



***BUFOR - Driver of General Purpose
User's Manual***

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1. BUFOR - Driver of General Purpose

1.1. Driver Use

The BUFOR driver allows data exchange between the **asix** system and any program developed by the user to transfer the process variables.

The transmission channel based on the BUFOR protocol is created by two programs:

- driver of the protocol BUFOR for general purpose (included in the **asix** package),
- driver of process data transmission developed by the user.

The user program must be implemented in the form of a process operating in Windows XP / 2000 / NT 4.0 environments.

The data exchange between the BUFOR driver and the user program is performed by means of an exchange file (memory mapped file). The synchronization of the access to a memory mapped file is carried out by using a mutex object.

1.2. Declaration of Transmission Channel

The full syntax of declaration of transmission channel operating with the BUFOR driver is given below:

logical name =BUFOR,FILE_MMF,USER,PAR1,PAR2,PAR3

where:

FILE_MMF - memory mapped file name;
USER - user process name;
PAR1..PAR3 - parameters which are transferred to the user process.

The description of data structures and rules of cooperation of a user process with the BUFOR driver is included in the file DrBufor.hlp.

1.3. Addressing the Process Variables

The syntax of symbolic address which is used for process variables belonging to the BUFOR driver channel is as follows:

Ivariable_index

where:

I - constant element of symbolic address for the BUFOR driver channel;
variable_index - variable index in an array of user driver variables. The first variable has the index 1.

The other parameters in a process variable declaration have typical meaning.

The BUFOR driver is loaded as a DLL automatically.

1.4. Possibility of Mutex Name Declaration

It is possible to declare a mutex name in the MUTEX item according to the following syntax (a mutex object synchronizes the driver BUFOR with a user's program at the stage of start-up):

```
MUTEX=mutex_name
```

It is necessary to put the position in a separate section of the initialization file of an **asix** application. The section name has to be identical to the name of logical channel using the driver BUFOR, e.g.:

```
[ASMEN]
# item declaring the transmission channel CHANNEL
CHANNEL=BUFOR, TEST_MMF, userebuf, par1 par2 par3

# this section is used by designer to the parameterization of CHANNEL
# (in the present version of asix it is used for an optional mutex name declaration only)
[CHANNEL]
MUTEX=TEST_MUTEX
```

When a mutex name is declared, the BUFOR driver operates according to the scheme:

- the driver creates the user's process by means of the procedure *CreateProcess()* and expects that the process will create a mutex with the name given in the MUTEX position; while creating a mutex, the process must occupy it at once!
- while giving the mutex name declared in the MUTEX position, the driver calls the *OpenMutex()* function; if *OpenMutex ()* returns an error, the driver will finish the channel initialization with the error;
- the driver expects till the user's program releases mutex and after that realizes the stage of verification of memory mapped file contents.

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