MB91360 SERIES

STARTERKIT ADAPTER

STARTERKITMB91360-ADA120

USER GUIDE

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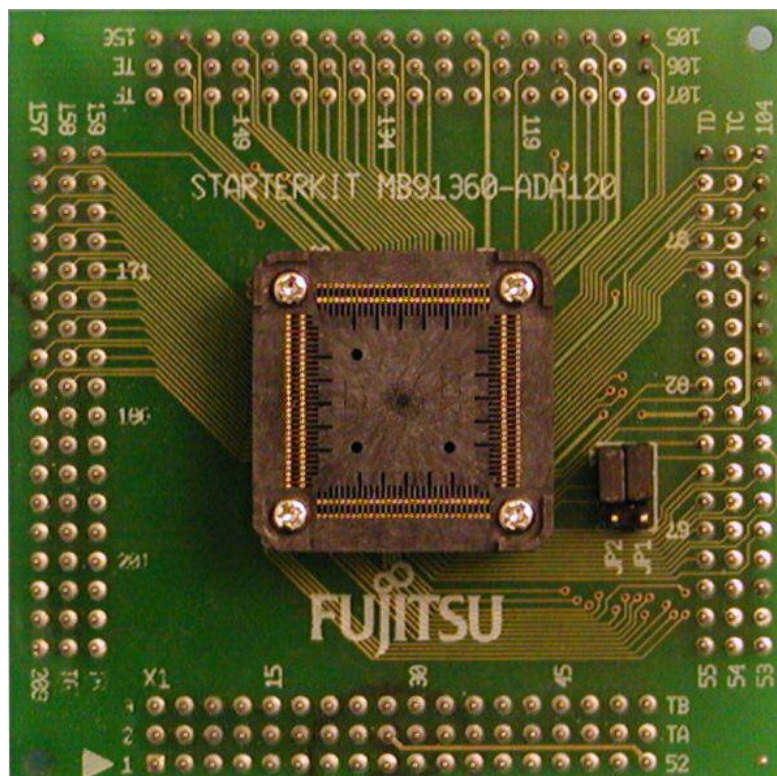
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Date	Issue
02.07.01	Ver. 1.0 First draft
10.07.01	Version 1.1 File compression settings changed
17.07.01	Version 1.2 Corrections
31.10.02	Version 1.3, MST New format, MB91F365G/F366G series added
22/01/2003	Version 1.4 Typos corrected
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This document contains 17 pages.

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Contents

0 Introduction

The Starterkit91360 is the Evaluation board for MB91360G series.

It is equipped with MB91F362G series (208-pin).

When using a 120-pin derivate (MB91F365G/F366G/F367G/F368G) the adapter board STARTERKITMB91360-ADA120 is mapping the pins to the functions on the Starterkit91360.

1 Interfacing the MB91360 Starter Kit to the STARTERKITMB91360-ADA120 and probe Cable

The MB91F367/8 is a 120-pin derivative of the MB91360 family processors. The MB91F367/8 is packaged in the FTP-120P-M21.

In order to allow users to develop applications on the MB91360 Starter Kit, an adaptor board and Probe Cable have been developed.

The Adapter Board (STARTERKITMB91360-ADA120), which converts the MB91F362 in out to the MB91F365/6/7/8 pin out, can be fitted to the Starter Kit with the use of Pin Headers. For the Adapter board to be fitted correctly, the MB91F362 MCU and socket cap must be removed from the Starter kit.

The Adapter Board is fitted with an NQPACK120SD enabling the user to fit either an MCU or the Probe Cable. Jumpers J1 and J2 enable switching between sub clock and D/A Converter on pins 27 and 28 – please see circuit diagram for details.

Jumper	MB91F365G MB91F367G	MB91F366G MB91F368G
JP1	1-2	2-3
JP2	1-2	2-3

Note: Default Jumper Setting: MB91F368G JP1, JP2 = 2-3

The Probe cable interfaces between the Emulator MB2197-01 and the NQPACK120SD. Please note the direction of the probe cable when fitted onto the Starter Kit. The probe cable is offset by 90° compared to the MB91FV360G.

Also included is a pin cross-reference between the MB91FV360, MB91F365/6 and MB91F367/8.

The following diagram shows the starter kit assembled with the STARTERKITMB91360-ADA120 Adapter board and probe cable.
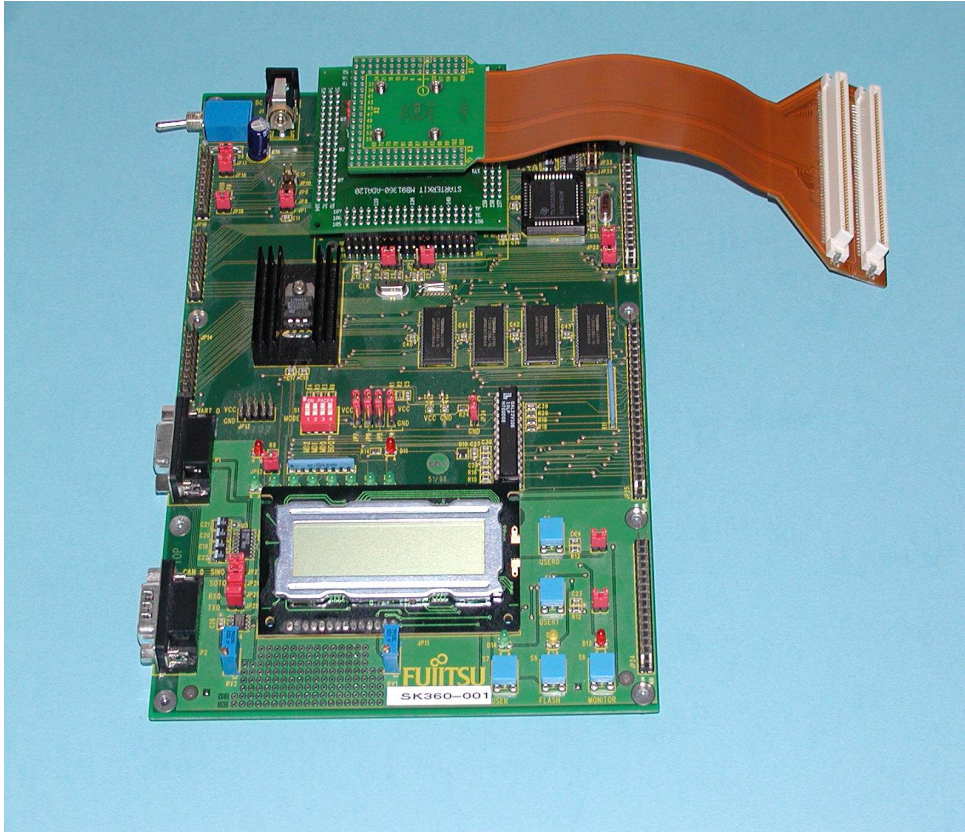
Figure 1 Diagram showing how to connect the STARTERKITMB91360-ADA120 Adapter board and Probe Cable to the MB91360 Starter Kit

2 Appendix

2.1 Pin comparision

Pin Function	Port Function (Where specified)	MB91F362 Pin Number	MB90F365/ F366 Pin Number	MB90367/ F368 Pin Number	MB91360 Starter Kit Pin Allocation
VDD		25	1	1	
VSS		26	2	2	
LED4	PJ4	88	3	3	LED
LED5	PJ5	89	4	4	LED
LED6	PJ6	90	5	5	LED
LED7	PJ7	91	6	6	LED
ATGX	PI3	80	7	7	JP16
VDD		51	8	8	
VSS		52	9	9	
SGO	PM0	126	10	10	JP16
SGA	PM1	127	11	11	JP16
SDA	PM2	128	12	12	JP20
SCL	PM3	129	13	13	JP20
VDD		79	14	14	
VSS		78	15	15	
AVRH		65	16	16	
AVCC		64	17	17	
AVSS		74	18	18	JP16
AN0	PH0	66	19	19	JP16
AN1	PH1	67	20	20	JP16
AN2	PH2	68	21	21	JP16
AN3	PH3	69	22	22	JP16
AN4	PH4	70	23	23	JP16
AN5	PH5	71	24	24	JP16
AN6	PH6	72	25	25	JP16
AN7	PH7	73	26	26	JP16
DA0: (MB91F365G)		75	27		JP16
X0A: (MB91F366G)		121			
N .C. (MB91F367G)				27	
X0A: (MB91F368G)		121			
DA1: (MB91F365G)		76	28		JP16
X1A: (MB91F366G)		122			

Pin Function	Port Function (Where specified)	MB91F362 Pin Number	MB90F365/ F366 Pin Number	MB90367/ F368 Pin Number	MB91360 Starter Kit Pin Allocation
N.C.: (MB91F367G)				28	
X1A: (MB91F368G)		122			
ALARM		77	29	29	
VSS		93	30	30	
AH/BOOT	P93	46	31	31	SW1
TESTX		81	32	32	
CPUTESTX		82	33	33	
VDD		92	34	34	
X0		119	35	35	
X1		120	36	36	
VSS		110	37	37	
MONCLK		116	38	38	
INT0	PK0	94	39	39	JP20
INT1	PK1	95	40	40	JP20
INT2	PK2	96	41	41	JP20
INT3	PK3	97	42	42	JP20
INT4	PK4	98	43	43	JP20
INT5	PK5	99	44	44	JP20
INT6	PK6	100	45	45	JP20
INT7	PK7	101	46	46	JP20
VDD		144	47	47	
VCC3/C		159	48	48	
VSS		123	49	49	
IN0	PL0	102	50	50	JP20
IN1	PL1	103	51	51	JP20
IN2	PL2	104	52	52	JP20
IN3	PL3	105	53	53	JP20
OUT0	PL4	106	54	54	JP20
OUT1	PL5	107	55	55	JP20
VDD		160	56	56	
MD0		111	57	57	SW1
MD1		112	58	58	SW1
MD2		113	59	59	SW1
INITX		115	60	60	JP25
VDD		182	61	61	
VSS		145	62	62	

Pin Function	Port Function (Where specified)	MB91F362 Pin Number	MB90F365/ F366 Pin Number	MB90367/ F368 Pin Number	MB91360 Starter Kit Pin Allocation
SOT4	PN0	130	63	63	JP14
SIN4	PN1	131	64	64	JP14
SCK4	PN2	132	65	65	JP14
SIN3	PN3	133	66	66	JP14
SOT3	PN4	134	67	67	JP14
SCK3	PN5	135	68	68	JP14
VSS		158	69	69	
OCPA0	PO0	136	70	70	JP15
OCPA1	PO1	137	71	71	JP15
OCPA2	PO2	138	72	72	JP15
OCPA3	PO3	139	73	73	JP15
OCPA4	PO4	143	74		JP15
PO4	PO4			74	
OCPA5	PO5	141	75		JP15
PO5	PO5			75	
OCPA6	PO6	142	76		JP15
PO6	PO6			76	
OCPA7	PO7	143	77		JP15
PO7	PO7			77	
TX0	PP0	146	78	78	JP14
RX0	PP1	147	79	79	JP14
TX1	PP2	148	80	80	JP14
RX1	PP3	149	81	81	JP14
VDD		108	82	82	
VSS			83	83	
SIN0	PQ0	152	84	84	JP14
SOT0	PQ1	153	85	85	JP14
SIN1	PQ2	154	86		JP14
PQ2	PQ2			86	
SOT1	PQ3	155	87		JP14
PQ3	PQ3			87	
AN8	PG0	53	88	88	LCD
AN9	PG1	54	89	89	LCD
AN10	PG2	55	90	90	LCD
AN11	PG3	56	91	91	LCD
AN12	PG4	57	92	92	LCD

Pin Function	Port Function (Where specified)	MB91F362 Pin Number	MB90F365/ F366 Pin Number	MB90367/ F368 Pin Number	MB91360 Starter Kit Pin Allocation
AN13	PG5	58	93	93	LCD
VDD			94	94	
HVSS		171	95		
VSS		171		95	
PWM1P0	PR0	162	96		JP15
PR0	PR0			96	
PWM1M0	PR1	163	97		JP15
PR1	PR1			97	
PWM2P0	PR2	164	98		JP15
PR2	PR2			98	
PWM2M0	PR3	165	99		JP15
PR3	PR3			99	
HVDD		166	100	100	
PWM1P1	PR4	167	101		JP15
PR4	PR4			101	
PWM1M1	PR5	168	102		JP15
PR5	PR5			102	
PWM2P1	PR6	169	103		JP15
PR6	PR6			103	
PWM2M1	PR7	170	104		JP15
PR7	PR7			104	
HVSS		161	105	105	
PWM1P2	PS0	172		106	JP15
PS0	PS0			106	
PWM1M2	PS1	173	107		JP15
PS1	PS1			107	
PWM2P2	PS2	174	108		JP15
PS2	PS2			108	
PWM2M2	PS3	175	109		JP15
PS3	PS3			109	
HVDD		176	110	110	
PWM1P3	PS4	177	111		JP15
PS4	PS4			111	
PWM1M3	PS5	178	112		JP15
PS5	PS5			112	
PWM2P3	PS6	179	113		JP15

Pin Function	Port Function (Where specified)	MB91F362 Pin Number	MB90F365/ F366 Pin Number	MB90367/ F368 Pin Number	MB91360 Starter Kit Pin Allocation
PS6	PS6			113	
PWM2M3	PS7	180	114		JP15
PS7	PS7			114	
HVSS		181	115	115	
VDD			116	116	
LED0	PJ0	84	117	117	LED
LED1	PJ1	85	118	118	LED
LED2	PJ2	86	119	119	LED
LED3	PJ3	87	120	120	LED
A0		9			JP25
A1		10			JP25
A10		19			JP25
A11		20			JP25
A12		21			JP25
A13		22			JP25
A14		23			JP25
A15		24			JP25
A16		27			JP25
A17		28			JP25
A18		29			JP25
A19		30			JP25
A2		11			JP25
A20		31			JP25
A3		12			JP25
A4		13			JP25
A5		14			JP25
A6		15			JP25
A7		16			JP25
A8		17			JP25
A9		18			JP25
ALE	P91	44			JP25
AN14	PG6	59			LCD
AN15	PG7	60			LCD
AS	P90	43			JP25
BGRNTX		36			JP25
BRQ		37			JP25

Pin Function	Port Function (Where specified)	MB91F362 Pin Number	MB90F365/ F366 Pin Number	MB90367/ F368 Pin Number	MB91360 Starter Kit Pin Allocation
CLK		45			JP25
CP0		124			
CS0X	P94	47			JP25
CS1X	P95	48			JP25
CS2X	P96	49			JP25
CS3X	P97	50			JP25
CS4X		32			JP25
CS5X		33			JP25
CS6X		34			JP25
D0		183			JP24
D1		184			JP24
D10		193			JP24
D11		194			JP24
D12		195			JP24
D13		196			JP24
D14		107			JP24
D15		200			JP24
D16		201			JP24
D17		202			JP24
D18		203			JP24
D19		204			JP24
D2		185			JP24
D20		205			JP24
D21		206			JP24
D22		207			JP24
D23		208			JP24
D24		1			JP24
D25		2			JP24
D26		3			JP24
D27		4			JP24
D28		5			JP24
D29		6			JP24
D3		186			JP24
D30		7			JP24
D31		8			JP24
D4		187			JP24

Pin Function	Port Function (Where specified)	MB91F362 Pin Number	MB90F365/ F366 Pin Number	MB90367/ F368 Pin Number	MB91360 Starter Kit Pin Allocation
D5		188			JP24
D6		189			JP24
D7		190			JP24
D8		191			JP24
D9		192			JP24
DACK0	PB1	62			JP25
DEOP0	PB2	63			JP25
DREQ	PB0	61			JP25
HSTX		114			
LTESTX		83			
OUT2	PL6	108			JP20
OUT3	PL7	109			JP20
RDX		38			JP25
RDY		35			JP25
RX2	PP5	151			JP14
SELCLK		117			
SIN2	PQ4	156			JP14
SOT2	PQ5	157			JP14
TX2	PP4	150			JP14
VCI		125			
VDD35					
VDD35					
VDD35					
VDD35					
VDD35					
VDD35					
VDD35					
VDDI					
VDDI					
VDDI					
VDDI					
VDDX		118			
VSS		199			
VSS					
VSS					
VSS					

Pin Function	Port Function (Where specified)	MB91F362 Pin Number	MB90F365/ F366 Pin Number	MB90367/ F368 Pin Number	MB91360 Starter Kit Pin Allocation
VSS					
WR0X		39			JP25
WR1X		43			JP25
WR2X		41			JP25
WR3X		42			JP25

Figure 2: Table comparing Pin and functions for the MB91FV360 series, MB91F369 and MB91F367/8

NOTE:

N.C. : Not connected

2.2 Figures

3 Related Products

▸ Starterkit91360   Evaluation board for MB91360 series

▸ MB2197-01   Emulator debugger main unit

▸ MB2197-10   DSU Probe Cable

▸ MB2197-120   Adapter board for MB91FV360G Evaluation device

▸ MB2197-127   Probe cable for 208-pin socket (MB91F362G)

▸ FR360-PROBE-120   Probe Cable for 120 pin devices
                          (MB91F365G/366G/367G/368G/376G)

▸ FR360-PROBE-160   Probe Cable for 160 pin devices (MB91F369G)

▸ NQPACK120SD   Socket for package FPT-120P-M21
                          (Tokyo Eletech Corp. www.tetc.co.jp/e_tet.htm)

▸ HQPACK120Sd   Header for NQPACK120SD

4 Information in the WWW

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