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## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



# **J-Link / J-Trace User Guide**

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## Contact address

SEGGER Microcontroller GmbH & Co. KG

In den Weiden 11  
D-40721 Hilden

Germany

Tel.           +49 2103-2878-0  
Fax.           +49 2103-2878-28  
E-mail:       support@segger.com  
Internet:     www.segger.com

## Manual versions

This manual describes the current software version. If you find an error in the manual or a problem in the software, please report it to us and we will try to assist you as soon as possible.

Contact us for further information on topics or functions that are not yet documented.

Print date: June 21, 2017

Manual version	Revision	Date	By	Description
6.14	6	170407	NV	Chapter "Working with J-Link and J-Trace" * Section "J-Link scriptfiles": Updated " JLINK_ExecCommand()" description
6.14	5	170320	EL	Chapter "J-Flash SPI" Updated screenshots
6.14	4	170317	NV	Chapter "Working with J-Link and J-Trace" * Section "J-Link scriptfiles": Added: " JLINK_ExecCommand()" Section "Keil MDK-ARM" added for Command string execution
6.14	3	170220	NV	Chapter "Working with J-Link and J-Trace" * Section "J-Link scriptfiles": Added: "OnTraceStart()" and " JLINK_TRACE_Portwidth" Chapter "Trace" * Added crossreference to "JLINK_TRACE_Portwidth"
6.14	2	170216	NV	Chapter "Introduction" *Added Subsubsection "Software and Hardware Features Overview" to all device Subsections. *Edited Subsection "J-Trace ARM." *Section "Target interfaces and adapters": edited "RESET" to "nRESET" and updated description.
6.14	1	170210	NV	Chapter "Working with J-Link and J-Trace" * Section "Exec Commands": Updated SetResetPulseLen TraceSampleAdjust Chapter "Trace" * Section "Tracing via trace pins": Updated
6.14	0	170201	AG	Chapter "Working with J-Link" * Section "Exec Commands": Updated SelectTraceSource SetRAWTRACEPinDelay ReadIntoTraceCache Chapter "Trace" added.
6.10a	0	160820	EL	Chapter "Working With J-Link" * Section "Exec Commands": Updated ExcludeFlashCacheRanges.
6.00i	0	160802	EL	Chapter "Introduction" * Removed "Model Feature Lists" Chapter "Adding Support for New Devices": renamed to "Open Flash Loader" Chapter "Open Flash Loader" updated.
6.00	1	160617	EL	Chapter "J-Flash SPI" * Added chapter "Custom Command Sequences"
6.00	0	160519	AG	Chapter "Adding Support for New Devices" added.
5.12f	0	160503	AB	Chapter "Related Software" * Section "J-Link RTT Viewer" updated and moved from section "RTT".
5.12d	1	160427	AG	Chapter "Working with J-Link and J-Trace" * Section "J-Link script files" updated.
5.12d	0	160425	AG	Chapter "Working with J-Link and J-Trace" * Section "J-Link script files" updated.
5.12c	0	160413	NG	Chapter "Related Software" * Section "J-Link Commander" Typo fixed.
5.12c	1	160418	NG	Chapter "Related Software" * Section "J-Link Commander" Commands and commandline options added. Chapter "Working with J-Link and J-Trace"



Manual version	Revision	Date	By	Description
				* Section "Command strings" Command "SetRTTtelnetPort" added. Chapter "Flash Download" * Section "Debugging applications that change flash contents at runtime" added.
5.10u	0	160317	AG	Chapter "Monitor Mode Debugging" * Section "Target application performs reset" added.
5.10t	0	160314	AG	Chapter "Monitor Mode Debugging" * Section "Enable Monitor Debugging" updated. * Section "Forwarding of Monitor Interrupts" added.
5.10	3	160309	EL	Chapter "J-Flash SPI" updated.
5.10	2	160215	AG	Chapter "RTT" updated.
5.10	1	151204	AG	Chapter "RDI" updated. Chapter "Semihosting" added.
5.10	0	151127	NG	Chapter "Related Software" * Section "J-Scope" removed.
5.02m	0	151125	AG	Chapter "Working with J-Link and J-Trace" * Section "The J-Link settings file" added. Chapter "Low Power Debugging" added.
5.02l	0	151123	AG	Various Chapters * Some typos corrected.
5.02i	1	151106	RH	Chapter "J-Flash SPI" * Section "Send custom commands" added.
5.02i	0	151105	RH	Chapter "Related Software" * Section "J-Link Commander" exec command added. Chapter "Working with J-Link and J-Trace" * Section "Command strings" New commands added.
5.02f	1	151022	NG	Chapter "Related Software" * Section "J-Scope" updated.
5.02f	1	151022	EL	Chapter "Target interfaces and adapters" * Section "Reference voltage (VTref)" added.
5.02f	0	151007	RH	Chapter "Working with J-Link and J-Trace" * Section "J-Link script files" updated.
5.02e	0	151001	AG	Chapter "Working with J-Link and J-Trace" * Section "J-Link script files" updated
5.02c	1	150925	NG	Chapter "Licensing" * Section "Original SEGGER products" updated. Chapter "Flash download" * Section "Setup for various debuggers (CFI flash)" updated.
5.02c	0	150916	RH	Chapter "Flash download" * Section "Setup for various debuggers (SPIFI flash)" added.
5.02c	0	150914	RH	Chapter "Introduction" * Section "J-Link / J-Trace models" updated. * Section "Supported OS" Added Windows 10
5.02a	0	150903	AG	Chapter "Monitor Mode Debugging" added.
5.02	0	150820	AG	Chapter "Working with J-Link and J-Trace" * Section "Command strings" "DisableCortexMXPSRAutoCorrectTBit" added.
5.02	0	150813	AG	Chapter "Monitor Mode Debugging" added.
5.00	1	150728	NG	Chapter "Related Software" * Section "J-Link Commander" Sub-Section "Command line options" updated.
5.00	0	150609	AG	Chapter "Flash download" * Section "QSPI flash support" added. Chapter "Flash breakpoints" * Section "Flash Breakpoints in QSPI flash" added
5.00	0	150520	EL	Chapter "J-Flash SPI"

Manual version	Revision	Date	By	Description
				* Initial version added
4.99b	0	150520	EL	Chapter "Related Software" * Section "J-Link STM32 Unlock" Added command line options
4.99a	0	150429	AG	Chapter "Target interfaces and Adapters" Chapter "20-pin J-Link connector", section "Pinout for SPI" added.
4.98d	0	150427	EL	Chapter "Related Software" * Section "Configure SWO output after device reset" updated.
4.98b	0	150410	AG	Chapter "Licensing" * Section "J-Trace for Cortex-M" updated.
4.98	0	150320	NG	Chapter "Related Software" * Section "J-Link Commander" Sub-Section "Commands" added. Chapter "Working with J-Link and J-Trace" * Section "J-Link script files" updated
4.96f	0	150204	JL	Chapter "Related Software" * Section "GDB Server" Exit code description added.
4.96	0	141219	JL	Chapter "RTT" added. Chapter "Related Software" * Section "GDB Server" Command line option "-strict" added. Command line option "-timeout" added.
4.90d	0	141112	NG	Chapter "Related Software" * Section "J-Link Remote Server" updated. * Section "J-Scope" updated.
4.90c	0	140924	JL	Chapter "Related Software" * Section "JTAGLoad" updated.
4.90b	1	140813	EL	Chapter "Working with J-Link and J-Trace" * Section "Connecting multiple J-Links / J-Traces to your PC" updated Chapter "J-Link software" * Section "J-Link Configurator" updated.
4.90b	0	140813	NG	Chapter "Related Software" * Section "J-Scope" added.
4.86	2	140606	AG	Chapter "Device specifics" * Section "Silicon Labs - EFM32 series devices" added
4.86	1	140527	JL	Chapter "Related Software" * Section "GDB Server" Command line options -halt / -nohalt added. Description for GDB Server CL version added.
4.86	0	140519	AG	Chapter "Flash download" Section "Mentor Sourcery CodeBench" added.
4.84	0	140321	EL	Chapter "Working with J-Link" * Section "Virtual COM Port (VCOM) improved." Chapter "Target interfaces and adapters" * Section "Pinout for SWD + Virtual COM Port (VCOM) added."
4.82	1	140228	EL	Chapter "Related Software" * Section "Command line options" Extended command line option -speed. Chapter "J-Link software and documentation package" * Section "J-Link STR91x Commander" Added command line option parameter to specify a customized scan-chain. Chapter "Working with J-Link" * Section "Virtual COM Port (VCOM) added." Chapter "Setup" * Section "Getting started with J-Link and DS-5"
4.82	0	140218	JL	Chapter "Related Software" * Section "GDB Server" Command line option -notimeout added.
4.80f	0	140204	JL	Chapter "Related Software" * Section "GDB Server" Command line options and remote commands added.

Manual version	Revision	Date	By	Description
4.80	1	131219	JL/ NG	Chapter "Related Software" * Section "GDB Server" Remote commands and command line options description improved. Several corrections.
4.80	0	131105	JL	Chapter "Related Software" * Section "GDB Server" SEGGER-specific GDB protocol extensions added.
4.76	3	130823	JL	Chapter "Flash Download" * Replaced references to GDB Server manual. Chapter "Working with J-Link" * Replaced references to GDB Server manual.
4.76	2	130821	JL	Chapter "Related Software" * Section "GDB Server" Remote commands added.
4.76	1	130819	JL	Chapter "Related Software" * Section "SWO Viewer" Sample code updated.
4.76	0	130809	JL	Chapter "Related Software" * Sections reordered and updated. Chapter "Setup" * Section "Using JLinkARM.dll moved here.
4.71b	0	130507	JL	Chapter "Related Software" * Section "SWO Viewer" Added new command line options.
4.66	0	130221	JL	Chapter "Introduction" * Section "Supported OS" Added Linux and Mac OSX
4.62b	0	130219	EL	Chapter "Introduction" * Section "J-Link / J-Trace models" Clock rise and fall times updated.
4.62	0	130129	JL	Chapter "Introduction" * Section "J-Link / J-Trace models" Sub-section "J-link ULTRA" updated.
4.62	0	130124	EL	Chapter "Target interfaces and adapters" * Section "9-pin JTAG/SWD connector" Pinout description corrected.
4.58	1	121206	AG	Chapter "Introduction" * Section "J-Link / J-Trace models" updated.
4.58	0	121126	JL	Chapter "Working with J-Link" * Section "J-Link script files" Sub-section "Executing J-Link script files" updated.
4.56b	0	121112	JL	Chapter "Related Software" * Section "J-Link SWO Viewer" Added sub-section "Configure SWO output after device reset"
4.56a	0	121106	JL	Chapter "Related Software" * Section "J-Link Commander" Renamed "Commander script files" to "Commander files" and "script mode" to "batch mode".
4.56	0	121022	AG	Renamed "J-Link TCP/IP Server" to "J-Link Remote Server"
4.54	1	121009	JL	Chapter "Related Software" * Section "TCP/IP Server", subsection "Tunneling Mode" added.
4.54	0	120913	EL	Chapter "Flash Breakpoints" * Section "Licensing" updated. Chapter "Device specifics" * Section "Freescale", subsection "Data flash support" added.
4.53c	0	120904	EL	Chapter "Licensing" * Section "Device-based license" updated.
4.51h	0	120717	EL	Chapter "Flash download" * Section "J-Link commander" updated. Chapter "Support and FAQs" * Section "Frequently asked questions" updated. Chapter "J-Link and J-Trace related software"

Manual version	Revision	Date	By	Description
				* Section "J-Link Commander" updated.
4.51e	1	120704	EL	Chapter "Working with J-Link" * Section "Reset strategies" updated and corrected. Added reset type 8.
4.51e	0	120704	AG	Chapter "Device specifics" * Section "ST" updated and corrected.
4.51b	0	120611	EL	Chapter "J-Link and J-Trace related software" * Section "SWO Viewer" added.
4.51a	0	120606	EL	Chapter "Device specifics" * Section "ST", subsection "ETM init" for some STM32 devices added. * Section "Texas Instruments" updated. Chapter "Target interfaces and adapters" * Section "Pinout for SWD" updated.
4.47a	0	120419	AG	Chapter "Device specifics" * Section "Texas Instruments" updated.
4.46	0	120416	EL	Chapter "Support" updated.
4.42	0	120214	EL	Chapter "Working with J-Link" * Section "J-Link script files" updated.
4.36	1	110927	EL	Chapter "Flash download" added. Chapter "Flash breakpoints" added. Chapter "Target interfaces and adapters" * Section "20-pin JTAG/SWD connector" updated. Chapter "RDI" added. Chapter "Setup" updated. Chapter "Device specifics" updated.
4.36	0	110909	AG	Chapter "Working with J-Link" * Section "J-Link script files" updated.
4.26	1	110513	KN	Chapter "Introduction" * Section "J-Link / J-Trace models" corrected.
4.26	0	110427	KN	Several corrections.
4.24	1	110228	AG	Chapter "Introduction" * Section "J-Link / J-Trace models" corrected. Chapter "Device specifics" * Section "ST Microelectronics" updated.
4.24	0	110216	AG	Chapter "Device specifics" * Section "Samsung" added. Chapter "Working with J-Link" * Section "Reset strategies" updated. Chapter "Target interfaces and adapters" * Section "9-pin JTAG/SWD connector" added.
4.23d	0	110202	AG	Chapter "J-Link and J-Trace related software" * Section "J-Link software and documentation package in detail" updated. Chapter "Introduction" * Section "Built-in intelligence for supported CPU-cores" added.
4.21g	0	101130	AG	Chapter "Working with J-Link" * Section "Reset strategies" updated. Chapter "Device specifics" * Section "Freescale" updated. Chapter "Flash download and flash breakpoints" * Section "Supported devices" updated * Section "Setup for different debuggers (CFI flash)" updated.
4.21	0	101025	AG	Chapter "Device specifics" * Section "Freescale" updated.
4.20j	0	101019	AG	Chapter "Working with J-Link" * Section "Reset strategies" updated.
4.20b	0	100923	AG	Chapter "Working with J-Link" * Section "Reset strategies" updated.
0.00	90	100818	AG	Chapter "Working with J-Link" * Section "J-Link script files" updated. * Section "Command strings" updated. Chapter "Target interfaces and adapters" * Section "19-pin JTAG/SWD and Trace connector" corrected. Chapter "Setup"



Manual version	Revision	Date	By	Description
				* Section "J-Link Configurator added."
0.00	89	100630	AG	Several corrections.
0.00	88	100622	AG	Chapter "J-Link and J-Trace related software" * Section "SWO Analyzer" added.
0.00	87	100617	AG	Several corrections.
0.00	86	100504	AG	Chapter "Introduction" * Section "J-Link / J-Trace models" updated. Chapter "Target interfaces and adapters" * Section "Adapters" updated.
0.00	85	100428	AG	Chapter "Introduction" * Section "J-Link / J-Trace models" updated.
0.00	84	100324	KN	Chapter "Working with J-Link and J-Trace" * Several corrections Chapter Flash download & flash breakpoints * Section "Supported devices" updated
0.00	83	100223	KN	Chapter "Introduction" * Section "J-Link / J-Trace models" updated.
0.00	82	100215	AG	Chapter "Working with J-Link" * Section "J-Link script files" added.
0.00	81	100202	KN	Chapter "Device Specifics" * Section "Luminary Micro" updated. Chapter "Flash download and flash breakpoints" * Section "Supported devices" updated.
0.00	80	100104	KN	Chapter "Flash download and flash breakpoints" * Section "Supported devices" updated
0.00	79	091201	AG	Chapter "Working with J-Link and J-Trace" * Section "Reset strategies" updated. Chapter "Licensing" * Section "J-Link OEM versions" updated.
0.00	78	091023	AG	Chapter "Licensing" * Section "J-Link OEM versions" updated.
0.00	77	090910	AG	Chapter "Introduction" * Section "J-Link / J-Trace models" updated.
0.00	76	090828	KN	Chapter "Introduction" * Section "Specifications" updated * Section "Hardware versions" updated * Section "Common features of the J-Link product family" updated Chapter "Target interfaces and adapters" * Section "5 Volt adapter" updated
0.00	75	090729	AG	Chapter "Introduction" * Section "J-Link / J-Trace models" updated. Chapter "Working with J-Link and J-Trace" * Section "SWD interface" updated.
0.00	74	090722	KN	Chapter "Introduction" * Section "Supported IDEs" added * Section "Supported CPU cores" updated * Section "Model comparison chart" renamed to "Model comparison" * Section "J-Link bundle comparison chart" removed
0.00	73	090701	KN	Chapter "Introduction" * Section "J-Link and J-Trace models" added * Sections "Model comparison chart" & "J-Link bundle comparison chart" added Chapter "J-Link and J-Trace models" removed Chapter "Hardware" renamed to "Target interfaces & adapters" * Section "JTAG Isolator" added Chapter "Target interfaces and adapters" * Section "Target board design" updated Several corrections
0.00	72	090618	AG	Chapter "Working with J-Link" * Section "J-Link control panel" updated. Chapter "Flash download and flash breakpoints" * Section "Supported devices" updated.

Manual version	Revision	Date	By	Description
				Chapter "Device specifics" * Section "NXP" updated.
0.00	71	090616	AG	Chapter "Device specifics" * Section "NXP" updated.
0.00	70	090605	AG	Chapter "Introduction" * Section "Common features of the J-Link product family" updated.
0.00	69	090515	AG	Chapter "Working with J-Link" * Section "Reset strategies" updated. * Section "Indicators" updated. Chapter "Flash download and flash breakpoints" * Section "Supported devices" updated.
0.00	68	090428	AG	Chapter "J-Link and J-Trace related software" * Section "J-Link STM32 Commander" added. Chapter "Working with J-Link" * Section "Reset strategies" updated.
0.00	67	090402	AG	Chapter "Working with J-Link" * Section "Reset strategies" updated.
0.00	66	090327	AG	Chapter "Background information" * Section "Embedded Trace Macrocell (ETM)" updated. Chapter "J-Link and J-Trace related software" * Section "Dedicated flash programming utilities for J-Link" updated.
0.00	65	090320	AG	Several changes in the manual structure.
0.00	64	090313	AG	Chapter "Working with J-Link" * Section "Indicators" added.
0.00	63	090212	AG	Chapter "Hardware" * Several corrections. * Section "Hardware Versions" Version 8.0 added.
0.00	62	090211	AG	Chapter "Working with J-Link and J-Trace" * Section "Reset strategies" updated. Chapter J-Link and J-Trace related software * Section "J-Link STR91x Commander (Command line tool)" updated. Chapter "Device specifics" * Section "ST Microelectronics" updated. Chapter "Hardware" updated.
0.00	61	090120	TQ	Chapter "Working with J-Link" * Section "Cortex-M3 specific reset strategies"
0.00	60	090114	AG	Chapter "Working with J-Link" * Section "Cortex-M3 specific reset strategies"
0.00	59	090108	KN	Chapter Hardware * Section "Target board design for JTAG" updated. * Section "Target board design for SWD" added.
0.00	58	090105	AG	Chapter "Working with J-Link Pro" * Section "Connecting J-Link Pro the first time" updated.
0.00	57	081222	AG	Chapter "Working with J-Link Pro" * Section "Introduction" updated. * Section "Configuring J-Link Pro via web interface" updated. Chapter "Introduction" * Section "J-Link Pro overview" updated.
0.00	56	081219	AG	Chapter "Working with J-Link Pro" * Section "FAQs" added. Chapter "Support and FAQs" * Section "Frequently Asked Questions" updated.
0.00	55	081218	AG	Chapter "Hardware" updated.
0.00	54	081217	AG	Chapter "Working with J-Link and J-Trace" * Section "Command strings" updated.
0.00	53	081216	AG	Chapter "Working with J-Link Pro" updated.
0.00	52	081212	AG	Chapter "Working with J-Link Pro" added. Chapter "Licensing" * Section "Original SEGGER products" updated.
0.00	51	081202	KN	Several corrections.

Manual version	Revision	Date	By	Description
0.00	50	081030	AG	Chapter "Flash download and flash breakpoints" * Section "Supported devices" corrected.
0.00	49	081029	AG	Several corrections.
0.00	48	080916	AG	Chapter "Working with J-Link and J-Trace" * Section "Connecting multiple J-Links / J-Traces to your PC" updated.
0.00	47	080910	AG	Chapter "Licensing" updated.
0.00	46	080904	AG	Chapter "Licensing" added. Chapter "Hardware" Section "J-Link OEM versions" moved to chapter "Licensing"
0.00	45	080902	AG	Chapter "Hardware" Section "JTAG+Trace connector" JTAG+Trace connector pinout corrected. Section "J-Link OEM versions" updated.
0.00	44	080827	AG	Chapter "J-Link control panel" moved to chapter "Working with J-Link". Several corrections.
0.00	43	080826	AG	Chapter "Flash download and flash breakpoints" Section "Supported devices" updated.
0.00	42	080820	AG	Chapter "Flash download and flash breakpoints" Section "Supported devices" updated.
0.00	41	080811	AG	Chapter "Flash download and flash breakpoints" updated. Chapter "Flash download and flash breakpoints", section "Supported devices" updated.
0.00	40	080630	AG	Chapter "Flash download and flash breakpoints" updated. Chapter "J-Link status window" renamed to "J-Link control panel" Various corrections.
0.00	39	080627	AG	Chapter "Flash download and flash breakpoints" Section "Licensing" updated. Section "Using flash download and flash breakpoints with different debuggers" updated. Chapter "J-Link status window" added.
0.00	38	080618	AG	Chapter "Support and FAQs" Section "Frequently Asked Questions" updated Chapter "Reset strategies" Section "Cortex-M3 specific reset strategies" updated.
0.00	37	080617	AG	Chapter "Reset strategies" Section "Cortex-M3 specific reset strategies" updated.
0.00	36	080530	AG	Chapter "Hardware" Section "Differences between different versions" updated. Chapter "Working with J-Link and J-Trace" Section "Cortex-M3 specific reset strategies" added.
0.00	35	080215	AG	Chapter "J-Link and J-Trace related software" Section "J-Link software and documentation package in detail" updated.
0.00	34	080212	AG	Chapter "J-Link and J-Trace related software" Section "J-Link TCP/IP Server (Remote J-Link / J-Trace use)" updated. Chapter "Working with J-Link and J-Trace" Section "Command strings" updated. Chapter "Flash download and flash breakpoints" Section "Introduction" updated. Section "Licensing" updated. Section "Using flash download and flash breakpoints with different debuggers" updated.
0.00	33	080207	AG	Chapter "Flash download and flash breakpoints" added Chapter "Device specifics:" Section "ATMEL - AT91SAM7 - Recommended init sequence" added.
0.00	32	080129	SK	Chapter "Device specifics": Section "NXP - LPC - Fast GPIO bug" list of device enhanced.
0.00	31	080103	SK	Chapter "Device specifics": Section "NXP - LPC - Fast GPIO bug" updated.
0.00	30	071211	AG	Chapter "Device specifics": Section "Analog Devices" updated. Section "ATMEL" updated.

Manual version	Revision	Date	By	Description
				Section "Freescale" added. Section "Luminary Micro" added. Section "NXP" updated. Section "OKI" added. Section "ST Microelectronics" updated. Section "Texas Instruments" updated. Chapter "Related software": Section "J-Link STR91x Commander" updated
0.00	29	070912	SK	Chapter "Hardware", section "Target board design" updated.
0.00	28	070912	SK	Chapter "Related software": Section "J-LinkSTR91x Commander" added. Chapter "Device specifics": Section "ST Microelectronics" added. Section "Texas Instruments" added. Subsection "AT91SAM9" added.
0.00	28	070912	AG	Chapter "Working with J-Link/J-Trace": Section "Command strings" updated.
0.00	27	070827	TQ	Chapter "Working with J-Link/J-Trace": Section "Command strings" updated.
0.00	26	070710	SK	Chapter "Introduction": Section "Features of J-Link" updated. Chapter "Background Information": Section "Embedded Trace Macrocell" added. Section "Embedded Trace Buffer" added.
0.00	25	070516	SK	Chapter "Working with J-Link/J-Trace": Section "Reset strategies in detail" - "Software, for Analog Devices ADuC7xxx MCUs" updated - "Software, for ATMEL AT91SAM7 MCUs" added. Chapter "Device specifics" Section "Analog Devices" added. Section "ATMEL" added.
0.00	24	070323	SK	Chapter "Setup": "Uninstalling the J-Link driver" updated. "Supported ARM cores" updated.
0.00	23	070320	SK	Chapter "Hardware": "Using the JTAG connector with SWD" updated.
0.00	22	070316	SK	Chapter "Hardware": "Using the JTAG connector with SWD" added.
0.00	21	070312	SK	Chapter "Hardware": "Differences between different versions" supplemented.
0.00	20	070307	SK	Chapter "J-Link / J-Trace related software": "J-Link GDB Server" licensing updated.
0.00	19	070226	SK	Chapter "J-Link / J-Trace related software" updated and reorganized. Chapter "Hardware" "List of OEM products" updated
0.00	18	070221	SK	Chapter "Device specifics" added Subchapter "Command strings" added
0.00	17	070131	SK	Chapter "Hardware": "Version 5.3": Current limits added "Version 5.4" added Chapter "Setup": "Installing the J-Link USB driver" removed. "Installing the J-Link software and documentation pack" added. Subchapter "List of OEM products" updated. "OS support" updated
0.00	16	061222	SK	Chapter "Preface": "Company description" added. J-Link picture changed.
0.00	15	060914	OO	Subchapter 1.5.1: Added target supply voltage and target supply current to specifications. Subchapter 5.2.1: Pictures of ways to connect J-Trace.
0.00	14	060818	TQ	Subchapter 4.7 "Using DCC for memory reads" added.
0.00	13	060711	OO	Subchapter 5.2.2: Corrected JTAG+Trace connector pinout table.

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0.00	3	051021	TQ	Performance values updated.
0.00	2	051011	TQ	Chapter "Working with J-Link" added.
0.00	1	050818	TW	Initial Version



# About this document

---

## Assumptions

This document assumes that you already have a solid knowledge of the following:

- The software tools used for building your application (assembler, linker, C compiler).
- The C programming language.
- The target processor.
- DOS command line.

If you feel that your knowledge of C is not sufficient, we recommend *The C Programming Language* by Kernighan and Richie (ISBN 0-13-1103628), which describes the standard in C programming and, in newer editions, also covers the ANSI C standard.

## How to use this manual

This manual explains all the functions and macros that the product offers. It assumes you have a working knowledge of the C language. Knowledge of assembly programming is not required.

## Typographic conventions for syntax

This manual uses the following typographic conventions:

Style	Used for
Body	Body text.
Keyword	Text that you enter at the command prompt or that appears on the display (that is system functions, file- or pathnames).
Parameter	Parameters in API functions.
Sample	Sample code in program examples.
Sample comment	Comments in program examples.
Reference	Reference to chapters, sections, tables and figures or other documents.
GUI Element	Buttons, dialog boxes, menu names, menu commands.
Emphasis	Very important sections.



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# Chapter 1

## Introduction

---

This is the user documentation for owners of SEGGER debug probes, J-Link and J-Trace. This manual documents the software which with the J-Link Software and Documentation Package as well as advanced features of J-Link and J-Trace, like Real Time Transfer ([RTT](#)), [J-Link Script Files](#) or [Trace](#).



# 1.1 Requirements

## Host System

To use J-Link or J-Trace you need a host system running Windows 2000 or later. For a list of all operating systems which are supported by J-Link, please refer to *Supported OS* on page 24.

## Target System

A target system with a supported CPU is required. You should make sure that the emulator you are looking at supports your target CPU. For more information about which J-Link features are supported by each emulator, please refer to *SEGGER debug probes* on page 29.

## 1.2 Supported OS

J-Link/J-Trace can be used on the following operating systems:

- Microsoft Windows 2000
- Microsoft Windows XP
- Microsoft Windows XP x64
- Microsoft Windows 2003
- Microsoft Windows 2003 x64
- Microsoft Windows Vista
- Microsoft Windows Vista x64
- Microsoft Windows 7
- Microsoft Windows 7 x64
- Microsoft Windows 8
- Microsoft Windows 8 x64
- Microsoft Windows 10
- Microsoft Windows 10 x64
- Linux
- macOS 10.5 and higher

## 1.3 Common features of the J-Link product family

- USB 2.0 interface (Full-Speed/Hi-Speed, depends on J-Link model)
- Any ARM7/ARM9/ARM11 (including thumb mode), Cortex-A5/A7/A8/A9/A12/A15/A17, Cortex-M0/M1/M3/M4/M7/M23/M33, Cortex-R4/R5 core supported
- Automatic core recognition
- Maximum interface speed 15/50 MHz (depends on J-Link model)
- Seamless integration into all major IDEs ( [List of supported IDEs](#) )
- No power supply required, powered through USB
- Support for adaptive clocking
- All JTAG signals can be monitored, target voltage can be measured
- Support for multiple devices
- Fully plug and play compatible
- Standard 20-pin JTAG/SWD connector, 19-pin JTAG/SWD and Trace connector, standard 38-pin JTAG+Trace connector
- USB and 20-pin ribbon cable included
- Memory viewer (J-Mem) included
- Remote server included, which allows using J-Trace via TCP/IP networks
- RDI interface available, which allows using J-Link with RDI compliant software
- Flash programming software (J-Flash) available
- Flash DLL available, which allows using flash functionality in custom applications
- Software Developer Kit (SDK) available
- 14-pin JTAG adapter available
- J-Link 19-pin Cortex-M Adapter available
- J-Link 9-pin Cortex-M Adapter available
- Adapter for 5V JTAG targets available for hardware revisions up to 5.3
- Optical isolation adapter for JTAG/SWD interface available
- Target power supply via pin 19 of the JTAG/SWD interface (up to 300 mA to target with overload protection), alternatively on pins 11 and 13 of the Cortex-M 19-pin trace connector