# *masc-ato*

## Automated Transaction Operator
## General Information
## ***
## VSE/MVS
## Version 4.1.0

MATO-GI410-2-E

| | |
|---|---|
| Distributor: | ***masc ag***<br>Dept. SWD<br>Birkenstr. 49<br>CH-6343 Rotkreuz (Switzerland) |
| Telephone: | 041 / 790 53 44  International: (+41) 41 790 53 44 |
| Telefax: | 041 / 790 53 40  International: (+41) 41 790 53 40 |
| Office hours: | 8 - 12h, 14 - 17h CET (Mo - Fr) |


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Further copies of this documentation may be ordered with the enclosed order form.

# DOCUMENTATION OVERVIEW

The following ***masc-ato*** documents and manuals are available:

- MATO-HO410-1-E ***masc-ato*** "Automated Transaction Operator": *Handout*
- MATO-GI410-1-E ***masc-ato*** "Automated Transaction Operator": *General Information*
- MATO-UG410-1-E ***masc-ato*** "Automated Transaction Operator": *User's Guide*
- MATO-IN410-1-E ***masc-ato*** "Automated Transaction Operator": *Installation Guide*
- MATO-MC410-1-E ***masc-ato*** "Automated Transaction Operator": *Messages and Codes*
- MATO-SA410-1-E ***masc-ato*** "Automated Transaction Operator": *Samples*

A complete set of manuals is included with the software package. More sets of these manuals and documents may be ordered with the enclosed order form.

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## Automation of processes in On-line applications

***masc-ato*** is a tool which allows a batch job to control the processing of interactive dialogs with a TP-Monitor by simulating a terminal user. The predefined transaction dialogs are processed as batch jobs without the need of manual intervention.

Any number of virtual users perform varied actions and controls on virtual terminals.

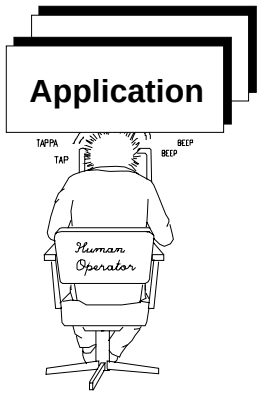
The transaction dialogs may be defined into integrated job-streams for daily execution processing.

The dialogs are composed of a set of commands supplied by ***masc-ato*** that control the session handling and screen interactions of the on-line transactions. These are integrated into REXX or another programming language or may be called using macros.

With the help of an optional LOG terminal the processing may be displayed and verified. A detailed LOG list also reports the activities of the unattended processing.

## Taking Full Advantage of the Unattended Operating Shifts

Manual intervention by operations personnel is often required for application software. By executing these transaction processes with ***masc-ato***, the need for any manual intervention is eliminated in a transparent, secure and accurate way. Your operations crew does not need the know-how for complex on-line applications anymore.




## Automation of On-line Activities

***masc-ato*** is the solution for an easy integration of on-line activities in Job-Scheduling systems. The definitions of cursor control, line-, position- and PF-key statements allow a wide variety of automation of standard applications as well as user transactions. Communication to all sorts of Job Automation products is achieved by JCL return codes and free format console messages.

## Balancing the System-Load for Long Running Transactions

Long running and CPU consuming on-line transactions are a well known problem, often resulting in overloaded systems. Many of these transactions may be executed by ***masc-ato*** and managed automatically by job scheduling systems. Relocating these transactions to a time slice with a low system load is only one of the benefits ***masc-ato*** can offer.

## Increase Reliability by Automated Operations

The data integrity in ***masc-ato*** dialogs is guaranteed the same way as by the terminal users.

***masc-ato*** also writes a detailed LOG protocol reporting all in- and output processes. With the use of the optional LOG terminal, the transaction process may be controlled and verified visually.

## Data Transfer within Hosts

Based on SNA technology, ***masc-ato*** is a node in the network. Therefore, ***masc-ato*** is able to directly transfer data to the destination host within a network.

The ability to have several applications active simultaneously in the same dialog lets you transfer data from one application to the other the easiest way, i.e. transferring the screen content. The plausability checks of the receiving application control data integrity and consistency. Rejected data may be stored for additional processing.

## Data Entry and Updates with Simulated Data Typists

Any files can be read or written. This allows to play data directly into your on-line applications using the existing transactions with the existing plausability checks and without interfering the other user's work.

Even big amounts of data can be processed by ***masc-ato*** dialogs to enter them into your on-line application without interfering with your other users.

## Quality Control of Program Changes

With ***masc-ato*** you are able to build test cases for the handling of your most important and sensitive transactions. Any program changes and maintenance may functionally be tested and verified with such a test dialog to proof the correctness of the program changes.

## Console Control

***masc-ato*** supports a variety of Spool and Console products for replying and displaying messages as well as starting of various activities.

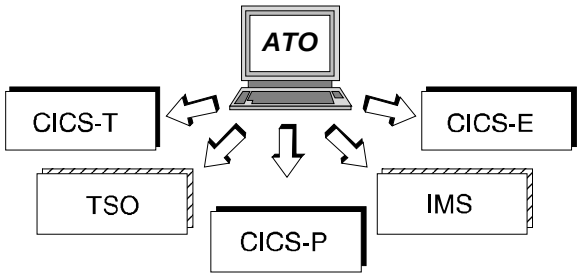
# SYSTEM INTEGRATION

## Communicating with TP-Monitors

Only screen definitions are needed to integrate ***masc-ato*** into your TP-Monitor.

***masc-ato*** does not need any additional modules for any TP-Monitor nor does it expand additional storage needs. Existing transactions do not have to be changed.

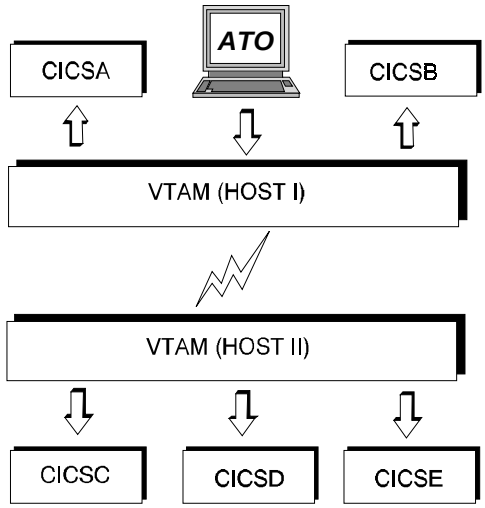
***masc-ato*** does support full MRO/ISC with multi-domains on several hosts as well as mixed operating systems on VM guest configurations.




The TP-Monitor recognizes ***masc-ato*** as a terminal user. There is no difference between a ***masc-ato*** dialog and a regular terminal.

With the help of the optional ***masc-ato*** LOGTERM- terminal and the LOG list, the actual progress of the transaction dialog may be controlled and verified at any time.

## Distributed Data




Based on SNA technology, ***masc-ato*** is a node in the network and can simultaneously process the dialogs on several TP-Monitors in your configurations , e.g. execute dialogs on a remote system or with VM.

The ***masc-ato*** defined transaction process is submitted to the corresponding TP-Monitor (e.g. CICS) by using the VTAM interface.

Several sessions may be active simultaneously. The dialog controls to which session the next screen interaction is directed.

# DIALOG STRUCTURE

## *masc-ato* Commands

To control the sessions and screen interactions, ***masc-ato*** uses a set of clear functions that lets you write easily legible programs. An overview of the most important commands can be seen in the following table:

| **Command** | **Purpose** |
|---|---|
| ATO_INITIALIZE | Begin of a ***masc-ato*** dialog |
| ATO_TERMINATE | End of a ***masc-ato*** dialog |
| ATO_SET_SESSION_PARAMETERS | Set parameters for a session |
| ATO_CONNECT_PS | Activate the connection to a session |
| ATO_DISCONNECT_PS | Disconnect a session |
| ATO_QUERY_SESSION_STATUS | Query the status of a session |
| ATO_COPY_PS | Copy the screen content |
| ATO_COPY_PS_TO_STRING | Copy the screen content in a buffer |
| ATO_COPY_STRING_TO_PS | Copy a buffer into a virtual screen |
| ATO_QUERY_CURSOR | Query the cursor position |
| ATO_SEND_KEY | Send an entry to the virtual screen |
| ATO_SET_CURSOR | Set the cursor position |
| ATO_SEND_AID | Send the Enter, the PF, or the PA key to the virtual screen |

## Keys and cursor control

***masc-ato*** can not only send "normal" keys to the screen, but also tabulator and cursor control keys. This allows to write dialogs in a user-friendly way.

To recognize these special keys, the "@" is used. This Escape-Character shows, that the next character has a special meaning.

The following entries are possible:

| | | |
|---|---|---|
| **@h** | **Home** | Set cursor to the first entry field of the screen |
| **@n** | **Newline** | Set cursor to the first entry field of the next line on the screen |
| **@t** | **Tabulator** | Set cursor to the next entry field |
| **@r** | **Cursor right** | Set cursor one character to the right |
| **@l** | **Cursor left** | Set cursor one character to the left |
| **@u** | **Cursor up** | Set cursor one line up |
| **@d** | **Cursor down** | Set cursor one line down |

These special characters are behaving like the corresponding keys. Some keys may only skip to entry fields while other ones leave the cursor on protected areas.

The cursor is also moved like with manual entries. If for example an eight-character-field is filled with an eight-character-value, the cursor automatically skips to the next entry field.

The PF, PA, and Clear keys are sent with the ATO_SEND_AID command after filling the screen with any contents and setting the cursor to a certain place.

## Program logic

***masc-ato*** provides the interface to your on-line applications. The actual program logic is programmed in a programming language that is better suited for that purpose and also provides the necessary interfaces to system resources like databases, files, etc.

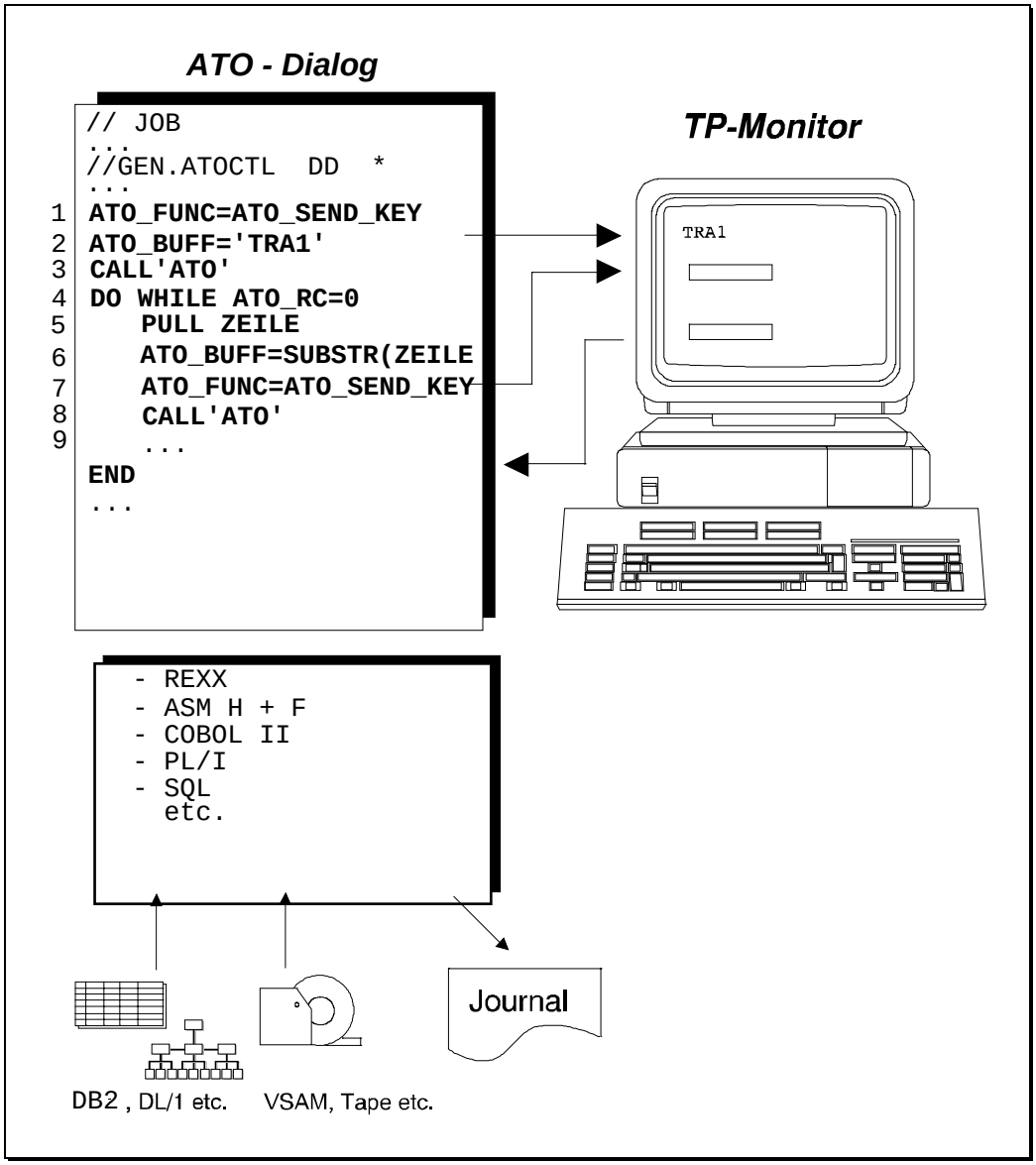
Additionally to loops, case structures and many possibilities to manipulate variables, REXX for example also provides a rich set of functions that can help enormously interpreting the received or preparing the next screen.

The commands described above are therefore integrated either in REXX, a relatively easy-to-use but powerful language portable to several platforms, or in another programming language like COBOL, Assembler, or PL/1.

The choice of the right programming language for your dialog depends on different factors. Portability, the rich set of functions, and the ease to develop dialogs may often be in favor of REXX while the access to DB/2 or VSAM datasets may be easier to program in other languages.

## Sample *masc-ato* dialog

The following illustration shows a simple part of a dialog using ***masc-ato*** commands:




**Explanations:**

1 Prepare function *Send an entry to the virtual screen*
2 Put the desired entry into the buffer ...
3 ... and call ATO
4 Begin a loop including the check of the ATO return code
5 Read a line
6 Put part of this line into the buffer, ...
7 ... in order to have it appear as keyed-in entry on the virtual screen
8 Call ATO
9 ... many more ATO or REXX commands or functions

## Samples for uses

A number of solutions are available for standard packages and TP-oriented transactions. Some examples for typical uses are:

**CICS:** CEMT (CICS Master Terminal Operator transaction)
CESN (CICS Sign-On)
CECI (CICS Command Interpreter)
etc.

**TSO:** ISPF (ISPF-Editor, etc.)
OpenEdition
SDSF (Spool Display and Search Facility)
etc.

**SAP:** D1SI
TF70
TK31
ABAP
SBDC
TM02
TUNE
VSTP
etc.

**Data interchange** between on-line applications

**Data Comparison** between on-line applications

**Data entry** into on-line applications

# NEW FUNCTIONS OF *masc-ato* 4.1.0

The commands to control the sessions and the screen interactions are integrated into REXX or another programming language. Therefore the actual program logic and the file handling can be programmed in the normal way. The high functionality of the programming languages can be used to write efficient dialogs.

Several sessions may be active simultaneously. The dialog controls, to which application the next screen is sent. The data of all applications are available simultaneously and can so easily be transferred from one application to another.

Keys like home, newline, or tabulator, can also be used to position the cursor on the screen.

The actual cursor position can be queried in the dialog.

The default cursor position is now the first entry field and not line 1, column 1. This allows to make entries on formatted screens without further cursor positioning.

Besides the screens with 24 lines / 80 columns, also models 3 (32 x 80), 4 (43 x 80), and model 5 (27 x 132), are supported.

The virtual screen is available to the program in exactly the same way as a user can see it, i.e., showing and interpeting all characters as they are displayed on the screen.

# PRODUCT LINE

***masc-ato*** has been developed using the latest software technology available. The use of the SNA technology and the High Level Language Interface guarantees easy integration and full future compatibility.

The close relationship to our clients guarantees the most efficient benefit in achieving a fully automated data center. Permanent quality control and development of new features continuously expand the spectrum of use for ***masc-ato***.

# REQUIREMENTS

## Software Requirements

***masc-ato*** is available for all current operating system versions of VSE and MVS. VTAM and at least one TP-Monitor are required.

## Storage Requirements

***masc-ato*** needs a partition or region size of at least 256K for the execution of the ***masc-ato*** job. No reserved partitions are required in a VSE environment. ***masc-ato*** can also be used under VM with a VM-CTCA connection (e.g. submitted from the "batch" machine).

The ***masc-ato*** libraries or data sets need 4 cylinders on a 3380 disk.

## Hardware Requirements

There are no hardware requirements for the use of ***masc-ato***.

For the optional LOG terminal, an IBM color terminal with extended data-stream or any compatible model is required.

# DELIVERY

- ***masc-ato*** is delivered on a cartridge or tape with 6250 or 1600 bpi.
- A complete set of ***masc-ato*** manuals and documents is included.
- A test period of 30 days is granted.
- The maintenance free for the first year.
- Installation is done by the customer.
- Education is supplied by your local representative.

# ADDITIONAL SUPPORT

As a Swiss software company we support and consult leading international companies requesting high security and quality standards.

***masc-ato*** is just one example of the client oriented solutions of ***masc ag***.

The following additional services are offered:

- ***masc-ato*** Sample collections
- ***masc-ato*** Practical education courses
- ***masc-ato*** Expanded operational services