e² studio 6.2.0

Release Note

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Introduction

This document outlines the device support, new features added in 6.2.0, fixed issues and open issues in e² studio 6.2.0.

Contents

Introduction 1

1. Product Information 2
   1.1 Supported Operating Systems 2
   1.2 Supported Toolchains 2
2. Device Support 3
   2.1 Project Generator Support 3
   2.2 Code Generator Support 8
3. Smart Manual Support 11
4. What is new in 6.2.0? 12
5. What is new in 6.1.0? 23
6. What is new in 6.0.0? 26
7. Useful workarounds and information for 6.2.0 38
8. Open Issues in 6.2.0 47
9. Appendix 48
   9.1 Website and Support 48

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 6.2.0.

		Renesas	Launchpad GCC (*2)	Renesas GCC/ KPIT GCC (*3)	IAR (*4)	Green Hills (*5)
Device Family	RL78	Yes (CC-RL)	No	Yes	Yes	No
	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: Converter is now available to convert RZ ARM-none GCC toolchain to use Launchpad GCC.

*2: The GNU Launchpad toolchain is distributed via the www.launchpad.net website and is available here: https://launchpad.net/gcc-arm-embedded.

*3: Legacy KPIT GCC toolchains are now available from https://gcc-renesas.com/. In addition, the latest RX and RL 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
RH850	C1H	R7F701260, R7F701270,(Debug Support Only)
	C1M	R7F701263, R7F701271,(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)
	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)
	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, R7F701049, 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)
	-	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
	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
	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	R5F1006A, R5F1006C, R5F1006D, R5F1006E, R5F1007A, R5F1007C, R5F1007D, R5F1007E, R5F1008A, R5F1008C, R5F1008D, R5F1008E, R5F100AA, R5F100AC, R5F100AD, R5F100AE, R5F100AF, R5F100AG, R5F100BA, R5F100BC, R5F100BD, R5F100BE, R5F100BF, R5F100BG, R5F100CA, R5F100CC, R5F100CD, R5F100CE, R5F100CF, R5F100CG, R5F100EA, R5F100EC, R5F100ED, R5F100EE, R5F100EF, R5F100EG, R5F100EH, R5F100FA, R5F100FC, R5F100FD, R5F100FE, R5F100FF, R5F100FG, R5F100FH, R5F100FJ, R5F100FK, R5F100FL, R5F100GA, R5F100GC, R5F100GD, R5F100GE, R5F100GF, R5F100GG, R5F100GH, R5F100GJ, R5F100GK, R5F100GL, R5F100JC, R5F100JD, R5F100JE, R5F100JF, R5F100JG, R5F100JH, R5F100JJ, R5F100JK, R5F100JL, R5F100LC, R5F100LD, R5F100LE, R5F100LF, R5F100LG, R5F100LH, R5F100LJ, R5F100LK, R5F100LL, R5F100MF, R5F100MG, R5F100MH, R5F100MJ, R5F100MK, R5F100ML, R5F100PF, R5F100PG, R5F100PH, R5F100PJ, R5F100PK, R5F100PL, R5F100SH, R5F100SJ, R5F100SK, R5F100SL, R5F1016A, R5F1016C, R5F1016D, R5F1016E, R5F1017A, R5F1017C, R5F1017D, R5F1017E, R5F1018A, R5F1018C, R5F1018D, R5F1018E, R5F101AA, R5F101AC, R5F101AD, R5F101AE, R5F101AF, R5F101AG, R5F101BA, R5F101BC, R5F101BD, R5F101BE, R5F101BF, R5F101BG, R5F101CA, R5F101CC, R5F101CD, R5F101CE, R5F101CF, R5F101CG, R5F101EA, R5F101EC, R5F101ED, R5F101EE, R5F101EF, R5F101EG, R5F101EH, R5F101FA, R5F101FC, R5F101FD, R5F101FE, R5F101FF, R5F101FG, R5F101FH, R5F101FJ, R5F101FK, R5F101FL, R5F101GA, R5F101GC, R5F101GD, R5F101GE, R5F101GF, R5F101GG, R5F101GH, R5F101GJ, R5F101GK, R5F101GL, R5F101JC, R5F101JD, R5F101JE, R5F101JF, R5F101JG, R5F101JH, R5F101JJ, R5F101JK, R5F101JL, R5F101LC, R5F101LD, R5F101LE, R5F101LF, R5F101LG, R5F101LH, R5F101LJ, R5F101LK, R5F101LL, R5F101MF, R5F101MG, R5F101MH, R5F101MJ, R5F101MK, R5F101ML, R5F101PF, R5F101PG, R5F101PH, R5F101PJ, R5F101PK, R5F101PL, R5F101SH, R5F101SJ, R5F101SK, R5F101SL
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, R5F104JH, R5F104JJ, R5F104LC, R5F104LD, R5F104LE, R5F104LF, R5F104LG, R5F104LH, R5F104LJ, R5F104LK, R5F104LL, R5F104MF, R5F104MG, R5F104MH, R5F104MJ, R5F104MK, R5F104ML, R5F104PF, R5F104PG, R5F104PH, 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
	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
RX	110	R5F51101, R5F51103, R5F51104, R5F51105, R5F5110H, R5F5110J
	111	R5F51111, R5F51113, R5F51114, R5F51115, R5F51116, R5F51117, R5F51118, R5F5111J
	113	R5F51135, R5F51136, R5F51137, R5F51138
	130	R5F51303, R5F51305, R5F51306, R5F51307, R5F51308
	210	R5F52103, R5F52104, R5F52105, R5F52106, R5F52107, R5F52108, R5F5210A, R5F5210B
	21A	R5F521A6, R5F521A7, R5F521A8
	220	R5F52201, R5F52203, R5F52205, R5F52206
	230	R5F52305, R5F52306
	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
	65N	R5F565N4, R5F565N7, R5F565N9, R5F565NC, R5F565NC_DUAL, R5F565NE, R5F565NE_DUAL
	71M	R5F571MF, R5F571MG, R5F571MJ, R5F571ML
RZ	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
	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
Synergy *1	S124	R7FS124762A01CLM, R7FS124763A01CFL, R7FS124763A01CFM, R7FS124772A01CLM, R7FS124773A01CFL, R7FS124773A01CFM, R7FS124773A01CNB, R7FS124773A01CNE, R7FS124773A01CNF
	S128	R7FS128782A01CLM, R7FS128783A01CFJ, R7FS128783A01CFL, R7FS128783A01CFM, R7FS128783A01CNE, R7FS128783A01CNG
	S3A6	R7FS3A6782A01CLJ, R7FS3A6783A01CFL, R7FS3A6783A01CFM, R7FS3A6783A01CFP, R7FS3A6783A01CNB, R7FS3A6783A01CNE, R7FS3A6783A01CNF
	S3A7	R7FS3A77C2A01CLK, R7FS3A77C3A01CFB, R7FS3A77C2A01CBJ, R7FS3A77C3A01CFP, R7FS3A77C2A01CLJ, R7FS3A77C3A01CFM, R7FS3A77C2A01CNB, R7FS3A77C3A01CNB
	S5D5	R7FS5D57A2A01CLK, R7FS5D57A3A01CFB, R7FS5D57A3A01CFP, R7FS5D57C2A01CLK, R7FS5D57C3A01CFB, R7FS5D57C3A01CFP
	S7G2	R7FS7G27H2A01CBD, R7FS7G27G2A01CBD, R7FS7G27H2A01CBG, R7FS7G27G2A01CBG, R7FS7G27H2A01CFC, R7FS7G27H3A01CFC, R7FS7G27G2A01CFC, R7FS7G27G3A01CFC, R7FS7G27H2A01CLK, R7FS7G27G2A01CLK, R7FS7G27H3A01CFB, R7FS7G27G3A01CFB, R7FS7G27G3A01CFP

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

2.2 Code Generator Support

CPU	Family	Devices
RL78	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
	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
	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	R5F1006A, R5F1006C, R5F1006D, R5F1006E, R5F1007A, R5F1007C, R5F1007D, R5F1007E, R5F1008A, R5F1008C, R5F1008D, R5F1008E, R5F100AA, R5F100AC, R5F100AD, R5F100AE, R5F100AF, R5F100AG, R5F100BA, R5F100BC, R5F100BD, R5F100BE, R5F100BF, R5F100BG, R5F100CA, R5F100CC, R5F100CD, R5F100CE, R5F100CF, R5F100CG, R5F100EA, R5F100EC, R5F100ED, R5F100EE, R5F100EF, R5F100EG, R5F100EH, R5F100FA, R5F100FC, R5F100FD, R5F100FE, R5F100FF, R5F100FG, R5F100FH, R5F100FJ, R5F100FK, R5F100FL, R5F100GA, R5F100GC, R5F100GD, R5F100GE, R5F100GF, R5F100GG, R5F100GH, R5F100GJ, R5F100GK, R5F100GL, R5F100JC, R5F100JD, R5F100JE, R5F100JF, R5F100JG, R5F100JH, R5F100JJ, R5F100JK, R5F100JL, R5F100LC, R5F100LD, R5F100LE, R5F100LF, R5F100LG, R5F100LH, R5F100LJ, R5F100LK, R5F100LL, R5F100MF, R5F100MG, R5F100MH, R5F100MJ, R5F100MK, R5F100ML, R5F100PF, R5F100PG, R5F100PH, R5F100PJ, R5F100PK, R5F100PL, R5F100SH, R5F100SJ, R5F100SK, R5F100SL, R5F1016A, R5F1016C, R5F1016D, R5F1016E, R5F1017A, R5F1017C, R5F1017D, R5F1017E, R5F1018A, R5F1018C, R5F1018D, R5F1018E, R5F101AA, R5F101AC, R5F101AD, R5F101AE, R5F101AF, R5F101AG, R5F101BA, R5F101BC, R5F101BD, R5F101BE, R5F101BF, R5F101BG, R5F101CA, R5F101CC, R5F101CD, R5F101CE, R5F101CF, R5F101CG, R5F101EA, R5F101EC, R5F101ED, R5F101EE, R5F101EF, R5F101EG, R5F101EH, R5F101FA, R5F101FC, R5F101FD, R5F101FE, R5F101FF, R5F101FG, R5F101FH, R5F101FJ, R5F101FK, R5F101FL, R5F101GA, R5F101GC, R5F101GD, R5F101GE, R5F101GF, R5F101GG, R5F101GH, R5F101GJ, R5F101GK, R5F101GL, R5F101JC, R5F101JD, R5F101JE, R5F101JF, R5F101JG, R5F101JH, R5F101JJ, R5F101JK, R5F101JL, R5F101LC, R5F101LD, R5F101LE, R5F101LF, R5F101LG, R5F101LH, R5F101LJ, R5F101LK, R5F101LL, R5F101MF, R5F101MG, R5F101MH, R5F101MJ, R5F101MK, R5F101ML, R5F101PF, R5F101PG, R5F101PH, R5F101PJ, R5F101PK, R5F101PL, R5F101SH, R5F101SJ, R5F101SK, R5F101SL
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, R5F104JH, R5F104JJ, R5F104LC, R5F104LD, R5F104LE, R5F104LF, R5F104LG, R5F104LH, R5F104LJ, R5F104LK, R5F104LL, R5F104MF, R5F104MG, R5F104MH, R5F104MJ, R5F104MK, R5F104ML, R5F104PF, R5F104PG, R5F104PH, 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
	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, R5F11MPG
	L1C	R5F110ME, R5F110MF, R5F110MG, R5F110MH, R5F110MJ, R5F110PE, R5F110PF, R5F110PG, R5F110PH, R5F110PJ, R5F111ME, R5F111MF, R5F111MG, R5F111MH, R5F111MJ, R5F111PE, R5F111PF, R5F111PG, R5F111PH, R5F111PJ
RX	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
	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 the 5th of January, 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 6.2.0?

<table>
<tr><th>Component</th><th>Device</th><th>Description</th></tr>
<tr><td>Current Consumption</td><td>RX</td><td>Current consumption is now supported for the RX100 and RX200 device series using the E2 emulator.

This includes the integrated monitor point support in the e² studio editor.</td></tr>
<tr><td>GCC Build</td><td>RL78, RX, Synergy, RZ</td><td>When using GCC based toolchains if a project links external *.obj files, the linker was not be called even when these objects were modified.

The makefile generation has been improved to include these files to ensure this will cause a link as expected.</td></tr>
<tr><td>CCRL Build</td><td>RL78</td><td>Support added for CC-RL V1.06.00 toolchain.</td></tr>
<tr><td>CCRX Build</td><td>RX</td><td>Support added for CC-RX V2.08.00 toolchain.</td></tr>
<tr><td>MISRA-C CCRL Build</td><td>RL78</td><td>Some rule numbers of MISRA-C are added by CC-RL V1.06.00.

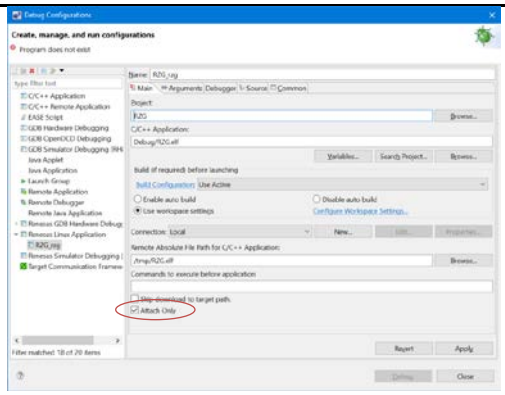
When moving from CCRL v1.05 to v1.06, following MISRA-C 2012 rule will be added:
<table>
<tr><th>status</th><th>for C90</th><th>for both C90 and C99</th><th>for C99</th></tr>
<tr><td>status "Required"</td><td></td><td>18.7</td><td>8.14 ; 9.5 ; 9.4 ; 13.1 ; 21.11;</td></tr>
<tr><td>status "Advisory"</td><td></td><td></td><td>21.12</td></tr>
<tr><td>status "Mandatory"</td><td></td><td></td><td>17.6</td></tr>
</table></td></tr>
<tr><td>CCRL and CCRX Build</td><td>RL78, RX</td><td>Environment variables of file paths were stored in long format from 6.0. This caused issues when spaces were resident in paths.

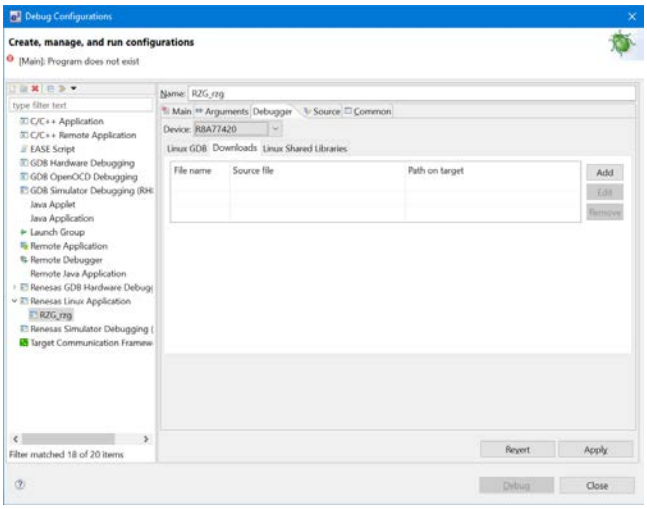
From 6.2 onwards the paths will be stored in their short format to avoid this problem.</td></tr>
<tr><td>CCRL Build</td><td>RL78</td><td>When building the CCRX and CCRL toolchains handle the –library option differently.

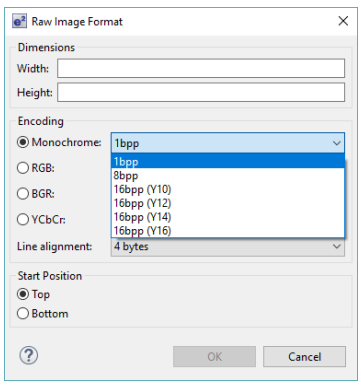
The CCRX toolchain includes the standard library files within the LinkerSubCommand.tmp file. The CCRL build plugin has been modified to match this specification.</td></tr>
<tr><td>Code Generator</td><td>RX, RL, RZ</td><td>The code generator generates files in your project when setup. In some instances you may have modified these files with your code changes. If the code generator generates code when these files have unsaved changes it is possible to lose your code changes.</td></tr>
</table>

		In 6.2 a warning will be shown giving you a chance to not lose your source code edits.
Code Generator	RZ	The following enhancements have been made to the RZ/T1 code generator feature: 1. You can now select the following signal in the ELC of the RZ/T1's code generator. • EtherMAC IEEE1588 SYNCOUT o All RZ/T1 products have this menu. • EtherCAT Sync0 and EtherCAT Sync1 o The products that support EtherCAT have this menu. 2. The Code Generator can generate the code of MPC.PxxPFS and PORTn.PMR for ENCIF08, ENCIF09, ENCIF10, ENCIF11 and ENCIF12 of RZ/T1. 3. You can now specify a time value for the GPT on the RZ/T1 code generator. In the past, you had to input a register value on the input box for "Compare match value" of the RZ/T1 code generator. This should improve usability. 4. The code generator now supports the 32-bit Phase Counting Mode of RZ/T1's MTU3a.
Code Generator	RL78	The code generator now has data flash library support for the following devices. • For RL78/G13 o R5F1006E, R5F1007E, R5F1008E, R5F100AE, R5F100BE, R5F100CE, R5F100EE, R5F100FE, R5F100GE, R5F100JE, R5F100LE, R5F100FJ, R5F100GJ, R5F100JJ, R5F100LJ, R5F100MJ, R5F100PJ, R5F100FL, R5F100GL, R5F100JL, R5F100LL, R5F100ML, R5F100PL, R5F100SL • For RL78/F13 o R5F10A6E, R5F10AAE, R5F10ABE, R5F10AGE, R5F10ALE, R5F10AGG, R5F10ALG, R5F10AMG,R5F10BAG, R5F10BBG, R5F10BGG,R5F10BLG, R5F10BMG • For RL78/F14 o R5F10PGF, R5F10PLF, R5F10PMF, R5F10PGJ, R5F10PLJ, R5F10PMJ, R5F10PPJ

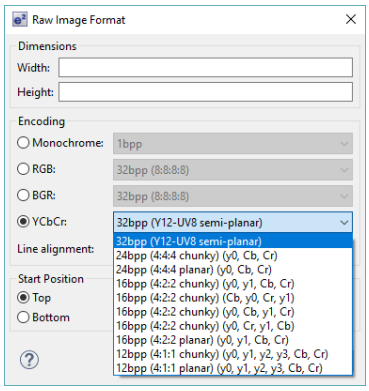
Consumption Current	RX, RL78	Various improvements have been made to the current consumption view to remedy the problems below: • Current Consumption settings were not being saved correctly when terminating e² studio while still connected to the debugger. • Zooming in or out of the Consumption Current view or dragging the scrollbar when the plugin is "Getting Consumption Current data..." could cause the view to hang and no data to be displayed. • When setting monitor points and opening the acquisition dialog, it was not possible to specify 'between monitor points'. This is now enabled before measurement. When the address is not fixed the monitor point will have the source file and line number to identify its position. • It was not possible to remove multiple monitor points in one operation. • The recently used find information is now synchronized between the combo box on the view and the find dialog.
RH850 Debugging	RH850	RH850 P1x-C is now supported. Specifically the following devices are added: • P1H-C o R7F701370AEEBG, R7F701371EABG, R7F701372EABG, R7F701396EABG • P1M-C o R7F701373xABG, R7F701374xAFP, R7F701397xABG • P1L-C o R7F701388, R7F701389, R7F701390, R7F701391
Debug Configuration	All	When launching the debugger in e² studio 6.2 the selected device in the debug configuration is now compared to that selected in the project. When these devices do not match it may cause problems and confusion when you are debugging. So in this case a warning message is now displayed informing you of this situation. You can then decide to cancel or proceed as normal.
Linux Debugging	RZ	It is now possible to attach to an already running process on the target board and then start a debugging session for this process. This is available via the "Attach Only" check box on the "Main" tab of the Debug Configuration.

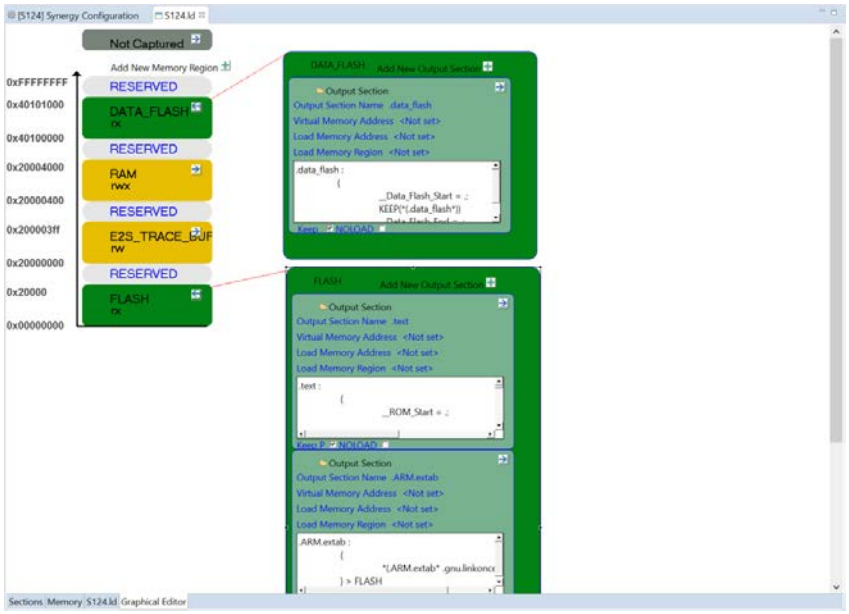


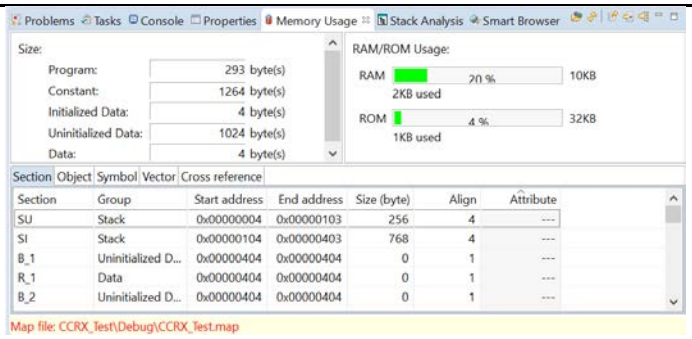
Linux Debugging	RZ	Files needed for debugging can now be transferred as part of the connection process. This can be done from the Debugger tab and specifically the “Downloads” sub-tab. The user interface allows you to specify the file, the path on the host machine and the path to copy to on the target. 
RL78 Debugging	RL78	New device groups have been added to e^2 studio: ・RL78/G11(10pin/16pin) Updated group: ・RL78/I1C: The following IO register has been moved from the SYSTEM module to OTHER module: MULBL[FFF3Ch] / MULBH[FFF3Eh] / MUL32UL[F0280h] / MUL32UH[F0282h] / MUL32SL[F0284h] / MUL32SH[F0286h] / MAC32UL[F0288h] / MAC32UH[F028Ah] / MAC32SL[F028Ch] / MAC32SH[F028Eh] / MULR0[F0290h] / MULR1[F0292h] / MULR2[F0294h] / MULR3[F0296h] / MULC[F029Ah] / MULST[F029Ah] / MACSF[F029Ah] /

		MACOF[F029Ah] / MULFRAC[F029Ah] / MULSM[F029Ah] / MACMODE[F029Ah] ・RL78/G1D: The following IO register has been added: P8[FFF08h] / P10[FFF0Ah] / P11[FFF0Bh] / P15[FFF0Fh] / PM8[FFF28h] / PM10[FFF2Ah] / PM11[FFF2Bh] / PM15[FFF2Fh] The following IO register has been removed: KRM[FFF37h] / MULA[FFFF0h] / MULB[FFFF2h] / MUL0H[FFFh4] / MUL0L[FFFF6h] / TEMPCAL0[F00ACh] / TEMPCAL1[F00ADh] / TEMPCAL2[F00AEh] / TEMPCAL3[F00AFh] / RMC[F00F4h] / PAENB[F00F4h] / WDVOL[F00F4h] The following IO register name has been changed: FRA2H -> DRA2H [F0203h] ・RL78/G11 The following IO register has been bit information added: TMR.TKBTRG0[F0412] ・RL78/G10 The version number has been updated. There are no other changes. E1.03a -> V1.03
RX Debugging	RX	The IO register related files have been updated for RX651 and RX65N.
Image view	All	The Raw Image rendering feature now supports new image formats: The view now also supports the Y10, Y12, Y14, Y16, Y12-UV8 image formats. Y10, Y12, Y14, Y16 image formats has been added into the Monochrome format group: 

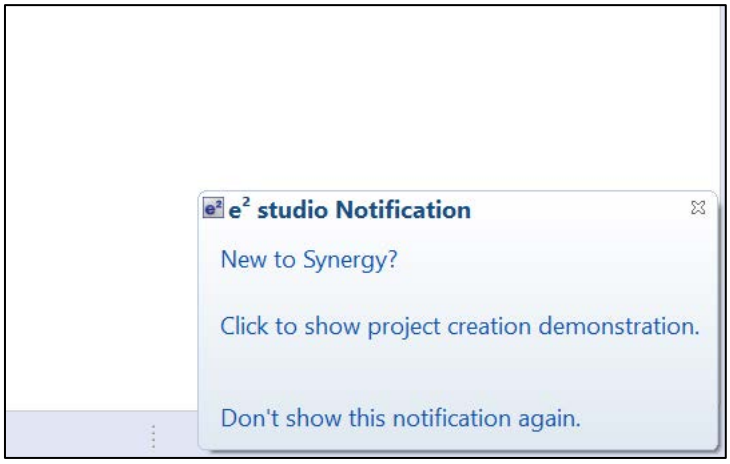
Y12-UV8 semi-planar image format has been added into the YCbCr format group:

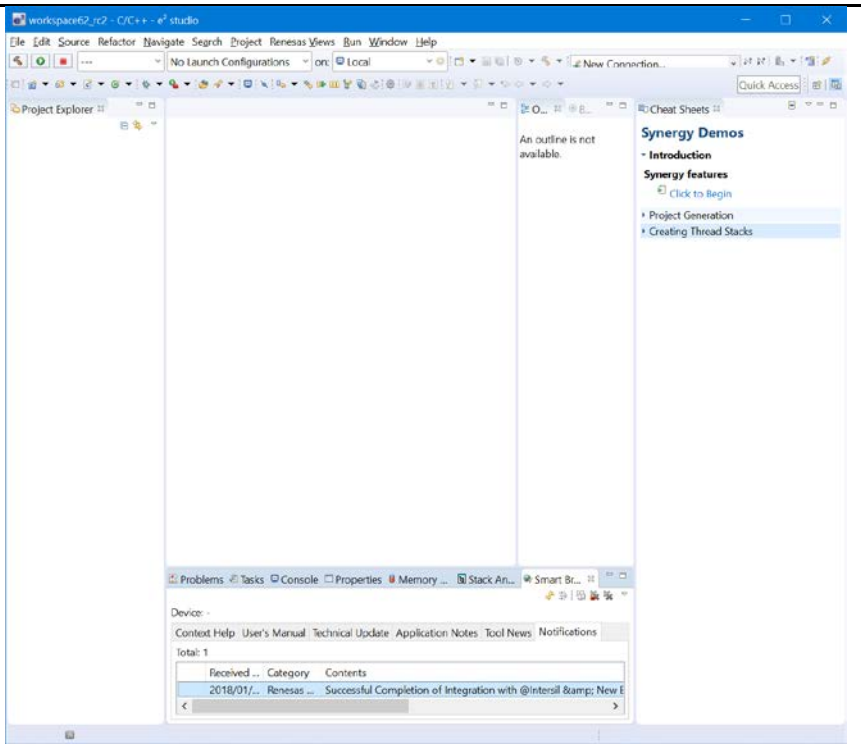


Linker Script Editor	All	The Linker script editor for GCC has been enhanced to include a visual representation of the linker script. This should allow easier manipulation and editing of the script file. It is available from the “Graphical Editor” tab when opening an “.ld” file in the e² studio environment. Clicking the “Arrow icons” expands and collapses the graphical interface to show section details. 
Memory Usage	RX, RL	When using the CC-RX v2.07 or CC-RL v1.05 the memory usage view has been enhanced to show the attribute field where available. See below:



In addition when the toolchain is using the “Output the relocation attribute” the map file can still be shown correctly. This was not working correctly in 6.1 or earlier.

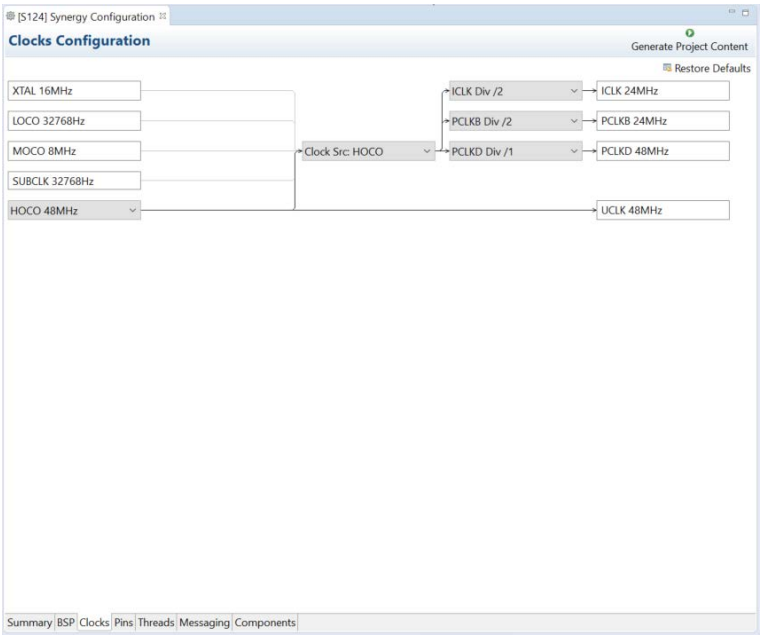
MISRA-C CCRL and CCRX	RL, RX	In versions before 6.2 the MISRA-C rule check is only executed when the file is opened. The rule check is now also executed when the file is modified internally or externally to e² studio.
RZ Project Generation	RZ	The RZ/T1 project generator now disables the interworking option for Cortex-M devices such as for RZ/T1 R-IN (Cortex-M3).
Smart Demo	Synergy	When Synergy support is installed in your e² studio and you access the tools for the first time you will be prompted to view a demonstration. Currently there are 2 supported demonstrations, one for creating a Synergy project and another for setting up a very simple software stack. Note: This feature is only supported on English language operating systems. The notification is shown in the bottom right hand corner of the IDE. See below:  If you then click the notification message it opens an Eclipse cheat sheet with access to the related demonstration software. See below:

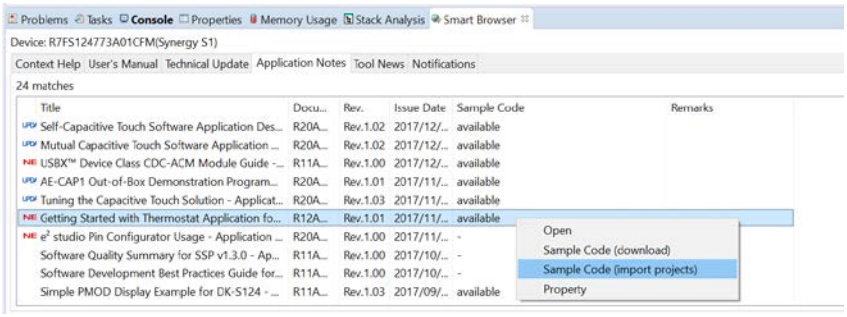
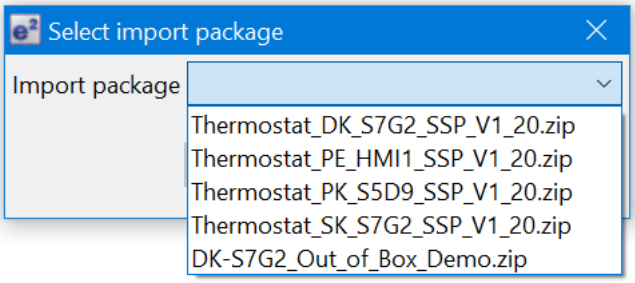


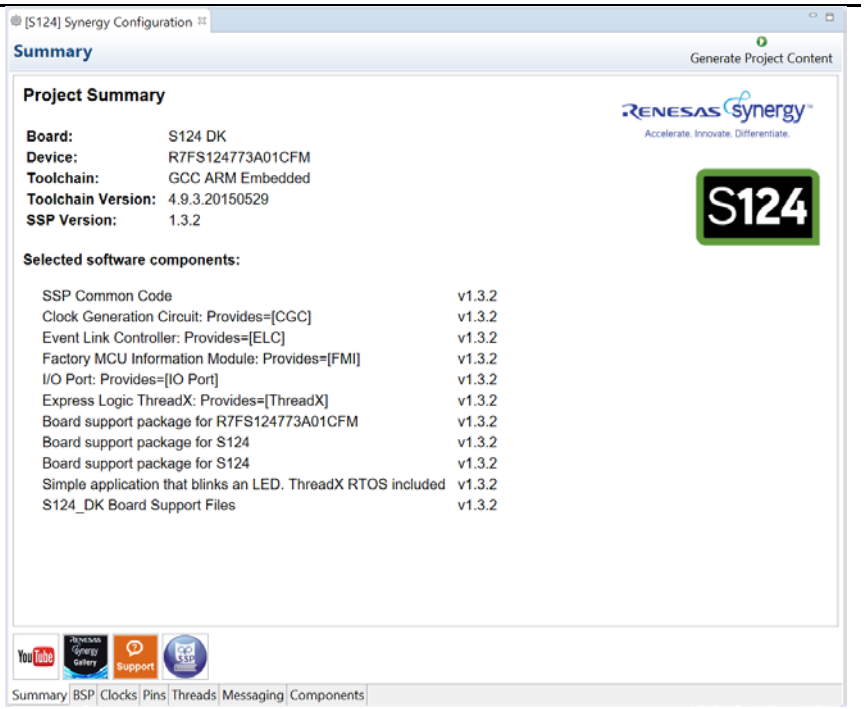
Pressing “Click to Begin” will then start the demonstration. This then shows the steps and actually performs them in your workspace.

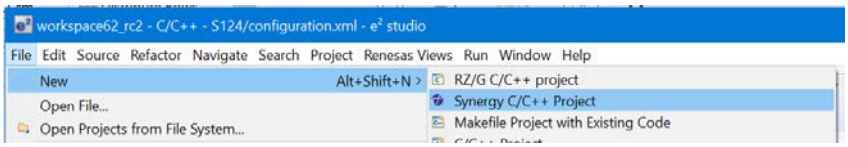
Note: The perspective change dialogs are not automated so if this appears you must click OK to proceed.

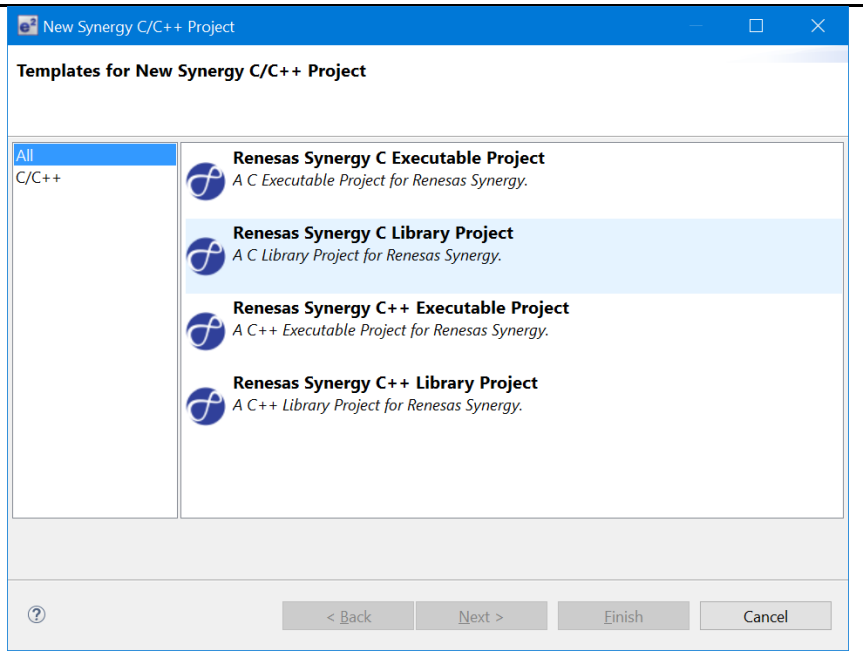
Synergy Clock Page	Synergy	The clock routing lines on the Synergy Editor – Clocks page have been improved to make them clearer and less ambiguous.



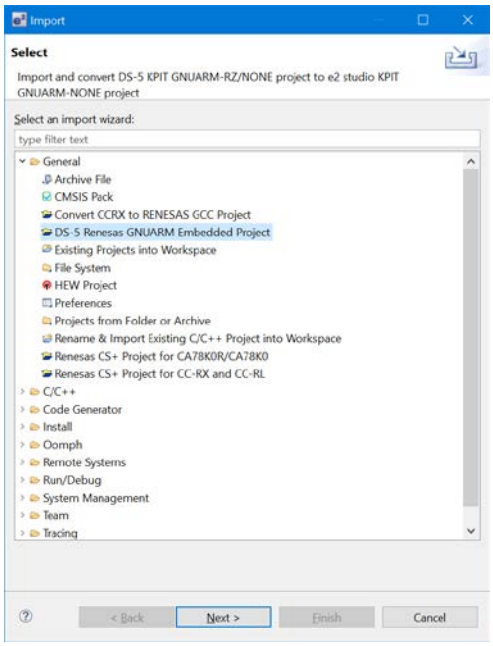
Synergy Editor	Synergy	When components are removed from a Synergy project the source files and directories are now both removed correctly.
Smart Application Note	All	The pop-up for the Smart Application Note can now support hyperlinks.
Smart Browser	Synergy	The Smart Browser can now support the import of Synergy projects which are on the Renesas website.  Synergy projects on the website often have more than one project to choose from in the archive. In this situation the following dialog is displayed to choose the one you want to import: 
Smart Configurator	RX	Smart Configurator has been updated to support RX230/231 and RX71M. Support has also been added for the GCC toolchain as well as CC-RX.
Synergy Editor	Synergy	The Synergy Summary page has been updated for a better look and feel.

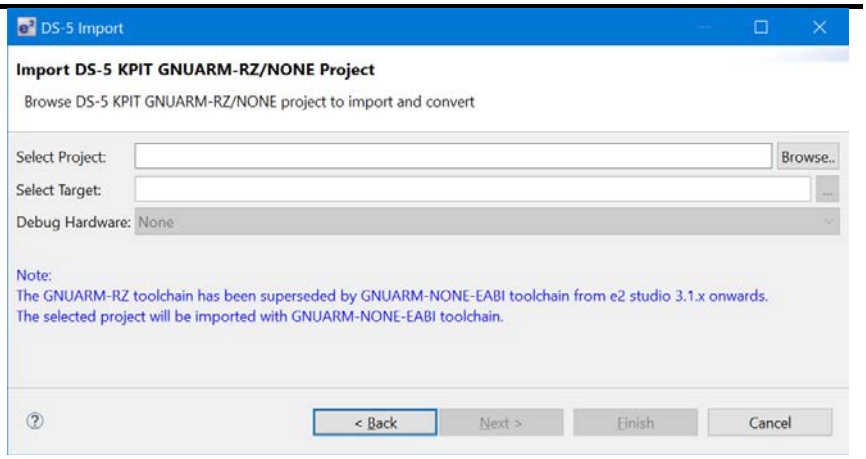


Synergy Editor	Synergy	The SSP user manual can now be linked when installed using the Synergy platform installer. It can be viewed by pressing the following button:
Synergy Editor	Synergy	When using SSP 1.2 or greater the ICU tab will be now be hidden from view. Interrupts are edited via the properties window.
Synergy Project Generator	Synergy	It is now possible to create your Synergy project as a static library. This is possible via the “Synergy C/C++ Project” menu item.  Once selected the following dialog is displayed allowing the selection between C, C++ and executable or library.

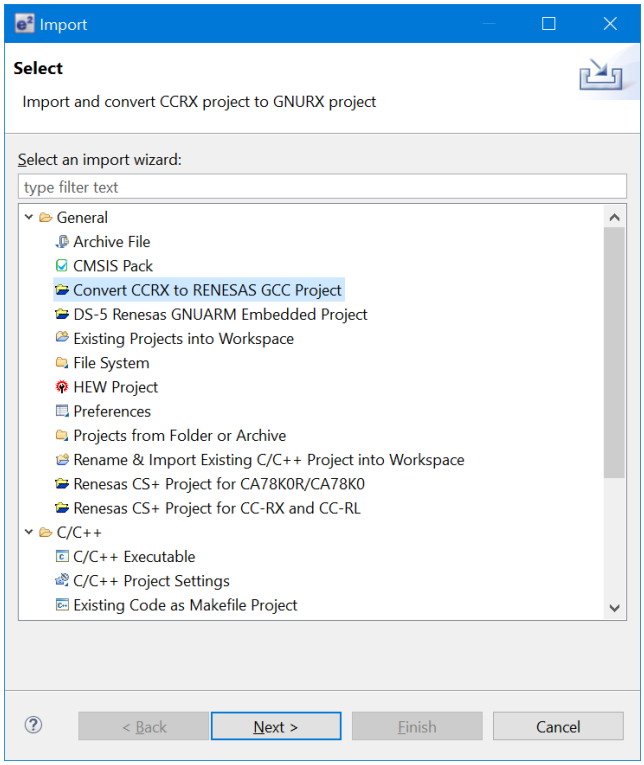

New Synergy C/C++ Project
Templates for New Synergy C/C++ Project
All
C/C++
Renesas Synergy C Executable Project
A C Executable Project for Renesas Synergy.
Renesas Synergy C Library Project
A C Library Project for Renesas Synergy.
Renesas Synergy C++ Executable Project
A C++ Executable Project for Renesas Synergy.
Renesas Synergy C++ Library Project
A C++ Library Project for Renesas Synergy.
< Back
Next >
Finish
Cancel

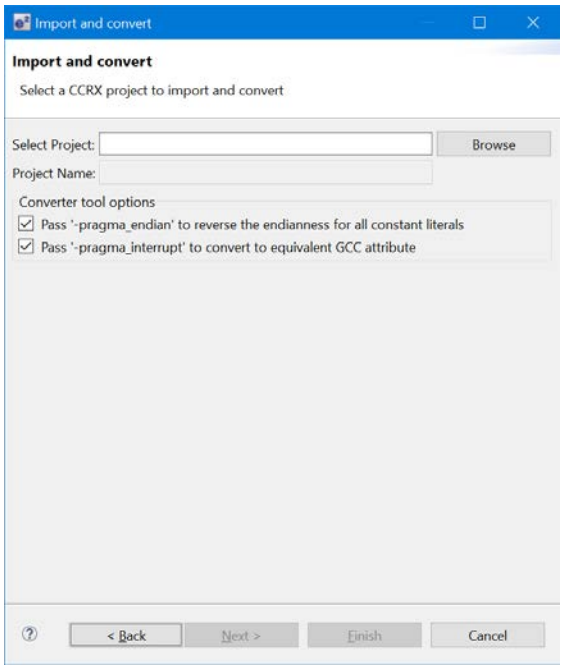
5. What is new in 6.1.0?

Component	Device	Description
RZ/G Debugging	RZ/G	When installing the RZ/G feature the Trace Compass and Lttng plugins are now also installed. This will enable Linux OS trace support when debugging Linux target.
RZ/G Toolchain integration	RZ/G	Linaro GCC version 5.2 is now supported for RZ/G.
Stack Analysis	All	Support within the Stack Analysis plugin has been added for GCC toolchains.
DS-5 Converter	RZ	Support for the ARM DS-5 project converter has been added back into the product. It is available in the standard Import Eclipse system and can be accessed from “File->Import…”  This importer will migrate the toolchain to the Launchpad GNU ARM toolchain. This can be downloaded from here. This feature can import from the following IDE/toolchain combinations: • ARM DS-5 project with a KPIT RZ GCC Toolchain. • ARM DS-5 project with a KPIT ARM-None GCC Toolchain. The project once converted may not build and operate perfectly for a list of known issues with the conversion please see the latest open issue list here:



CCRX to RX GCC Project Converter	RX	Support for the CCRX to GCC project converter has been added back into the product. It is available in the standard Import Eclipse system and can be accessed from “File->Import…”



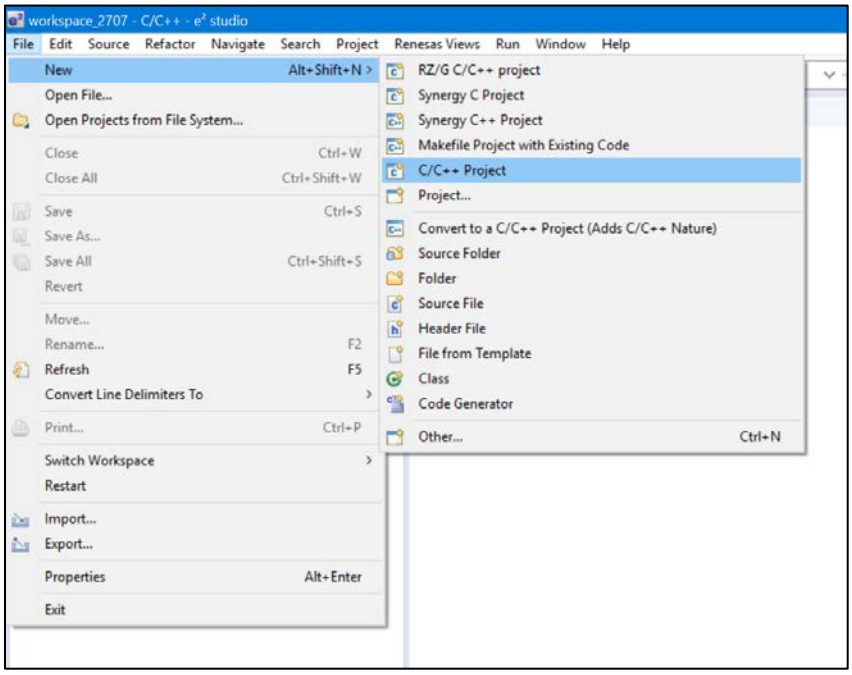


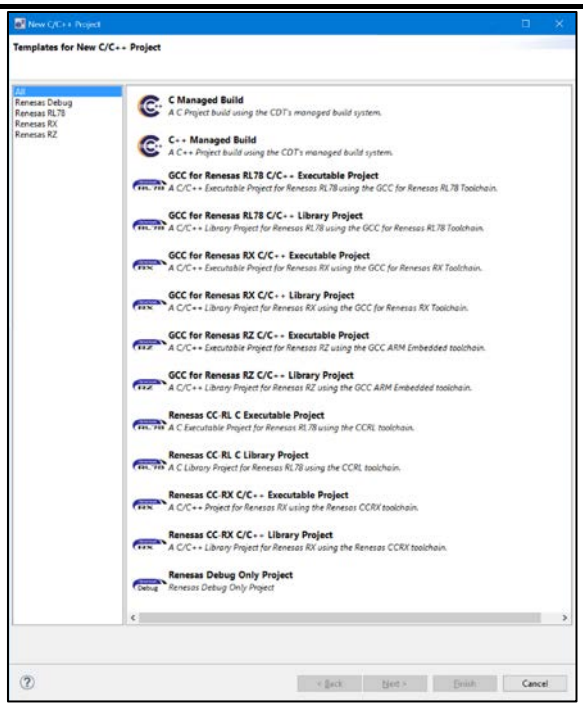
There is no guarantee that the project once converted will build and operate perfectly. For a list of known issues with the conversion please see the latest open issue list here:

MISRA-C Settings	RX, RL	The MISRA-C plugin settings have been moved from the workspace location to the project location. This enables the settings to be shared among users of the same project.
Visual Expressions	All	The Visual Expressions plugin settings have been moved from the workspace location to the project location. This enables the settings to be shared among users of the same project.
Memory Usage	RZ	The memory usage view has been enhanced to support GCC ARM Embedded toolchain.

6. What is new in 6.0.0?

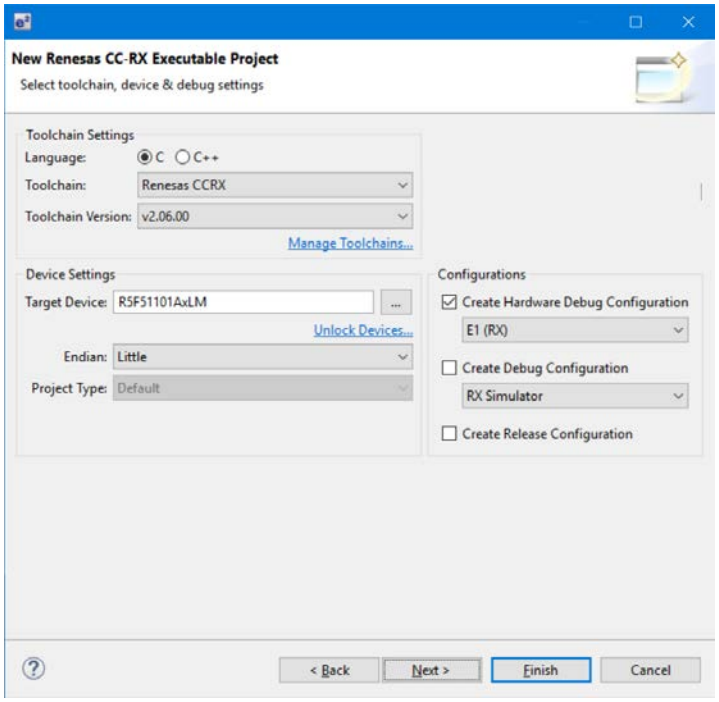
Note: This section is reserved for the new users migrated to 6.0/6.1 from 5.x or earlier versions of e² studio.

Component	Device	Description
Project Generation	All	The project generation tools in 6.0 have been revised and the look and feel improved. The new generator is accessed via the C/C++ Project.  The RZ/G project generator is accessed from the RZ/G C/C++ Project menu item in the same manner as 5.x. The Synergy project generators are accessed from Synergy C Project or Synergy C++ Project in the same manner as 5.x. When selecting the C/C++ Project wizard the following dialog is shown



Note the C Managed Build and C++ Managed Build types are default CDT projects. Please use the Renesas project types for the device you wish to use. There are separate entries for each device, toolchain and project type (Executable or Library) combination.

The actual wizard to create the projects also has an updated look and feel. The functionality provided is very similar to 5.x.



When the project is created all generated files are stored within the project in the “generate” folder. This is to make it clearer which files within the project were provided by the project generator.

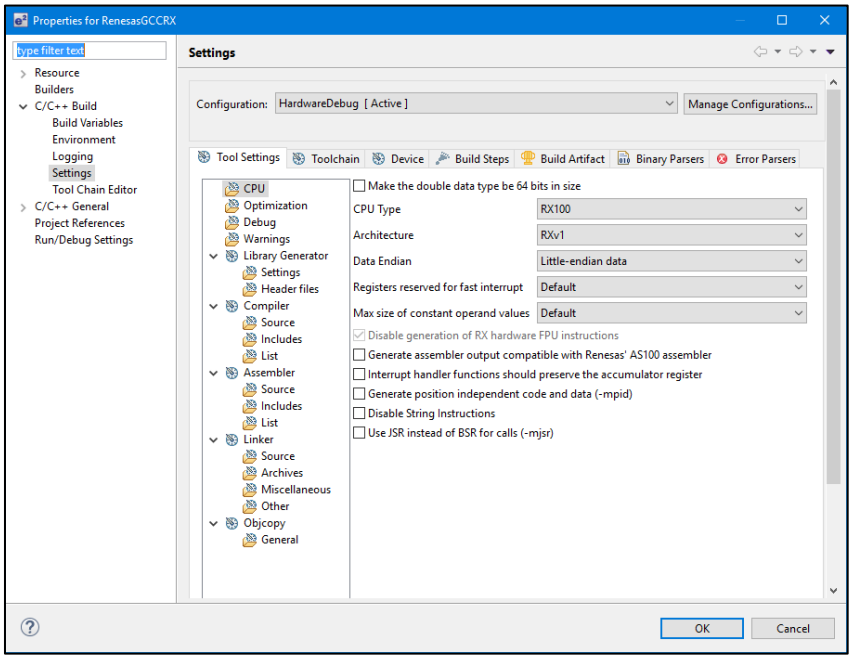
Revised Builder components

The builder components within e² studio 6.0 have been overhauled and updated to work well with the latest CDT.

The affected toolchains are CCRX, CCRL, GCC RX and GCC RL. For information on migration of old projects please see the useful information and workarounds section.

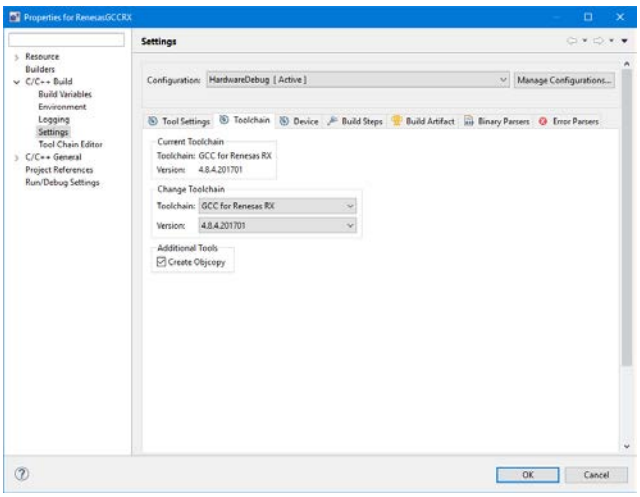
In addition the GCC ARM toolchain being used for RZ development has been migrated to now use the gnuarmeclipse open source plugins that are already in use for Synergy.

The new settings dialog are available from the C/C++ Build, Settings page within the project properties. See below:

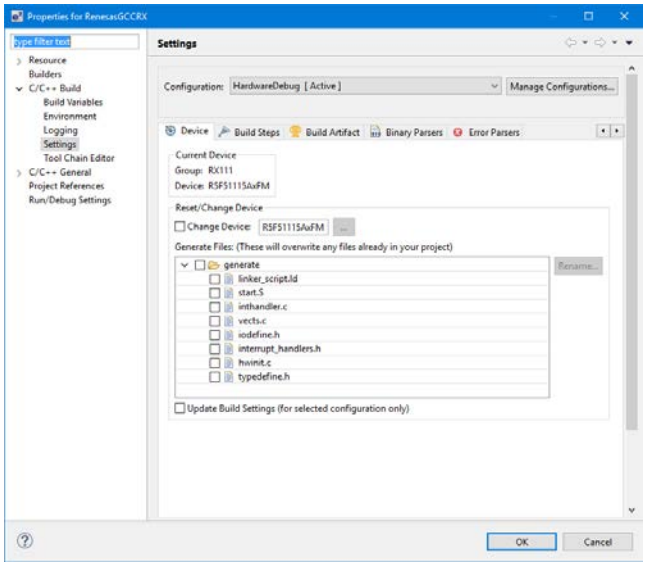


The look and feel for each toolchain is similar to before but there are some considerations worth noting:

1. The Toolchain tab
   - This tab controls the selected toolchain and version. The “Change toolchain version” functionality present previous e² studio versions has been removed and replaced with this.
   - In addition extra tools such as “Objcpy” or “Libgen” can be enabled on this tab. When enabling the checkbox for the tools they will only then appear in the builder settings.



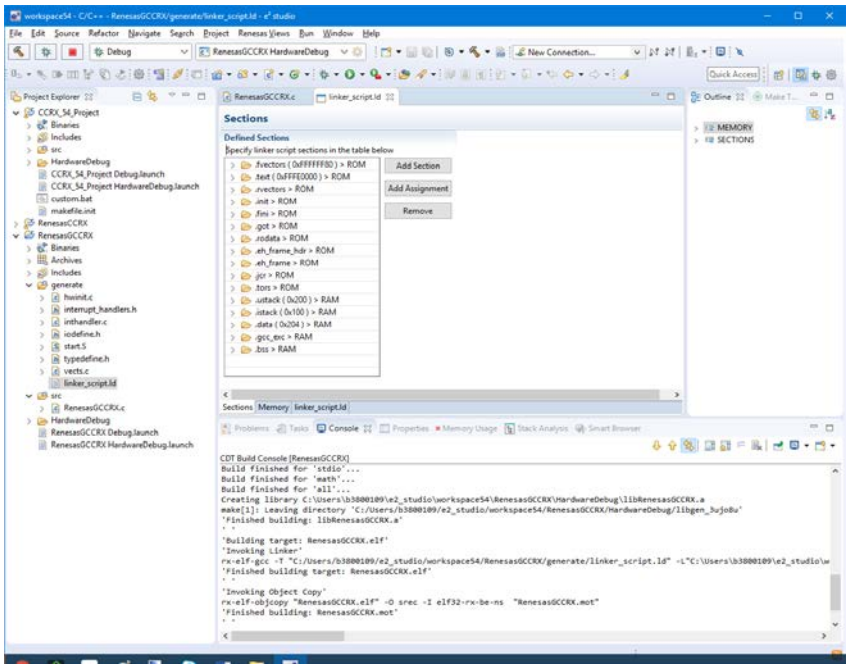
2. The Device tab
   - Previous versions of e² studio had a special preference page for the currently selected device. This has been removed and an additional tab named “Device” has been added to the build settings.
   - Here it is possible to change the device, re-generate project generation files and update the build settings accordingly.



3. Linker section changes

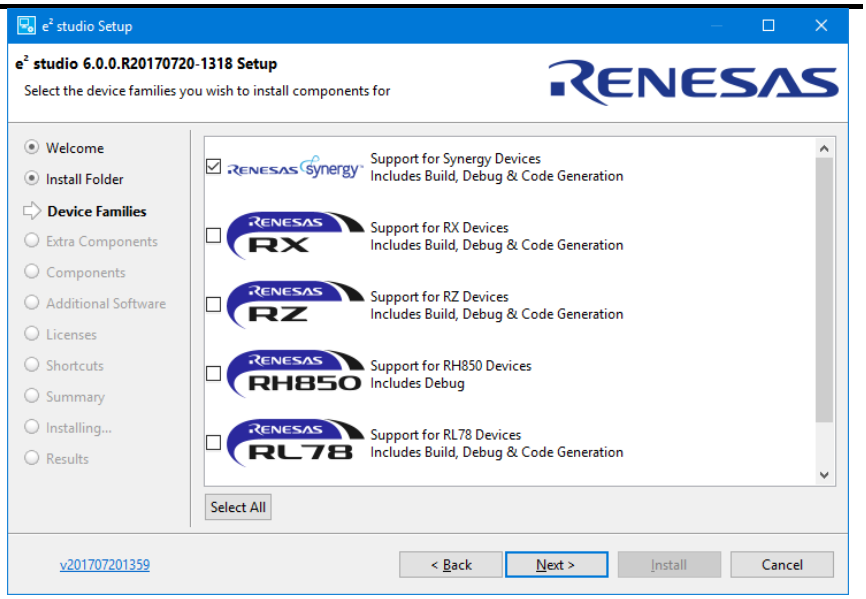
   - For CCRX and CCRL the linker sections are represented as a single string. The section editor is not shown on the settings page. To access the graphical section editor press the “…” button.
   - For all GCC tools there is no longer a graphical section editor integrated into the settings user interface for the GCC build plugins.

- Instead it uses the .ld linker script directly. A special graphical editor of .ld files has been integrated within the e² studio. Simply double click the .ld file in the project and you can again edit the sections graphically.



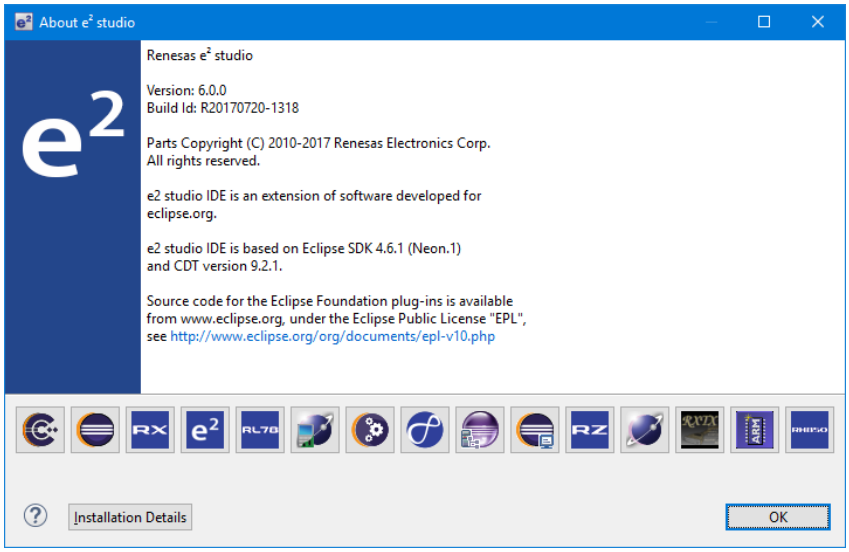
4. Renesas Quick Settings menu item
   - In previous versions of e² studio there has been a menu named “Renesas Quick Settings”.
   - This menu item used to take you directly to the build settings for the selected project.
   - This functionality cannot be implemented in e² studio 6.0 so the menu item has been removed.

Installer	All	The e² studio product structure has been enhanced so that each device can be installed in its own independent way. Each device’s support is versioned independently from the main 6.0 product. It means that updates to one device will not affect the other devices. The installer allows you to select this at installation time.

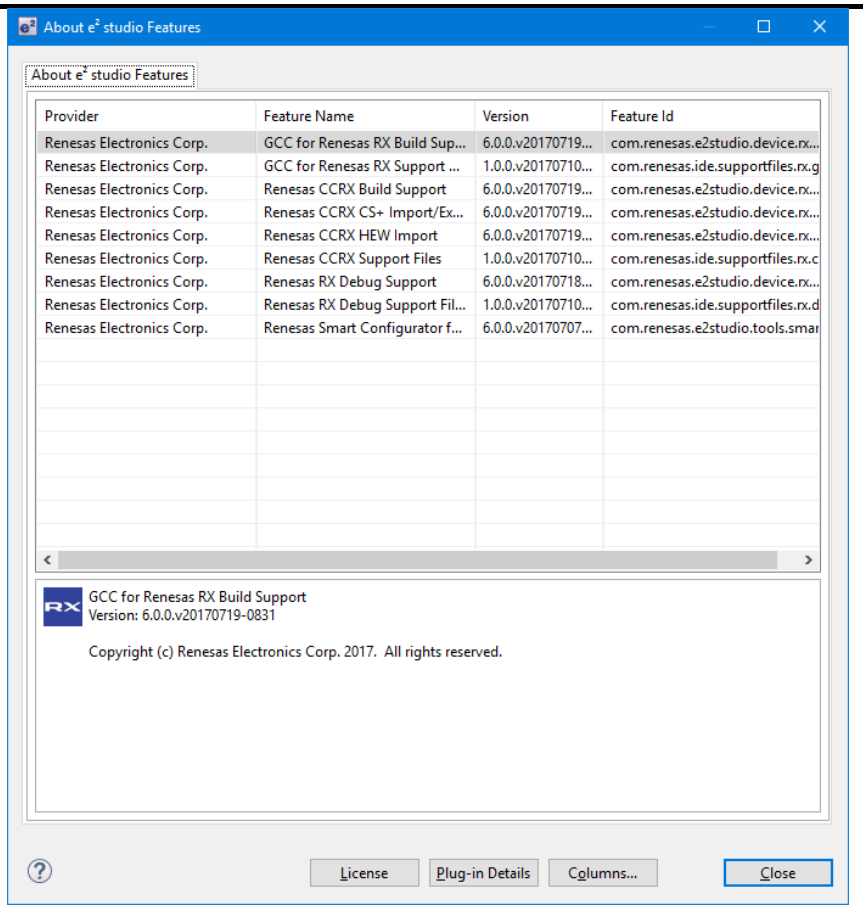


The above example shows a user only installing the Synergy device family. Subsequent updates of other device families will not affect this installation unless the main core of the product is also updated.

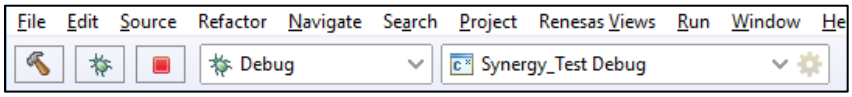
To see the version of your installed device feature you can visit the About Box.

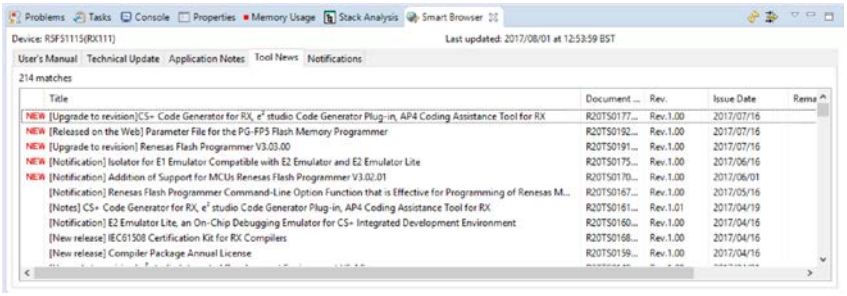
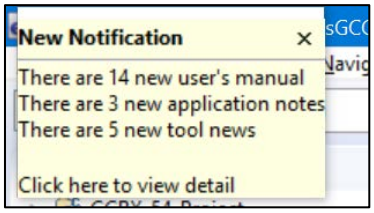
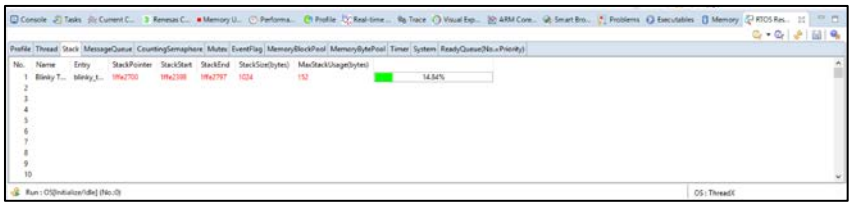


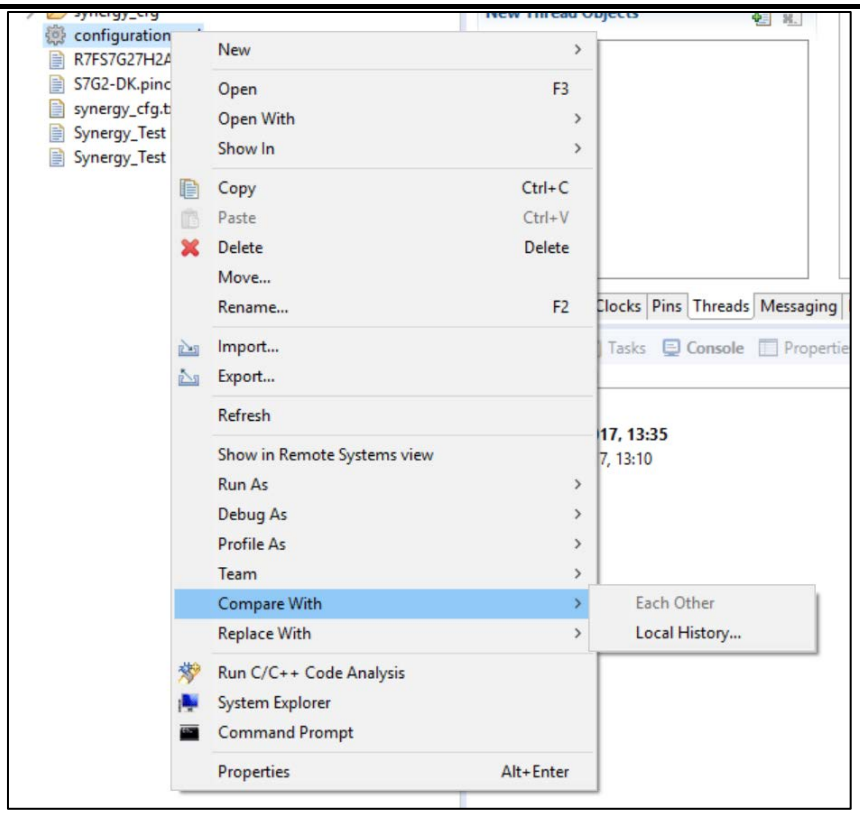
Clicking on the device will give the installed versions of components for this device. e.g. In the example below RX was clicked:



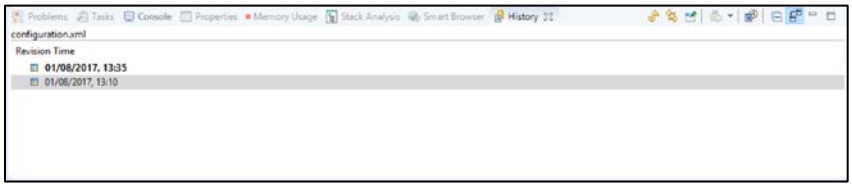
This version information will be valuable if you need to discuss problems you encounter with Renesas technical support contacts.

Updated user interface	All	Some changes have been made to the e² studio 6.0 user interface to improve the usability of the user interface. The most major improvement is the introduction of the Launch Bar.  This launch bar allows you to very clearly understand what will happen when the build and debug buttons are pressed. The selected project and debug configuration in the drop list will provide the context for the operation. In addition the debug toolbar buttons have been switched off from the debug view and added to the main debug toolbar.
RZ Semi hosting	RZ	When using the RZ debugger in previous e² studio semi hosting was supported but did not fully support the SYS mode. This mode of operation is now supported in the e² studio 6.0 RZ debugger when using the Segger J-link emulator.

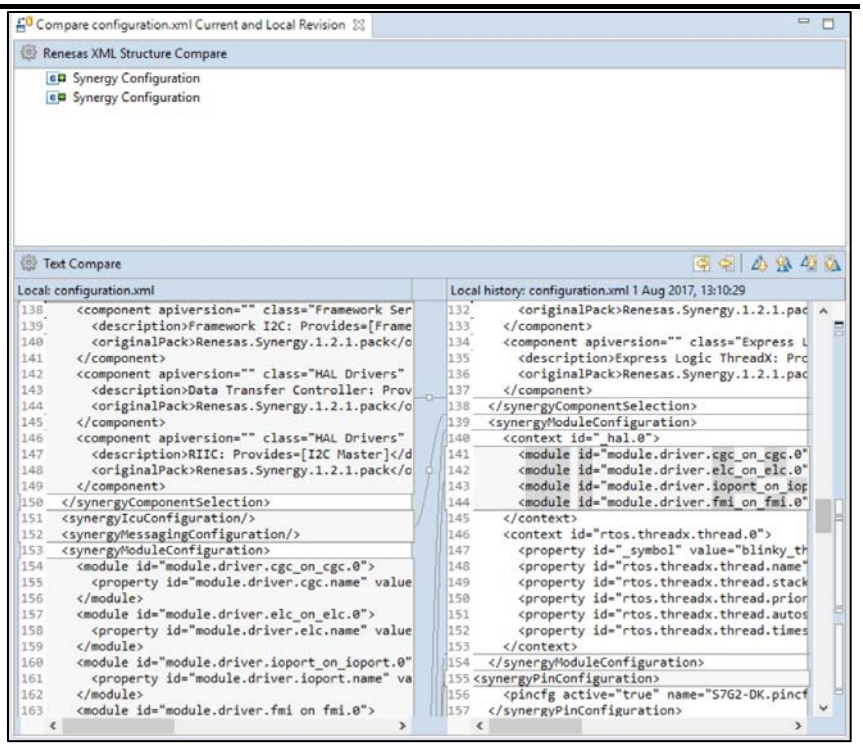
Smart Browser	All	The Smart Browser has been enhanced to show when updates are available for items shown within the user interface.  When items such as updates to documents or new tool news information are available a notification bubble will be displayed informing you that new items are available. 
RTOS Graphical Stack Usage	Synergy	Stack usage is now shown in a graphical way when using the Partner OS plugin and ThreadX. 
XML Comparison	Synergy and RX, RZ	e² studio now has a XML file comparison tool built into the UI. This can be used for the configuration.xml files in the Synergy editor and the Smart Configurator. Right click on the file in the project tree that needs comparison and select “Compare With->Local History…”

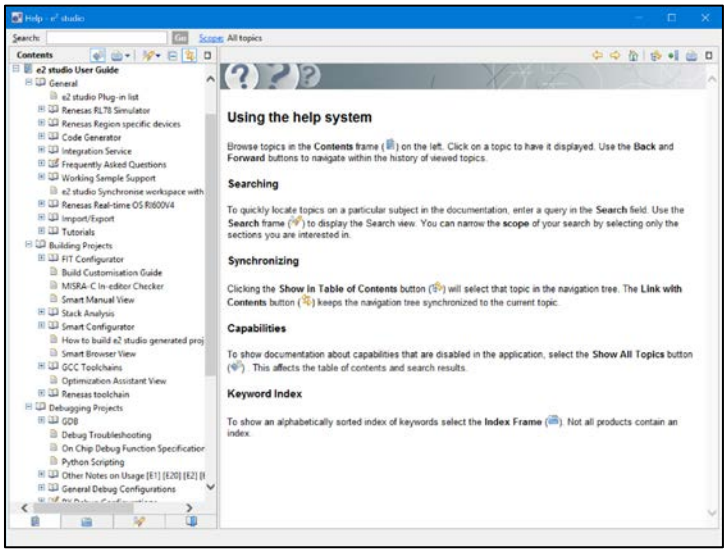


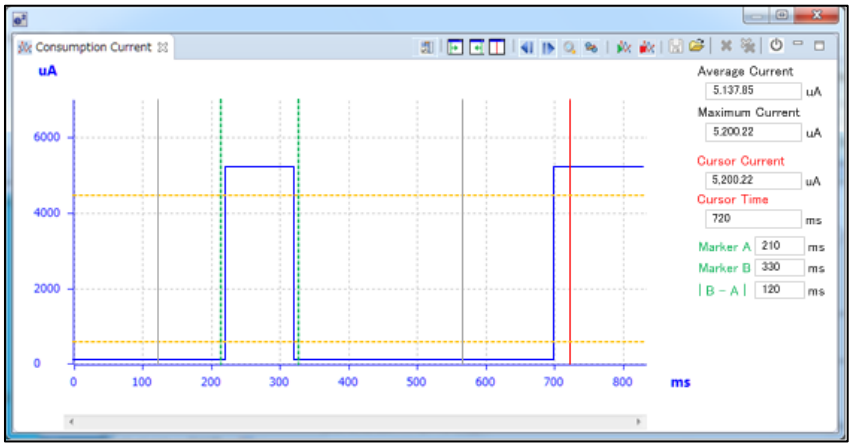
The following dialog is then displayed:

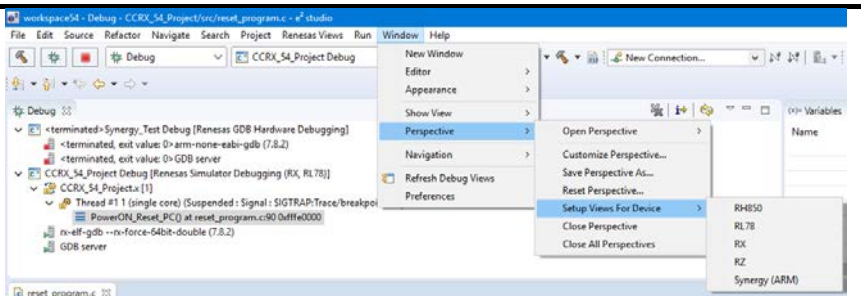


These are the list of revisions of the file that was selected in the project tree. Double clicking an instance of the file will then compare with the current version on disk. A difference window is shown showing the differences:



Help System	All	The help system in previous versions of e² studio was not well organised which meant finding topics was not easy. In e² studio 6.0 the help has been re-structured to make it easier to find what you are looking for. See below: 
Smart Configurator	RX, RZ	The main feature improvements for Smart Configurator in e² studio 6.0 include: • Code Generator driver support for RX64M [37 components] • CG driver support for RX65N/1 (+2MB devices) [37 components]

		• CG driver support for RX130 (+512KB devices) [35 components]
E2 Emulator	RL78	E2 emulator support has been added to e² studio 6.0. This emulator offers all the same functions as the E1 emulator. It also offers: • Consumption current measurement support. • External trigger support. The Consumption current measurement shows graphically the current drawn by the board. It allows monitor points to be set which are shown on this view as markers. This allows you to tie the source code to specific power consumption. 
Application	All	e² studio has many debug views and not all are supported for all device families. This can cause confusion so a new feature has been added to close debug views that are not supported by the current debug session. This is available from the Window menu under the Perspective menu. Selecting the device will close all windows not supported by that device. Note this menu item is only available in the debug perspective.

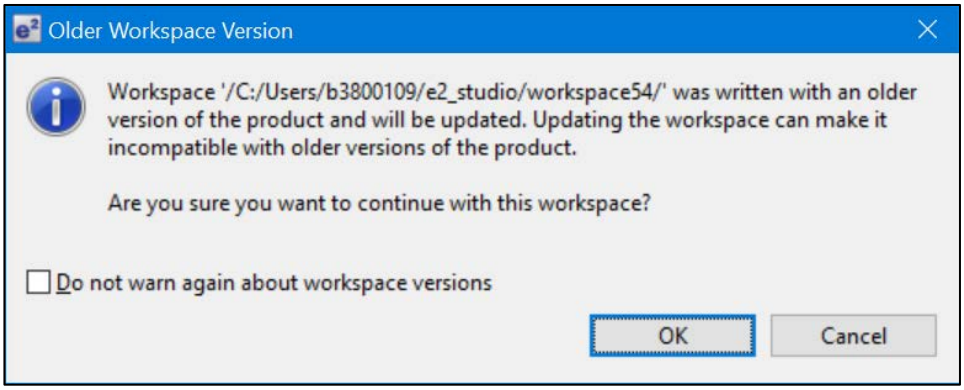


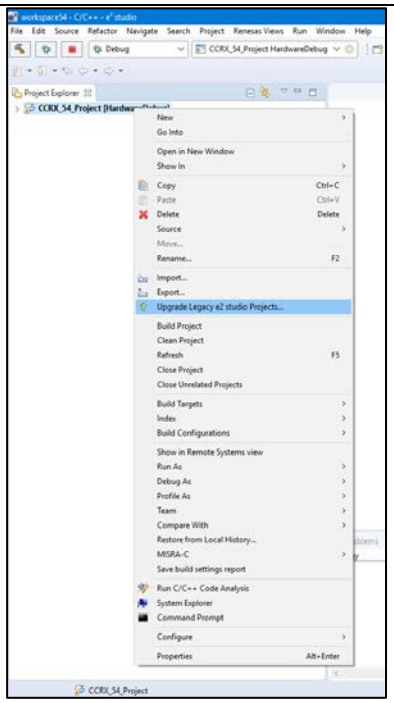
Enhanced Threads Page	Synergy	The Synergy threads page has had the following enhancements made to it: • Keyboard navigation within the module stack viewer • Renaming threads will refactor code accordingly

7. Useful workarounds and information for 6.2.0

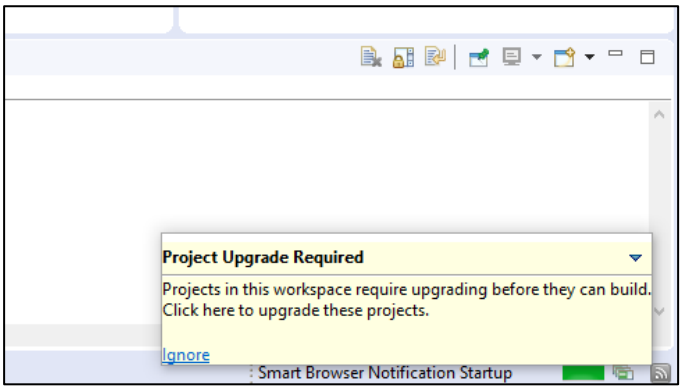
Please visit the Renesas FAQ for e² studio for the latest up to date information:

Online FAQ link.

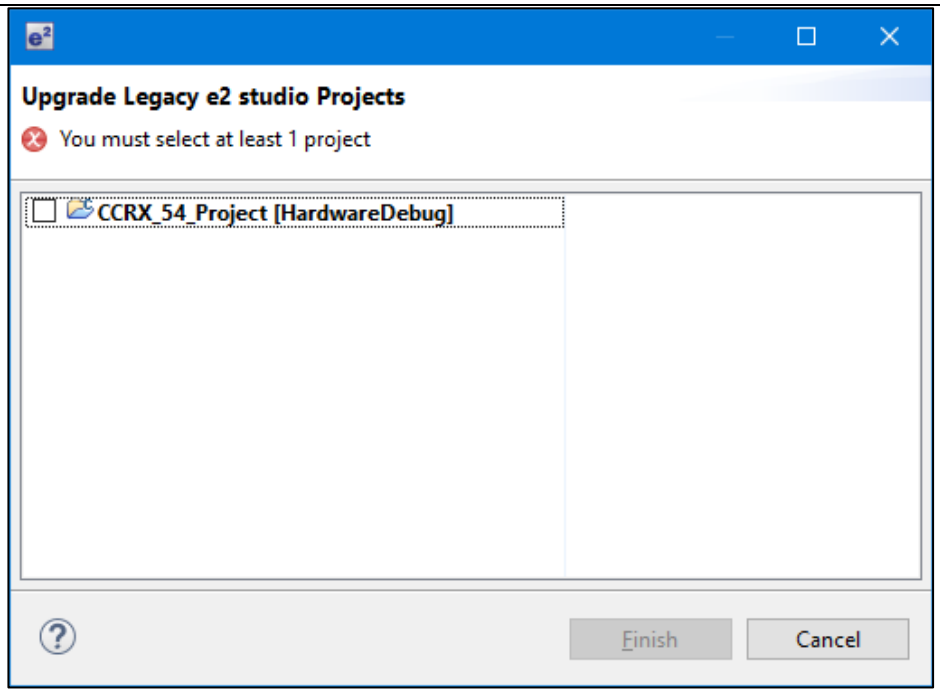
ID	Component	Workaround or information
	Application	This version of e² studio is based on Eclipse Neon.1 and CDT 9.2.1. This release note does not describe the Eclipse framework and CDT plugin issues and fixes. You can find the detailed information on the sites below: For information on the Neon release see here: https://projects.eclipse.org/releases/neon CDT: Has been significantly improved and this version contains a major version up over 5.4: Please see New and Noteworthy for CDT here: https://wiki.eclipse.org/CDT/User/NewIn90 https://wiki.eclipse.org/CDT/User/NewIn91 https://wiki.eclipse.org/CDT/User/NewIn92 The Eclipse bug tracker is here: https://bugs.eclipse.org/bugs/
	SH support	The Renesas SH device family is no longer supported in e² studio. If you need to use the SH device support please use e² studio 5.4 or earlier.
	Importing old projects into 6.x	All projects being migrated into e² studio 6.0 from previous e² studio 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:  Clicking OK will update the workspace to e² studio 6.0. 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:

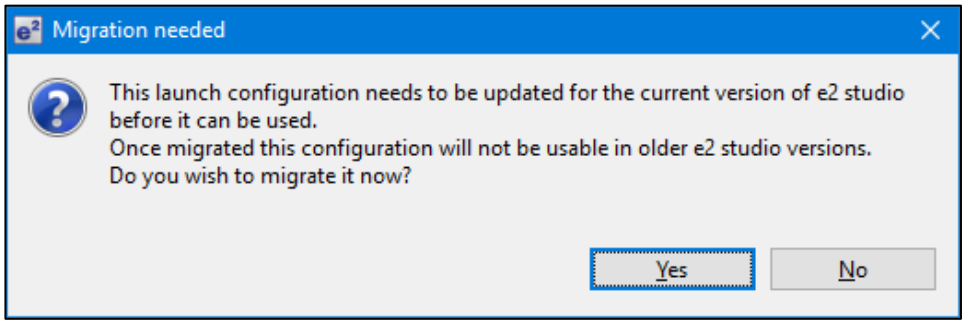


To upgrade the project, click the corresponding check box and then click Finish. Note, this will update the project to the latest build plugins and options. Before doing this you should ensure your project is backed up as this operation is not reversible.

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

For the GCC toolchains for RX ,RL 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 to 6.0.

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.



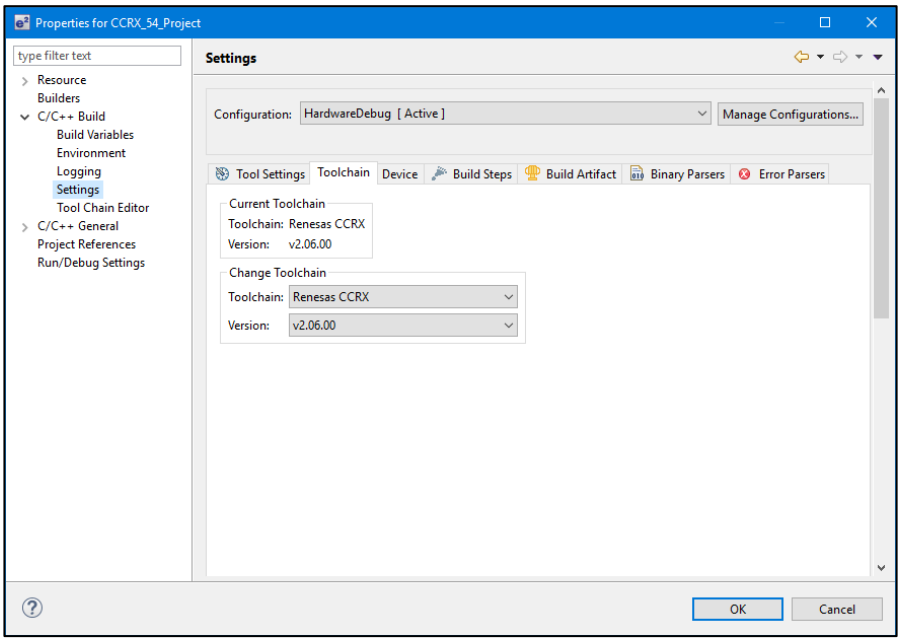
Please ensure that your projects are backed up or in revision control before migration allowing you to return to older versions if required.

Toolchain Management

Before e² studio 6.0 the toolchain management facility automatically upgraded or downgraded the imported project to the latest tools installed on the host machine.

This no longer happens in e² studio 6.0. 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:



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

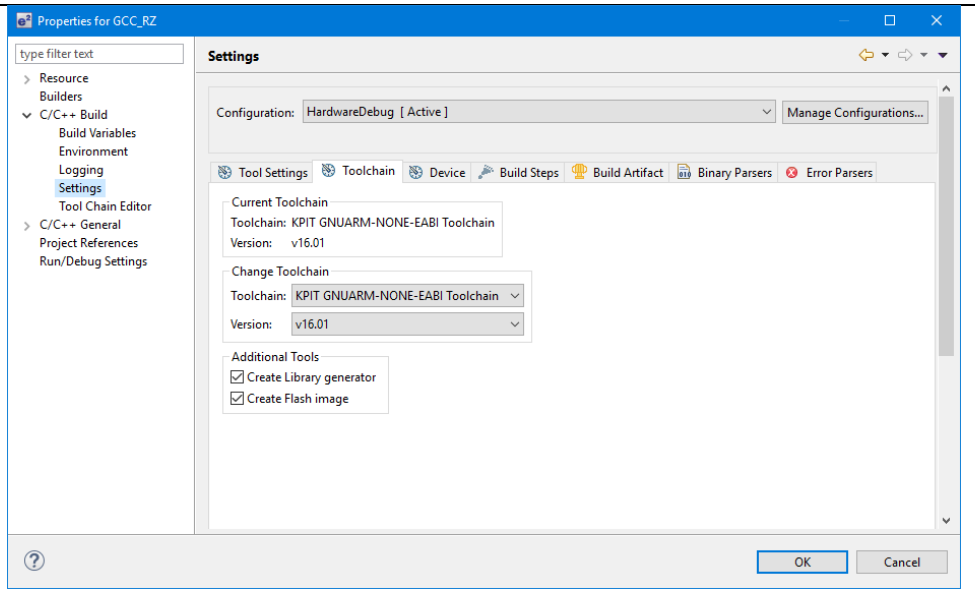
The now legacy KPIT GNU ARM-NONE toolchain is still supported within the e² studio product but now using the gnuarmeclipse plugins.

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

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: https://gcc-renesas.com/rz/rz-download-toolchains/

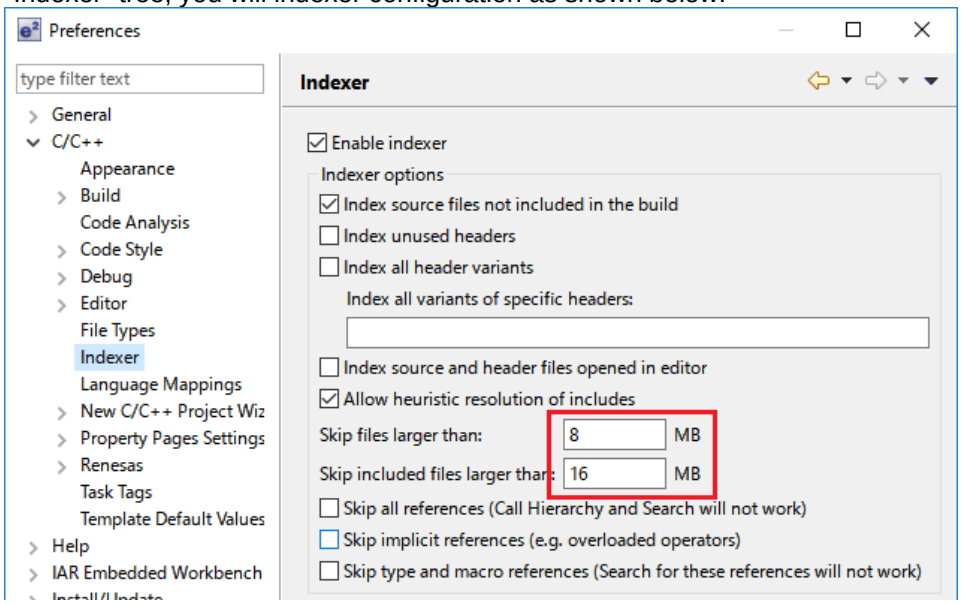
Once integrated it is possible to integrate the library generator from the toolchain tab of the build settings page.

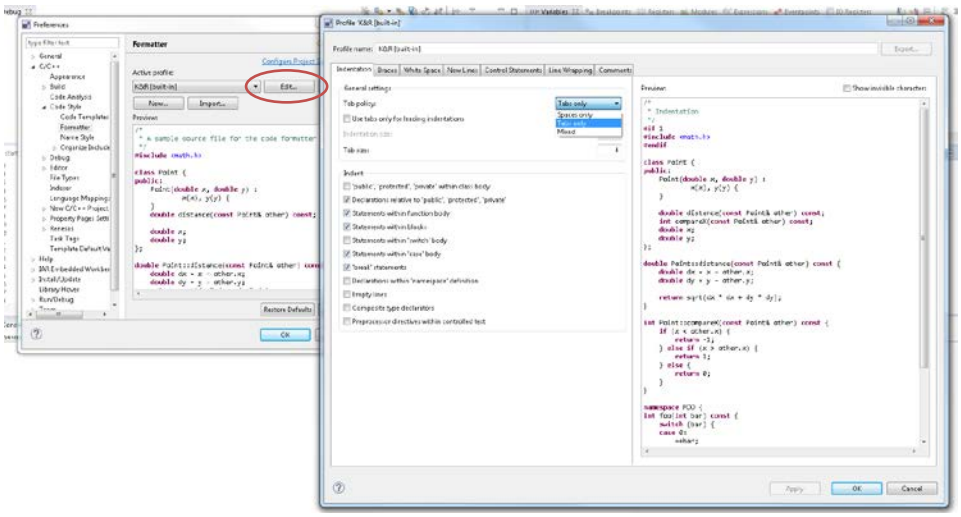


See “Create Library generator” option. Once checked the library generator (libgen) is added to the available tool settings.

	QE compatibility	If QE for TCP/IP V1.0.0 is used, please update it to V1.0.1. Other QE series can be used with e² studio 6.0. What is QE? https://www.renesas.com/products/software-tools/tools/solution-toolkit/qe.html Details of QE for TCP/IP https://www.renesas.com/products/software-tools/tools/solution-toolkit/qe-qe-for-tcp-ip.html
5954	Application	If you experience the error message “org.eclipse.swt.SWTError: No more handles” this can be caused by certain multi-monitor software and the Eclipse framework. If this error occurs there are 2 workarounds: 1. Use a single monitor display. 2. Uninstall the multiple monitor software from your graphics chipset vendor and revert to the standard Windows multi-monitor feature.
6981	RL78 Debugging	When debugging IAR C source file with an OCD emulator (E1), the Monitor program area (0x00002-0x00003) is used. So this area must be excluded from usable address space. Please add '-HFF' in the linker option. - Open Property. - Select [C/C++ build]-[Settings] at left side. - Select 'IAR RL78 Xlink linker' at right side, add '-HFF' at the textbox 'command'. Not doing this will cause problems with connection and download when using interrupts.
NA	Application	If you are experiencing slow building of projects within e² studio there are some possibilities to improve.

		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 e² 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 e² studio and can be selected from the project wizard.
2010	HEW Importer	Symptoms: Project fails to build after importing a legacy project from HEW 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 e² 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:  Put larger values for each red-framed variables, then rebuild project or rebuild index.
2728	GDB	Step into does not always work when using the CC-RX 1.02.01 toolchain. To ensure this behaves correctly you will need to use CC-RX 2.00.00 or greater as this issue with the debug information is corrected in this release.
NA	Eventpoints	If eventpoints do not always work just after they are set, you can use the "Apply to Target" toolbar button in the Eventpoint view to send the Eventpoints to the target manually. This will always ensure the debugger target has all the required eventpoint updates before execution starts.
5772	IAR Plugins	The IAR Plugin Manager is included in e² studio and provides support for RX, RL78, RH850 and RZ (ARM). This tool, simplifies installation and configuration of IAR toolchain plugins. You can access this though Help -> IAR Embedded Workbench plugin manager.
5903	Code Generator	For the following RL78 code generator project, "Peripheral Functions" view tabs may not be operated with double-clicking "Peripheral Functions" branch of Project Explorer view. After creating/loading the project, please show "Code Preview" view by double-clicking of "Code preview" branch at Project Explorer tree at first. Then, please access Code Generator setting tabs by double-clicking Project Explorer tree or using pull-down menu by pressing triangle button at the up-right corner of Peripheral Functions view. RL78/G12, RL78/G13, RL78/G14, RL78/G1A, RL78/I1A, RL78/F13, RL78/F14, RL78/F12, RL78/L12

6184	RL78/CC-RL debugging	When the load module for RL78/G10 which created at CC-RL is debugged in E1, please specify the following option: [Linker] -> [Device] -> "Set enable/disable on-chip debug by link option
7217	Application	The restore default settings does not restore all of the options set during project generation. Instead, it sets the defaults to the base settings for the device family in use.
7524	RZ/T1 Debugging	In a RZ/T1 RAM-based project, the "Reload" function does not work. Reloading or re-downloading during debugging resets the device and the RAM content is erased. To continue the debugging, disconnect and connect the debugger again.
	Use spaces as tabs	Eclipse and CDT both have settings for use spaces as tabs. The option on the Editor preferences page conflicts with the CDT formatter settings. To change the use spaces as tabs option in e² studio please use this page: 
	Installer problems	In some situations, the AVG virus checker appears to interfere with the e² 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 Projects	When debugging the RH850 object built with the Green Hills compiler in e2 studio, specify the following option for the compiler option. -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 located 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: 1. Code is located close to address 0x0 2. There is very little library code included into the project 3. There are unused functions in the program The possibility arises that the code cannot be debugged. This due to --gc-sections linker option which removes the unused functions but not the related debug information. There are several solutions to this problem: a. disable --gc-sections until those functions are used b. remove the unused functions
	RZ GCC Build	In 6.2 the RZ import functionality has been improved. However there is still possibilities of older projects causing problems when imported into e² studio 6.2. In older versions of the RZ build plugins the FPU option was not being handled correctly. When setting the “Soft” Floating point ABI the command line was still receiving –mfpu=vfpv3 incorrectly. This can now cause problems with older start-up code in older RZ projects. After import if you see an error relating to this please add –mfpu=vfpv3 to the “Other Assembler Flags” page of the Assembler tool.
	RZ DS-5 Project Import	When a DS-5 project is imported into e² studio the environment variables for Path and TCInstall are copied from the DS-5 environment. This is not correct. The way to correct this problem is to delete both of these paths and replace them with correct values to your toolchain. If you are unsure how to correct this please create a new project and copy the values from this to the converted project.
	RX & RL78 GCC Project Import	When importing a KPIT RL78/RX Library C/C++ project from e² studio 5.4 or before the build artifact settings are not correct. The output prefix should be set to “lib” but is in fact empty.
	RZ Assembler build	Assembler object files with the extension “.s” or “.asm” are assembled to “.obj” correctly but not linked when using the RZ assembler tool. Files with the extension “.src” are managed correctly.

8. Open Issues in 6.2.0

Open issues in the e² studio 6.2 product will be kept up to date here:

Please visit to see the latest open issue list.

9. Appendix

9.1 Website and Support

Renesas Electronics Website

http://www.renesas.com/

Inquiries

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