

## MYC Rules

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This project can be found in <https://github.com/dk1ri> also.

**Preliminary !!!!!**

### Definitions and formats

see <http://dk1ri.de/myc/Definitions.pdf>

### Introduction

This paper describes the the syntax of rules of the MYC system.

For more details of the MYC system please check the reference.

### “R” , “S”-rules

Rules announcements start with “R” or “S” or “Q”

“R” rules are valid always, “S” rules are used during configuration only and are not forwarded by the CR.

A “R” / “S” rule may have one of these functions:

- By default all commands are working. A rules will show, when a command is not working, if other commands created a specific status.
- By default commands are not executed by change of an status of another command. A rule can initiate this: eg the device can be switched off under special conditions.  
It is not the intention to show all conditions. If a device is switched off, some values may be set to “0”. Such a behavior is obvious and a rule may be used in specific cases only.

These Rules are used by the LD, which have the complete status of the system at any time and all rules and modify / initiate commands accordingly.

Limitation within a command should be described within the announcement of that command by <des>.

A FU will have rule announcements to inform about dependencies, which exist between the commands and status within the FU.

If there are dependencies between different devices, a special rules-device RU will provide the rules. The rule will define, whether one or more commands are active or not, or that another command is executed.

The syntax of the rules should be very simple, Most probably the rules will be generated automatic, so the focus should be the effectiveness of handling the rules by a computer. Up to now rules lines are

readable, because they must be easily programmed as a part of the announcements of FUs.

All “R” rules are always handled by the LD in the sequence it get the rules, starting with rules of FU.

The SK should understand the rules as well. This avoids sending not valid commands.

## "Q"-Rules

“Q” rules are produced by the RU only and sent to the CR only and are not forwarded. They are used for user management. The CR block commands, if necessary, for a specific user who logged in.

"Q"-rules are handled by the CR.

"Q"-rules are the answer of a login request and describe the command-token to be used and not used. The basic command-token means all token of the device.

A \* means all commands are allowed.

A empty string means all commands are forbidden.

TO notation is possible

Commands are separated by space.

Syntax is similar to "R" rules.

## General Rules behavior

Each rule is one announcement line (for FU) or an (MYC string) answer or info of a “an” command (for RU).

By default all commands are working. If a command should be disabled, there must be a rule. The rule is R !<c> ...

Enabling is done by R !!<c> ...

If a command should be executed use R ?<c> ...

If a command should be executed after another use ?<c> AFTER <c>. Example is a Webserver, where a command to read page is necessary after the loading command.

If a command is executed if a condition occur use ?<c> IF ... . Example is a reset under some conditions.

## Definitions for the rules syntax

<c>	command-token
<n> :	numeric
<s> :	string, any character, preceded by the length.
<s”>	string starting and ending with “, used within rules. inline “ is escaped by “
<p>	parameter
separator:	one or more spaces or tabs
compare operators	= < >
logic operator	AND OR
right side operators:	! (not) = < > <= >= AND OR ( )
!\$<c>	command disabled
!!\$<c>	command enabled
?<c>	command to execute
&	followed by a parameter (usually a sequence number) or <s”> without separator

&& parameters are transmitted parameters, not those of <des> of announcements  
is a value

### Special rules

These rules are send as info of memory element 0. The answer when reading this element will show a empty element always.

type is <s>

R <d<n> <n>..> delete rules, sent by RU; \* for all. This is an abbreviation, if many empty rules must be sent. The memory elements must be empty.

R \* !\* send at startup, if required; login required for all.

Default is, that all commands are allowed for all

R <\* \*> allow all users all commands (default)

### Rules syntax

<left side> IF|UNLESS <right side>

<left side> as “Q” rules only

left side:

[!|\$<c>][ ?<c>[&<p>=<n>|<s>]] ...

Bracketing like: !(\$<c>...<c>) allowed

right side:

This describes the status which a answer commands would get.

[!|\$<c>[&<p> <logic operator> <n>|<s>] ... |

[!|\$<c>[&<p> <logic operator> <n> [TO <n>] ...

All words / tokens separated by a separator

### Reserved characters / words

() Bracketing

! right side:negation, left side: not active

&

?

IF

UNLESS

AND

OR

<

>

=

left side: operator, right side: equal

TO

.

delimiter for parameter

