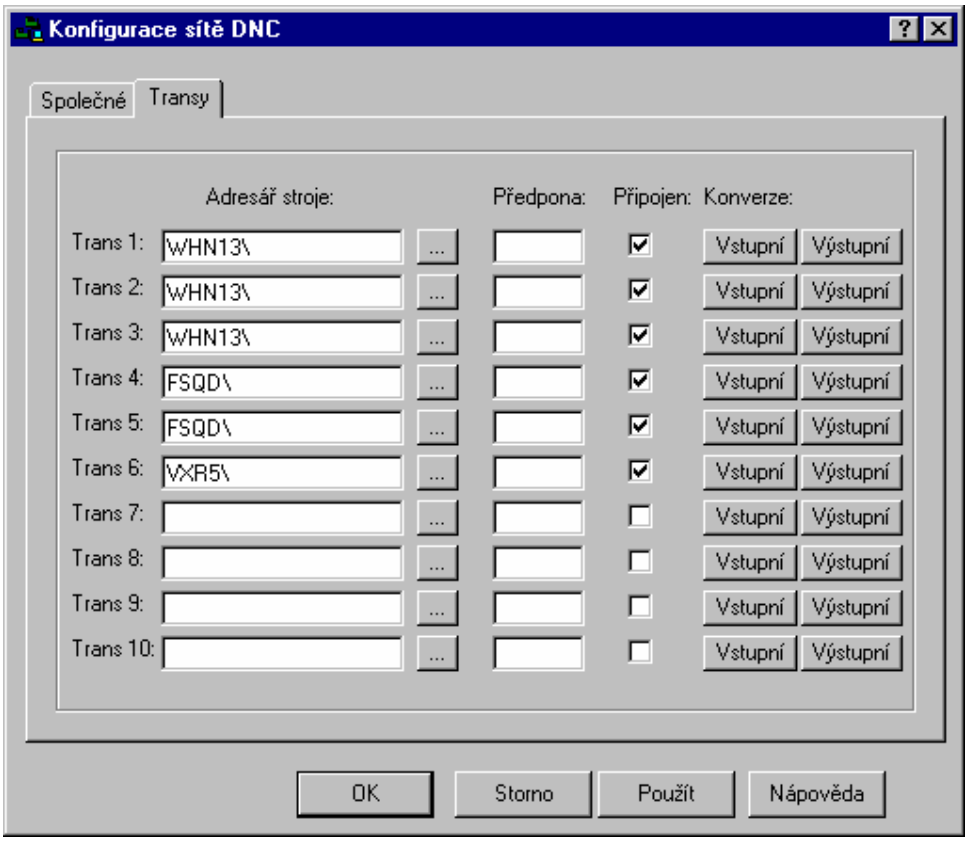


Illustration 6

Folder for machine – The folder for partprograms with machine codes. In our example, the numbers 1, 2 and 3 for the folder WHN13 are shown for the TRANS units. Likewise for TRANS units 4 and 5, the folder FSQD is shown, and the directory VXR5 is shown for TRANS no. 6. All of these directories are in the folder C:\MACHINE. For selecting the directory, it is again possible to use the key "...".

Note.:
For manual entry, don't forget to fill in the \ at the end of the folder!

Prefix – The is given only for compatibility with older types of TRANS units. For version 7.9 TRANS units, the prefix means nothing. (The window is ignored - it can be deleted)

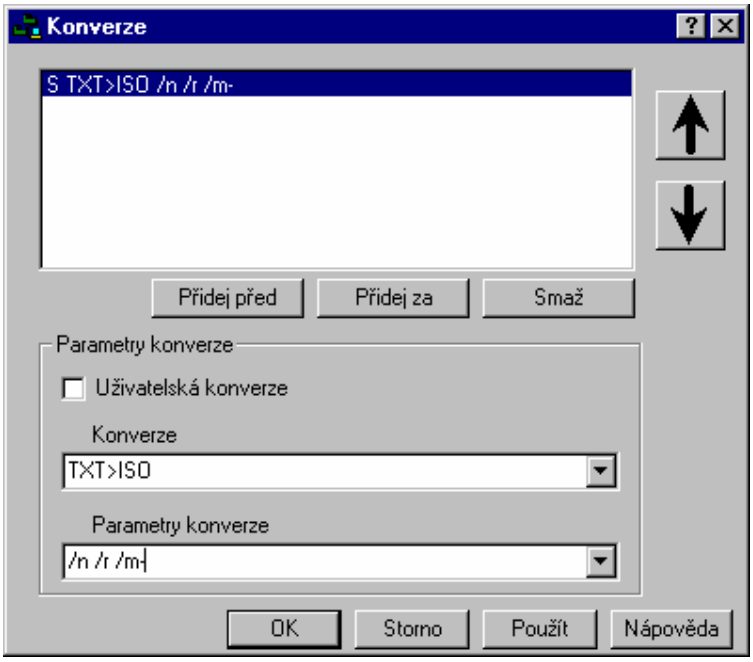
Online – This is slected if the TRANS is physically online. If the TRANS is offline (e.g. not all 10 TRANS units are hooked up), the selection can be canceled so that data transfer isn't registerd when the TRANS is selected. A TRANS which is not connected does not appear in the TRANS menu.

Input/output Conversion - after pressing the key, a window is displayed as showing in illustration 7. In the box **conversion,** the required conversion is selected from the menu. The menu contains these possibilities:

Conversion	
TXT > ISO	Conversion from text form to ISO code
ISO > TXT	Conversion from ISO code to text form
TXT > EIA	Conversion from text form to EIA code
EIA > TXT	Conversion from EIA code to text form

TXT > MGF Conversion from text form to tape recorder code
MGF > TXT Conversion from tape recorder code to text form

TXT > TXT No conversion



In the box selected, "User conversion", it is determined whether system or user conversion is to be done. In the vast majority of cases, system conversion (S) is sufficient , meaning the box is not selected. User conversion is intended only for certain special applications. Afterwards, system conversion can first be shown, and then user conversion (or as otherwise needed) Both conversions are for that file.

Note:
In version 1.0, there is no standard implementation of user conversion. User conversion is labeled with a "U".

I

llustration 7

Conversion parameters adaquately specify the requirements for system conversion. Conversion parameters specify driving indicators with the / (slash). Some driving indicators directly specify the adequate requirement for conversion. Some driving indicators can be followed by chains which specify additional parameters. The driving indicators can be shown in random sequence.

Conversion parameters:

/f **given filenames, including their paths with an EIA table**
e.g. **/f C:\TABULKY\TAB_0.EIA** specifies that the conversion file with the EIA code table is in the directory TABULKY in the file TAB_0.EIA. This file must be checked by the user, and modified to fit their individual needs. Further, the EIA code doesn't have to be the same for all machines. The user can, according to their needs, create tables, including several different tables for EIA code transfer. During installation, the sample table is copied to the directory **\Program Files\TransDNC** provided the user doesn't make changes to it. The table (or tables) must be copied to a different directory with name of 8 characters maximum length. (This applies for version 1.1.0)

/g **given paths for the tape recorder conversion program**
For systems with a tape recorder (NS260 and SARY) which use **DOS-based** conversion programs. After installation, the programs NS260PCX.EXE and PCNS260X.EXE are copied to the folder \Program Files\TransDNC. **They cannot be left in this directory** or in the directory Program Files, since its name has more than 8 characters. It is recommended to create a separate directory, such as **C:\KONVMGF** and copy both EXE programs onto it. In the conversion parameter, only the path for that directory is shown (i.e. **/g C:\KONVMGF\)**
Names for directories contianing files for systems with tape recorders (for both source and machine forms) cannot have names with more than eight characters each!

/m+ spaces are placed in the text in front of letters

This only has significance for conversion from ISO>TXT and EIA>TXT. Since some older systems have output partprograms (hole punching) without spaces and the text is difficult to read, they are filled in during conversion with spaces in front of alphabetic characters.

/m- All spaces are canceled

Most systems don't need commas in partprograms (they ignore them), because it is an advantage to get rid of them during conversion in order to save memory on the TRANS.

/t+ tabs in the text
-Similar to placement of spaces

/t- All tabs are canceled
Similar to the cancelation of spaces usage

/r the end of the block (row) Cr

This is significant only for conversion of TXT>ISO. Some systems require a precise specified code for the end of a row or block. If the end of the Cr is required (hexadecimal code 0D), /r is shown.

Note: If the end of CrLf is required, /r/n is given.

/n the end of the block (row) Lf

This is significant only for conversion of TXT>ISO. Some systems require a precise specified code for the end of a row or block. If the end of the Lf is required (hexadecimal code 0A), /n is shown.

Note: If the end of CrLf is required, /r/n is given.

/a Tape recorder conversion typ A (system NS260)
This has significance only for tape recorder conversion with systems NS260

/b Tape recorder conversion typ B (system NS260)
This has significance only for magnetophone conversion with systems NS260

/c Tape recorder conversion typ C (system NS260)
This has significance only for magnetophone conversion with systems NS260

/s Tape recorder conversion typ S (system SARY)
This has significance only for magnetophone conversion with systems SARY

Note.: Magnetophone conversion types A and B for NS260 need to be tried. NS260 type C "knows how to go" at the same time in two coordinates under a 45 degree angle.

Examples often used for conversion:

S TXT>ISO /m- /r /n	System conversion from Text form to ISO code. Spaces are left in the machine form or ISO code and CrLf will appear at the end of the block.
S ISO>TXT /m+	System conversion form ISO code to text form, Spaces are placed in front of alphabetic characters
S TXT>EIA /f C:\TABLE\TAB0.EIA	System conversion from text form to EIA code, according to table TAV.EIA in the folder TABLE

S TXT > TXT — No conversion takes place. This is for systems which can read text format. The effect is the same as for when, as shown in illustration 4, a selection is made not to carry out conversion.

S TXT>MGF /s /g C:\KONVMGF\ — System conversion from text form to tape recorder form for the SARY system. The dos-based conversion program PCNS260X.EXE is located in the folder C:\KONVMGF

Appendix – sample table EIA

In the file with the code EIA, it is necessary to keep the following syntax:

a,bb;	**comments**
Where **a**	is a printable character
or **\n**	a special code for indicating a new row CrLf
or **\t**	a special code for tabs
or **\hh**	where hh is double characterhexadecimal code e.g. \20 can be written in place of space. All characters can also be entered in this way.

The character or special code is followed by the required comma and then, as needed, a double character hexadecimal code to which the character needs to be translated folowed by semicolon.

```
Example of the EIA table:
0,20;
1,01;
2,02;
3,13;
4,04;
5,15;
6,16;
7,07;
8,08;
9,19;
A,61;
B,62;
C,73;
D,64;
E,75;
F,76;
G,67;
H,68;
I,79;
J,51;
K,52;
L,43;
M,54;
N,45;
O,46;
P,57;
Q,58;
R,49;
S,32;
T,23;
U,34;
V,25;
W,26;
X,37;
Y,38;
```

```
Z,29;
%,5B;
.,6B;
-,40;
+,70;
:,2F;
,,3B;
",4A;
(,7C;
),7A;
?,7F;
;,2A;
&,0E;
*,0B;
@,3E;
!,3E;
/,31;
\t,3E;   tabulator
\n,80;   line feed
\20,10;  space
```

Note.:

Users who are switching to WINDOWS95, and have so far used TRANS for the DOS operating system can use the original conversion tables TR_EIA_x.TAB (x is from 0 to 9) only with the following modification

At the end of the final, the characters FF (hex) should be deleted, or an error message showing an error in the EIA table syntax will appear.

It is recommended to write other special codes in hexadecimal code, as shown in the example at space: (\20,10;).

If you wish to keep the original tables for work in DOS, copy the original file with the table under a different name, modify it and put its name in the WINDOWS95 configuration for the program TRANSDNC.