

e² studio 7.1.0

Release Note

R20UT4393EE0100 Rev.1.00 Oct 2nd, 2018

Introduction

This document outlines the device support, new features added in 7.1.0, fixed issues and open issues in e² studio 7.1.0.

Contents

1.	Product Information2
1.1	1 Supported Operating Systems2
1.2	2 Supported Toolchains 2
2.	Device Support
2.1	1 Project Generator Support
2.2	2 Code Generator Support 10
3.	Smart Manual Support14
4.	What is new in 7.1.0?15
5.	What is new in 7.0.0?25
6.	Useful workarounds and information for 7.1.037
7.	Open Issues in 7.1.047
8.	Appendix48
8.1	1 Website and Support



1. Product Information

1.1 Supported Operating Systems

These operating systems are officially supported by e² studio:

- Windows 7 32-bit
- Windows 7 64-bit
- Windows 8.1 32-bit
- Windows 8.1 64-bit
- Windows 10 32-bit
- Windows 10 64-bit

1.2 Supported Toolchains

The following toolchains are supported in e² studio 7.1.0.

		Renesas	GNU Arm Embedded (*2)	Renesas GCC/ GNURZ/ARM (*3)	IAR (*4)	Green Hills (*5)
	RL78	Yes (CC-RL)	No	Yes	Yes	No
Device Family	RX	Yes (CC-RX)	No	Yes	Yes	No
	RH850	No	No	No	Yes	Yes
	RZ/ARM	No	No (*1)	Yes	Yes	No
	Synergy/ARM	No	Yes	No	Yes	No

Note:

*1: Project converter is available to convert from GNUARM RZ/none to GNU ARM Embedded toolchain.

- *2: The GCC toolchains for RZ Family and Renesas Synergy[™] are distributed via Arm Developer at <u>https://developer.arm.com/open-source/gnu-toolchain/gnu-rm</u> or Launchpad.net at: <u>https://launchpad.net/gcc-arm-embedded</u>.
- *3: Legacy GNUARM toolchains are available from https://gcc-renesas.com/. In addition, the latest RX and RL78 Renesas GCC toolchains are available from this website.
- *4: The IAR toolchain plugins are available via the "Help"->"IAR Embedded Workbench plugin manager" menu in e² studio. These Eclipse plugins are provided by IAR and are not supported by Renesas.
- *5: The Green Hills toolchain plugins are available within the e² studio product. These plugins are provided by Green Hills and are not supported by Renesas.



2. Device Support

2.1 **Project Generator Support**

Note: The Renesas SH device family is no longer supported in e² studio.

CPU	Family	Devices
EC-1	EC-1	R9A06G043
	C1H	R7F701260, R7F701270,(Debug Support Only)
	C1M	R7F701263, R7F701271,(Debug Support Only)
	D1L1	R7F701401, R7F701421,(Debug Support Only)
	D1L2	R7F701402, R7F701422,(Debug Support Only)
	D1M1	R7F701404, R7F701405,(Debug Support Only)
	D1M2	R7F701408, R7F701410, R7F701428, R7F701430,(Debug Support Only)
	E1L	R7F701201, R7F701205,(Debug Support Only)
	E1M-S	R7F701202, R7F701204,(Debug Support Only)
	-	R7F701Z05, R7F701Z06, R7F701Z07,(Debug Support Only)
	F1H	R7F701501, R7F701502, R7F701503, R7F701506, R7F701507, R7F701508, R7F701511, R7F701512, R7F701513,(Debug Support Only)
RH850	F1H- GW	R7F701521, R7F701522, R7F701524, R7F701525,(Debug Support Only)
	F1K	R7F701542, R7F701543, R7F701546, R7F701547, R7F701557, R7F701560, R7F701561, R7F701562, R7F701563, R7F701566, R7F701567, R7F701577, R7F701580, R7F701581, R7F701582, R7F701583, R7F701586, R7F701587, R7F701597, R7F701602, R7F701603, R7F701610, R7F701611, R7F701612, R7F701613, R7F701620, R7F701621, R7F701622, R7F701623,(Debug Support Only)
	F1KH	R7F701708, R7F701709, R7F701710, R7F701711, R7F701714, R7F701715,(Debug Support Only)
	F1KM	R7F701644, R7F701645, R7F701646, R7F701647, R7F701648, R7F701649, R7F701650, R7F701651, R7F701684, R7F701685, R7F701686, R7F701687, R7F701688, R7F701689, R7F701690, R7F701691, R7F701692, R7F701693, R7F701694, R7F701695,(Debug Support Only)



	F1L	R7F701002xAFP, R7F701003xAFP, R7F701006xAFP, R7F701007xAFP, R7F701008xAFP, R7F701009xAFP, R7F701010xAFP, R7F701011xAFP, R7F701012xAFP, R7F701013xAFP, R7F701014xAFP, R7F701015xAFP, R7F701016xAFP, R7F701017xAFP, R7F701018xAFP, R7F701019xAFP, R7F701020xAFP, R7F701021xAFP, R7F701022xAFP, R7F701023xAFP, R7F701024xAFP, R7F701025xAFP, R7F701026xAFP, R7F701027xAFP, R7F701028xAFP, R7F701029xAFP, R7F701030xAFP, R7F701032xAFP, R7F701033xAFP, R7F701034xAFP, R7F701040, R7F701041, R7F701042, R7F701043, R7F701044, R7F701045, R7F701046, R7F701047, R7F701048, R7F701054, R7F701050, R7F701051, R7F701052, R7F701053, R7F701054, R7F701055, R7F701056, R7F701057, (Debug Support Only)
	F1M	R7F701544, R7F701545, R7F701548, R7F701549, R7F701552, R7F701553, R7F701564, R7F701565, R7F701568, R7F701569, R7F701572, R7F701573,(Debug Support Only)
	P1H-C	R7F701370AEEBG, R7F701371EABG, R7F701372EABG, R7F701396EABG,(Debug Support Only)
	P1L-C	R7F701388, R7F701389, R7F701390, R7F701391,(Debug Support Only)
	P1M	R7F701304, R7F701305, R7F701310, R7F701311, R7F701312, R7F701313, R7F701314, R7F701315, R7F701318, R7F701319, R7F701320, R7F701321, R7F701322, R7F701323,(Debug Support Only)
	P1M-C	R7F701373xABG, R7F701374xAFP, R7F701397xABG,(Debug Support Only)
	P1M-E	R7F701375, R7F701376, R7F701377, R7F701378, R7F701379, R7F701380, R7F701381, R7F701382, R7F701383, R7F701384, R7F701385, R7F701386,(Debug Support Only)
	-	R7F701060xAFP, R7F701062xAFP, R7F701064xAFP, R7F701065xAFP, R7F701067xAFP, R7F701069xAFP, R7F701071xAFP,(Debug Support Only)
RL78	D1A	R5F10CGB, R5F10CGC, R5F10CGD, R5F10CLD, R5F10CMD, R5F10CME, R5F10DGC, R5F10DGD, R5F10DGE, R5F10DLD, R5F10DLE, R5F10DMD, R5F10DME, R5F10DMF, R5F10DMG, R5F10DMJ, R5F10DPE, R5F10DPF, R5F10DPG, R5F10DPJ, R5F10DPK, R5F10DPL, R5F10DSJ, R5F10DSK, R5F10DSL, R5F10TPJ
NL/O	F12	R5F10968, R5F1096A, R5F1096B, R5F1096C, R5F1096D, R5F1096E, R5F109AA, R5F109AB, R5F109AC, R5F109AD, R5F109AE, R5F109BA, R5F109BB, R5F109BC, R5F109BD, R5F109BE, R5F109GA, R5F109GB, R5F109GC, R5F109GD, R5F109GE, R5F109LA, R5F109LB, R5F109LC, R5F109LD, R5F109LE

F13	R5F10A6A, R5F10A6C, R5F10A6D, R5F10A6E, R5F10AAA, R5F10AAC, R5F10AAD, R5F10AAE, R5F10ABA, R5F10ABC, R5F10ABD, R5F10ABE, R5F10AGA, R5F10AGC, R5F10AGD, R5F10AGE, R5F10AGF, R5F10AGG, R5F10ALC, R5F10ALD, R5F10ALE, R5F10ALF, R5F10ALG, R5F10AME, R5F10AMF, R5F10AMG, R5F10BAC, R5F10BAD, R5F10BAE, R5F10BAF, R5F10BAG, R5F10BBC, R5F10BBD, R5F10BBE, R5F10BBF, R5F10BBG, R5F10BGC, R5F10BGD, R5F10BGE, R5F10BGF, R5F10BGG, R5F10BLC, R5F10BLD, R5F10BLE, R5F10BLF, R5F10BLG, R5F10BME, R5F10BMF, R5F10BMG
F14	R5F10PAD, R5F10PAE, R5F10PBD, R5F10PBE, R5F10PGD, R5F10PGE, R5F10PGF, R5F10PGG, R5F10PGH, R5F10PGJ, R5F10PLE, R5F10PLF, R5F10PLG, R5F10PLH, R5F10PLJ, R5F10PME, R5F10PMF, R5F10PMG, R5F10PMH, R5F10PMJ, R5F10PPE, R5F10PPF, R5F10PPG, R5F10PPH, R5F10PPJ
F15	R5F113GK, R5F113GL, R5F113LK, R5F113LL, R5F113MK, R5F113ML, R5F113PG, R5F113PH, R5F113PJ, R5F113PK, R5F113PL, R5F113TG, R5F113TH, R5F113TJ, R5F113TK, R5F113TL
F1A	R5F114GC, R5F114GD, R5F114GE, R5F114GF, R5F114GG
F1E	R5F11KLE, R5F11LLG
G10	R5F10Y14, R5F10Y16, R5F10Y17, R5F10Y44, R5F10Y46, R5F10Y47
G11	R5F1051A, R5F1054A, R5F1056A, R5F1057A, R5F1058A
G12	R5F10266, R5F10267, R5F10268, R5F10269, R5F1026A, R5F10277, R5F10278, R5F10279, R5F1027A, R5F102A7, R5F102A8, R5F102A9, R5F102AA, R5F10366, R5F10367, R5F10368, R5F10369, R5F1036A, R5F10377, R5F10378, R5F10379, R5F1037A, R5F103A7, R5F103A8, R5F103A9, R5F103AA



• • • • • •	
G13	RSF1006A, RSF1006C, RSF1006D, RSF1006E, RSF1007A, RSF1007C, RSF1007D, RSF1007E, RSF1008A, RSF1008C, RSF1008D, RSF1008E, RSF100AA, RSF100AC, RSF100AD, RSF100AE, RSF100AF, RSF100AG, RSF100BA, RSF100BC, RSF100BD, RSF100E, RSF100EF, RSF100BG, RSF100CA, RSF100CC, RSF100CD, RSF100E, RSF100EF, RSF100CG, RSF100EA, RSF100FC, RSF100ED, RSF100FD, RSF100FF, RSF100FG, RSF100FA, RSF100FA, RSF100FC, RSF100FD, RSF100FE, RSF100GA, RSF100GC, RSF100GD, RSF100GE, RSF100FJ, RSF100FF, RSF100GC, RSF100GD, RSF100GE, RSF100GF, RSF100GG, RSF100GH, RSF100GC, RSF100GD, RSF100GE, RSF100JC, RSF100JD, RSF100JE, RSF100JJ, RSF100GN, RSF100GL, RSF100JC, RSF100JD, RSF100JL, RSF100JJ, RSF100JG, RSF100JH, RSF100JJ, RSF100JD, RSF100JL, RSF100JJ, RSF100JK, RSF100JL, RSF100JF, RSF100JG, RSF100JH, RSF100JJ, RSF100LK, RSF100LL, RSF100JF, RSF100JG, RSF100DH, RSF100JJ, RSF100HK, RSF100HL, RSF100MF, RSF100MG, RSF100MH, RSF100JJ, RSF100FK, RSF100FL, RSF100SH, RSF100JJ, RSF100FK, RSF100JJ, RSF101AA, RSF100FL, RSF101AB, RSF101AB, RSF1017A, RSF1017C, RSF1017D, RSF1017E, RSF101BD, RSF101AE, RSF101AF, RSF101AG, RSF101AA, RSF101AC, RSF101AD, RSF101AE, RSF101AF, RSF101AG, RSF101AA, RSF101CC, RSF101AD, RSF101AE, RSF101AF, RSF101AG, RSF101EA, RSF101FL, RSF101FL, RSF101FF, RSF101FF, RSF101FA, RSF101FA, RSF101FD, RSF101FE, RSF101FF, RSF101FF, RSF101FA, RSF101FA, RSF101FC, RSF101FE, RSF101FF, RSF101FF, RSF101FA, RSF101FA, RSF101FC, RSF101FF, RSF101FF, RSF101FA, RSF101FA, RSF101FC, RSF101FF, RSF101FF, RSF101FA, RSF101FA, RSF101FC, RSF101FF, RSF101FF, RSF101FA, RSF101FA, RSF101FF, RSF101FF, RSF101FF, RSF101FA, RSF101FA, RSF101FF, RSF101FF, RSF101FF, RSF101FA, RSF101FA, RSF101FC, RSF101FF, RSF101FF, RSF101FA, RSF101FA, RSF101FF, RSF101FF, RSF101FF, RSF101FA, RSF101FA, RSF101FF, RSF101FF, RSF101FF, RSF101FA, RSF101FA, RSF101FF, RSF101FF, RSF101FF, RSF101FA, RSF101FA, RSF101FF, RSF101FF, RSF101FF, RSF101FA, RSF101FF, RSF101FF, RSF101FF, RSF101FF, RSF101FA, RSF101FF, RSF101FF, RSF101FF, RSF101FF, RSF101FA, RSF101FF, RSF101FF, RSF101FF, RSF101FF, RSF101FA, RSF101FF, RSF101FF
G14	RSF104AA, RSF104AC, RSF104AD, RSF104AE, RSF104AF, RSF104AG, RSF104BA, RSF104BC, RSF104BD, RSF104BE, RSF104BF, RSF104BG, RSF104CA, RSF104CC, RSF104CD, RSF104CE, RSF104CF, RSF104CG, RSF104EA, RSF104EC, RSF104ED, RSF104EE, RSF104EF, RSF104EG, RSF104EH, RSF104FA, RSF104FC, RSF104FD, RSF104FE, RSF104FF, RSF104FG, RSF104FH, RSF104FJ, RSF104GA, RSF104GC, RSF104GD, RSF104GE, RSF104GF, RSF104GG, RSF104GH, RSF104GJ, RSF104GK, RSF104GL, RSF104JC, RSF104JD, RSF104JE, RSF104JF, RSF104JG, RSF104JH, RSF104JJ, RSF104LC, RSF104LD, RSF104LE, RSF104HF, RSF104HG, RSF104HH, RSF104LJ, RSF104LK, RSF104LL, RSF104MF, RSF104MG, RSF104MH, RSF104PJ, RSF104PK, RSF104PL
G1A	R5F10E8A, R5F10E8C, R5F10E8D, R5F10E8E, R5F10EBA, R5F10EBC, R5F10EBD, R5F10EBE, R5F10EGA, R5F10EGC, R5F10EGD, R5F10EGE, R5F10ELC, R5F10ELD, R5F10ELE
G1C	R5F10JBC, R5F10JGC, R5F10KBC, R5F10KGC
G1D	R5F11AGG, R5F11AGH, R5F11AGJ
010	

	G1E	R5F10FLC, R5F10FLD, R5F10FLE, R5F10FMC, R5F10FMD, R5F10FME
	G1F	R5F11B7C, R5F11B7E, R5F11BBC, R5F11BBE, R5F11BCC, R5F11BCE, R5F11BGC, R5F11BGE, R5F11BLC, R5F11BLE
	G1G	R5F11EA8, R5F11EAA, R5F11EB8, R5F11EBA, R5F11EF8, R5F11EFA
	G1H	R5F11FLJ, R5F11FLK, R5F11FLL
	H1D	R5F11NGF, R5F11NGG, R5F11NLF, R5F11NLG, R5F11NME, R5F11NMF, R5F11NMG, R5F11PLF, R5F11PLG, R5F11RMG
•	I1A	R5F1076C, R5F107AC, R5F107AE, R5F107DE
•	I1B	R5F10MME, R5F10MMG, R5F10MPE, R5F10MPG
	I1C	R5F10NLE, R5F10NLG, R5F10NME, R5F10NMG, R5F10NMJ, R5F10NPG, R5F10NPJ
	I1D	R5F11768, R5F1176A, R5F11778, R5F1177A, R5F117A8, R5F117AA, R5F117AC, R5F117BA, R5F117BC, R5F117GA, R5F117GC
	I1E	R5F11CBC, R5F11CCC
	L12	R5F10RB8, R5F10RBA, R5F10RBC, R5F10RF8, R5F10RFA, R5F10RFC, R5F10RG8, R5F10RGA, R5F10RGC, R5F10RJ8, R5F10RJA, R5F10RJC, R5F10RLA, R5F10RLC
	L13	R5F10WLA, R5F10WLC, R5F10WLD, R5F10WLE, R5F10WLF, R5F10WLG, R5F10WMA, R5F10WMC, R5F10WMD, R5F10WME, R5F10WMF, R5F10WMG
	L1A	R5F11MMD, R5F11MME, R5F11MMF, R5F11MPE, R5F11MPF, R5F11MPG
	L1C	R5F110ME, R5F110MF, R5F110MG, R5F110MH, R5F110MJ, R5F110NE, R5F110NF, R5F110NG, R5F110NH, R5F110NJ, R5F110PE, R5F110PF, R5F110PG, R5F110PH, R5F110PJ, R5F111ME, R5F111MF, R5F111MG, R5F111MH, R5F111MJ, R5F111NE, R5F111NF, R5F111NG, R5F111NH, R5F111NJ, R5F111PE, R5F111PF, R5F111PG, R5F111PH, R5F111PJ
	110	R5F51101, R5F51103, R5F51104, R5F51105, R5F5110H, R5F5110J
	111	R5F51111, R5F51113, R5F51114, R5F51115, R5F51116, R5F51117, R5F51118, R5F5111J
	113	R5F51135, R5F51136, R5F51137, R5F51138
	130	R5F51303, R5F51305, R5F51305B, R5F51306, R5F51306B, R5F51307, R5F51308
	210	R5F52103, R5F52104, R5F52105, R5F52106, R5F52107, R5F52108, R5F5210A, R5F5210B
	21A	R5F521A6, R5F521A7, R5F521A8
	220	R5F52201, R5F52203, R5F52205, R5F52206
	230	R5F52305, R5F52306

RX

	224	
	231	R5F52315, R5F52316, R5F52317, R5F52318
	23T	R5F523T3, R5F523T5
	24T	R5F524T8, R5F524TA, R5F524TB, R5F524TC, R5F524TE
	24U	R5F524UB, R5F524UC, R5F524UE
	610	R5F56104, R5F56106, R5F56107, R5F56108
	621	R5F56216, R5F56217, R5F56218
	62G	R5F562G7, R5F562GA
	62N	R5F562N7, R5F562N8
	62T	R5F562T6, R5F562T7, R5F562TA
	630	R5F56307, R5F56308, R5F5630A, R5F5630B, R5F5630D, R5F5630E
	631	R5F56316, R5F56317, R5F56318, R5F5631A, R5F5631B, R5F5631D, R5F5631E, R5F5631F, R5F5631G, R5F5631J, R5F5631K, R5F5631M, R5F5631MF, R5F5631N, R5F5631P, R5F5631PF, R5F5631W, R5F5631Y, R5S56310
	634	R5F5634B, R5F5634B_5V, R5F5634D, R5F5634D_5V, R5F5634E, R5F5634E_5V
	63N	R5F563NA, R5F563NB, R5F563ND, R5F563NE, R5F563NF, R5F563NK, R5F563NW, R5F563NY
	63T	R5F563T4, R5F563T5, R5F563T6, R5F563TB, R5F563TB_5V, R5F563TC, R5F563TC_5V, R5F563TE, R5F563TE_5V
	64M	R5F564MF, R5F564MG, R5F564MJ, R5F564ML
	651	R5F56514, R5F56517, R5F56519, R5F5651C, R5F5651C_DUAL, R5F5651E, R5F5651E_DUAL, R5F56519DMB, R5F5651EDMB, R5F5651EDMB_DUAL
	65N	R5F565N4, R5F565N7, R5F565N9, R5F565NC, R5F565NC_DUAL, R5F565NE, R5F565NE_DUAL, R5F565N9DMB, R5F565NEDMB, R5F565NEDMB_DUAL
	71M	R5F571MF, R5F571MG, R5F571MJ, R5F571ML
	A1	R7S721000, R7S721000_DualSPI, R7S721001, R7S721001_DualSPI, R7S721010, R7S721010_DualSPI, R7S721011, R7S721011_DualSPI, R7S721020, R7S721020_DualSPI, R7S721021, R7S721021_DualSPI, R7S721030, R7S721030_DualSPI, R7S721031, R7S721031_DualSPI, R7S721034, R7S721034_DualSPI
RZ	A2	R7S921040, R7S921041, R7S921042, R7S921043, R7S921051, R7S921052, R7S921053
	G1M	R8A77430
	G1E	R8A77450
	G1C	R8A77470
	G1H	R8A77420
	G1N	R8A77440

	T1	R7S910001, R7S910002, R7S910006, R7S910007, R7S910011, R7S910013, R7S910015, R7S910015_M3, R7S910016, R7S910016_M3, R7S910017, R7S910017_M3, R7S910018, R7S910018_M3, R7S910025, R7S910026, R7S910027, R7S910028, R7S910035, R7S910036, R7S910101, R7S910102, R7S910106, R7S910107, R7S910111, R7S910113, R7S910115, R7S910115_M3, R7S910116, R7S910116_M3, R7S910117, R7S910117_M3, R7S910118, R7S910118_M3, R7S910125, R7S910126, R7S910127, R7S910128, R7S910135, R7S910136
	S124	R7FS124762A01CLM, R7FS124763A01CFL, R7FS124763A01CFM, R7FS124772A01CLM, R7FS124773A01CFL, R7FS124773A01CFM, R7FS124773A01CNB, R7FS124773A01CNE, R7FS124773A01CNF
-	S128	R7FS128782A01CLM, R7FS128783A01CFJ, R7FS128783A01CFL, R7FS128783A01CFM, R7FS128783A01CNE, R7FS128783A01CNG
	S3A1	R7FS3A17C2A01CLK, R7FS3A17C3A01CFB, R7FS3A17C2A01CBJ, R7FS3A17C2A01CLJ, R7FS3A17C3A01CFM, R7FS3A17C3A01CFP, R7FS3A17C3A01CNB
	S3A3	R7FS3A37A2A01CLK, R7FS3A37A3A01CFB, R7FS3A37A2A01CBJ, R7FS3A37A2A01CLJ, R7FS3A37A3A01CFP, R7FS3A37A3A01CFM, R7FS3A37A3A01CNB
Renesas Synergy *1	S3A6	R7FS3A6782A01CLJ, R7FS3A6783A01CFL, R7FS3A6783A01CFM, R7FS3A6783A01CFP, R7FS3A6783A01CNB, R7FS3A6783A01CNE, R7FS3A6783A01CNF
-	S3A7	R7FS3A77C2A01CLK, R7FS3A77C3A01CFB, R7FS3A77C2A01CBJ, R7FS3A77C3A01CFP, R7FS3A77C2A01CLJ, R7FS3A77C3A01CFM, R7FS3A77C2A01CNB, R7FS3A77C3A01CNB
-	S5D5	R7FS5D57A2A01CLK, R7FS5D57A3A01CFB, R7FS5D57A3A01CFP, R7FS5D57C2A01CLK, R7FS5D57C3A01CFB, R7FS5D57C3A01CFP
-	S5D9	R7FS5D97C2A01CBG, R7FS5D97C3A01CFC, R7FS5D97C2A01CLK, R7FS5D97C3A01CFB, R7FS5D97C3A01CFP, R7FS5D97E2A01CBG, R7FS5D97E3A01CFC, R7FS5D97E2A01CLK, R7FS5D97E3A01CFB, R7FS5D97E3A01CFP
	\$7G2	R7FS7G27H2A01CBD, R7FS7G27G2A01CBD, R7FS7G27H2A01CBG, R7FS7G27G2A01CBG, R7FS7G27H2A01CFC, R7FS7G27H3A01CFC, R7FS7G27G2A01CFC, R7FS7G27G3A01CFC, R7FS7G27H2A01CLK, R7FS7G27G2A01CLK, R7FS7G27H3A01CFB, R7FS7G27G3A01CFB, R7FS7G27G3A01CFP

Note: *1: The Synergy Software Package (SSP) can supply additional Renesas Synergy[™] device support. Please check the release note for the SSP version you are using for additional device support.

RENESAS

2.2 Code Generator Support

CPU	Family	Devices
	D1A	R5F10CGB, R5F10CGC, R5F10CGD, R5F10CLD, R5F10CMD, R5F10CME, R5F10DGC, R5F10DGD, R5F10DGE, R5F10DLD, R5F10DLE, R5F10DMD, R5F10DME, R5F10DMF, R5F10DMG, R5F10DMJ, R5F10DPE, R5F10DPF, R5F10DPG, R5F10DPJ, R5F10TPJ
	F12	R5F10968, R5F1096A, R5F1096B, R5F1096C, R5F1096D, R5F1096E, R5F109AA, R5F109AB, R5F109AC, R5F109AD, R5F109AE, R5F109BA, R5F109BB, R5F109BC, R5F109BD, R5F109BE, R5F109GA, R5F109GB, R5F109GC, R5F109GD, R5F109GE, R5F109LA, R5F109LB, R5F109LC, R5F109LD, R5F109LE
RL78	F13	R5F10A6A, R5F10A6C, R5F10A6D, R5F10A6E, R5F10AAA, R5F10AAC, R5F10AAD, R5F10AAE, R5F10ABA, R5F10ABC, R5F10ABD, R5F10ABE, R5F10AGA, R5F10AGC, R5F10AGD, R5F10AGE, R5F10AGF, R5F10AGG, R5F10ALC, R5F10ALD, R5F10ALE, R5F10ALF, R5F10ALG, R5F10AME, R5F10AMF, R5F10AMG, R5F10BAC, R5F10BAD, R5F10BAE, R5F10BAF, R5F10BAG, R5F10BBC, R5F10BBD, R5F10BBE, R5F10BBF, R5F10BBG, R5F10BGC, R5F10BGD, R5F10BGE, R5F10BGF, R5F10BGG, R5F10BLC, R5F10BLD, R5F10BLE, R5F10BLF, R5F10BLG, R5F10BME, R5F10BMF, R5F10BMG
	F14	R5F10PAD, R5F10PAE, R5F10PBD, R5F10PBE, R5F10PGD, R5F10PGE, R5F10PGF, R5F10PGG, R5F10PGH, R5F10PGJ, R5F10PLE, R5F10PLF, R5F10PLG, R5F10PLH, R5F10PLJ, R5F10PME, R5F10PMF, R5F10PMG, R5F10PMH, R5F10PMJ, R5F10PPE, R5F10PPF, R5F10PPG, R5F10PPH, R5F10PPJ
	F15	R5F113GK, R5F113GL, R5F113LK, R5F113LL, R5F113MK, R5F113ML, R5F113PG, R5F113PH, R5F113PJ, R5F113PK, R5F113PL, R5F113TG, R5F113TH, R5F113TJ, R5F113TK, R5F113TL
	F1E	R5F11KLE, R5F11LLG
	G10	R5F10Y14, R5F10Y16, R5F10Y17, R5F10Y44, R5F10Y46, R5F10Y47
	G11	R5F1051A, R5F1054A, R5F1056A, R5F1057A, R5F1058A
	G12	R5F10266, R5F10267, R5F10268, R5F10269, R5F1026A, R5F10277, R5F10278, R5F10279, R5F1027A, R5F102A7, R5F102A8, R5F102A9, R5F102AA, R5F10366, R5F10367, R5F10368, R5F10369, R5F1036A, R5F10377, R5F10378, R5F10379, R5F1037A, R5F103A7, R5F103A8, R5F103A9, R5F103AA

G13	RSF1006A, RSF1006C, RSF1006D, RSF1006E, RSF1007A, RSF1007C, RSF1007D, RSF1007E, RSF1008A, RSF1008C, RSF1008D, RSF1008E, RSF100AA, RSF100AC, RSF100AD, RSF100AE, RSF100BF, RSF100BG, RSF100BA, RSF100BC, RSF100DD, RSF100E, RSF100EF, RSF100BG, RSF100CA, RSF100CC, RSF100CD, RSF100CE, RSF100CF, RSF100CG, RSF100EA, RSF100FC, RSF100FD, RSF100FE, RSF100FF, RSF100FG, RSF100FA, RSF100FC, RSF100FD, RSF100FE, RSF100GA, RSF100GC, RSF100GD, RSF100GE, RSF100FF, RSF100GG, RSF100GG, RSF100GD, RSF100GE, RSF100GF, RSF100JC, RSF100JD, RSF100GG, RSF100GD, RSF100GE, RSF100GL, RSF100JC, RSF100JD, RSF100GL, RSF100JF, RSF100JG, RSF100JH, RSF100JC, RSF100JD, RSF100JF, RSF100JF, RSF100JG, RSF100JH, RSF100JF, RSF100JK, RSF100JF, RSF100JF, RSF100JH, RSF100JL, RSF100JF, RSF100JK, RSF100JH, RSF100JJ, RSF100JH, RSF100JL, RSF100JF, RSF100JK, RSF100H, RSF100JJ, RSF100JH, RSF100JL, RSF100JF, RSF100HJ, RSF100HJ, RSF100JK, RSF100HL, RSF100JF, RSF100HJ, RSF100HJ, RSF100JK, RSF100HL, RSF100HF, RSF100HJ, RSF100HJ, RSF100JL, RSF100HL, RSF100HJ, RSF100HJ, RSF100HJ, RSF100FK, RSF100HL, RSF100SH, RSF101AC, RSF100SK, RSF100SL, RSF101AC, RSF101AC, RSF101AD, RSF101AC, RSF101AG, RSF101FA, RSF101AC, RSF101AD, RSF101AE, RSF101BA, RSF101AA, RSF101AC, RSF101AD, RSF101AE, RSF101BA, RSF101BA, RSF101AC, RSF101BD, RSF101AE, RSF101BF, RSF101GG, RSF101AA, RSF101AC, RSF101BD, RSF101AE, RSF101FF, RSF101GG, RSF101AA, RSF101FC, RSF101BD, RSF101FF, RSF101BF, RSF101GG, RSF101FA, RSF101FC, RSF101FF, RSF101FF, RSF101GG, RSF101FA, RSF101FC, RSF101FF, RSF101FF, RSF101GG, RSF101GG, RSF101GG, RSF101GG, RSF101GF, RSF101FF, RSF101GG, RSF101GG, RSF101GG, RSF101GG, RSF101GF, RSF101JF, RSF101GG, RSF101GG, RSF101GG, RSF101GL, RSF101JJ, RSF101JL, RSF101JL, RSF101JJ, RSF101JJ, RSF101JJ, RSF101JL, RSF101JL, RSF101JJ, RSF101JH, RSF101JL, RSF101JH, RSF101JL, RSF101JH, RSF101JH, RSF101JH, RSF101JH, RSF101JH, RSF101JH, RSF101JH, RSF101JH, RSF101JH, RSF101JH, RSF101JH, RSF101JH, RSF101HL, RSF101JH, RSF101JH, RSF101JH, RSF101JH, RSF101HL, RSF101JH, RSF101JH, RSF101JH, RSF101JH, RSF101HL, RSF101JH
G14	R5F104AA, R5F104AC, R5F104AD, R5F104AE, R5F104AF, R5F104AG, R5F104BA, R5F104BC, R5F104BD, R5F104BE, R5F104BF, R5F104BG, R5F104CA, R5F104CC, R5F104CD, R5F104CE, R5F104CF, R5F104CG, R5F104EA, R5F104EC, R5F104ED, R5F104EE, R5F104EF, R5F104EG, R5F104EH, R5F104FA, R5F104FC, R5F104FD, R5F104FE, R5F104FF, R5F104FG, R5F104FH, R5F104FJ, R5F104GA, R5F104GC, R5F104GD, R5F104GE, R5F104GF, R5F104GG, R5F104GH, R5F104GJ, R5F104GK, R5F104GL, R5F104JC, R5F104JD, R5F104JE, R5F104JF, R5F104JG, R5F104GL, R5F104JJ, R5F104JD, R5F104JE, R5F104JF, R5F104JF, R5F104GL, R5F104JJ, R5F104LJ, R5F104LD, R5F104LE, R5F104JF, R5F104LG, R5F104LH, R5F104LJ, R5F104LK, R5F104LL, R5F104MF, R5F104MG, R5F104MH, R5F104MJ, R5F104PJ, R5F104PK, R5F104PL
G1A	R5F10E8A, R5F10E8C, R5F10E8D, R5F10E8E, R5F10EBA, R5F10EBC, R5F10EBD, R5F10EBE, R5F10EGA, R5F10EGC, R5F10EGD, R5F10EGE, R5F10ELC, R5F10ELD, R5F10ELE
G1C	R5F10JBC, R5F10JGC, R5F10KBC, R5F10KGC
G1D	R5F11AGG, R5F11AGH, R5F11AGJ

G1E	R5F10FLC, R5F10FLD, R5F10FLE, R5F10FMC, R5F10FMD, R5F10FME
G1F	R5F11B7C, R5F11B7E, R5F11BBC, R5F11BBE, R5F11BCC, R5F11BCE, R5F11BGC, R5F11BGE, R5F11BLC, R5F11BLE
G1G	R5F11EA8, R5F11EAA, R5F11EB8, R5F11EBA, R5F11EF8, R5F11EFA
G1H	R5F11FLJ, R5F11FLK, R5F11FLL
H1D	R5F11NGF, R5F11NGG, R5F11NLF, R5F11NLG, R5F11NME, R5F11NMF, R5F11NMG, R5F11PLF, R5F11PLG, R5F11RMG
I1A	R5F1076C, R5F107AC, R5F107AE, R5F107DE
I1B	R5F10MME, R5F10MMG, R5F10MPE, R5F10MPG
I1C	R5F10NLE, R5F10NLG, R5F10NME, R5F10NMG, R5F10NMJ, R5F10NPJ
I1D	R5F11768, R5F1176A, R5F11778, R5F1177A, R5F117A8, R5F117AA, R5F117AC, R5F117BA, R5F117BC, R5F117GA, R5F117GC
I1E	R5F11CBC, R5F11CCC
L12	R5F10RB8, R5F10RBA, R5F10RBC, R5F10RF8, R5F10RFA, R5F10RFC, R5F10RG8, R5F10RGA, R5F10RGC, R5F10RJ8, R5F10RJA, R5F10RJC, R5F10RLA, R5F10RLC
L13	R5F10WLA, R5F10WLC, R5F10WLD, R5F10WLE, R5F10WLF, R5F10WLG, R5F10WMA, R5F10WMC, R5F10WMD, R5F10WME, R5F10WMF, R5F10WMG
L1A	R5F11MMD, R5F11MME, R5F11MMF, R5F11MPE, R5F11MPF, R5F11MPF
L1C	R5F110ME, R5F110MF, R5F110MG, R5F110MH, R5F110MJ, R5F110PE, R5F110PF, R5F110PG, R5F110PH, R5F110PJ, R5F111ME, R5F111MF, R5F111MG, R5F111MH, R5F111MJ, R5F111PE, R5F111PF, R5F111PG, R5F111PH, R5F111PJ
110	R5F51101, R5F51103, R5F51104, R5F51105, R5F5110H, R5F5110J
111	R5F51111, R5F51113, R5F51114, R5F51115, R5F51116, R5F51117, R5F51118, R5F5111J
113	R5F51135, R5F51136, R5F51137, R5F51138
130	R5F51303, R5F51305
230	R5F52305, R5F52306
231	R5F52315, R5F52316, R5F52317, R5F52318
23T	R5F523T3, R5F523T5
24T	R5F524T8, R5F524TA, R5F524TB, R5F524TC, R5F524TE
24U	R5F524UB, R5F524UC, R5F524UE
64M	R5F564MF, R5F564MG, R5F564MJ, R5F564ML
651	R5F56514, R5F56517, R5F56519

RX

	65N	R5F565N4, R5F565N7, R5F565N9
	71M	R5F571MF, R5F571MG, R5F571MJ, R5F571ML
RZ	T1	R7S910001, R7S910002, R7S910006, R7S910007, R7S910011, R7S910013, R7S910015, R7S910016, R7S910017, R7S910018, R7S910025, R7S910026, R7S910027, R7S910028, R7S910035, R7S910036, R7S910101, R7S910102, R7S910106, R7S910107, R7S910111, R7S910113, R7S910115, R7S910116, R7S910117, R7S910118, R7S910125, R7S910126, R7S910127, R7S910128, R7S910135, R7S910136



3. Smart Manual Support

Smart manual support is delivered independently of e² studio releases when available. The following devices are available as of Oct 2nd, 2018.

- RX62G
- RX62T
- RX63N
- RX63T
- RX64M
- RX71M
- RX110
- RX111
- RX113
- RX210
- RX220
- RX631
- RX651
- RX65N
- RX24U
- RX24T
- RL78/L12
- RL78/L13
- RL78/G14
- RL78/G13
- RL78/G12
- RL78/G11
- RL78/G10
- RL78/G1F



4. What is new in 7.1.0?

Component	Device	Description
RZ/A2	RZ	The RZ/A2 device family is now supported in e2 studio.
		X
		New GCC for Renesas RZ Executable Project
		Select toolchain, device & debug settings
		Toolchain Settings Language: C O C++
		Toolchain: GCC ARM Embedded V
		Toolchain Version: 6.3.1.20170620
		RTOS: Manage Toolchains
		Device Settings Configurations
		Target Device: R9A066043
		Endian: Little RZ/A RZ/A1H >
		Project Type: Default RZ/T RZ/A1L RZ/
		RZ/A1LU > RZ/A1M >
		RZ/A2M >> RZ/A2M - 176pin >>
		RZ/A2M - 256pin > RZ/A2M - 272pin >
		RZ/A2M - 324pin R75 ⑦ < Back
		Peripheral drives for RZ/A2M can be configured by the following
Support		functions. Basic Driver Settings: The drivers for clocks, pins and memory management unit (MMU) that are a basic part of embedded soft for RZ/A2M group devices can be configured within the Smart
		functions. Basic Driver Settings: The drivers for clocks, pins and memory management unit (MMU) that are a basic part of embedded soft for RZ/A2M group devices can be configured within the Smart Configurator.
		 functions. Basic Driver Settings: The drivers for clocks, pins and memory management unit (MMU) that are a basic part of embedded soft for RZ/A2M group devices can be configured within the Smart Configurator. The settings are configured using a dedicated user interface and configuration when generated is reflected in your project's source
		 functions. Basic Driver Settings: The drivers for clocks, pins and memory management unit (MMU) that are a basic part of embedded softe for RZ/A2M group devices can be configured within the Smart Configurator. The settings are configured using a dedicated user interface and
		functions. Basic Driver Settings: The drivers for clocks, pins and memory management unit (MMU) that are a basic part of embedded soft for RZ/A2M group devices can be configured within the Smart Configurator. The settings are configured using a dedicated user interface and configuration when generated is reflected in your project's sourc code.
		functions. Basic Driver Settings: The drivers for clocks, pins and memory management unit (MMU) that are a basic part of embedded soft for RZ/A2M group devices can be configured within the Smart Configurator. The settings are configured using a dedicated user interface and configuration when generated is reflected in your project's sourc code. Clock Configuration Panel
		<pre>functions. Basic Driver Settings: The drivers for clocks, pins and memory management unit (MMU) that are a basic part of embedded soft for RZ/A2M group devices can be configured within the Smart Configurator. The settings are configured using a dedicated user interface and configuration when generated is reflected in your project's sourc code. Clock Configuration Panel Clocks configuration Panel</pre>
		<pre>functions. Basic Driver Settings: The drivers for clocks, pins and memory management unit (MMU) that are a basic part of embedded soft for RZ/A2M group devices can be configured within the Smart Configurator. The settings are configured using a dedicated user interface and configuration when generated is reflected in your project's sourc code. Clock Configuration Panel </pre>
		<pre>functions. Basic Driver Settings: The drivers for clocks, pins and memory management unit (MMU) that are a basic part of embedded soft for RZ/A2M group devices can be configured within the Smart Configurator. The settings are configured using a dedicated user interface and configuration when generated is reflected in your project's sourc code. Clock Configuration Panel </pre>
		<pre>functions. Basic Driver Settings: The drivers for clocks, pins and memory management unit (MMU) that are a basic part of embedded soft for RZ/A2M group devices can be configured within the Smart Configurator. The settings are configured using a dedicated user interface and configuration when generated is reflected in your project's sourc code. Clock Configuration Panel </pre>
		<pre>functions. Basic Driver Settings: The drivers for clocks, pins and memory management unit (MMU) that are a basic part of embedded soft for RZ/A2M group devices can be configured within the Smart Configurator. The settings are configured using a dedicated user interface and configuration when generated is reflected in your project's sourc code. Clock Configuration Panel </pre>
		functions. Basic Driver Settings: The drivers for clocks, pins and memory management unit (MMU) that are a basic part of embedded softs for RZ/A2M group devices can be configured within the Smart Configurator. The settings are configured using a dedicated user interface and configuration when generated is reflected in your project's source code. Clock Configuration Panel Clocks configuration
		<text><text><text><text></text></text></text></text>
onfigurator Support		<text><text><text><text></text></text></text></text>
		<text><text><text><text></text></text></text></text>



Pin Configuration Panel

in Numb	er							
Filter by p	in name							
Pin Nu	Pin Name	Function	Directi	Output L	Interru	Drive Co	Initialize	Remark A
A10	PE_6/ET0_MDIO/VIO_D2/SSIRxD0/	' PE_6	1	None	/ Disa	None	By GPL	10
A11	PL_2/MD_BOOT2/IRQ6	' PL_2	1	None	/ Enabl	None	By GPI	1
A12	PE_5/ET0_MDC/VIO_D3/SSITxD0/M	" PE_5	1	None	Enabl	None	By GPI	
A13	P8_4/A4/DV0_DATA13/SSL00/SSIR	/ DV0_D	1	None	/ Disa	None	By GPI	
A14	P8_6/A6/DV0_DATA11/MOSI0/SSIL	' DV0_D	1	None	/ Disa	None	By GPL	
A15	PE_4/ET0_CRS/VIO_D4/SSILRCK0/	ETO_CRS	1	None	/ Disa	None	By GPL.	
A16	P9_1/A9/DV0_DATA8/RxD4/SSILRC	" DV0_D	1	None	/ Disa	None	By GPL	
A17	PVcc	PVcc.						Read or
A18	Vss	Vss-						Read or
A19	PE_1/ET0_RXD0/VIO_D7/RxD2/POE	' PE_1	10	/ High	None	4mA	By GPI	
A20	PA_4/A20/DV0_DATA9/LCD0_DATA	/ DV0_D	1	None	/ Disa	None	By GPI	
A21	CKIO	/ Not assi	None	-		-		
A22	Vss	Vss						Read or 🗸
<								>

MMU Configuration Panel

Use N	MU Configuration								1
Page Ta	ble								
Name	Virtual Address	Physical Address	Size	Attributes	NS	AP[2:0]	XN	Add	
	0x0C000000	0x0C000000	0x4000000	Normal	Non-sec	Read/Wr	Executa	Remove	
	0x18000000	0x18000000	0x7000000	Reserved	Non-sec	Access i	Execute		
	0x1F000000	0x1F000000	0x1000000	Strongly	Secure (Read/Wr,	Execute	Edit	
	0x20000000	0x20000000	0x100000	Normal	Non-sec	Read/Wr	Executa		
	0x30000000	0x30000000	0x100000	Normal	Non-sec	Read/Wr	Executa	Import	
	0x40000000	0x40000000	0x100000	Normal	Non-sec	Read/Wr	Executa		
	0x50000000	0x50000000	0x100000	Normal	Non-sec	Read/Wr	Executa	Export	- 1
	0x60000000	0x60000000	0x100000	Normal	Non-sec	Read/Wr	Executa		
	0x70000000	0x20000000	0x100000	Strongly	Non-sec	Read/Wr	Execute		
	0x80000000	0x80000000	0x400000	Normal	Non-sec	Read/Wr	Executa		
	0x82000000	0x80000000	0x400000	Normal	Non-sec	Read/Wr	Executa		
	0x94000000	0x0C000000	0x4000000	Normal	Non-sec	Read/Wr	Executa		
	0xA0000000	0x30000000	0x100000	Strongly	Non-sec	Read/Wr	Execute		
	0x80000000	0x40000000	0x100000	Normal	Non-sec	Read/Wr	Executa		
	0xC0000000	0x50000000	0x100000	Stronaly	Non-sec	Read/Wr	Execute		

Software Component Settings: The drivers for peripheral functions that are used in sample programs can be configured on the smart configurator.

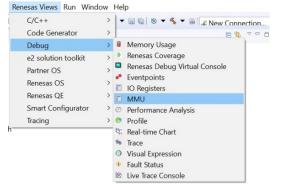
The available configuration depends on each specific driver and the configuration when generated is reflected in your project's source code.

Software Component Configuration Panel (Example: SCIFA driver)

Software component c	onfiguration		۵
Components 🛛 🗄 🖻 🖷 🏇 🔻	Configure		
type filter text	Property v @ Configurations	Value	^
Y 🗁 Drivers	# SCIFA communication modes	Asynchronous mode	
Communications	# SCIFA Bit Rate (bps)	115200	
💣 scifa0	# Clock select	Internal clock input	
	# Asynchronous Base Clock Select	Use clock as 16x mode	
	# Data Bit Length	8 Bits	
	# Parity Enable	Unused	
	# Parity Mode	Even Parity	
	# Stop Bit Lenght(s)	1 bit	
	# Noise Cancellation	Unused	
	# Data Transfer Direction Select	LSB-first	
	# Loop back test	Unused	
	# Modem Control Enable	Unused	
	# RTS# output active trigger numb	15	~
	Macro definition: SCIFA_TX_DATA_MOD	DE	< >
Overview Clocks Components P	ins MMU		



e ² studio 7.1.0)	Release Note
MMU View	RZ	RZ/A1 and RZ/A2 both support a memory management unit (MMU) which needs special debugging support. When using MMU, it is necessary to prepare a page table in the memory in addition to setting the MMU register.
		The page table for MMU of RZ/A1 and RZ/A2 is composed of a combination of a primary table and a secondary table. In each page table entry, it is necessary to make the following setting.
		 Physical address corresponding to the virtual address Enable/disable of data cache and cache operation (write back, write through, etc) Specification of memory type (normal memory, device memory, strong reorder memory) Access permission (permission to read / write in privileged mode / non-privileged mode)
		To support this feature of the RZ/A1 and RZ/A2 devices a new plugin has been added to e2 studio named the MMU view.



The view is accessible from the [Renesas Views->Debug->MMU]
menu item.

onversion result :	0x400, 0xa00400, 0x140	00400, 0x1e00400, 0x2800400	0x3200400, 0x3c0040	00, 0x4600400, 0x50004	00, 0x5a00400,									
Number	Entry Type	Virtual/Start Address	Physical Address	Memory Type	TEX[2:0]	с	В	Domain	AP[2:0]	XN	s	nG	NS	
921_1	Small Page	0x39800000	0x00000000	Strongly Order	000	0	0		000	0	0	0		
v 931	Page Table	0x20037000						0					0	
931_1	Small Page	0x3A200000	0x00000000	Strongly Order	000	0	0		000	0	0	0	-	
v 941	Page Table	0x20038000						0					0	
941_1	Small Page	0x3AC00000	0x00000000	Strongly Order	000	0	0		000	0	0	0		
v 951	Page Table	0x20039000			+	+		0					0	
951_1	Small Page	0x38600000	0x00000000	Strongly Order	000	0	0	-	000	0	0	0	-	
✓ 961	Page Table	0x20035000			-			0					0	
961_1	Small Page	0x3C000000	0x00000000	Strongly Order	000	0	0		000	0	0	0		
971	Page Table	0x20036000						0				-	0	
971_1	Small Page	0x3CA00000	0x00000000	Strongly Order	000	0	0		000	0	0	0	-	
981	Page Table	0x20037000						0					0	
981_1	Small Page	0x3D400000	0x0000000x0	Strongly Order	000	0	0		000	0	0	0	-	
991	Page Table	0x20038000						0			÷		0	
991_1	Small Page	0x3DE00000	0x00000000	Strongly Order	000	0	0		000	0	0	0		
- 1001	Page Table	0x20039000						0			-	•	0	
1001_1	Small Page	0x3E800000	0x00000000	Strongly Order	000	0	0		000	0	0	0	-	
1007	Section	0x3EE00000	0x00000000	Strongly Order	000	0	0	0	000	0	0	0	0	
2031	Section	0x7EE00000	0x00000000	Strongly Order	000	0	0	0	000	0	0	0	0	
3055	Section	0x8EE00000	0x00000000	Strongly Order	000	0	0	0	000	0	0	0	0	

This view is intended to allow easy confirmation of the MMU IOR setting value. It also offers functionality to convert from logical addresses to physical addresses.

Page 17 of 49

Run Break	All	A new facture has been added to the c2 studie that enables you to
Timer		A new feature has been added to the e2 studio that enables you to understand the last execution performance.
		This offers a fast way to automatically see the last execution performance timing in the e2 studio status bar.
		13 14 00000166 15 16 17 18 19 20 00000169 ⇒ 21 00000169 ⇒ 21 00000169 22 23 00000173 = if (a>10) 24 Console 않 ← Tasks Proble ⓒ Execut ♀ Smart ♀ Debug
		RL_Sim Debug [Renesas Simulator Debugging (RX, RL78)] Renesas GDB server (Host) Options bytes, writing to address 0x000000c0 with data tttte104 Correct values for address 0x000000c3, Options byte settings for 0b10000100 0b10000101
		Options bytes, writing to address 0x00000000 with data ttttet04 Correct values for address 0x000000c3, Options byte settings for 0b10000100
		Options bytes, writing to address 0x00000000 with data ffffef04 Correct values for address 0x000000c3, Options byte settings for 0b10000100 0b10000101 Security ID, writing to address 0x000000c4 with data 0000000000 Debug monitor area 2, writing to address 0x000000ce with data cb Finished download
		Options bytes, writing to address 0x00000000 with data tttlet04 Correct values for address 0x000000c3, Options byte settings for 0b10000100 0b10000101 Security ID, writing to address 0x000000c4 with data 0000000000 Debug monitor area 2, writing to address 0x000000ce with data cb
		Options bytes, writing to address 0x00000000 with data ffffef04 Correct values for address 0x000000c3, Options byte settings for 0b10000100 0b10000101 Security ID, writing to address 0x000000c4 with data 0000000000 Debug monitor area 2, writing to address 0x000000ce with data cb Finished download
		Options bytes, writing to address 0x00000000 with data ffffef04 Correct values for address 0x000000c3, Options byte settings for 0b10000100 0b10000101 Security ID, writing to address 0x000000c4 with data 0000000000 Debug monitor area 2, writing to address 0x000000ce with data cb Finished download Suspended 0x0000016e 31 ns Accurate Current PC Last execution timing (time or Maccurate)

-	Device	Debugger	Support				
		Simulator	Not supported				
	RX	E1/E20/E2/E2 LITE	Emulator is used to read the total time measurement counter (Hardware support)				
_		EZ/J-Link	System Time				
_	RH850	E1	Debug Clock (CPU clock is used if the Debug Clock is 0)				
_	Synergy S1 Series (Cortex M0/M0+)	J-Link	System Time				
	Synergy S3, S5, S7 Series	J-Link	Data Watchpoint and Trace Unit – Cycle Count and				

		number of overflows calculated using the System Time
RZ	J-Link	Performance Monitoring Unit – Cycle Count and number of overflows calculated using the System Time
	Simulator	Accessing the simulated hardware timer resources.
RL78	E1/E20/E2/E2 LITE	Emulator is used to access the timer resources of hardware.

Device Migration All

A new device migration feature has been added to e2 studio. This enables an easier method for you to transition from one device to another.

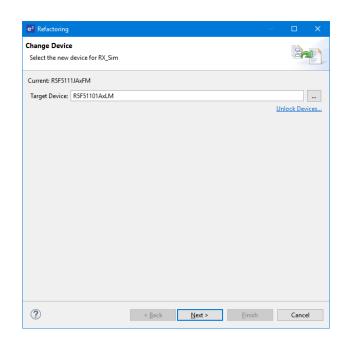
The migration is possible from one device to another within the same series. For example, you can migrate from a RX62N to a RX65N. You cannot migrate from one device family to another. E.g. RX to RZ.

The Change Device feature is available on the project pop-up and the Project menu item via the "Change Device" menu item.

oject Explorer	x	🖻 😫 🗸 🖻	3
SRL_Sim			
SRX_Sim [De	New	>	
	Go Into	í I	
	do into		
	Open in New Window		
	Show In	>	
	Сору	Ctrl+C	
1		Ctrl+V	
3		Delete	
· · · · · · · · · · · · · · · · · · ·	Source	Selece	
		Ý	
	Move		
	Rename	F2	
2	Import		
24	Export		
	Build Project		
	Clean Project		
	Refresh	F5	
4		· · ·	
	Close Project		
	Close Unrelated Projects		
	Build Targets	>	
	Index	>	
	Build Configurations	>	
	Show in Remote Systems view		Project Renesas Views Run Window Help
	Run As	>	Open Project
	Debug As	>	Close Project
	Profile As	>	Open Synergy Configuration
	Team	>	Build All Ctrl+Alt+B
	Compare With	>	
	Restore from Local History		
	MISRA-C	>	Build Project Ctrl+B
		<i>´</i>	Build Working Set
	Save build settings report		Clean
	Change Device		Build Automatically
*	Run C/C++ Code Analysis		Build Targets
1	System Explorer		C/C++ Index
	Command Prompt		
	Configure	>	Update All Dependencies Alt+D Change Device
	-		
	Properties	Alt+Enter	Properties

Once selected a wizard is displayed leading the user through the migration process. The first page allows you to choose the new device.





Any possible problems will be displayed on the next page of the wizard. In most circumstances the wizard will report no errors.

Note, once has been competed it cannot be undone so please ensure you have backed up your files before invoking this operation.

e ² Refactoring –	×				
Change Device Review the information provided in the list below. Click 'Next >' to view the next item or 'Finish'.	2				
Found problems	₽ û				
6 This change cannot be undone. Please make sure you backup this project before continuing.					
No context information available					
? Ca	ancel				

The next step of the wizard allows you to choose exactly what is being migrated. It gives fine control over migrating the debugger launch configuration, build settings and project files.



e ² Refactoring		-		×
Change Device The following changes are necessary	to perform the refactoring.			
Changes to be performed			₽	* →
✓ ✓ ♦ Change Device for RX_Sim ✓ ✓ ♦ Launch Configurations ✓ ♦ RX_Sim Debug > ✓ ♦ Build Settings > ✓ ♦ Project Files				
	No preview available			
?	< <u>B</u> ack <u>N</u> ext >	<u> </u>	Cance	el

Expanding the project files item shows which files are going to be generated and the differences from those in the project already. A difference tool shows the textual differences for source files when they are selected.

The following changes are necessary to perform the refa	-
Changes to be performed	ł
 ✓ Change Device for RV.Sim ✓ Change Device for RV.Sim ✓ All Lunch Configurations ✓ All Lunch Configurations ✓ All RV.Sim Debug ✓ All Poipet Files ✓ All Poipet Files ✓ All Poipet Files ✓ All poipet files ✓ All generate/vatch.c ✓ All generate/vecthl.c ✓ All generate/vecthl.c ✓ All generate/vecth 	
C Compare Viewer	Dia A
Current	New
41 void (*const Fixed Vectors[])(void) = {	40//;0xfffff80 41#ifdef BIG

Toolchain management All

Some look and feel improvements have been made to the newly detected toolchains dialog. In particular there is now a Select all and Deselect all button.

6)\GNU Tools ARM Embedded\4.9 2015q3\	Toolchain Type
5)\GNU Tools ARM Embedded\4.9 2015q3\	
6)\GNU Tools ARM Embedded\4.9 2015q3\	GCC ARM Embedded
	GCC ARM Embedded - 4.9.3.20150529
6)\GNU Tools ARM Embedded\6 2017-q2-up	GCC ARM Embedded - 6.3.1.20170620
	✓ ✓ KPIT GNUARM-NONE-EABI Toolchain
6)\KPIT\GNUARM-NONEv16.01-EABI\arm-nd	KPIT GNUARM-NONE-EABI Toolchain - v16.0
	✓ ✓ Renesas CCRL
6)\Renesas\RL78\1_4_0\	Renesas CCRL - v1.04.00
6)\Renesas\RL78\1_5_0\	Renesas CCRL - v1.05.00
	✓ ✓ Renesas CCRX
6)\Renesas\RX\2_6_0\	Renesas CCRX - v2.06.00
6)\Renesas\RX\2_7_0\	Renesas CCRX - v2.07.00
6)\Renesas\Hew\Tools\Renesas\RX\1_2_1\	
	—
6)\Linaro\gcc-linaro-arm-linux-gnueabihf-4.	
	✓ ✓ KPIT GNURX-ELF Toolchain
>	<
34	✓ Renesas CCRX - v2.07.00 ✓ Renesas CCRX - v1.02.01 ✓ Linaro ✓ Linaro - 4.8.3.20140401 ✓ VPIT GNURX-ELF Toolchain

In addition, the Renesas Toolchain Management dialog has also been updated. The "Installation Path" can now be copied to the clipboard.

pe filter text	Renesas Toolchain Management	<p th="" ⇒<="" ≠=""></p>
Emulator 🔨	Scan for installed toolchains on start	
Launch Settings	Disable warning if no toolchains are	
Logging		
Renesas Toolcha	Toolchain Type	Installation Path
Smart Browser	✓ ☑ GCC ARM Embedded	
> Smart Configura	6.3.1.20170620	C:\Program Files (x86)\GNU Tools ARM Embedded\6 2017-q2-update\
Smart Demo	4.9.3.20150529	C:\Program Files (x86)\GNU Tools ARM Embedded\4.9 2015q3\
> Smart Manual	V KPIT GNUARM-NONE-EABI Too	lchain
Synergy Configu	✓ v16.01	C:\Program Files (x86)\KPIT\GNUARM-NONEv16.01-EABI\arm-none-eabi\arm-none-eabi\
Synergy License	✓ ✓ Renesas CCRL	
TraceX	✓ v1.05.00	C:\Program Files (x86)\Renesas\RL78\1_5_0\
Task Tags	V1.04.00	C:\Program Files (x86)\Renesas\RL78\1_4_0\
Template Default Va	V Renesas CCRX	
Help	v2.07.00	C:\Program Files (x86)\Renesas\RX\2_7_0\
Install/Update	v2.06.00	C:\Program Files (x86)\Renesas\RX\2_6_0\
Java	V1.02.01	C:\Program Files (x86)\Renesas\Hew\Tools\Renesas\RX\1_2_1\
Library Hover	V V Linaro	
LinkerScript	4.8.3.20140401	C:\Program Files (x86)\Linaro\gcc-linaro-arm-linux-gnueabihf-4.8-2014.04\
MCU	KPIT GNURL78-ELF Toolchain	
Oomph	V GCC for Renesas RX	
Remote Development	4.8.4.201701	C:\Program Files (x86)\GCC for Renesas RX 4.8.4.201701-GNURX-ELF\rx-elf\rx-elf\
Remote Systems	V KPIT GNURX-ELF Toolchain	
Renesas QE	V15.01	C:\Program Files (x86)\KPIT\GNURXv15.01-ELF\nx-elf\nx-elf\
Run/Debug	V GCC for Renesas RL78	
Scripting	4.9.2.201701	C:\Program Files (x86)\GCC for Renesas RL78 4.9.2.201701-GNURL78-ELF\rl78-elf\rl78-elf\
Target Explorer		
Team		
Terminal		
Tracing		Scan Add Remove
,		

Smart Manual RX, RL

A new feature has been added to the smart manual view so that it will display the register help automatically when hovering over a register definition.

By default, this option is not switched on. It is switched on via the toolbar button on the Smart Manual view.



	rch Keyword Se		ice: RX110	
	: 0008 0010h Bit:			
Bit	Symbol	Bit Name	Description	R/W

When switched on if you hover over a register definition in the editor the view automatically switches to show the same information.

🐔 🏘 🔳 🏘 De	bug v	RX_Sim Debug	~ Q	10 - 10	🕲 🖲 + 🐔 + 🗟	-& New Connection	✓ 14 14 E ₁ × □ ¥
· * @ @ @ ₽ ?)	2101910	10 10 · 63 · 63 · 69	• * • %		🧃 🞯 🗐 🕤 🖗 •	81 · · · · · · · ·	Quick Access
Propert	17 18 19 20 21 22 23 24 25 26 22	<pre>idefine.h</pre>	T.P5TPA28-1;				(@ Build 3) 영업Docu = (@ @ 또 월 수 수) G RC5m
	29 10 31 32 33 34 35 36 37	SYSTEM.HSTPCRA.BI } #lifdefcplusplus void abort(void) { } #endif <	for details o Manual (R01	Symbol MSTPA28	Module Stop (SYSTEM. Bit Name Data Transfer Controller Module Stop ase refer to section 11.2.2 topen by pushing the open	Descriptio Target module: DTC 6: This module clock is en 1: This module clock is dis Module Stop Control Regis	abled R/W abled R/W ter A (MSTPCRA) in the User's
	Register Search SVSTEM.MSTP Data Transfer 0	Tasks Console Proper Keyword Search CRA.BIT MSTPA28 v Go Controller Module Stop (SYSTEM 08 0010h Bit: b28	Device: RX110		ana ang ang ang ang ang ang ang ang ang	t conge supported	Press 12: for forunge
	Bit	Symbol Bit Name		De dule: DTC idule clock is ena	scription	R/W R/W	

RL78 Simulator Trace break reason	RL78	When using the RL78 Simulator and the trace capture is stopped the reason for the break is not show in the trace window. This has now been updated to show the break reason in the status column.
Synergy Editor	Synergy	The Synergy editor has been improved to also allow you to build software stacks from a driver to framework level.
		Originally the specification was designed so that you would choose the upper level interface and then the tooling builds the software stack down to the driver level.
		In some cases, it may make sense to build software frameworks from the driver layer up to framework layer. This is available from the "Extend Stack >" functionality when a module is selected.

RENESAS

Dynergy: Synergy Configuration III			-	* 0				
Threads Configuration		Cento	te Projec	1 Cortset	Type	See		
Toreads a New Thread a Reverse	Elesky Thread Stacks	🐑 Nev Stack + 🔺 Extend Sta		Remove Driver	File foide:	Connectivity	-	2C Master Driver on a six imprementing DTC Drive for Transmissions
Alt Common Age COC Dear Inn.cg(A	⊕ junded Static Diverse of the Static of the influence Artificiation 1 C			Frankovsk X-Wase Search		lepar Storage		Construction of the intervention of the Content in the Conten

Synergy Project Synergy Exporter

An improvement to the Synergy Project Exporter has been made to ensure you do not accidently include build directories and temporary data by default when exporting Synergy projects.

Synergy Export Wizard	
Archive file Please enter a destination archive file.	
 test6 [Debug] module_descriptions settings Debug script src 	Image: Construction of the system Image: Construction of the system
Filter Types Select All Deselect All	
To archive file:	▼ Browse
Options Save in zip format Save in tar format Compress the contents of the file	 Create directory structure for files Create only selected directories
•	Finish Cancel
A new feature has been added by additional of multiple include paths	
This dialog has been modified to i option. Then when the user brows using Eclipse placeholders it scan and adds these to the build setting	es to a directory or enters a path s the subsequent sub-directories
e ² Add directory path Directory:	×



Cancel

Workspace...

File system...

Add subdirectories

ОК

-

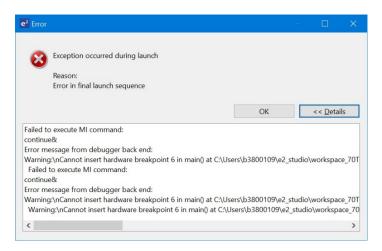
-

5. What is new in 7.0.0?

Component	Device	Description
Synergy Headless Build	Renesas Synergy	When using e2 studio to do a headless build with Synergy it can be difficult to setup a brand-new workspace and configure the licence file location.
		This has been improved to use a command line parameter on the e2 studio command line.
		-vmargs -Dcom.renesas.synergyLicenseFile=" <absolute file="" licence="" path="" to="">"</absolute>
Debugger	All	<pre>Breakpoint error handling has been improved in this version of e2 studio. The reason for breakpoints not being set is more clearly shown in the source window.</pre>

reason for the failure.

If breakpoints fail on the launch of the debugger then the launch is aborted. An error is displayed and you can now see the exact reason for failure. If you then remove the breakpoint causing the problem and re-launch it should work.



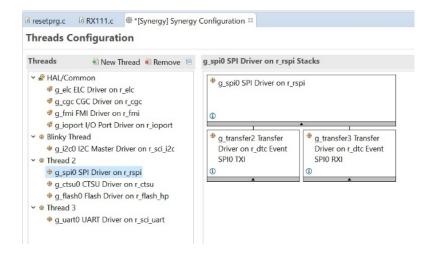


e ² studio 7.	1.0	Release Note
Synergy Editor	Renesas Synergy	The threads page user interface has been updated to navigate your threads and Synergy software stacks more effectively.
		Previously thread selection was a flat list which only allowed each thread to be selecting. In this case all software stacks were shown in the graphical area.
		Now the threads are shown as a tree meaning you can still select the entire content of a thread or choose an individual software stack. When choosing an individual software stack only that software stack is shown in the graphical view.

In the example below the user has selected the thread and 3 software stacks are shown.

Threads Configuration			Generate Project Content
Threads 🔹 New Thread 🛍 Remove 😑	Thread 2 Stacks		New Stack > 🕸 Remove
 ✓ ALL/Common ④ g_elc ELC Driver on r_elc ④ g_cgc CGC Driver on r_cgc ④ g_fmi FMI Driver on r_fmi ④ g_ioport I/O Port Driver on r_ioport 	g_spi0 SPI Driver on r_rspi	g_ctsu0 CTSU Driver on r_ctsu 0 0	g_flash0 Flash Driver on r_flash_hp
 ■ Binky Thread ■ g.J2c0 12C Master Driver on r_sci_j2c ■ g.g2c0 12C Master Driver on r_sci_j2c ■ g.spi0 SPI Driver on r_sci_j ■ g.g1ash0 Flash Driver on r_sci_sat ■ g.flash0 Flash Driver on r_sci_sat ■ g.uard0 UART Driver on r_sci_sat 	the g_transfer2 Transfer Driver on r_dtc Event SPI0 TXI	t g_transfer6 Transfer Driver on r_dtc Event CTSU END	

In the example below the user has selected the exact software stack and in this case only that one is shown.



Debugger All

In older versions of e2 studio when debugging multiple debug connections, you needed to set the port numbers for GDB and ADM manually for the second debug connection.

This was not user friendly, so a new setting was added to automatically select available ports.

This can be seen for all devices on the debug configuration page.

) 📾 🗶 🖻 🏇 🔻	Name: Synergy Debug		
 type filter text C/C++ Application C/C++ Application C/C++ Remote Application EASE Script GDB Aradware Debugging GDB Simulator Debugging (I Java Applet Java Applet Java Applet Java Applet Java Applet Bernote Application Remote Application Remote Debugger Remote Java Application Remote Debugger Remote Debugger Remote Debugger Remote Debugger Remote Debugger Remote Debugger Remote Java Application Remote Java Application Remote Bava Application Remote Bava Application Renesas GDB Hardware Debug RZ_MMU HardwareDebug Renesas Simulator Debuggir Renesas Simulator Debuggir Target Communication Frame 	Main Debugger Startup Common Source Debug hardware: Link ARM Target Device: R7FS7G27H GDB Settings Connection Settings GDB Connection Settings Autostart local GDB server Connect to remote GDB server GDB port number: 61234 GDB Command: arm-none-eabl-gdb	Browse	Variables
c >	Rever	t	Apply

The "Autostart local GDB server" is the option to use for automatic port configuration.

If you need to attach to an existing already running GDB server use the "Connect to remote GDB server" and enter the first port number which was output to the console when the GDB server connects.

Trace All

The Trace plugin and debugger have been improved to now offer Trace capture pause and re-start.

When the debugger is running you can now press the pause button on the Trace view. When this button is pressed the trace is shown within the trace view for the captured data up to the point trace was paused.

Burning	Con	🗟 Tas	ks 🕄 Pro	• E	(ec 🌸	Sma G	B Deb	🖄 Live	💷 Rer	n 🎎 Re	eal 🎭	Trace 🕅					O Visu				-
YIR Label Addr Sourc Desti Data Size R/W BUS Type BCN Branc Chan. imme													95		\$} Qi @	1 🛛 🐸	辛奎谊	心目目因	SI 00	0	• m
Running	PTR	Label	Addr	Sourc	Desti	Data	Size	e R/	W BL	JS Ty	vpe B	CN E	Branc	Chan	uspend Time	j					
	Ruppin																			(m)	# 7
	Kunnii	ng																			
		5											~~								
?Cors ऌTasks 🕄 Probl., © Exec @ Smar ॡDebu ﷺ live 📮 Rene १८ Real ७ Trace म (ॐ Meas 🔋 Mem े Perfo े Visua २ Rene 0 Mem		5	cs 🕄 Prot	ol 📀 Ex	ec 🍬 :	Smar G	B Debu	. 🖄 Live	🗖 Rer	ne 🕅 R	eal ®	Trace 🕫	[∦] × Meas.	🔋 M	em <	Perfo	. OVisua	® Ren	e 0	Mem	
Cons 😌 lasks 🕄 Probl 🤍 Exec 🧐 Smar 🕫 Debu 🖄 Live 🗎 Rene 🧐 Race 🖉 🐖 Meas 🔮 Mem 😳 Perto 🔮 Visua 🖇 Rene U Mem	Cons	🖓 Tasi			ec 🔌 :	5mar G	8 Debu	. 🖄 Live	🗖 Rer	ne 🕅 R	eal 96	Trace 8	[∦] Meas.								
Uons_ classs strond. O blec. ≪5mar. «Debu. 2019». ■ kene. c.kear. ≪ insce ≈ ∞ Meas. ■ Mem. O keno. O Visia. ⇒ kene. U Mem. sting from record 1 of 65534	Cons	🗢 Tasi rom reco	rd 1 of 65	5534										21 🍽							
(Lons_ c) lasks ≥ Probl_ © Elect., ≪5.mar., @Debut 20 twe_,	Cons sting fr TR	🗢 Tasi rom reco	rd 1 of 65 Addr	534 Sourc	Desti	Data	Size		BUS	Туре	BCN	Branc	Chan	Time							
/Lons_ classis cliviou. V bec. wismar. «Debou. colline ♥ rene < Near ♥ race ≈ ™ Meas ♥ rento ♥	Cons isting fr TR 65533	@ Tasi irom reco Label	rd 1 of 65 Addr FFFF	5534 Sourc	Desti	Data	Size	R/W	BUS	Type	BCN	Branc	Chan	≣ ≫ Time 7098							
Cons. ⊂ lasks ≤ Produ. V Exec	Cons sting fr TR 65533 65532	@ Tasi irom reco Label	rd 1 of 65 Addr FFFF 3FC	5534 Sourc	Desti	Data 	Size	R/W	BUS CPU	Type MEM	BCN	Branc	Chan - -	≣ ≫ Time 7098 7098							
V.Ons. <i \$<="" p="" tasks=""> VOID <i \$<="" p="" tasks=""> visiting from record 1 of 65534 TR Label Addr Sourc Desti Data Size R/W BUS Type BCN Branc Chan Time 65533 FFFF. </i></i>	Cons isting fr 'TR 65533 65532 65531	@ Tasl irom reco Label	rd 1 of 65 Addr FFFF 3FC FFFF	5534 Sourc	Desti	Data 	Size LONG	R/W - W	BUS CPU 	Type MEM	BCN	Branc	Chan - -	≣ ≥ Time 7098 7098 7098							् छ छ
V.Ons. <i \$<="" p="" tasks=""> VOID <i \$<="" p="" tasks=""> visiting from record 1 of 65534 TR Label Addr Sourc Desti Data Size R/W BUS Type BCN Branc Chan Time 65533 FFFF. </i></i>	Cons isting fr TR 65533 65532 65531 65530	🕾 Tasi rom reco Label	rd 1 of 65 Addr FFFF 3FC FFFF 3FC	5534 Sourc	Desti	Data 0000 0000	Size LONG LONG	R/W - W	BUS CPU CPU	Type MEM MEM	BCN	Branc	Chan - - -	≣ ≫ Time 7098 7098 7098							

Pressing the resume button then re-starts trace capture.



		□ Cons ○ Tasks \$! Probl ○ Exec ○ Smar ○ Debu >> Twe >> Trace >> >> Meas ● Meas
Smart Manual	RL78	<text><text><text><complex-block></complex-block></text></text></text>
Synergy Application Project Generator for using SSP Library	Synergy	A new project type has been added for Synergy to assist you in generating an application project setup for using an existing Synergy Software Platform (SSP) library. It is available here:



	Renesas Synergy C Library Project	1
C/C++	A C Library Project for Renesas Synergy.	
	Renesas Synergy C Project Using Synergy Library Creates a C application project which uses an existing Synergy library project	
	Renesas Synergy C++ Executable Project A C++ Executable Project for Renesas Synergy.	
	Renesas Synergy C++ Library Project A C++ Library Project for Renesas Synergy.	
	Renesas Synergy C++ Project Using Synergy Library Creates a C++ application project which uses an existing Synergy library project	

The library must exist in the workspace you are using. These libraries will then appear within the wizard for selection.

When selected the include paths that are required for setup are automatically displayed:

e² – □ X
C application project to use a Synergy library project Creates a C application project which uses an existing Synergy library project
Synergy library Select Synergy library project: Synergy_Lib
Configuration: Debug ~
S{workspace_loc:/Synergy_Lib/src/synergy_gen} \${workspace_loc:/Synergy_Lib/src} \${workspace_loc:/Synergy_Lib/synergy/ssp/inc/bsp/cmsis/Include} \${workspace_loc:/Synergy_Lib/synergy/ssp/inc/bsp} \${workspace_loc:/Synergy_Lib/synergy/ssp/inc/driver/api} \${workspace_loc:/Synergy_Lib/synergy/ssp/inc/driver/api} \${workspace_loc:/Synergy_Lib/synergy/ssp/inc/driver/api} \${workspace_loc:/Synergy_Lib/synergy/ssp/inc/driver/instances}
Linker script Select Linker script to use: script/s7g2.ld
? < <u>Back</u> Next > <u>Finish</u> Cancel

When Finish is clicked then the project is created with the build setting all ready to use the Synergy library.

RZ/A Linux	RZ	Linux target OS debugging is now supported. This is achievable
Target		with Ethernet and Serial connections to the target board.
Debug		
		This project type is available from the RZ Linux C/C++ project type.
		See below:

elect a wizard			Ď
<u>W</u> izards:			
type filter text			
 ✓ General Project ✓ C/C++ C/C++ Pro Makefile P RZ Linux C Tracing 	roject with Existing Code //C++ project		
<u>S</u> how All Wizards.			
?	< <u>B</u> ack <u>N</u> ext >	<u>F</u> inish	Cancel
² RZ Linux Project			- 0 X
Z Linux toolchain a	ind project selection iolchain and a template project		□ ×
Z Linux toolchain a Select target device, to	olchain and a template project		
Z Linux toolchain a Select target device, to Z Linux Target Device	olchain and a template project		Ď
Z Linux toolchain a Select target device, to Z Linux Target Device Toolchains	RZ/A1H (R7S721000)		Ď
Z Linux toolchain a Select target device, to Z Linux Target Device oolchains oolchain Version Project templates	RZ/A1H (R7S721000) Linaro 4.8.3.20140401		Ď
Z Linux toolchain a Select target device, to Z Linux Target Device Toolchains Toolchain Version Project templates RZ/A1H Hello V	RZ/A1H (R7S721000) Linaro 4.8.3.20140401 Vorld C++ Project		Ď
Z Linux toolchain a Select target device, to tZ Linux Target Device Toolchains Toolchain Version Project templates	RZ/A1H (R7S721000) Linaro 4.8.3.20140401 Vorld C++ Project		Ď
Z Linux toolchain a Select target device, to Z Linux Target Device Toolchains Toolchain Version Project templates RZ/A1H Hello V	RZ/A1H (R7S721000) Linaro 4.8.3.20140401 Vorld C++ Project		Ď
Z Linux toolchain a Select target device, to Z Linux Target Device Toolchains Toolchain Version Project templates RZ/A1H Hello V	RZ/A1H (R7S721000) Linaro 4.8.3.20140401 Vorld C++ Project		Ď
Select target device, to IZ Linux Target Device Toolchains Toolchain Version Project templates RZ/A1H Hello V	RZ/A1H (R7S721000) Linaro 4.8.3.20140401 Vorld C++ Project		Ď
Z Linux toolchain a Select target device, to Z Linux Target Device Toolchains Toolchain Version Project templates RZ/A1H Hello V	RZ/A1H (R7S721000) Linaro 4.8.3.20140401 Vorld C++ Project		Ď
Z Linux toolchain a Select target device, to Z Linux Target Device Toolchains Toolchain Version Project templates RZ/A1H Hello V	RZ/A1H (R7S721000) Linaro 4.8.3.20140401 Vorld C++ Project		Ď
Z Linux toolchain a Select target device, to Z Linux Target Device Toolchains Toolchain Version Project templates RZ/A1H Hello V	RZ/A1H (R7S721000) Linaro 4.8.3.20140401 Vorld C++ Project		Ď

Ensure Synergy pin structures	Synergy	Pin configurations setup in the Synergy pin v available in the properties window.	iew are now made
are available as enum in properties window		The generated data file name as listed in the available In the Power Profile pin configuration See below:	
		(∰ *[ide20592] Synergy Configuration ⊠	
		Pins Configuration	Generate Project Content
		Select pin configuration \$762-DK-sleep.pindg \$762-DK-sleep.pindg \$762-DK, pindg \$762-DK, pindg \$762-DK, pindg \$762-DK, pindg \$762-DK, pindg \$762-DK, pindg \$762-DK, pindg	Pins Tutorial 🔏 🗝 🗟
		type filter text 🖉 🖉 🖽	രി
		> < Ports > < Peripherals > Other Pins	



RZ/G Segger J-Link Debugging	RZ	Propertie iii iii forbienes iii forbienes Propertie iii iii forbienes Propertie iii iii iiii iiii iiiiiiiiiiiiiiii
		<complex-block></complex-block>
E2 Emulator Debugging	RX, RL78, RH850	E2 emulator support has been added for the RZ, RL78 and RH850 device families. Debugging function is the same as the E1 Emulator.
CCRL Compiler	RL78	The CCRL V1.07 compiler for RL78 is now supported.
Eclipse Platform & CDT		This version of e ² studio is based on Eclipse Oxygen.3 and CDT 9.4. This release note does not describe the Eclipse framework and CDT plugin issues and fixes. You can find the detailed information on the sites below: For information on the Neon release see here: https://projects.eclipse.org/releases/oxygen CDT: Please see New and Noteworthy for CDT here: https://wiki.eclipse.org/CDT/User/NewIn93 https://wiki.eclipse.org/CDT/User/NewIn94 The Eclipse bug tracker is here: https://bugs.eclipse.org/bugs/
Memory Usage View	Synergy and RZ	When supported by updated device support files in e2 studio or the Synergy Software Platform (SSP) the Memory Usage View now supports the graphical view to show usage in the ROM and RAM memory areas.
Simulator RL78 Advanced Debugging	RL78	The RL78 Simulator support has been enhanced to support Profile, Trace and Coverage views.



e ² studio 7.1.0	udio 7.1.0
-----------------------------	------------

GNU ARM Eclipse Plugins	Synergy and RZ	The GNU ARM Eclipse plugins have been updated to a The version included is Version: 2.6.1.201806250952	newer revision.
		This plug-in is part of the GNU MCU Eclipse project.	
Synergy Software Platform Network	Synergy	For more details, visit < <u>http://gnu-mcu-eclipse.github.ic</u> A new feature has been added which makes it much ea SSP in a shared network location and point your e2 stud at that rather than using a local install folder for the SSP	sier to install dio installation
Install		This can be achieved by opening the file {{eclipse/e2stu text editor and adding the following line at the end of the	
		{noformat} -Dcom.renesas.synergyPacksFolder=\\myServer\myPat {noformat}	h\to\packs
		On start-up e2 studio will read the installed packs from t rather than the packs folder underneath the application	
Synergy Editor	Synergy	The Synergy editor has a new feature to restore the BS back to default values. This can be seen in the image be	
		[Synergy] Synergy Configuration [S] [Synergy] Synergy Configuration [S] [S]	
		Board Support Package Configuration	Generate Project Content
		Device Selection	Restore Defaults
		SSP version: 14.0 V Board Details	
		Board: S7G2 DK 🗸	^
		Device: R7FS7G27H2A01CBD	~
		Summary BSP Clocks Pins Threads Messaging Components	
Synergy Editor	Synergy	In previous versions of e2 studio the files which hold the data values for the Synergy modules were copied to the directory in the folder .moduledescriptions.	
		This allowed you to still use the project when the require was not installed. However, it also increased the project	
		From this version of e2 studio the .moduledescriptions a once at an application level. If you import and existing p latest e2 studio it will continue to use the .moduledescrip project. If for some reason this is not available or you cr project the editor will use the application stored .module	roject into the otions in your eate a new
Trace	RX, RL78, RH850	When using the trace view a new feature has been adde execution when the trace buffer is full. This feature is av	
		 RX (E1, E20, E2, E2 LITE, EZ, Simulator) RL78 (IECUBE, Simulator) RH850 (E1) 	
		The feature is available from the trace view within the T dialog:	race Acquisition

RENESAS

e ² studio 7.1	.0
---------------------------	----

			e ² Trace Acquisition			×
			Trace Mode:	Fill until full		~
			Trace Output:	Fill until sto Fill until full		
			Trace Type:	Branch+Dat	ta access	~
			Trace Capacity (frames) :	64K		\sim
			Timestamp Frequency Divider:			\sim
			Enable Timestamp Display:			
			Bus Master Of Data Access:	CPU		\sim
			Start address for Access(without data)			
			End address for Access(without data)			
					OK Cance	el
Trace	RL78, RH850		trace feature has been 8 and RH850 debugger.		to fully utilise the	ne features in
	111000		o and renood debugger.			
		This fun	ctionality is available fro	m the trac	e view:	
		e ² Find				×
				cle		
			hData 0	cic		
		Read	d Address			RIG
		Read	d Data	Range		
		U Writ	e Address 0	nunge		
		Writ	e Data			
			eStamp (Count) p Address	Exclude		
			F	ind Next	Find Previous	Close
Segger J-	RX	The Seg	ger J-Link debug config	uration for	RX device sup	port has been
Link Support		improve	d to allow automatic cor			
		connecti	on.			

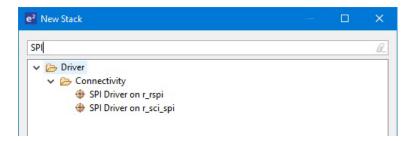


Debug Configurations	rations			×	Ľ
🗈 🗶 🖻 🔅 🔹	Name: CCRX HardwareDebug			~~	
/pe filter text	Main 🗱 Debugger 🌔 Startup 🤤 Source	(Common)			
C/C++ Application C/C++ Remote Application EASE Script		Device: R5F51115			
C GDB Hardware Debugging	GDB Settings Connection Settings Debug Tool	Settings			
C GDB OpenOCD Debugging	✓ J-Link			^	
GDB Simulator Debugging I	Туре	USB		~	
Java Applet	J-Link Serial	(Auto)			
Java Application	✓ Clock		-		
🚯 Launch Group	Main Clock Source	EXTAL	e ²		
Launch Group (Deprecated)	Extal Frequency[MHz]	22.0			
Remote Application	Permit Clock Source Change On Writing In	nterna Yes	Select the emu	lator to use for this debu	g configuratio
翁 Remote Debugger	✓ Connection with Target Board		Auto Select	8	
Remote Java Application	Connection Type	Fine			
C Renesas GDB Hardware Deb	JTag Clock Frequency[MHz]	16.5	Туре	Serial Number/ID	
CCRX HardwareDebug	Fine Baud Rate[Mbps]	2.00			
C Synergy Debug	V CPU Operating Mode				
C Renesas Linux Application	Register Setting	Single Chip	1		
Renesas Simulator Debuggi	Mode pin	Single-chip mode			
CCRL Debug	Communication Mode				
CT CCRX Debug	Mode	Debug Mode			
Target Communication Frai	Execute The User Program After Ending Th	ne Deb No		OK	Cancel
	✓ Flash		L	~	
		*****************	******	•	
er matched 21 of 23 items			Revert	Apply	
D			Debug	Close	

Synergy Synergy Editor – Threads Tab To improve usability the add new Synergy module functionality on the threads page has been improved. There has been a new "Search..." menu added to the "New Stack" menu hierarchy. See below:

§ [Synergy] Synerg	y Configuration 💱					- 0	BE Ou
Threads Conf	iguration				Generate P	O Project Content	An out
Threads	New Thread 🔊 Remove 📄	HAL/Common Stacks			New Stack :	Driver	
⊕ g_fmi	ELC Driver on r_elc FMI Driver on r_fmi	ull g_elc ELC Driver on r_elc	g_fmi FMI Driver on r_fmi	g_ioport I/O Port Driver on r_ioport	g_cgc CGC Driver c r_cgc	Framework X-Ware	>
	nt I/O Port Driver on r_ioport CGC Driver on r_cgc ead	0	1	0	0	🛷 Search	

Clicking this menu item then opens a dialog allowing you to search and filter on the available SSP modules. In the example below, we have entered SPI and this is the result:



In addition to this functionality a search of software stacks already created has also been implemented. This can be accessed by using the CTRL+F shortcut or [Edit->Find] menu when the Threads tab is focused. A dialog is shown with your configured stacks.

Then when you type a search condition the matching parts of the software stack are shown. Selecting the correct module and pressing the "Select" button then automatically highlights the module in the Threads Page.



		e ² Find − □ ×
		SPI
		V 🏶 Blinky Thread
		✓ ⊕ g_sf_spi_device0 SPI Framework Device on sf_spi
		 ✓ ♥ g_sf_spi_bus0 SPI Framework Shared Bus on sf_spi ✓ ♥ g_spi0 SPI Driver on r_rspi
		g_transfer0 Transfer Driver on r_dtc Event SPI0 TXI
		g_transfer1 Transfer Driver on r_dtc Event SPI0 RXI
Synergy	Synergy	When the Synergy debugger reaches an interrupt in older versions of
Debugger		e2 studio the call stack within the debug view was not populated with
		as much information as possible.
		In the latest version the call stack is more complete allowing the user to
		see a more complete call stack in the interrupt use case.
Debug	All	In previous versions of e2 studio some users have struggled to find the
Console	7	debug console functionality. This provides support for customers to use
		this as a virtual serial input/output channel for RX. It is also used for
		semi hosting support for ARM.
		Previously the view was embedded within the console view of e2
		studio. Now the view has been moved underneath the [Renesas
		Views->Debug] menu item:
		香 ● ★ Debug ✓ CCRL C/C++ > ⋮ ■ ♥ ■ ⋮ ■ ♥ ■ ⋮ ■ ♥ ■ ⋮ ■ ♥ ■ ⋮ ■ ♥ ■ ⋮ ■ ♥ ■ ⋮ ■ ♥ ■ ⋮ ■ ■ ⋮ ■ ■ ⋮ ■ ■ ⋮ ■ ■ □ ■ □ ■ □ ■ □ ■ □ ■ □ ■ □ <th□< th=""> <th□< th=""> <th< th=""></th<></th□<></th□<>
		Image: Image
		> 😂 CCRL Partner OS > 📮 Renesas Debug Virtual Console
		> 25 CCRX Renesas OS > ●● Eventpoints ✓ 25 Synergy Renesas QE □ IO Registers
		Smart Configurator Smart Configurator MMU te MMU Tracing C Performance Analysis
		> 🔄 spiritigy
		> Configuration.xml Synergy_cfg Real-time Chart
		R7FS7G27H2A01CBD.pincfg
		All other functionality is the same but more customers should be able
		to discover the view and its functionality.
Build	All	The Build Settings Report has been improved to include all options and
Settings	7	order the options in the same way as the user interface. This should
Report		enable checking the options against the report to be much easier.
		Project Explorer 🛛 📄 🔄 🤝
		> 😂 CCRL
		> s CCRX
		> D I New >
		> Conto
		Open in New Window > ≥ Show In >
		-
		Team > Compare With >
		Restore from Local History
		MISRA-C >
		Save build settings report



Synergy Editor	Synergy	A link to the import CMSIS component has been added to the BSP tab of the Synergy editor. This is to improve accessibility of the import CMSIS component functionality when wanting to add a custom board to the IDE.			
		徽 *[Synergy] Synergy Configuration 🕄			
		Board Support Package Configuration			
		Device Selection			
		SSP version: 1.4.0			
		Board: S7G2 DK 🗸 🔁			
		Device: R7FS7G27H2A01CBD Import a CMSIS Pack			
Partner OS Improvement	All	Numerous improvements have been made to the Partner OS plugin:			
·		 Added ability to set thresholds and this data to then be saved and restored for future debug sessions. 			
		 When stacks reach threshold or overflow, popup messages will be displayed to notify user about the stacks reaching their thresholds. 			
		 Added context menu and toolbars for setting thresholds 			
		 Added sort feature to the stack graph column within the stack tab. 			
Smart Configurator	RX	 Smart Configurator has been updated to support RX110, RX111 and RX113. 			
ooningurator		 In previous versions of e² studio, BSP version mismatch 			
		occurred when user downloads the newly updated FIT			
		modules from website. From this version, Smart Configurator will be able to update BSP to the latest version. So, user can use the newly updated FIT modules with the correct BSP			
		dependencies at ease.			
		 Importing and exporting board information has been supported. Clock and pins can be configured for specific board by importing board description file. Board description files for Renesas Starter Kit can be downloaded using Smart 			
		Configurator. Clock and pin settings modified using Smart Configurator can also be exported as user board description file.			
Partner OS Improvement	All	Numerous improvements have been made to the Partner OS plugin:			
,		 Added ability to set thresholds and this data to then be saved and restored for future debug sessions. 			
		 When stacks reach threshold or overflow, popup messages will be displayed to notify user about the stacks reaching their thresholds. 			
		 Added context menu and toolbars for setting thresholds 			
		 Added sort feature to the stack graph column within the stack tab. 			

October 2nd, 2018



6. Useful workarounds and information for 7.1.0

Please visit the Renesas FAQ for e² studio for the latest up to date information:

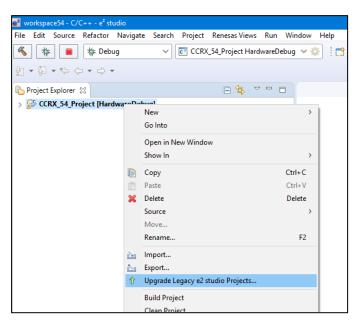
Online FAQ link.

ID	Component	Workaround or information
	SH support	The Renesas SH device family is no longer supported in e ² studio.
		If you need to use the SH device support please use e^2 studio 5.4 or earlier.
	Importing old projects into 6.x	All projects being migrated into the latest e ² studio from e ² studio 5.4 and earlier versions will need to be migrated to the new builder plugins. The new builder plugins have different user interface pages and different option IDs.
		Upon opening an older workspace, the following dialog would be displayed:
		e Older Workspace Version X
		Workspace '/C:/Users/b3800109/e2_studio/workspace54/' was written with an older version of the product and will be updated. Updating the workspace can make it incompatible with older versions of the product.
		Are you sure you want to continue with this workspace?
		Do not warn again about workspace versions
		OK Cancel

Clicking OK will update the workspace to the newer e² studio.

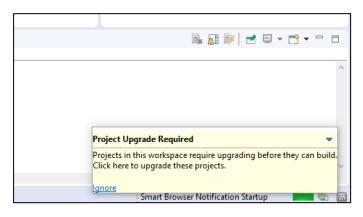
Importing an existing project to the workspace or opening a workspace with old projects will automatically start the legacy project upgrade procedure.

If for some reason this process does not start it is also possible to launch the "Upgrade Legacy of e2 studio Projects..." from the project context menu.





The automatic system pops up a message bubble in the bottom left of the e² studio application window.



After selecting the menu item or clicking the bubble the following dialog will be shown:

e ²		—		×
Upgrade Legacy e2 studio Projects				
8 You must select at least 1 project				
CCRX_54_Project [HardwareDebug]				
0	Finish		Connect	
T	<u>F</u> inish		Cancel	

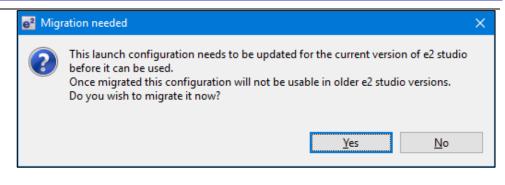
To upgrade the project, click the corresponding check box and then click Finish. Note, this will update the project to the latest build plugins and options. Before doing this, you should ensure your project is backed up as this operation is not reversible.

It is possible to upgrade multiple projects in a single operation.

For the GCC toolchains for RX, RL78 and GNUARM-NONE have been made to the build options which mean we cannot guarantee the same binary output after upgrade. Please consider this before upgrading.

Another consideration for migration is that debug configurations when opened in 6.0 will also need to be migrated. The following message will be displayed.





Please ensure that your projects are backed up or in revision control before migration allowing you to return to older versions if required.



ToolchainBefore e² studio 6.0 the toolchain management facility automatically upgraded orManagementdowngraded the imported project to the latest tools installed on the host
machine.

This no longer happens in the latest e² studio. Instead the toolchain remains the same and user operation is the only way to change the toolchain version.

This operation is now available within the build settings on the toolchain tab. An example of CCRX is shown below:

e ² Properties for CCRX_54_Project	t – 🗆	<
type filter text	Settings 🗢 🔹 🗘 👻	•
> Resource Builders	Configuration: HardwareDebug [Active]	^
Environment Logging Settings Tool Chain Editor > C/C++ General Project References Run/Debug Settings	Tool Settings Toolchain Device Person Build Steps Person Binary Parsers Error Parsers Current Toolchain Toolchain: Renesas CCRX Version: V2.06.00 Change Toolchain Toolchain: Renesas CCRX Version: Version: V2.06.00	*
?	OK Cancel	

If the particular toolchain version does not exist and build is performed then an error message is displayed and the build will fail.

RZ Toolchain The now legacy KPIT GNU ARM-NONE toolchain is still supported within the e² studio product but now using the gnuarmeclipse plugins.

In addition RZ within e² studio now supports the GNU ARM Launchpad toolchain. Available from <u>https://launchpad.net/gcc-arm-embedded</u>.

One drawback of this toolchain is that it does not have a standard library builder provided in the same manner as the legacy KPIT ARM-NONE toolchain. To use this feature for ARM Launchpad and gain access to the more efficient optlib libraries a further download is required.

This can be downloaded within the e² studio installer or directly from here: <u>https://gcc-renesas.com/rz/rz-download-toolchains/</u>

Once integrated it is possible to integrate the library generator from the toolchain tab of the build settings page.



Release Note

		e ² Properties for GCC_RZ	– 🗆 X
		type filter text	Settings 🗢 🔹 🖒
		 Resource Builders C/C++ Build Build Variables 	Configuration: HardwareDebug [Active]
		Environment Logging Settings Tool Chain Editor > C/C++ General Project References Run/Debug Settings	 Tool Settings Toolchain Current Toolchain Toolchain: KPIT GNUARM-NONE-EABI Toolchain Change Toolchain KpIT GNUARM-NONE-EABI Toolchain Version: v16.01 Additional Tools Create Library generator Create Flash image
		?	OK Cancel
			prary generator" option. Once checked the library generator d to the available tool settings.
	QE compatibility		P V1.0.0 is used, please update it to V1.0.1. s can be used with e ² studio 6.0.
		What is QE? https://www.ren	esas.com/qe
		Details of QE fo https://www.ren	or TCP/IP esas.com/qe-tcpip
5954	Application		the error message "org.eclipse.swt.SWTError: No more in be caused by certain multi-monitor software and the Eclipse
		If this error occu	urs there are 2 workarounds:
		2. Uninsta	ingle monitor display. Il the multiple monitor software from your graphics chipset and revert to the standard Windows multi-monitor feature.
6981	RL78 Debugging		g IAR C source file with an OCD emulator (E1), the Monitor 0x00002-0x00003) is used.
		So this area mu the linker option	ist be excluded from usable address space. Please add '-HFF' ir n.
		- Open Property	Ι.
		- Select [C/C++	build]-[Settings] at left side.
		- Select 'IAR RL	.78 Xlink linker' at right side, add '-HFF' at the textbox 'command
		Not doing this w interrupts.	vill cause problems with connection and download when using
NA	Application	If you are exper possibilities to in	iencing slow building of projects within e ² studio there are some mprove.

RENESAS

		The system environment will attempt to find the make.exe tool via the system environment. If you ensure the directory make resides in is at the start of the path variable it will find it more quickly. Especially important if there are network drives in the path.
		In the project properties, C/C++ Build tab, behavior tab you can switch on parallel build. This will take advantage of the multi-cores on your host machine if it has them.
NA	RZ GCC	In 3.0 the KPIT GCC RZ toolchain was supported at version 14.01. This version is no longer supported within e ² studio.
		KPIT modified the name of their ARM toolchain to be ARM-none-eabi to follow standard ARM naming convention like other GCC toolchain vendors.
		The ARM-none toolchain is available at versions 14.01, 14.02 and 16.01 from the www.gcc-renesas.com website. The binaries in the 14.01 version are identical to those used in the 14.01 RZ toolchain.
		Once the toolchain is installed your projects will be imported and ported to ensure there is as little disruption as possible due to this change.
NA	KPIT GCC	The KPIT toolchains are now no longer supported by the www.kpitgnutools.com website. Support is now available from the www.gcc-renesas.com website.
		In addition, there are two new releases for the GNU toolchains for RX and RL78. These are now named Renesas GCC for RX and Renesas GCC for RL78.
		Both integrate into e ² studio and can be selected from the project wizard.
2010	HEW Importer	Symptoms: Project fails to build after importing a legacy project from HEW
	importor	Conditions: If a long filename or path is used, and the HEW project importer is used, the project may fail to build.
		Workaround: Move the original HEW project to a shallow directory structure (i.e.) C:\Workspace and import from there. Also, ensure that the HEW project is relocated before importing into e ² studio.
1922	Application	Symptoms: Project fails to build in first instance after archive project import (not from HEW)
		Conditions: If an archived project is imported, it may fail to build the first time, due to a residual .d file.
		Workaround: Clean and Build a second time.
2762	CODAN	When using assembly code within a C source file, CODAN errors can be observed in the editor. Even though the project builds successfully, or even after rebuild index.
		Indexer buffer can be insufficient to process whole project. Please try giving larger values for the following configurations.
		Open preferences dialog through "Window"->" Preferences" menu. In "C/C++" -> "Indexer" tree, you will indexer configuration as shown below:

		e ² Preferences		– 🗆 X
		type filter text	Indexer	← → ⇒ → →
		 > General > C/C++ Appearance > Build Code Analysis > Code Style > Debug > Editor File Types Indexer Language Mappings > New C/C++ Project Wiz > Property Pages Settings > Renesas Task Tags Template Default Values > Help > IAR Embedded Workbench Install// Indate 	Enable indexer Index options Index source files not included in the build Index unused headers Index all header variants Index all variants of specific headers: Index all variants of specific headers: Index all variants of specific headers: Index source and header files opened in editor Allow heuristic resolution of includes Skip files larger than: Skip included files larger thar: Skip all references (Call Hierarchy and Search will references (e.g. overloaded operators) Skip type and macro references (Search for these refere	;) references will not work)
2728	GDB	index.	ch red-framed variables, then rebuild p	-
NA	Eventpoints	To ensure this behaves as this issue with the de If eventpoints do not al	correctly you will need to use CC-RX 2 ebug information is corrected in this rele ways work just after they are set, you can n in the Eventpoint view to send the Ev	2.00.00 or greater ease. an use the "Apply
			vill always ensure the debugger target h	
5772	IAR Plugins	RL78, RH850 and RZ (This tool, simplifies inst	er is included in e ² studio and provides ARM). allation and configuration of IAR toolch Help -> IAR Embedded Workbench plu	ain plugins. You
6184	RL78/CC-RL debugging	please specify the follow	for RL78/G10 which created at CC-RL wing option: Set enable/disable on-chip debug by lir	
7217	Application	The restore default sett	ings does not restore all the options se sets the defaults to the base settings fo	t during project
7524	RZ/T1	In a RZ/T1 RAM-based	project, the "Reload" function does not	t work.
	Debugging	Reloading or re-downlo content is erased.	ading during debugging resets the dev	ice and the RAM
		To continue the debugg	ging, disconnect and connect the debug	ger again.
	Use spaces as tabs		nave settings for use spaces as tabs. T e conflicts with the CDT formatter settin	
		To change the use spa	ces as tabs option in e² studio please u	se this page:

Release Note

Tyr Chu Lina Forder Forder Forder State (Street State	Toot.
 belar c. c. c	Provide distributions of the state of the s

	Installer problems	In some situations, the AVG virus checker appears to interfere with the e ² studio installation process. If you experience such a problem, please temporarily disable the AVG tool and try the installation again.
	Antivirus	In some situations, the Norton anti-virus tool can interfere with the building of Renesas Synergy projects. If possible, please disable the antivirus program when building Renesas Synergy projects on systems with Norton Antivirus installed.
	Green Hills RH850	When debugging the RH850 object built with the Green Hills compiler in e2 studio, specify the following option for the compiler option.
	Projects	-gtws
		The GUI setting menu is as follows.
		[GHS C Compiler for V800 Standalone]-[Debugging Option]
		"Generate Target-Walkable Stack" -> On
		If this option is not specified, Step Over and Step Return may not work properly.
17052	Debugging	When debugging using a project with duplicate filenames that are in different source folders problems can be seen with breakpoint setting.
		When a breakpoint is set at a source line in this file it will also stop at the same source line in the other same named file when execution passes through.
18505	RZ debugging	When debugging with RZ/T1 in certain situations you may experience problems stepping:
		If the following conditions are met:
		 Code is located close to address 0x0 There is very little library code included into the project There are unused functions in the program
		The possibility arises that the code cannot be debugged. This due togc- sections linker option which removes the unused functions but not the related debug information.
		There are several solutions to this problem: a. disablegc-sections until those functions are used b. remove the unused functions
	RZ GCC Build	In the latest e2 studio the RZ import functionality has been improved. However, there are still possibilities of older projects causing problems when imported into e ² studio.



In older versions of the RZ build plugins the FPU option was not correctly. When setting the "Soft" Floating point ABI the commar receiving –mfpu=vfpv3 incorrectly. This can now cause problem start-up code in older RZ projects.	nd line was still
After import if you see an error relating to this please add –mfpu "Other Assembler Flags" page of the Assembler tool.	ı=vfpv3 to the
In addition, when migrating some RZ/A1 projects you may expension problems unless you build the project in 5.4 first.	rience import
RZ DS-5When a DS-5 project is imported into e² studio the environmentProjectPath and TCInstall are copied from the DS-5 environment.Import	variables for
This is not correct. The way to correct this problem is to delete b replace them with correct values to your toolchain. If you are un correct this please create a new project and copy the values from converted project.	sure how to
RX & RL78When importing a KPIT RL78/RX Library C/C++ project from e²GCC Projectbefore the build artifact settings are not correct.ImportImport	studio 5.4 or
The output prefix should be set to "lib" but is in fact empty.	
RZ/G debug In the case of debugging Linux application for RZ/G, the followin messages are shown in GDB server console when pushing [Ste [Step Over] button. These messages can be ignored because the Step debugging s properly even with these messages.	p in] button or
Examples of error messages: PassthroughTargetCommunication::sendResponse error 42 46 PassthroughTargetCommunication::sendResponse error 10 15 PassthroughTargetCommunication::sendResponse error 42 46	
21863 RX & RL In previous releases there were some problems with stepping in Debugging when using the CCRX and CCRL toolchains.	
A fix has been made to the debug object converter. To see this please clean and rebuild the project. The debug information will updated, and the stepping will be more correct and reliable. Code When using multiple installations of e ² studio on your machine y	then be
Generator subsequent installations do not work correctly with the code generator cannot be created or added The effect is that the code generator cannot be created or added Eviciting projects can be used by the code generator views appendix	d to projects.
Existing projects can be used by the code generator views appe If this is the case then the code generator must be manually reg this execute the following tool:	
e.g.	
C:\Renesas\e2_studip\eclipse\plugins\com.renesas.cg_2.11.0.v 1047\CodeGenerator\Tools\register COM.bat	20180601-
23618Smart Configurator for RZ/A2MIn the Smart Configurator for RZ/A2M, "O" (output) can be select P5_2 to P5_7, PL_0 to PL_4 and JP0_0 in the Direction column Number list even though these ports have only input function.	
Please do not select "O" (output) for these ports.	

23619	Smart Configurator for RZ/A2M	In the Smart Configurator for RZ/A2M, "I" (input) can be selected for JP0_1 in the Direction column of the Pin Number list even though this port have only output function.
		Please do not select "I" (input) for this port.
23620	Smart Configurator for RZ/A2M	When a pin assigned to IRQ function, the pin cannot be used for pin interrupt as specified in hardware specification. However in the Smart Configurator for RZ/A2M, "Interrupt" column is not deactivated even the pins were assigned to IRQ. Please do not configure to enable for both IRQ and pin interrupt for the same pin number.
23621	Smart Configurator for RZ/A2M	Pin interrupt cannot be enabled if the pins were assigned to analog input function (AN000 to AN007). However in the Smart Configurator for RZ/A2M, "Interrupt" column is not deactivated even the pins were assigned to analog input. Please do not configure to enable pin interrupt for the same pin number assigned to analog input.
23622	Smart Configurator for RZ/A2M	In the Smart Configurator for RZ/A2M, "4mA" cannot be selected for the port PG_2 to PG_7 and PJ_0 to PJ_5 in the Drive Control column of the Pin Number list even the though output is selected for the direction of these ports. To set the drive control of these port to 4mA, please modify r_gpio_drv_sc_cfg.h to change the value of drive control settings for corresponding port in the configuration table from "GPIO_CURRENT_8mA" to "GPIO_CURRENT_4mA" manually after executing code generation.
23623	Smart Configurator for RZ/A2M	In the Smart Configurator for RZ/A2M, the drive control setting is not displayed for the port P0_0 and P0_1 in the Drive Control column of the Pin Number list. Even though the setting is not displayed and the value to set the drive control is not generated to the configuration table in r_gpio_drv_sc_cfg.h, the drive control settings for these ports are fixed to 4mA.
		Please recognize the driver control settings for these pins to be 4mA.



7. Open Issues in 7.1.0

Open issues in the e² studio 7.1 product will be kept up to date <u>here</u>:

Please visit to see the latest open issue list.



8. Appendix

8.1 Website and Support

Renesas Electronics Website <u>http://www.renesas.com/</u>

Inquiries

http://www.renesas.com/contact/



All trademarks and registered trademarks are the property of their respective owners.



Notice

- 1. Descriptions of circuits, software and other related information in this document are provided only to illustrate the operation of semiconductor products and application examples. You are fully responsible for the incorporation or any other use of the circuits, software, and information in the design of your product or system. Renesas Electronics disclaims any and all liability for any losses and damages incurred by you or third parties arising from the use of these circuits, software, or information
- 2. Renesas Electronics hereby expressly disclaims any warranties against and liability for infringement or any other claims involving patents, copyrights, or other intellectual property rights of third parties, by or arising from the use of Renesas Electronics products or technical information described in this document, including but not limited to, the product data, drawings, charts, programs, algorithms, and application examples
- 3. No license, express, implied or otherwise, is granted hereby under any patents, copyrights or other intellectual property rights of Renesas Electronics or others.
- 4. You shall not alter, modify, copy, or reverse engineer any Renesas Electronics product, whether in whole or in part. Renesas Electronics disclaims any and all liability for any losses or damages incurred by you or third parties arising from such alteration, modification, copying or reverse engineering.
- 5. Renesas Electronics products are classified according to the following two quality grades: "Standard" and "High Quality". The intended applications for each Renesas Electronics product depends on the product's quality grade, as indicated below.
 - "Standard": Computers: office equipment: communications equipment: test and measurement equipment: audio and visual equipment: home electronic appliances: machine tools: personal electronic equipment: industrial robots: etc

"High Quality": Transportation equipment (automobiles, trains, ships, etc.); traffic control (traffic lights); large-scale communication equipment; key financial terminal systems; safety control equipment; etc. Unless expressly designated as a high reliability product or a product for harsh environments in a Renesas Electronics data sheet or other Renesas Electronics document, Renesas Electronics products are not intended or authorized for use in products or systems that may pose a direct threat to human life or bodily injury (artificial life support devices or systems; surgical implantations; etc.), or may cause serious property damage (space system; undersea repeaters; nuclear power control systems; aircraft control systems; key plant systems; military equipment; etc.). Renesas Electronics disclaims any and all liability for any damages or losses incurred by you or any third parties arising from the use of any Renesas Electronics product that is inconsistent with any Renesas Electronics data sheet, user's manual or other Renesas Electronics document.

- 6. When using Renesas Electronics products, refer to the latest product information (data sheets, user's manuals, application notes, "General Notes for Handling and Using Semiconductor Devices" in the reliability handbook, etc.), and ensure that usage conditions are within the ranges specified by Renesas Electronics with respect to maximum ratings, operating power supply voltage range, heat dissipation characteristics, installation, etc. Renesas Electronics disclaims any and all liability for any malfunctions, failure or accident arising out of the use of Renesas Electronics products outside of such specified
- 7. Although Renesas Electronics endeavors to improve the quality and reliability of Renesas Electronics products, semiconductor products have specific characteristics, such as the occurrence of failure at a certain rate and malfunctions under certain use conditions. Unless designated as a high reliability product or a product for harsh environments in a Renesas Electronics data sheet or other Rene Electronics document, Renesas Electronics products are not subject to radiation resistance design. You are responsible for implementing safety measures to guard against the possibility of bodily injury, injury or damage caused by fire, and/or danger to the public in the event of a failure or malfunction of Renesas Electronics products, such as safety design for hardware and software, including but not limited to redundancy, fire control and malfunction prevention, appropriate treatment for aging degradation or any other appropriate measures. Because the evaluation of microcomputer software alone is very difficult and impractical, you are responsible for evaluating the safety of the final products or systems manufactured by you.
- 8. Please contact a Renesas Electronics sales office for details as to environmental matters such as the environmental compatibility of each Renesas Electronics product. You are responsible for carefully and sufficiently investigating applicable laws and regulations that regulate the inclusion or use of controlled substances, including without limitation, the EU RoHS Directive, and using Renesas Electronics products in compliance with all these applicable laws and regulations. Renesas Electronics disclaims any and all liability for damages or losses occurring as a result of your noncompliance with applicable laws and regulations.
- 9. Renesas Electronics products and technologies shall not be used for or incorporated into any products or systems whose manufacture, use, or sale is prohibited under any applicable domestic or foreign laws or regulations. You shall comply with any applicable export control laws and regulations promulgated and administered by the governments of any countries asserting jurisdiction over the parties or transactions
- 10. It is the responsibility of the buyer or distributor of Renesas Electronics products, or any other party who distributes, disposes of, or otherwise sells or transfers the product to a third party, to notify such third party in advance of the contents and conditions set forth in this document.
- 11. This document shall not be reprinted, reproduced or duplicated in any form, in whole or in part, without prior written consent of Renesas Electronics
- 12. Please contact a Renesas Electronics sales office if you have any questions regarding the information contained in this document or Renesas Electronics products.
- (Note 1) "Renesas Electronics" as used in this document means Renesas Electronics Corporation and also includes its directly or indirectly controlled subsidiaries.
- (Note 2) "Renesas Electronics product(s)" means any product developed or manufactured by or for Renesas Electronics.

(Rev.4.0-1 November 2017)

http://www.renesas.com



SALES OFFICES

Renesas Electronics Corporation

Renesas Electronics America Inc. 1001 Murphy Ranch Road, Milpitas, CA 95035, U.S.A. Tel: +1-408-432-8888, Fax: +1-408-434-5351 Renesas Electronics Canada Limited 9251 Yonge Street, Suite 8309 Richmond Hill, Ontario Canada L4C 9T3 Tel: +1-905-237-2004 Renesas Electronics Europe Limited Dukes Meadow, Millboard Road, Bourne End, Buckinghamshire, SL8 5FH, U.K Tel: +44-1628-651-700, Fax: +44-1628-651-804 Renesas Electronics Europe GmbH Arcadiastrasse 10, 40472 Düsseldorf, German Tel: +49-211-6503-0, Fax: +49-211-6503-1327 Renesas Electronics (China) Co., Ltd. Room 1709 Quantum Plaza, No.27 ZhichunLu, Haidian District, Beijing, 100191 P. R. China Tel: +86-10-8235-1155, Fax: +86-10-8235-7679 Renesas Electronics (Shanghai) Co., Ltd. Unit 301, Tower A, Central Towers, 555 Langao Road, Putuo District, Shanghai, 200333 P. R. China Tel: +86-21-2226-0888, Fax: +86-21-2226-0999

Renesas Electronics Hong Kong Limited Unit 1601-1611, 16/F, Tower 2, Grand Century Place, 193 Prince Edward Road West, Mongkok, Kowloon, Hong Kong Tel: +852-2265-6688, Fax: +852 2886-9022 Renesas Electronics Taiwan Co., Ltd. 13F, No. 363, Fu Shing North Road, Taipei 10543, Taiwan Tel: +886-2-8175-9600, Fax: +886 2-8175-9670 Renesas Electronics Singapore Pte. Ltd. 80 Bendemeer Road, Unit #06-02 Hyflux Innovation Centre, Singapore 339949 Tel: +65-6213-0200, Fax: +65-6213-0300

Renesas Electronics Malaysia Sdn.Bhd. Unit 1207, Block B, Menara Amcorp, Amcorp Trade Centre, No. 18, Jln Persiaran Barat, 46050 Petaling Jaya, Selangor Darul Ehsan, Malaysia Tel: +60-3-7955-9390, Fax: +60-3-7955-9510

Renesas Electronics India Pvt. Ltd. No.777C, 100 Feet Road, HAL 2nd Stage, Indiranagar, Bangalore 560 038, India Tel: +91-80-67208700, Fax: +91-80-67208777

Refer to "http://www.renesas.com/" for the latest and detailed information

Renesas Electronics Korea Co., Ltd. 17F, KAMCO Yangjae Tower, 262, Gangnam-daero, Gangnam-gu, Seoul, 06265 Korea Tel: +82-2-558-3737, Fax: +82-2-558-5338