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Application Engineering
TechNote

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'Hidden' RAM - Part 2

Following in the footsteps of TN-0145 "Finding 'Hidden' RAM", this note includes the corresponding registers that may be used to "expand" RAM for the H8/320 series. While some 20 registers are possibly available for the H8/325, 324, 323 and 322, the H8/329 series has slightly fewer due to functional differences in the ports and one less SCI channel.

The following H8/32x series registers can be used as general purpose RAM.

H8/325 Series:

P1DR	H'FFB2
P2DR	H'FFB3
P3DR	H'FFB6
P4DR	H'FFB7
P7DR	H'FFBE
FRC	H'FF92,3
OCRA	H'FF94,5
OCRB	H'FF96,7
TMR0_TCORA	H'FFCA
TMR0_TCORB	H'FFCB
TMR0_TCNT	H'FFCC
TMR1_TCORA	H'FFD2
TMR1_TCORB	H'FFD3
TMR1_TCNT	H'FFD4
SCI0_TDR	H'FFDB
SCI0_BRR	H'FFD9
SCI1_TDR	H'FFE3
SCI1_BRR	H'FFE1

H8/329 Series:

Same as H8/325, with the following additions (deletions).		
(P4DR)	H'FFB7	This register has bit 6 read only.
P6DR	H'FFBB	
(P7DR)	H'FFBE	This register is read only.
(OCRB)	H'FF96,7	
(SCI1_TDR)	H'FFE3	
(SCI1_BRR)	H'FFE1	

Always keep in mind that if you are using a peripheral to perform its designated function, then you may not be allowed to use these registers for general purpose RAM.   If the I/O ports are being used for inputs, for example, then writing to the data registers may affect the I/O pins by turning on and off the MOS pull-ups.