

## PARTLIST FOR ONE BOARD

NUMBER	DESCRIPTION	PART NAME IN DRAWINGS & COORD LIST
***front SMD***		
64	HM534251 28-pin SOJ	VRAM
64	44-pin PLCC	EMC
8	32-pin PLCC (not square)	75C03
6	28-pin PLCC	100325
2	28-pin PLCC	100E111
4	programmed PAL16L8 20-pin PLCC	RDAEONAND
4	16-pin SOIC	74F379
12	24-pin SOIC	74F821 ← ACT is ok for U38-U41
2	14-pin SOIC	74F04
1	16-pin SOIC	74F169
1	24-pin SOIC	74F269
2	20-pin SOIC	74F377
5	16-pin SOIC	74ALS153
9	16-pin SOIC	74F399
3	20-pin SOIC	74F579
4	20-pin SOIC	74ACT323
7	24-pin SOIC	74ACT825
2	20-pin SOIC	74ACT240
1	20-pin SOIC	74F569
1	16-pin SOIC	74F378
4	20-pin SOIC	74ACT564
20	20-pin SOIC	74ACT574
4	24-pin SOIC	74ACT821
***backside SMD***		
331	tiny SMD cap (on spool)	CAP1206
8	larger SMD cap	CAP1812
***through-hole***		
2	160-pin connector	APP4X40
6	zener diode	1N5908 (Z1-Z6)
8	tanatalum cap	TANT200 (C1-C8)
8	socket for 20-pin PLCC	RDRXFIFO, RDRXCNTR, RDTRIGGER, RDCTCLK, RDAEOCC, RDID, RDTRF
11	socket for 28-pin PLCC	RDBSFMS, RDMACCNTR, RDSEMACNTR, RDBSOTHER, RDMACCYCLE, RDMGMEM, RDMGOTHER, RDSP, RDIGCTX, RDERROR
4	84-pin PGA socket	CT
1	132-pin PGA socket	IGC
16	red LED	LED550 (D0-D15)
15	8-pin SIP	RPTERM8 (all 8-pin SIPs on board)
8	orange 10-pin SIPs	ECLTERM
1	101-1K 10-pin SIP	RPBUS10
8	180/390 10-pin SIP	RPTERM10 (only ones labeled RP31-RP38)
42	160/260 10-pin SIP	RPTERM10 (all 10-pin SIPs on board except ECLTERM, RPBUS10, and RP31-RP38 above)

\*\*\*other parts\*\*\*

- 1 PC Board
- 4 2-56 x 3/8" screw/washer/bolt for 160-pin connectors  
(2 per connector, screw-on before soldering)

\*\*\*parts not supplied, will be installed later at UNC\*\*\*

- 1 front panel with hardware
- 1 TIBPAL16L8-10 (plus 4 on SMD list above)
- 1 TIBPAL16R4-10
- 3 TIBPAL16R6-10 ← RDNXCNTX can be -R8
- 3 TIBPAL16R8-10
- 11 TIBPAL22VP10-20 ← 22V10s are ok also
- 4 Corner Turner Custom IC
- 1 IGC Custom IC

PARTS LIST FOR PXPL5 RENDERER BOARD:

EMC	64
VRAM (Hitachi HM534251JP-11)	64
IGC	1
Corner-Turner	4
FIFO (Samsung KM75C03AJ-20)	8
<del>ACT564 (SCdrive-4)</del>	<del>4</del>
'ACT574 (EMCdrive-16, VRAMdrive-4, <del>SCdrive-4</del> )	<del>24</del> 20
'ACT821 (VRAMdrive-4)	4
'F821 (RxLatch-2x4, IGClatch-4)	12
'ACT825 (Id-3, statusIGCport-4)	7
'ACT323 (returnaddress-4)	4
'F399 (TxLatch-8, SPgate)	9
'F579 (IGCtimeout-2, Trf-1)	3
'F169 (AddrCntr)	1
'F269 (AddrCntr)	1
'F569 (Trfrowcounter)	1
'F377 (AddrLatch, Trfsector)	2
'ALS153 or 253 (address mux)	5
'F379 (IGCmisc, HF flags, Resets, SC delay) 2)	4 4
'F240 (LED drivers-2)	2
'F04 (Clk20D, TxGo delay)	2
<del>F379 (SCdelay)</del>	1
TIBPAL16R8-10 (rxfifo-2, trf)	3
TIBPAL16R6-10 (rxcntr, trigger, aeocc)	3
TIBPAL16R4-10 (ctclk)	1
TIBPAL16L8-10 (AEONAND16-4, boardID)	5
TIBPAL22VP10-20C (bs-2, err, <del>igctx</del> , maccntr, macrogen-3, sema-2, <del>sp</del> )	11 9
<del>TIBPAL 22VP10-15 (sp, igctx)</del>	2
F100325QC (40M EMC banks-4, 40M IGC, 20M-2)	6
100E111	1
<del>jumper</del>	1
bypass capacitors	
TTL terminators (VRAM&EMC controls, clocks, BS bus, IGC outputs series ?, Ring)	7
ECL terminators (clocks from Ring)	1
pullup resistor SIP for logic ones	
sockets for PALs, IGC, FIFOs, CTs	
LEDs (with built-in pullups) 550-0505	16
connectors to Ring board	2

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Clock Loading:

Clk40H: EMCs-64, EMCdrive-16, IGC, IGCstatus-7, Trf'579, Trf'569, RDAEOCC, Trf'377, TrfPAL, SC'379, IGClatch-4, IGC'379, RxFIFOPAL-2, SCdrive-2, SP'399

Clk40L: SCdrive-2, SC'379

Clk20H: IGCtimeout-2, AddrCntLatch-3, HF'379, IGCreturnaddr-4, VRAMdrive-8, BSPALs-2, RDError, RDIGCTx, MGPALs-3, RDMacCntr, RDSP, SemaCntr-2, TxLatch-8

Clk20D: RDRxFIFO-2, SP'399

Clk20L: CTClkPAL, TrigPAL, RxCntrPAL

Item	Quantity	Reference	Part
1	8	C1,C2,C3,C4,C5,C6,C7,C8	TANT200 100uF
2	331	C10,C11,C12,C13,C14,C15, C16,C17,C18,C19,C20,C21, C22,C23,C24,C25,C26,C27, C28,C29,C30,C31,C32,C33, C34,C35,C36,C37,C38,C39, C40,C41,C42,C43,C44,C45, C46,C47,C48,C49,C50,C51, C52,C53,C54,C55,C56,C57, C58,C59,C60,C61,C62,C63, C64,C65,C66,C67,C68,C69, C70,C71,C72,C73,C74,C75, C76,C77,C78,C79,C80,C81, C82,C83,C84,C85,C86,C87, C88,C89,C90,C91,C92,C93, C94,C95,C96,C97,C98,C99, C100,C101,C102,C103,C104, C105,C106,C107,C108,C109, C110,C111,C112,C113,C114, C115,C116,C117,C118,C119, C120,C121,C122,C123,C124, C125,C126,C127,C128,C129, C130,C131,C132,C133,C134, C135,C136,C137,C138,C139, C140,C160,C161,C162,C163, C164,C165,C166,C167,C200, C201,C202,C203,C204,C205, C206,C207,C208,C209,C210, C211,C212,C213,C214,C215, C216,C217,C218,C219,C220, C221,C222,C223,C224,C225, C226,C227,C228,C229,C230, C231,C232,C233,C234,C235, C236,C237,C238,C239,C240, C241,C242,C243,C244,C245, C246,C247,C248,C249,C250, C251,C252,C253,C254,C255, C256,C257,C258,C259,C260, C261,C262,C263,C300,C301, C302,C303,C304,C305,C306, C307,C308,C309,C310,C311, C312,C313,C314,C315,C316, C317,C318,C319,C320,C321, C322,C323,C324,C325,C326, C327,C328,C329,C330,C331, C332,C333,C334,C335,C336, C337,C338,C339,C340,C341, C342,C343,C344,C345,C346, C347,C348,C349,C350,C351, C352,C353,C354,C355,C356, C357,C358,C359,C360,C361, C362,C363,C400,C401,C402,	CAP1206 .1UF FP

Item	Quantity	Reference	Part
		C403, C404, C405, C406, C407, C408, C409, C410, C411, C412, C413, C414, C415, C416, C417, C418, C419, C420, C421, C422, C423, C424, C425, C426, C427, C428, C429, C430, C431, C432, C433, C434, C435, C436, C437, C438, C439, C440, C441, C442, C443, C444, C445, C446, C447, C448, C449, C450, C451, C452, C453, C454, C455, C456, C457, C458, C459, C460, C461, C462, C463	
3	8	C150, C151, C152, C153, C154, C155, C156, C157	CAP1812 1UF FP
4	4	CT1, CT2, CT3, CT0	CT Alpha
5	16	D1, D2, D3, D4, D5, D6, D7, D8, D9, D10, D11, D12, D13, D14, D15, D0	LED550
6	64	EMC1, EMC2, EMC3, EMC4, EMC5, EMC6, EMC7, EMC8, EMC9, EMC10, EMC11, EMC12, EMC13, EMC14, EMC15, EMC16, EMC17, EMC18, EMC19, EMC20, EMC21, EMC22, EMC23, EMC24, EMC25, EMC26, EMC27, EMC28, EMC29, EMC30, EMC31, EMC32, EMC33, EMC34, EMC35, EMC36, EMC37, EMC38, EMC39, EMC40, EMC41, EMC42, EMC43, EMC44, EMC45, EMC46, EMC47, EMC48, EMC49, EMC50, EMC51, EMC52, EMC53, EMC54, EMC55, EMC56, EMC57, EMC58, EMC59, EMC60, EMC61, EMC62, EMC63, EMC0	EMC FP
7	1	IGC	IGC Alpha
8	2	PAL1, PAL12	RDRXFIFO TIBPAL16R8-10
9	1	PAL2	RDBSFMS TIBPAL22VP10-20
10	1	PAL3	RDMACNTR TIBPAL22VP10-20
11	2	PAL4, PAL19	RDSEMACNTR TIBPAL22VP10-20
12	1	PAL5	RDBSOTHER TIBPAL22VP10-20
13	1	PAL6	RDRXCNTR TIBPAL16R6-10

Item	Quantity	Reference	Part
14	1	PAL7	RDTRIGGER TIBPAL16R6-10
15	1	PAL8	RDMACCYCLE TIBPAL22VP10-20
16	1	PAL9	RDMGMEM TIBPAL22VP10-20
17	1	PAL10	RDCTCLK TIBPAL16R4-10
18	1	PAL11	RDMGOTHER TIBPAL22VP10-20
19	1	PAL13	RDSP TIBPAL22V10-15
20	1	PAL14	RDAEOCC TIBPAL16R6-10
21	4	PAL15, PAL16, PAL17, PAL18	RDAEONAND TIBPAL16L8-10 FP
22	1	PAL20	RDIGCTX TIBPAL22V10-15
23	1	PAL21	RDID TIBPAL16L8-10
24	1	PAL22	RDERROR TIBPAL22VP10-20
25	1	PAL23	RDTRF TIBPAL16R8-10
26	2	PBS, PIGC	APP4X40 Alpha
27	42	RP1, RP2, RP3, RP4, RP6, RP7, RP8, RP9, RP41, RP42, RP43, RP44, RP51, RP61, RP101, RP102, RP103, RP104, RP105, RP106, RP107, RP111, RP112, RP113, RP114, RP115, RP116, RP117, RP121, RP122, RP123, RP124, RP125, RP126, RP127, RP131, RP132, RP133, RP134, RP135, RP136, RP137	RPTERM10
28	15	RP5, RP10, RP52, RP53, RP54, RP55, RP57, RP65, RP66, RP67, RP71, RP72, RP73, RP81, RP82	RPTERM8
29	8	RP31, RP32, RP33, RP34, RP35, RP36, RP37, RP38	RPTERM10 180/390
30	8	RP91, RP92, RP93, RP94, RP95, RP96, RP97, RP98	ECLTERM
31	1	RP100	RPBUS10 1K
32	4	U7, U8, U48, U67	74F379 FP
33	8	U9, U10, U11, U12, U34, U35, U36, U37	75C03 FP

Item	Quantity	Reference	Part
34	12	U13,U14,U15,U16,U38,U39, U40,U41,U44,U45,U46,U47	74F821 FP
35	2	U17,U42	74F04 FP
36	1	U18	74F169 FP
37	1	U19	74F269 FP
38	2	U20,U64	74F377 FP
39	5	U21,U22,U23,U24,U25	74ALS153 FP
40	9	U26,U27,U28,U29,U30,U31, U32,U33,U43	74F399 FP
41	3	U49,U50,U66	74F579 FP
42	4	U51,U52,U53,U54	74ACT323 FP
43	7	U55,U56,U57,U58,U59,U60, U61	74ACT825 FP
44	2	U62,U63	74ACT240 FP
45	1	U65	74F569 FP
46	1	U68	74F378 FP
47	4	U69,U70,U71,U72	74ACT564 FP
48	2	U91,U92	100E111 FP
49	6	U93,U94,U95,U96,U97,U98	100325 FP
50	20	U101,U102,U103,U104,U106, U111,U112,U113,U114,U116, U121,U122,U123,U124,U126, U131,U132,U133,U134,U136	74ACT574 FP
51	4	U105,U115,U125,U135	74ACT821 FP
52	64	VR1,VR2,VR3,VR4,VR5,VR6, VR7,VR8,VR9,VR10,VR11, VR12,VR13,VR14,VR15,VR16, VR17,VR18,VR19,VR20,VR21, VR22,VR23,VR24,VR25,VR26, VR27,VR28,VR29,VR30,VR31, VR32,VR33,VR34,VR35,VR36, VR37,VR38,VR39,VR40,VR41, VR42,VR43,VR44,VR45,VR46, VR47,VR48,VR49,VR50,VR51, VR52,VR53,VR54,VR55,VR56,	VRAM FP

Top Level

Revised: April 4, 1990

Bill Of Materials

July 10, 1990

Revision: 1.0

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Item	Quantity	Reference	Part
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VR57, VR58, VR59, VR60, VR61,  
VR62, VR63, VR0

53	6	Z1, Z2, Z3, Z4, Z5, Z6	1N5908
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