

# NEEDHAMS, EMP21u ADAPTOR LIST AND LIST PRICE

	DESCRIPTION	LIST
PLCC2020-01	20 pin PLCC adapter for 20 pin PLCC GAL/PAL	\$138.60
PLCC2824-04	28 pin PLCC adapter (NC =1, 8,15,22) for 28 pin PLCC GAL/PAL	\$138.60
PLCC2828-11	Universal 28 pin PLCC to 28 pin DIP converter	\$138.60
PLCC3228-11	32 pin PLCC adapter (NC= 1,12,17,26) for E/EEPROM below 512 K	\$138.60
PLCC3232-11	32 pin PLCC adapter for E/EEPROM with 1M and up	\$158.40
PLCC4440-01	44 pin PLCC adapter (NC= 1,13,23,33) for 44 pin PLCC EPROMs/Flash 16 bit	\$158.40
PLCC4440-02	44 pin PLCC adapter (NC= 1,12,23,34) for 44 pin PLCC 875X processor	\$158.40
SDP-PIC-20SS/200	20pin SSOP universal adapter for PIC Mcu 200mil x 0.65mm pitch	\$158.40
SDP-UNIV-16/TS	16 pin TSOP universal adapter for 8-16 pin TSOP (173milx0.635mm pitch)	\$138.60
SDP-UNIV-16SO	16 pin SOIC (150mil) universal adapter for 8-16 pin SOIC	\$138.60
SDP-UNIV-16SO/170	16 pin SOIC (173 mil) universal adapter 1.27m pitch	\$138.60
<b>SDP-UNIV-16SO/O</b>	<b>16pin SOIC Universal Adapter(OPEN TOP)</b>	\$138.60
SDP-UNIV-20SO	20 pin SOIC (300mil) universal adapter for 16-20 pin SOIC	\$138.60
SDP-UNIV-20SO/200	20 pin SOIC (207mil) universal adapter for 8-20 pin SOIC	\$138.60
SDP-UNIV-24SS/150	24 pin SSOP universal adapter for 150mil x 0.635mm pitch	\$158.40
SDP-UNIV-28SO/300	28 pin SOIC (300mil) universal adapter for 24-28 pin SOIC	\$138.60
SDP-UNIV-28SS/200	28 pin SSOP universal adapters for 200mil x 0.65mm pitch	\$158.40
SDP-UNIV-28TS	28 pin TSOP (8mm x 14mm) universal adapter for 28 pin TSOP Flash memory	\$178.20
SDP-UNIV-28TSS/170	28 pin TSSOP (173 mil) universal adapter pitch 0.65mm	\$178.20
SDP-UNIV-32TQ	32 pin TQFP universal adapter	\$237.60
SDP-UNIV-32TS	32 pin TSOP (8mm x 20mm) universal adapter for 32 pin TSOP Flash memory	\$237.60
SDP-UNIV-32TS/W	32 pin TSOP (8mm x 14mm) universal adapter for 32 pin TSOP Flash memory	\$178.20
SDP-UNIV-40TS	40 pin TSOP (10mm x 20mm) universal adapter for 40 pin TSOP Flash memory	\$178.20
SDP-UNIV-40TS/W	40 pin TSOP (10mm x 14mm) universal adapter for 40 pin TSOP Flash memory	\$178.20
SDP-UNIV-40TSS	40 pin TSSOP universal adapterfor 40 pin TSSOP Flash memory	\$178.20
SDP-UNIV-42SD	42 pin Shrink DIP universal adapter	\$178.20
SDP-UNIV-44	44 pin PLCC universal adapter	\$138.60
SDP-UNIV-44C	44 pin PLCC (clamshell socket ) universal adapter	\$178.20
SDP-UNIV-44PSO	44 pin PSOP universal adapter for 44 pin PSOP Flash memory	\$178.20
SDP-UNIV-44Q	44 pin PQFP universal adapter	\$237.60
SDP-UNIV-44TQ	44 pin TQFP universal adapter	\$237.60
SDP-UNIV-44TS	44 pin TSOP universal adapter for Samsung /Toshiba 44pin TSOP NAND Flash memory	\$178.20
SDP-UNIV-48LQ	48 pin LQFP Universal Adapter	\$277.20
SDP-UNIV-48SS/300	48 pin SSOP universal adapter for 300mil x 0.635mm pitch	\$198.00
SDP-UNIV-48TS	48 pin TSOP (12mm x 20mm) universal adapter for 48 pin TSOP Flash memory	\$178.20
SDP-UNIV-48TS/W	48 pin TSOP (12mm x 14mm) universal adapter for 48 pin TSOP Flash memory	\$178.20
SDP-UNIV-48TSS	48 pin TSSOP (10mm x 14mm) with 0.4mm pitch universal adapter for Flash memory	\$178.20
<b>ALTERA EPM Series</b>		
SDP-7064-68	68 pin PLCC adapter for ALTERA 7064/7096	\$198.00
SDP-5192-84	84 pin PLCC adapter for ALTERA 5192/A	\$227.70
SDP-7064-84	84 pin PLCC adapter for ALTERA 7064/7096	\$227.70

SDP-7128-84	84 pin PLCC adapter for ALTERA 7128/E	\$227.70
SDP-7160-84	84 pin PLCC adapter for ALTERA 7160/E	\$227.70
SDP-7064-100Q	100 pin QFP adapter for ALTERA 7064	\$316.80
SDP-7096-100Q	100 pin QFP adapter for ALTERA 7096	\$316.80
SDP-7128-100Q	100 pin QFP adapter for ALTERA 7128/E	\$316.80
SDP-7160-100Q	100 pin QFP adapter for ALTERA 7160/E	\$316.80
<u>AMD MACH Series</u>		\$0.00
SDP-M120-68	68 pin PLCC adapter for AMD MACH 12X/22X	\$198.00
SDP-M130-84	84 pin PLCC adapter for AMD MACH 13X/23X/435 d M4/128	\$227.70
SDP-M131-100Q	100 pin QFP adapter for AMD MACH 131/231SP	\$316.80
<u>XILINX EPLD Family</u>		
SDP-9572-84	84 pin PLCC adapter for XILINX XC9572	\$227.70
SDP-95108-84	84 pin PLCC adapter for XILINX XC95108	\$227.70
SDP-95108-100Q	100 pin QFP adapter for XILINX XC95108	\$316.80
SDP-6811-52B	52 pin PLCC adapter for Motorola 68 HC11	\$198.00
SDP-908AS-52	52 pin PLCC adapter for Motorola 68HC908AS	\$198.00
SDP-705B-52	52 pin PLCC adapter for Motorola 68705B5/B16/B32	\$198.00
SDP-C530-52	52 pin PLCC adapter for Dallas 87C530	\$198.00
SDP-7552-68	68 pin PLCC adapter for philips 87C552	\$198.00
SDP-7592-68	68 pin PLCC adapter for philips 87C592	\$198.00
SDP-11L6-68	68 pin PLCC adapter for Motorola MC68HC711L6	\$198.00
SDP-11F1-68	68 pin PLCC adapter for Motorola 68HC11F1	\$198.00
SDP-196K-68	68 pin PLCC adapter for Intel 87C196KB/KD/KC	\$198.00
SDP-196J-68	68 pin PLCC adapter for Intel 87C196KR/KQ/JR	\$198.00
SDP-320E-68	68 pin PLCC adapter for TI TMS320E25	\$198.00
SDP-C752-68	68 pin PLCC PIC 17C752/6 adapter	\$198.00
SDP-C923-68	68 pin PLCC adapter for Microchip PIC 16C923/924	\$198.00
SDP-11K1-84	84 pin PLCC adapter for Motorola XC68HC11K1/K4	\$227.70
SDP-96MH-84	84 pin PLCC adapter for Intel 87C196MH/MC	\$227.70
SDP-AD816-52Q	52 pin QFP adapter for Analog device AduC812/816 MCU	\$237.60
SDP-AT91S-64TQ	64pin TQFP Adapter for AT91SAM7S64/128/256	\$237.60
SDP-705X-64Q	64 pin QFP adapter for Motorola 68HC705X32	\$237.60
SDP-C923-64TQ	64 pin TQFP adapter for PIC 16C923/4.	\$237.60
SDP-AT128-64TQ	64 pin TQFP adapter for Atmel Atmega64/128	\$237.60
SDP-C508-64Q	64 QFP adapter for Infineon C508-4E	\$237.60
SDP-C515-80Q	80pin QFP adapter for Siemens C515/C505L	\$237.60
SDP-PIC18X-64TQ	64 pin TQFP adapter for Microchip PIC18F6X20MCU	\$237.60
SDP-908AZ-64Q	64QFP adapter for Motorola 68HC908AZ60	\$237.60
<b>SDP-R21256-52LQ</b>	<b>52pin LQFP Adapter for Renesas R5F21256SNFP</b>	<b>\$386.10</b>
SDP-AX110-80LQ	80 pin LQFP Adapter for ASIX AX11001/AX11005	\$336.60
SDP-AX110-128LQ	128 Pin LQFP Adapter for ASIX AX11015	\$336.60
<b>QFN-1616-01</b>	<b>16pin QFN Adapter( 5*5 mm pitch 0.8mm)</b>	<b>\$386.10</b>
QFN-2828-01	28 pin MLF adapter for PIC 16F87X family	\$297.00
<b>QFN-3232-01</b>	<b>32pin QFN Adapter( 5*5 mm pitch 0.5mm)</b>	<b>\$386.10</b>
QFN-4844-01	44 pin MLF adapter for ATMEL ATMEGA 16/L chip	\$336.60
QFN-4444-01	44 pin QFN adapter (8*8. 0.65mm) for PIC18F4320	\$584.10
QFN-6432-01	64 pin QFN adapter (9*9 0.5mm) for Atmega128	\$584.10

SDP-1024-68	68 pin PLCC adapter for LATTICE PLSI1024	\$198.00
SDP-1032-84	84 pin PLCC adapter for LATTICE PLSI1032/2064	\$227.70
GDP-1305-48TSS	48 pin TSSOP adapter for SHARP LRS1305	\$237.60
GDP-130X-48TSS	48 pin TSSOP adapter for SHARP LRS 1306/8	\$237.60
GDP-1611-48TS	48 pin TSOP adapter for MX29L1611	\$237.60
GDP-DIP-001	DIP adapter for Motorola HC705P6/A, HC705P9, ATMEL 90S44xx, AT90S85xx	\$138.60
GDP-DIP-002	DIP adapter for Altera EPC1/2 and Atmel 17Cxxx, 17LVxxx PROM	\$138.60
GDP-DIP-003	DIP to DIP adapter for PIC 16C64/5A/5B/7, 16C74A, 16C77/774, 17LVxxx PROM	\$138.60
GDP-DIP-006	DIP-DIP Adapter for Atmel ATmega48	\$138.60
GDP-DIP-008	DIP-DIP Adapter for SUNPLUS SPHE6400A	\$138.60
GDP-DIP-009	DIP-DIP Adapter for Freescale MC68HC908QY4	\$138.60
GDP-F016-56TS	56 pin TSOP adapter for Intel 28F016/032S3/S5	\$198.00
GDP-F320-56SS	56 pin SSOPadapter for Intel 28F320/640/128J5/J3	\$198.00
GDP-F640-56TS	56 pin TSOP adapter for Intel 28F320/640J5/J3	\$198.00
<b>GDP-MSOP-0801</b>	<b>8 Pin MSOP Adapter for Microchip M24AA32A</b>	<b>\$326.70</b>
GDP-PLCC-4401	44 pin PLCC 68HC705C8/A	\$158.40
GDP-PLCC-4401C	Clamshell socket 44pin PLCC adapter for 68HC705C8/A	\$188.10
GDP-PLCC-4402	44 pin PLCC adapter for Motorola 68HC705C9A	\$158.40
GDP-PLCC-4403	44 pin PLCC adapter for Myson MTV312M64/512	\$158.40
GDP-QFN-4801	48 pin QFN Adapter for ATmega16L	\$277.20
GDP-SOIC-1601	16 pin SOIC adapter for PIC12F629/675	\$158.40
GDP-SOIC-1602	16 pin SOIC adapter for ST M25P10/20/40	\$158.40
GDP-SOIC-1604	16 pin SOIC 150 mil adapter for ST M25P10/20/40	\$158.40
<b>GDP-SOIC-1605</b>	<b>16pin SOIC Adapter for Microchip 93LC66B</b>	<b>\$158.40</b>
GDP-SOIC-2002	20 pin SOIC 200mil Adapter for ST M25P80	\$158.40
GDP-SOIC-2003	20 pin SOIC 200mil Adapter for ST M25P80	\$158.40
GDP-SOIC-2801	28 pin SOIC 300mil adapter for Spansion 16pin 25FLxx	\$158.40
<b>GDP-SOIC-2802</b>	<b>28 pin SOIC 300mil Adapter for SM894051</b>	<b>\$158.40</b>
<b>GDP-SOIC-2803</b>	<b>28 PIN SOIC 300 MIL ADAPTER FOR MC68HC908QY2/QY4</b>	<b>\$158.40</b>
GDP-ST064-48TS	48 pin TSOP adapter for STM29KW016/032/064	\$237.60
GDP-TQFP-3201	32 pin TQFP adapter for Atmel ATtiny8/48	\$237.60
GDP-TQFP-4401	TQFP to DIP adapter for Motorola 44 TQFP 68HC705C8/A44	\$257.40
<b>GDP-TQFP-4403</b>	<b>44pin TQFP Adapter for AT89C51AC2</b>	<b>\$257.40</b>
GDP-TSOP-2801	28 pin TSOP Adapter for ATMEL AT45DB161B/081B	\$178.20
GDP-TSOP-3201	32 pin TSOP adapter for ATMEL AT45DB321B	\$178.20
GDP-TSSOP-1601	16 pin TSSOP adapter for Microchip 24LC512	\$158.40
GDP-TSSOP-2801	28 pin TSSOP adapter for Philips 89LPC932	\$178.20
<b>GDP-TSSOP-2802</b>	<b>28PIN TSSOP Adapter for ATMEL AT93C66</b>	<b>\$178.20</b>
LVT-128K18-56U	56 pin VFBGA adapter for Intel GE28F128K18	\$584.10
LVT-128K18-64E	64 pin EBGA adapter for Intel RC28F128K18	\$584.10
LVT-128K3-56U	56 ball VFBGA adapter for Intel GE28F128K3	\$584.10
LVT-128K3-64E	64 pin EBGA adapter for Intel RC28F128/640K3	\$584.10
LVT-128W18-56U	56 ball VFBGA adapter for Intel GE28F128W18	\$584.10
LVT-128W30-56U	56 ball VFBGA adapter for Intel GE28F128W30	\$584.10
LVT-2240WY-80F	80 pin FBGA adapter for Intel RD38Fxxx WY MCP	\$584.10
LVT-2240WZ-80F	80 pin FBGA adapter for Intel RD38Fxxx WZ MCP	\$584.10
LVT-256K18-63VF	63 pin VFBGA adapter for Intel GE28F256K18C	\$584.10

LVT-256K18-64E	64 pin EPGA adapter for Intel RC28F256K18C	\$584.10
LVT-256K3-63VF	63 pin VFBGA adapter for Intel GE28F256K3C	\$584.10
LVT-256K3-64E	64 pin EPGA adapter for Intel RC28F256K3C	\$584.10
LVT-320D18-56U	uPGA adapter for Intel 28F320D18 (1.8Vcc, I/O)	\$584.10
LVT-4050LY-80F	80 pin FBGA adapter for Intel RD38F4050L0YB/T	\$584.10
LVT-4050LZ-80F	80 pin FBGA adapter for Intel RD38F4050L0ZB/T	\$584.10
LVT-6408W30-80F	80 pin uPGA adapter for Intel 28F6408W18 CSP Flash	\$584.10
LVT-640K18-56U	56 pin VFBGA adapter for Intel GE28F640K18C	\$584.10
LVT-640K3-56U	56 pin VFBGA adapter for Intel GE28F640K3C	\$584.10
LVT-640W18-56U	uPGA adapter for Intel 28F320/640/128W18 (1.8Vcc, I/O)	\$584.10
LVT-640W30-56U	uPGA adapter for Intel 28F320/640W30 (1.8Vcc, 3V I/O)	\$584.10
LVT-ADS323-48TS	1.8V low voltage adapter for AMD 29DS32X (48TSOP)	\$415.80
LVT-MT6428-64F	64 pin FBGA Adapter for Micron MT28C6428P20/P18	\$584.10
LVT-NEC6411-85F	low voltage adapter for NEC uPD29F064115F9	\$386.10
LVT-S064J-80F	80 pin FBGA ADP "SPANSION S71WS064JB0B0FW2Y	\$584.10
LVT-SST400-48WF	48pin WFBGA Adapter for SST39WF400A	\$782.10
LVT-ST432-64F	64 pin FBGA adapter for STM 36DR432A/B	\$584.10
SDP-1329-64F	72 pin CSP ( 8mm x11mm) adapter for SHARP LRS1329/1340/1349/1356	\$386.10
SDP-1331-64F	72 pin CSP (8mm x 11mm) adapter for SHARP LRS1331/37/41/42,LRS1357/58,LRS1362/63/64/65	\$386.10
SDP-1826-64F	64 ball FBGA adapter for SHARP LRS1826 and ATMEL AT52BR3244/3248	\$386.10
SDP-1876-64F	64 pin FBGA adapter for SHARP LRS1876	\$386.10
SDP-3204-64F	72 pin CSP adapter for Intel RD28F1604/RD28F3204	\$386.10
SDP-3224-100Q	100 pin QFP adapter for STV0680	\$316.80
SDP-41DL16-69F	69 ball FBGA adapter for AMD 41DL16xxMCP	\$386.10
SDP-42DL32-73F	73 ball FBGA adapter for AMD 41DL32xxMCP	\$386.10
SDP-49PDL64-73F	73 pin FBGA adapter for AMD Am49PDL640AG	\$386.10
SDP-6408-64F	uPGA adapter for Intel RD28F3208C3B/T,6408J3A	\$386.10
SDP-A128M-64E	64 pin EPGA adapter for AMD29LV640MH/L, 29LV128MH/L	\$415.80
SDP-A160-48F	FBGA adapter for AMD 29LV160 ((0.8mm pitch)	\$346.50
SDP-A256M-56TS	56 pin TSOP adapter for AMD 29LV256MH/L	\$237.60
SDP-A320-48F	48 pin uPGA adapter for AMD 29DL32X( 6x12mm	\$386.10
SDP-A320-63F	63 pin uPGA adapter for AMD29DL32X ( 8x14mm	\$386.10
SDP-A640-48F	FBGA adapter (0.8mm pitch) adapter for AMD 29DL640D	\$386.10
SDP-A642-64E	64 pin EPGA adapter for AMD29LV642D	\$415.80
SDP-A800-48F	FBGA adapter for AMD 29LV800 (0.8mm pitch)	\$386.10
<b>SDP-AT640-64E</b>	<b>64 PIN EPGA ADAPTER FOR ATMEL AT49BV640S/ST</b>	call
SDP-BL802-56SS	56 pin SSOP adapter for AMD 29BL802C/1602C	\$237.60
SDP-D641-52TS/W	52 pin TSOP adapter for MITSUBISHI M6MGT321S4TP, M6MGT641S8TP	\$247.50
SDP-EBGA-001	64 pin EPGA (1.0mm pitch) adapter for Intel 28F800/160/320F3/C3	\$415.80
SDP-EBGA-002	64 pin Easy BGA (1.0mm pitch) adapter for Intel 28F320/640/128J3A	\$415.80
SDP-EBGA-003	64 pin EPGA adapter for Intel 28F128J3C	\$415.80
SDP-F1316-64F	72 pin FBGA (0.8mm pitch) adapter for SHARP LRS1306/1316A	\$386.10
SDP-F160-56SS	56 pin SSOP adapter for Intel 28F160F3	\$237.60
SDP-F2108-56F	56 pin FBGA adapter for Fujitsu 84VD2108X MCP	\$386.10
SDP-F2228-56F	56 pin FBGA adapter for Fujitsu MB84VD22280/90FE	\$386.10
SDP-F2238-56F	56 pin FBGA adapter for Fujitsu MB84VD2238X/39X EF/J	\$386.10

SDP-F256-80F	80 ball VFBGA adapter for Intel RD28F256SJ3AM, RD28F192SJ3AM, RD28F128SJ3AM	\$386.10
SDP-F320-56SS	56 pin SSOP adapter for Intel 28F160/320S3/S5	\$237.60
SDP-F400-56TS	56 pin TSOP adapter for Intel 28F400/28F200	\$198.00
SDP-F554-96F	96 pin FBGA adapter for Fujitsu MB84VF5F5F4J2	\$386.10
SDP-i320-48U	48 pin uBGA adapter for Intel 28F320B3/C3, 28F160B3/C3 (0.75mm pitch)	\$386.10
SDP-i320-48VF	48 pin VFBGA adapter for Intel 28F320B3C, 28F320C3C, 28F160C3C	\$386.10
SDP-i640-48VF	48 ball VFBGA adapter for Intel GE28F640C3	\$386.10
SDP-M157-52TS/W	52 pin TSOP adapter for MITSUBISHI M5M29KE-157MT	\$247.50
SDP-MT322-48U	uBGA Adapter for Micron MT28F322P3FJ stack flash	call
SDP-S064J-56F	56 pin FBGA Adapter for S71PL032J/064J	\$386.10
SDP-S127J-56TS	56 pin TSOP adapter for SPASION 29PL127J	\$198.00
SDP-SDA555-52SD	52 pin SDIP adapter for Micronas SDA555XFL	\$178.20
<b>SDP-SL3208-64F</b>	<b>64PIN FBGA Adapter for Silicon7 SV4F3208UBA</b>	\$386.10
SDP-SSK5A3-56F	56 pin FBGA adapter for Samsung K5A3x80YT(B)	\$386.10
SDP-SST1621-56F	56 pin FBGA adapter for SST34HF1621/1601	\$386.10
SDP-SST800-48F	48 pin FBGA adapter for SST 39VF800/160	\$386.10
SDP-ST064-56TS	56 pin TSOP adapter for ST 58LW064A	\$237.60
SDP-ST160-48VF	48 pin VFBGA adapter for ST M28W160CT/B	\$386.10
SDP-ST320-48U	48 pin UBGA (0.75mm pitch) adapter for ST28W320CT	\$386.10
<b>SDP-ST320-48VF</b>	<b>48pin VFBGA Adapter for ST M28W320FST</b>	\$386.10
SDP-TH1282-48F	48 pin FBGA adapter for Toshiba TC581282AXB,58FYM6	\$386.10
SDP-TH2580-56F	56 pin FBGA adapter for TOSHIBA TH50VSF2580/1AASB	\$386.10
SDP-TH5782-60F	60 pin FBGA Adapter for TOSHIBA TH50VPF5782/83AASB	\$386.10