

**Milplex Circuits, Inc. - Equipment List**

**MILPLEX CIRCUITS, INC.**  
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**DRILLING AND FABRICATION**

<b>Item#</b>	<b>QTY.</b>	<b>DESCRIPTION</b>
1)	1	EXCELLON OPIC III PROGRAMMER WITH PRINTER PLOTTER
2)	4	EXCELLON MARK V DRILLER
3)	1	EXCELLON MARK VI DRILLER
4)	1	EXCELLON EX-300 DRILLER-ROUTER
5)	2	EXCELLON MARK V DRILLER-ROUTER
6)	1	CARBET AUTOMATIC PINNER-MODEL 502C
7)	2	TOOL SET ASSEMBLY
8)	1	CHICAGO 5 SPEED DRILL PRESS
9)	1	ENCO MANUAL PIN REMOVER
10)	1	MEGATOOL DIGITAL PASSMETER WITH ROLLER GUIDE SPINDLE
11)	2	MITUTOYO 12" DIAL CALIPERS
12)	2	MITUTOYO 1" MICROMETER
13)	1	BARNABY PANEL EDGE BEVELER
14)	1	J-DYECO INC BEVELER
15)	1	HOFFMAN VACUUM CLEANING SYSTEM 60 HP
16)	1	SPENCER VACUUM UNIT 10 HP
17)	1	ANITA SCORING MACHINE
18)	1	75 HP AIR COMPRESSOR
19)	1	40 HP AIR COMPRESSOR
20)	1	Fast Technology's Ultra-Server
21)	1	RADOLL DESIGNS MODEL 035 EDGE BEVELER

**SHEARING**

1)	2	WYSONG SEMI AUTOMATIC SHEARING MACHINE
2)	1	36" SHEAR
3)	1	DIARCO 6" TABNOTCHER
4)	2	ELCOMETER COPPER THICKNESS COMPARATOR

**TESTING**

1)	2	TRACE INSTRUMENT MODEL 948 ANALYZER (33152 TEST POINTS) UNIVERSAL GRID TESTING MACHINE WITH PRINTER, VIDEO DISPLAY
2)	1	TRACE INSTRUMENTS MODEL 924 TESTER
3)	1	SHAKER TABLE DB-5000
4)	1	HEWLETT PACKARD TOP CAT INSTRUMENT WITH VIDEO DISPLAY FOR INTERFACE WITH CUSTOMER DATABASE
5)	1	ORBOTECH 1450 AOI MACHINE
6)	1	MICROCRAFT EL61465 MOVING PROBE TESTER
7)	1	MICROCRAFT COMPUTERIZED REPAIR STATION
8)	1	EVERETT CHARLES KRYTERION 5052 UNIVERSAL GRID TESTER

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**MULTILAYER REGISTRATION**

1)	1	MULTITECH FILM PUNCH
2)	1	MULTITECH ACCU LINE INNER LAYER PUNCH
3)	3	MULTITECH REGISTRATION TABLE
4)	1	MULTITECH DEPINNER
5)	1	MULTITECH PREPREG PUNCH
6)	1	MULTILINE TECHNOLOGY SERIES 3000 OPTIC PUNCH

**LAMINATION**

1)	1	TMP VACUUM ASSIST, 4 OPENING LAMINATING PRESS
2)	2	WABASH 6 OPENING,AUTOLOADING,UNLOADING LAMINATING PRESS

**IMAGE**

1)	3	JAMES RIVER GRAPHIC-DRY AMMONIA DEVELOPER MODEL 6000
2)	2	NUARC-FLIPTOP PLATE MAKER
3)	2	PREMIER FILM CUTTER
4)	1	BYERS MICROMODIFIER #5000 FOR PRECISE IMAGE MODIFICATION
5)	2	BASF EXPOSURE SYSTEM (GLASS TO GLASS PIN REGISTRATION SYSTEM) 5K
6)	1	ASI850 DEVELOPER (AUTO REPLENISH)
7)	1	KHAN AREA CALCULATOR
8)	2	DYNACHEM MODEL 300 LAMINATOR
9)	2	LIGHT TABLE FOR ARTWORK INSPECTION
10)	1	KENMORE -70 WATER SOFTENER
11)	3	LIGHT TABLES
12)	1	BUDDY PRODUCTS FILM CUTTER WITH RULER
13)	1	COLIGHT 1330 EXPOSURE SYSTEM (DOUBLE DRAWER)5K
14)	1	COLIGHT 1630 8K EXPOSURE SYSTEM
15)	1	HTE-3000 EXPOSURE 3K
16)	1	AGFA DEVELOPER.
17)	1	WAND AUTO-LOADER
18)	2	HAKUTO MACH 500 CUT SHEET LAMINATOR
19)	1	ROCKFORD SYSTEM INC. FOIL SHEAR
20)	1	PAKO AUTO PRINTER
21)	1	CONCEPT- FILM STABILIZER
22)	2	WESTERN MAGNUM LAMINATOR MODEL 300
23)	1	SUN ULTRA 140 - GENESIS 1800 GERBER SERVER
24)	1	OPTOTECH IMAGE 5000 CAM STATION
25)	1	OPTOTECH IMAGE ES5000 CAM STATION
26)	1	GERBER CRESCENT 40 LASER PLOTTER WITH ESCORT FILM HANDLER
27)	1	ANITA PANEL ACCUMULATOR, D1202
28)	2	MULTILINE REGISTRATION PINNING TABLES
29)	3	X-PERT 1700 CAM STATION( 3 SEATS)
30)	7	ANITA AUTOMATION AUTOMATIC FEEDERS

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**HOT AIR LEVEL SOLDER COATING**

- 1) 1 ARGUS INT. HAL 5124, VERTIVAL SOLDER COATER
- 2) 4 ANITA AUTO FEEDER A-2200
- 3) 5 ANITA AUTO STACKER A-230
- 4) 1 H07A FLUXER
- 5) 1 ANITA, CHEMICAL CLEAN LINE
- 6) 1 ANITA POST CLEAN LINE

**NICKEL-GOLD PLATING LINE**

- 1) 1 COMPLETE NICKEL GOLD PLATING LINE
- 2) 1 SELECTRON RECTIFIER 0-3,0-30 DC FOR GOLD
- 3) 1 SELECTRON RECTIFIER 0-50 DC VOLTS FOR GOLD
- 4) 1 DEC RECTIFIER 0-50 DC FOR NICKEL
- 5) 1 DEC RECTIFIER 0-15 DC FOR NICKEL
- 6) 1 COMAC BRUSH MOTOR FOR MECHANICAL ABRASIVE CLEANING OF TABS
- 7) 1 CMC TAPE QUASHER 4200
- 8) 1 WESTERN MAGNUM GOLD TAPE-TAPING SYST

**QUALITY ASSURANCE**

- 1) 4 MEYER PLUG GAUGE SET 0.011-0.060
- 2) 2 MEYER PLUG GAUGE SET 0.061-0.250
- 3) 1 MEYER PLUG GAUGE SET 0.251-0.500
- 4) 3 MITUTOYO 12" DIAL CALIPER
- 5) 1 CRAFTSMAN 6" DIAL CALIPER
- 6) 1 MITUTOYO 1" MICROMETER
- 7) 1 FUJI TOOL RADIUS GAUGE SET
- 8) 1 UNITEK CIRCUIT WELDER
- 9) 1 NIKON MICROSCOPE
- 10) 1 COMPLETE MICROSECTION EQUIPMENT FROM BUEHLER SURMET I, HAND GRINDER, ISOMET SPEED SAW, MINIMET POLISHER
- 11) 1 CAVIDERM BY UPA TECHNOLOGY INC. (THRU HOLE PLATING MEASUREMENT)
- 12) 1 MAGNAFLUX COATING MEASUREMENT/BETA-MINI 400 FOR NICKEL-GOLD THICKNESS.
- 13) 1 CECO-MAGNIFIER
- 14) 6 SOLDER IRONS
- 15) 6 LIGHT TABLES
- 16) 8 MAGNIFIERS WITH LIGHT
- 17) 1 FISHER HIGH TEMP BATH-MODEL 160
- 18) 1 OMEGAMETER II, KENCO FOR IONIC CONTAMINATION.
- 19) 1 VISION MICROSCOPE, DUAL SUPPLY UNIT
- 20) 1 BAUSCH & LOMB, SPECTRONIC 20
- 21) 1 KOCOUR CO. HULL-CELL UNIT

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**QUALITY ASSURANCE** - continued

22)	1	ORION PH METER, MODEL 420A
23)	2	BAUSCH & LOMB MAGNIFIER 3X
24)	1	ROPER-WHITNEY CROSS SECTION PUNCH
25)	1	OHAUS GA110 SCALE
26)	1	GRALAB 500 AUTO TIMER
27)	1	FISHER PH METER MODEL 600
28)	1	START, TIP CLEANER MODEL SPS-1
29)	1	BUCK 200, SPECTROPHOTOMETER

**SCREENING and LIQUID PHOTOIMAGABLE SOLDERMASK**

1)	1	ANITA SCRUBBER
2)	3	SCREENING TABLES
3)	1	BLUE M BATCH OVEN
4)	1	GRIEVE BATCH OVEN
5)	2	POWER WASHER FOR SCREEN DEVELOPING
6)	1	LIGHT TABLE FOR SCREEN INSPECTION
7)	1	NUARC FLIP TOP VACUUM EXPOSURE SYSTEM
8)	1	COLIGHT UV CURING SYSTEM 3 LAMP MODEL 24
9)	1	SVECIA MILTRONICS 24"x24" LEVER AUTOMATIC, HIGH SPEED PRINTING PRESS
10)	1	AMERICAN MANUAL SQUEEGEE SHARPENER
11)	1	TETKO TENSION METER FOR SCREEN TENSION MEASUREMENT
12)	1	GYREX (GYRACOAT 2000) LPI S/M SPRAY COATER
13)	1	CIRCUIT AUTOMATION DP1000 LPI COATER
14)	1	IS PUMICE SCRUBBER WITH FILTER SYSTEM
15)	1	THERMOMATIC 2.0 CONVERISED OVEN
16)	1	ANITA AUTO LOADER A2205
17)	1	ANITA AUTO STACKER A2300

**PLATING - ETCHING - STRIPPING - REFLOW**

1)	1	SUPER SANDER RYOBI LIMITED- SV6200
2)	1	ASI SCRUBBER/DEBURR UNIT #750
3)	2	1630 COLIGHT 8K PRINTER EXPOSURE UNIT
4)	1	CIRCUIT AUTOMATION ISO TAK DRY TUNNEL OVEN
5)	1	CHEMCUT DRYER
6)	1	ASI 750 ETCHER (AUTO REPLENISH) WITH NEUTRALIZER & DRYER
7)	1	CHEMCUT CS 810-24 SOLDER/TIN STRIPPER
8)	1	BATCH OVEN
9)	1	DONG FANG DEVELOPER WITH DRYER
10)	1	COMPLETE CUSTOM PLATED THRULINE INCLUDING DESMEAR LINE & BROWN OXIDE LINE
11)	1	L.P.I. INK MIXER
12)	2	LINE UP TABLE (LIGHT TABLE)
13)	4	SERFILCO SPACE SAVER FILTERS
14)	1	ASI 850 DRYER
15)	1	ASI 650 SCRUBBER
16)	2	FISHER ACCUMET PH METER 600

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**PLATING - ETCHING - STRIPPING - REFLOW** - continued

- 17) 14 ALDONEX RECTIFIERS WITH DUAL AMP/HR METER 500 -  
2000 AMPS
- 18) 1 RAPID ELECTRIC RECTIFIER 1000 AMPS
- 19) 1 SOMACA SCRUBBER
- 20) 1 EIDSCHUN SEMI AUTOMATIC PLATING LINE (COPPER, TIN)
- 21) 1 DONG FANG SEMI AUTOMATIC PLATING LINE (COPPER,TIN)
- 22) 1 QUINCY OVEN
- 23) 1 PROHECO BATCH OVEN
- 24) 2 5000 GALLON BULK STORAGE LIQUID AMMONIA
- 25) 1 HAYWARD VERI-FLOW FILTER, 125 Gauge
- 26) 1 PTX-200 COPPER THICKNESS GAUGE
- 27) 3 HAYWARD VERI-FLOW FILTER, 60 GPM.
- 28) 1 CHEMCUT MODEL NO. M905 AUTO STACKER
- 29) 1 ASI CHEMICAL CLEAN LINE
- 30) 1 FINISHING SERVICES LIMITED SHADOW LINE C-24
- 31) 1 ANITA AUTO FEEDER A-2200
- 32) 1 ANITA AUTO STACKER A-2300
- 33) 1 CHEMCUT MODEL M905 AUTO STACKER
- 34) 1 CMI PLATING THICKNESS TESTER
- 35) 1 DONG FANG DEBURER
- 36) 1 ANITA PLATING RESIST STRIPPER
- 37) 1 DONG FANG ROBOTIC MULTILAYER LINE (DESMEAR, OXIDE)
- 38) 1 DONG FANG ROBOTIC ELECTROLESS COPPER LINE
- 39) 1 DONG FANG DECONTAMINATION CLEANING PROCESS LINE

**ENVIRONMENTAL**

- 1) 1 TRIONETICS INC. - WASTE TREATMENT UNIT WITH HERSEY  
FLOW METER
- 2) 1 TRIONETICS ROTA-CAT
- 3) 3 FUME SCRUBBER, HNS-2000 CFM
- 4) 1 SIGMA AUTOSAMPLER WITH 24 HRS. PROGRAM MODE CYCLE.

**OFFICE**

- 1) 1 MICRON SERVER (NETFRAME 5200) - PROGRAM
- 2) 2 MICRON SERVER (NETFRAME 2101) - FILES
- 3) 25 MICRON CLIENT PRO PENTIUM WORK STATIONS
- 4) 1 AIMS v. 5.1(ADVANCED INTEGRATED MANUFACTURING  
SOFTWARE)FOR PRINTED CIRCUIT MANUFACTURING
- 5) 2 PANASONIC JETWRITER II TYPEWRITER
- 6) 1 HP LASERJET IV LASER PRINTER
- 7) 1 HP LASERJET HP 8000N
- 8) 1 HP LASERJET HP 4000N
- 9) 1 HP 5SI PRINTER
- 10) 1 CANON FAX-L785
- 11) MERIDIAN DIGITAL PHONE SYSTEM FROM NORSTAR
- 12) BAR CODE, FOR REAL TIME UPDATE
- 13) 1 SHARP AR-280 DIGITAL IMAGER (COPIER)
- 14) 50 APC PRO 1500 BATTERY BACKUP POWER SUPPLIES

**PACKAGING / SHIPPING**

- 1) PELOUZE P250, 250 LBS SCALE
- 2) 1 CHRISTOPHER ASSOCIATES VACUUM PACKAGING (SP2430)
- 3) 1 MITSUBISHI FORKLIFT TRUCK (PROPANE)
- 4) 1 CLARK FORK TRUCK (BATTERY)