

LOADSUB Module Documentation

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Date	Version	Name	Changes
2017-01-20	1.0	CSM/RN	first release
2018-02-16	1.01	CSM/RN	MODULE command with default settings
2018-05-02	1.1	CSM/RN	MODULE command with optional parameters for toolbox

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Chapter 1

Introduction

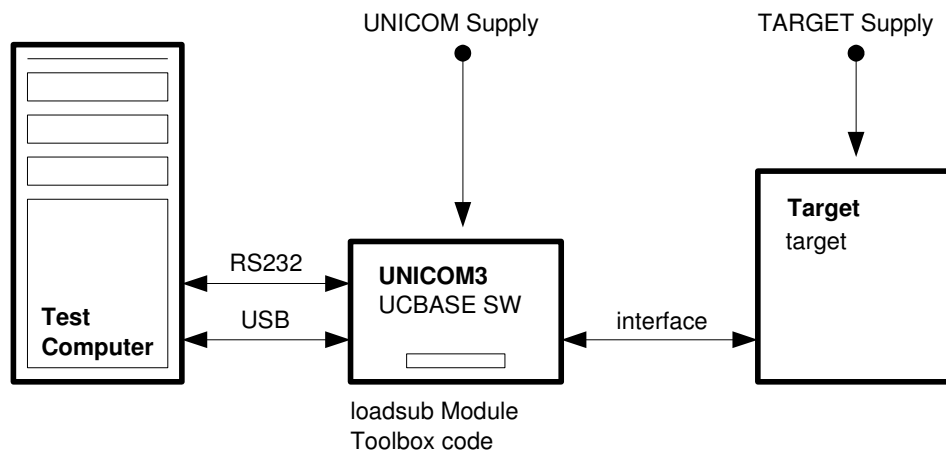
LOADSUB can be used for downloading code to a target device uC using the *STP* commands *LOADSUB(120)* and *RUNSUB(121)* over the currently adjusted interface.

Chapter 2

Overview

To use UNICOM device with LOADSUB module, UNICOM must have at least hardware revision "B", and UCBASE software version V2.22 (Ref.B), V3.94 (Rev.C), V4.44 (Rev.D) or newer must be installed on UNICOM.

The figure below shows the components that are basically needed, and there connections.



Chapter 3

Loading and Configuration

3.1 MODULE Command

This command downloads and runs the LOADSUB module.

Command, form 1 (unload module)

byte 0	byte 1	byte 2	byte 3
len	ecu	cmd	cks
3	0xC0	20,40..43	

Command, form 2 (load module)

byte 0	byte 1	byte 2	byte 3	...	byte x	byte x	
len	ecu	cmd	mod l	...	mod n	eos	
N=9+n+m+o	0xC0	20,40..43		...		0	

byte x	byte x	byte x	byte x	
slot	ftype	offs_size	p_size	
0..3	0,1,2	2,4		

byte x	...	byte y	byte y	
tbx l	...	tbx m	eos	
	...		0	

byte y	...	byte N-1	byte N
par l	...	par o	cks
	...		

Command, form 3 (load module, default settings)

byte 0	byte 1	byte 2	byte 3	...	byte x	byte x	
len	ecu	cmd	mod l	...	mod n	eos	
N=5+n+m+o	0xC0	20,40..43		...		0	

byte x	...	byte y	byte y	
tbx l	...	tbx m	eos	
	...		0	

byte y	...	byte N-1	byte N
par 1	...	par o	cks
	...		

len	length of telegram
ecu	target address
cmd	command code
mod	filename of LOADSUB module
eos	end-of-string (0)
slot	interface slot which is used for (X)STP communication with target device. Default: 0
ftype	Type of file where the toolbox code is stored: 0: Binary 1: SRECORD 2: INTEL HEX Default: Binary
offs_size	Number of bytes for the <i>Offset</i> field in the LOADSUB command. 2 or 4 can be chosen. Default: 2
p_size	Number of bytes that can max. transferred with one LOADSUB command. Default: 240
tbx	filename of toolbox code
eos	end-of-string (0)
par	(optional) Additional parameters which are being sent with the RUN_SUB command after download
cks	checksum of telegram

Response

byte 0	byte 1	byte 2	byte 3
len	ecu	status	cks
3	0xC0		

len	length of telegram
ecu	source address
status	result status
cks	checksum of telegram

Remarks

- The **MODULE** command performs the entire code download process using **LOAD_SUB(120)** commands. After ready, it starts the code by a **RUN_SUB(121)** command. The **LOADSUB** module has done its job this way, however, it stays resident. If at least one interface slot is configured for *MODULE interface(15)*, the version of module could be fetched using the **READ_VERSION(2)** command (ref chapter 5.1 on page 10).
- The form 3 simplifies the command, and it is compatible with the **loadsub** module of UNICOM II+. It can be used if default settings are the correct ones.

3.2 CONFIG_MODULE Command

This command is not implemented by LOADSUB.

Chapter 4

FASTFLASH

FASTFLASH is not implemented by LOADSUB module

Chapter 5

LOADSUB Module Commands

5.1 LOADSUB::READ_VERSION (2)

This command reports about the version information of LOADSUB.

Command

byte 0	byte 1	byte 2	byte 3
len	ecu	cmd	cks
3	xx	2	

len length of telegram
ecu target address
cmd command code
cks checksum of telegram

Response

byte 0	byte 1	byte 2	byte 3	...	byte 18	byte 19
len	ecu	status	ver 1	...	ver 16	check
19	xx					

len length of telegram
ecu source address
status result status
ver 1..16 version string
cks checksum of the response telegram

Remarks

- As version string `loadsub_####Vx.y` should be reported.

5.2 LOADSUB::ErrorCodes

No specific error codes are being used by this module.