

MYC Rules

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

Introduction

This paper describes the the syntax of rules of the MYC system.
For more details of the MYC system please check the reference.

Definitions and formats

see <https://dk1ri.de/myc/Definitions.txt> or <https://dk1ri.de/myc/Definitions.pdf>

Some explanation

“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.

Rules are defined by FU and RU.

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

- A rule may restrict a combination of parameters of a command. This cannot be defined by a announcement.
- 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.

Some 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 under some conditions: use R ?<c> ...

If a command should be 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.

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)

Simplification methods

These methods are not essential, but may be used to reduce code

[\$<n> TO \$<n>, \$<n>]<rule> identical rule for multiple commands. For <rule> one of the affected command must be used, Variation is on the left side of the rule only.

Rules syntax

<left side> IF|UNLESS <right side>
<left side> “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> <compare operator> <n>|<s>] ... |

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

All words / tokens separated by a separator

Reserved characters / words

()	bracketing
[]	left sine: groups of commands
!	right side:negation, left side: not active
&	
?	
IF	
UNLESS	
AND	
OR	
<	
>	
=	left side: operator, right side: equal
TO	
.	delimiter for parameter
AFTER	
NECESSARY_FOR	

Examples

R !\$2 IF \$5 = 0

means: Command 2 will not work if status of command 5 is 0
command 5 may be a power switch

R !\$4 UNLESS \$7 = 3500000 TO 3799999 OR 7000000 TO 7199999

means: Command 4 will work only if state 7 is in the range of

This would be used if the transceiver will transmit in amateur radio band only

The values are transmitted values, not values of the description

R 2 \$252 &"wrong address" IF \$8 &3 < 16

rule 2 of RU

\$252 is an answer command and handled as info:

error-message if fourth parameter (3) of command 8 is < 16

Q !* 1 30 TO 50

all commands forbidden except 1 and 30 to 50 allowed

Q 0 TO 100 !*

0 to 100 allowed others forbidden.

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Reference

- [1] <https://dk1ri.de/myc/MYC.pdf> (german)
- [2] <https://dk1ri.de/myc/MYC.en.pdf>
- [3] <https://dk1ri.de/myc/Description.txt> or <https://dk1ri.de/myc/Description.pdf>
- [4] <https://dk1ri.de/myc/commands.txt> or <https://dk1ri.de/myc/commands.pdf>
- [5] https://dk1ri.de/myc/Reserved_tokens.txt or https://dk1ri.de/myc/Reserved_tokens.pdf
- [6] <https://dk1ri.de/myc/Rules.txt> or <https://dk1ri.de/myc/Rules.pdf>
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