



APPLICATION NOTE

FIGURE 1. 386SX/387SX TO VLSI PC/AT 80286 CHIP SET (Cont.)

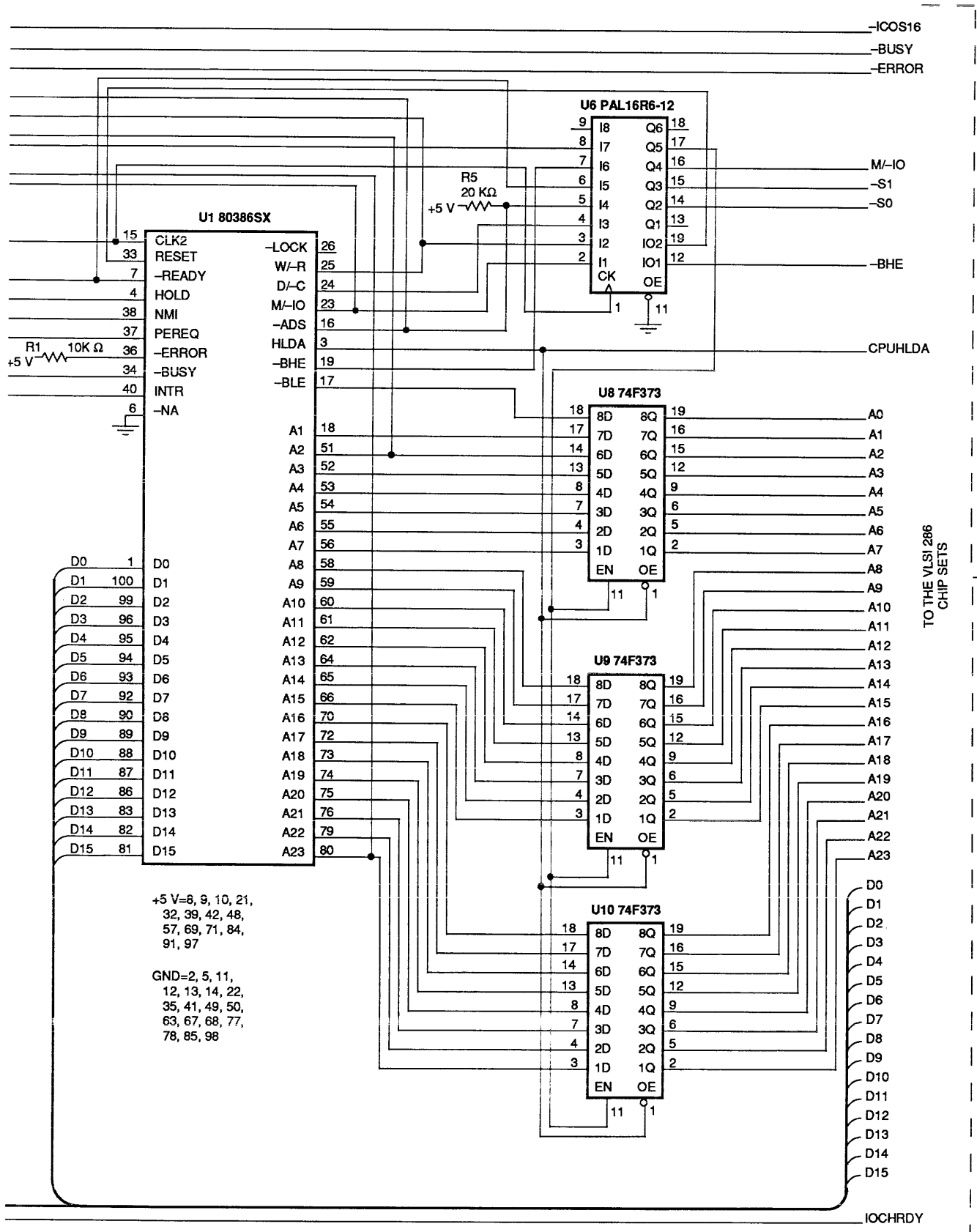


TABLE 1. 386SX PAL EQUATIONS

TITLE 386SX TO 286 STATUS
 PATTERN P9-286.PAL
 REVISION B
 AUTHOR AL WEIDNER
 COMPANY VLSI PHOENIX, AZ.
 DATE 10/25/88

CHIP	P9TO286		PAL16R6							
;PIN#	1	2	3	4	5	6	7	8	9	10
	CLK2	MIO3	WRT3	CMD3	/ADS	/RDY286	/BHE3	RST286	NC	GND
;PIN#	11	12	13	14	15	16	17	18	19	20
	/OE	/BHE2	/SFAZ1	/S0	/S1	MIO	ADS2	SYSCLK	RST386	VCC

EQUATIONS

```

/ADS2 := /(ADS*/ADS2) ;2ND PHASE OF ADS, WHETHER READY OR NOT

BHE2 = BHE3*ADS2 + BHE2*/ADS2 ;LATCHED /BHE

SFAZ1:= ADS2*RDY286 ;1ST STAT PHASE, ALWAYS FOLLOWS ADS
; WHEN READY

/SYSCLK := SYSCLK + SFAZ1 ;INTERAL SYSCLK - SYNC EACH STATUS CYC.

/RST386 = /(RST286 + RST386*RST286 ;RESET TO TURN OFF ONLY DURING PHASE 2
+ RST386*SYSCLK)

/MIO := /((ADS*MIO3)+( /ADS*MIO)) ;286 MIO, LATCHED BY ADS

S1 := ADS2*RDY286*/WRT3 ;286 S1, HELD FOR 2 PHASE STAT CYCLE
+ ADS2*RDY286*/CMD3*MIO3 ; 0 ALL OTHER TIMES
+ SFAZ1*S1

S0 := ADS2*RDY286*WRT3*MIO3 ;286 S0, HELD FOR 2 PHASE STAT CYCLE
+ ADS2*RDY286*CMD3*WRT3 ; 0 ALL OTHER TIMES
+ ADS2*RDY286*/MIO3*/CMD3*/WRT3
+ SFAZ1*S0
  
```



TABLE 2. 387SX PAL EQUATIONS

TITLE 387SX INTERFACE PAL
 PATTERN 387SX.PDS
 REVISION B
 AUTHOR AL WEIDNER
 COMPANY VLSI PHOENIX, AZ.
 DATE 11/16/88

CHIP 387SX PAL16R8
 ;PIN#
 ;1 2 3 4 5 6 7 8 9 10
 CLK4 NC RES287M NC NC NC NC NC NC GND
 ;11 12 13 14 15 16 17 18 19 20
 /ENAS IORDY /Q5 /Q4 /Q3 /Q2 /Q1 /Q0 RES387 VCC

EQUATIONS

;6 BIT COUNTER - COUNTS WHEN RES287M IS HIGH, RESETS TO 0 WHEN RES287M IS LOW

```

;
Q0 := RES287M * /Q0
Q1 := RES287M * (Q1::Q0)
Q2 := RES287M * (Q2::(Q1*Q0))
Q3 := RES287M * (Q3::(Q2*Q1*Q0))
Q4 := RES287M * (Q4::(Q3*Q2*Q1*Q0))
Q5 := RES287M * (Q5::(Q4*Q3*Q2*Q1*Q0))
  
```

```

/IORDY := RES287M * /(Q5*Q4*Q3*Q2) ;PULLS IORDY (LOW) UNTIL CNT = 3Ch,
; THIS CAUSES RES287M TO STAY HIGH
  
```

```

/RES387 := /RES287M + Q5 ;GENERATES THE 387SX RESET FOR 32 CLKS
  
```

;DESCRIPTION

```

; PULLS "IOCHRDY" TO HOLD THE CPU WHILE THE 387SX IS PERFORMING ITS RESET
; SEQUENCE.
; ALSO GENERATES A LONGER RESET (32 CLKS WIDE) TO THE 387SX
  
```