

ZD <=> BD, ZA<=>BA, ZC<=>BC Buffer States

In the following...

ZD: Z80 Data

BD: Bus (expansion) Data

MB: Main Board Device

EB: Expansion Board Device (on the Bus)

Required: This must occur

Allowed: This can occur (it will not bother anything)

Prohibited: This is not allowed

ZA: Z80 Address

BA: Bus Address

ZC: Z80 Control (MREQ, IORQ, WR, RD)

BC: Bus Control

Master	Operation	ZD<=>BD				ZA<=>BA				ZC<=>BC			
		Required	Allowed	Prohibited	Valid nS (long path)	Required	Allowed	Prohibited	Valid nS (long path)	Required	Allowed	Prohibited	Valid nS (long path)
Z80 Master													
	MB Memory RD (IF, MR below 1M)		ZD => BD	BD <= ZD			ZA0-12+MHA13-23=>BA	BA<=ZA			ZC=>BC	BC<=ZC	
	BUS Memory RD (IF, MR above 1M)	BD => ZD		MB device on ZD	52 (BUSMEM-)	ZA0-12+MHA13-23=>BA				ZC=>BC			
	MB Memory WR (MW below 1M)		ZD => BD	BD => ZD			ZA0-12+MHA13-23=>BA	BA<=ZA			ZC=>BC	BC<=ZC	
	BUS Memory WR (MW above 1M)	ZD => BD		MB device on ZD	52 (BUSMEM-)	ZA0-12+MHA13-23=>BA				ZC=>BC			
	MB Refresh						ZA=>BA	BA<=ZA			ZC=>BC	BC<=ZC	
	MB I/O RD		ZD => BD	BD <= ZD			ZA0-15=>BA	BA<=ZA			ZC=>BC	BC<=ZC	
	BUS I/O RD	BD => ZD		MB device on ZD	52 (BUSIO-)	ZA0-15=>BA				ZC=>BC			
	MB I/O WR		ZD => BD	BD => ZD			ZA0-15=>BA	BA<=ZA			ZC=>BC	BC<=ZC	
	BUS I/O WR	ZD => BD			52 (BUSIO-)	ZA0-15=>BA				ZC=>BC			
	MB INT-ACK		ZD => BD				ZA0-15=>BA	BA<=ZA			ZC=>BC	BC<=ZC	
	BUS INT-ACK	BD => ZD			30 (IORQ-)		ZA0-15=>BA	BA<=ZA		ZC=>BC		BC<=ZC	
Master	Operation	ZD<=>BD				ZA<=>BA				ZC<=>BC			
BUS Master													
	MB Memory RD (IF, MR below 1M)	Required ZD => BD	Allowed	Prohibited	44 (RD-)	BA=>ZA0-12+MHA13-23	Allowed	Prohibited	42 (LCLMEM-)	Required BC=>ZC	Allowed	Prohibited	42 (LCLMEM-)
	BUS Memory RD (IF, MR above 1M)		BD => ZD	ZD => BD			BA=>ZA0-12+MHA13-23	ZA=>BA			BC=>ZC	ZC=>BC	
	MB Memory WR (MW below 1M)	BD => ZD		MB Device on ZD	44 (WR-)	BA=>ZA0-12+MHA13-23			42 (LCLMEM-)	BC=>ZC			42 (LCLMEM-)
	BUS Memory WR (MW above 1M)		BD => ZD	ZD => BD			BA=>ZA0-12+MHA13-23	ZA=>BA			BC=>ZC	ZC=>BC	
	MB I/O RD	ZD => BD			44 (RD-)	BA=>ZA0-15			40 (LCLIO-)	BC=>ZC			
	BUS I/O RD		BD => ZD	ZD => BD			BA=>ZA0-15	ZA=>BA			BC=>ZC	ZC=>BC	42 (LCLMEM-)
	MB I/O WR	BD => ZD		MB Device on ZD	44 (WR-)	BA=>ZA0-15			40 (LCLIO-)	BC=>ZC			40 (LCLIO-)
	BUS I/O WR		BD => ZD	ZD => BD			BA=>ZA0-15	ZA=>BA			BC=>ZC	ZC=>BC	
	MB INT-ACK	ZD => BD			30 (IORQ-)		BA=>ZA0-15	ZA=>BA		BC=>ZC			40 (LCLIO-)
	BUS INT-ACK		BD => ZD				BA=>ZA0-15	ZA=>BA			BC=>ZC	ZC=>BC	