Сегодня и в последующих номерах журнала мы будем знакомить вас с предложениями иностранных фирм о продаже лицензий в различных областях электроники. Надеемся, что такая информация поможет вам яснее представить ситуацию в этом секторе международного рынка лицензий.

DIRECT LASER WRITING TO CREATE CIRCUITRY, HYBRIDS OR CIRCUIT BOARDS BY A DRY ADDITIVE METHOD AND WITHOUT ETCHING

Licensor: IC0914
Description: The Direct Laser Writing technology is a dry additive process. Circuitry is written directly on to a substrate from a CAD/CAM data-base. No artwork needs to be generated.A circuit board is manufactured by applying a film of heat actuable adhesive to a substrate and depositing on the film a layer of conductive powder. The powder and film are then fused by laser radiation to define the circuitry. The excess unfused powder is then removed and can be reused. Three dimensional surfaces can also be used. By using micron and sub-micron sized powder, circuit lines and spacings of 25 microns and less can be directly written.
Main Use: Applications include any area where electronic circuitry or interconnects need to be manufactured. These include I.C.'s, hybrid devices or printed circuit boards.
Main Advantages: Finer circuit lines and spacings can be created than using current methods. Artwork does not need to be generated saving cost and time. Environmental costs are nearly zero when compared to the current wet chemical substractive methods. This new process is far easier to control giving higher product yields. The process has less steps saving time and delivery.
Degree of Development: Plans Only
Economic Data Available: Yes
Know-How Available: Yes
Type of License Sought: Optional, Joint Venture
Secrecy Agreement Required: No
Patent No:USA 4 710 253
This technology is available for license as follows: AUSTRALIA 2, AUSTRIA 2, CANADA 2, EUROPE 2, FINLAND 2, INDIA 2, INDONESIA 2, ISRAEL 2, JAPAN 2, KOREA 2, MALAYSIA 2, MEXICO 2, NORWAY 2, PHILLIPINES 2, PORTUGAL 2, SINGAPORE 2, SPAIN 2, SWITZERLAND 2, USA 1 2.
(Key to above codes is as follows: 1-Patent Protection, 2-Available for License, 3-Licensed and/or Commercialized)

DIRECT ELECTROSTATIC TRANSFER PROCESS IS USED TO CREATE CIRCUITRY, HYBRIDS OR CIRCUIT BOARDS BY A DRY ADDITIVE METHOD

Licensor: IC0914
Description: This technology uses principles which are well understood in the photocopying field. A master pattern is created by direct laser writing. The pattern layer receives an electrostatic charge. The master pattern is contacted by a developer containing a conductive material in the form of a powder or ink which is transferred to the pattern. A substrate is then brought to a position closely adjacent to the master pattern and electrostatic force is used to deposit the particles on to the substrate to accurately define the circuitry. The particles are fixed by heating. Multiple layer circuit boards can be created. Fine circuit lines are made using sub-micron sized powders.
Main Use: Applications include any area where electronic circuitry or interconnects need to be manufactured. These include I.C.'s, hybrid devices or printed circuit boards.
Main Advantages: Fine circuit lines and spacings can be created than using current ethods. Artwork is easier to generate and is more permanent. Environmental costs are nearly zero when compared to the current wet chemical subtractive methods. This new process is far easier to control giving higher product yields. The process also has less steps saving time and delivery.
Degree of Development: Plans Only
Economic Data Available: Yes
Know-How Available: Yes
Type of License Sought: **Optional, Joint Venture**
Secrecy Agreement Required: No
Patent No: USA 4,698,907
This technology is available for license as follows: AUSTRALIA 2, AUSTRIA 2, CANADA 2, EUROPE 2, FINLAND 2, INDIA 2, INDONESIA 2, ISRAEL 2, JAPAN 2, KOREA 2, MALAYSIA 2, MEXICO 2, NORWAY 2, PHILLIPINES 2, PORTUGAL 2, SINGAPORE 2, SPAIN 2, SWITZERLAND 2, USA 1 2.

THICK FILM CIRCUITS - (1742 Belgium Tech.)

Licensor: IC0209
Description: A complete line of high quality thick film hybrids and surface mounted assemblies is offered. These circuits offer better performance at high frequencies and high switching speeds, and even complex circuits can be manufactured in small quantities. Multi-layer and through plated holes are widely used when interconnections must be as short as possible. Drilling and scribing is done by CO2 laser. Hand and automatic wire bonding with gold or aluminium are possible.
Main Use: Telecommunications; Industrial electronics; Automotive; Military.
Main Advantages:
- Specialist of active trimming to assure the highest quality;
- Computer aided design ensures the highest precision and makes direct laser

plotting possible for screen production;
- Higher shock resistance, less development time, higher thermal conductivity and overall stability are inherent for this technology.

Degree of Development: Production
Economic Data Available: N/A
Know-How Available: N/A
Type of License Sought: Optional
Secrecy Agreement Required: N/A
Patent No:
This technology is available for license as follows: WORLD-WIDE 2

GH SPEED OPTICALLY CONTROLLED SAMPLING SYSTEM

Licensor: AA4726
Description: A number of high-frequency signal sources,such as a number of receiving antennas, have their information content extracted by an optoelectronic synchronous sampling system. A laser provides pulses of proper frequency and duration, and feeds them to a fiberoptic bundle. In one embodiment,the fibers are lengthened to be simultaneously actuated. Otherwise, each ofthefibers in the bundle has a different length so that light emanating from their distal ends appears as a delayed series of actuating light pulses. Phase shifters, pressure, or electric field effects can effect delay and consequent beam-forming. Optoelectronic switches are disposed adjacent the distal ends so that the delayed series of actuating pulses actuates the switches in a synchronous sequence to samplethe high-frequency signals received by each of the antennas. Interconnected analog-to-digital and processing circuitry conditions the synchronously received samples for further use. The discrete delays assured by the different lengths of the optical fibers and the optoelectronic switches enable responsive ynchronous sampling ofthe number of high-frequency sources to extract their information content. Neither EMI nor RFI are generated. This can effectively operate in a high-noise environment.
Degree of Development: Lab or Prototype
Economic Data Available: No
Know-How Available: Yes
Type of License Sought: Optional
Secrecy Agreement Required: No
Patent No: USA4 546 249
This technology is available for license as follows: WORLD-WIDE 2, USA 1-2.

OPTICAL RADIATION TO VOLTAGE CONVERTER

Licensor: AA1761
Description: A new optoelectronic phenomenon has been observed in Y1Ba2Cu3O7 thin films at room temperature. When a thin film is illuminated with either the fundamental or first harmonic pulse of a YAG laser, a voltage appears across the film. The rise time of the pulse is about 3ns and the decay time about 50 ns. The peak height of the voltage is about 0.8V when the intensity at the film is 20mJ/cm2. The peak voltage is proportional to the laser pulse energy in the range 0.1 mJ/cm2 to 40mJ/cm2. The voltage is wavelength independent between 1064 and 355nm. Film size used in these experiments is 8mm by 3mm, but there is no reason that the phenomenon would not exist for much smaller films. Masking experiments have determined that the voltage is a bulk effect independent of th contact-film interface. Other experiments, including radiation from the back, have determined that this is not simle thermal phenomenon.
Main Use: Switching in optoelectronics circuitry, laser calibrations, electromagnetic radiation detectors, composite memory devices.
Main Advantages: The phenomenon described above opens the possibility of a new method of direct converstion of electromagnetic radiation to electrical energy.
Degree of Development: Lab or Prototype
Economic Data Available: N/A
Know-How Available: Yes
Type of License Sought: Optional
Secrecy Agreement Required: N/A
This technology is available for license as follows: WORLD-WIDE 2.

METHOD FOR INTEGRATING LIGHT MODULATORS AND SILICON INTEGRATED CIRCUITS ON A COMMON ELECTRO-OPTIC SUBSTRATE (90-213)

Licensor: AA2910
Decription: A method for the monolithic integration of detectors, electro-optic light modulators, and silicon integrated circuits on an electro-optic substrate. The method uses two novel techniques: (1) seedless laserrecrystallization of polysilicon on top of an electro-optic substrate, and (2) low-temperature (below 860 degr. C) CMOS processing for sili- con integrated circuits. In addition, the method uses light modulators which are much faster and much more compact than the present liquid crystal or microchannel light modulators. The invention offers the potential of producing smart spatial light modulators that can be used to combine the computational power of silicon circuits with the communication capacity of free space optical interconnects. Applications are in the areas such as image processing, neural computing, and digital computing.
Degree of Development: Lab or Prototype
Economic Data Available: N/A
Know-How Available: Yes
Type of License Sought: Optional
Secrecy Agreement Required: N/A
This technology is available for license as follows: WORLD-WIDE 2.

INTEGRATED CIRCUIT REPAIR DEVICE ELE-O-F-010

Licensor: V3474
Description: Chemical vapor deposition and laser cutting equipment for IC's.
Main Use: For application specific integrated circuits, il allows to debug design

errors or to repair a small quantity of chips.
Main Advantages: Saves one or more redesign or production runs; this allows the production to be ready 1 - 3 months earlier for a full custom/ C delivery.
Degree of Development: Production
Economic Data Available: N/A
Know-How Available: Yes
Type of License Sought: Optional
Secrecy Agreement Required: N/A
This technology is available for license as follows: WORLD-WIDE 2.

NONLINEAR OPTICAL POLYMERS

Licensor: AA4757
Description: We have developed several nonlinear optical polymers that offer lower cost and higher performance in fiber-optics, avionics, and photonics applications. Development of NLOPs has been under way since 1988, and extensive progress has been made in the synthesis and characterization of these materials. Conventional nonlinear optical crystals (such as lithium niobate) are brittle, not easily integrated with silicon or GaAs structures, and are expensive to produce. NLOPs, however, are largely compatible with silicon processing and are easily spin-coated to produce thin films for waveguiding. We propose a program to use excimer laser processing to produce integrated EO devices such as a fiber-op[tic gyroscope chip. We are also developing NLOPs intended for Langmuir-Blodgett processing, which, because of the unsurpassed film-thickness control possible with that process, could result in even greater performance. Six classes of NLOP compositions are available.

Main Use: NLOPs can be used in high-speed fiber-optic switches and modulators. They can also provide protection against frequency-agile lasers, serve as diode-laser frequency doublers, and can be used in integrated electro-optic (EO) devices (e.g., as optical interconnects) thereby reducing size and heat duty for high-speed hybrid computers. NLOP waveguides can be patterned, etched, and cladded with existing integrated-circuit manufacturing processes.

Main Advantages: When compared to currently used materials, NLOPs offer an impressive range of properties including lower dielectric constant, higher EO coefficients, physical toughness, stability, and flexibility in design and manufacture.

Degree of Development: Lab or Prototype
Economic Data Available: N/A
Know-How Available: Yes
Type of License Sought: Optional
Secrecy Agreement Required: N/A
This technology is available for license as fol lows: WORLDWIDE 2, USA 1.

LIGHT INITIATED HIGH POWER ELECTRONIC SWITCH 2127

Licensor: AA3092
Description: This is a new type of high voltage and high current switch that is similar in some respect to thratrons and psuedosparks, but differs in that the conductive phase is initiated by light incident.
Main Use: This is a switch that may be useful in many application where the limitations of thyratron switches are exceeded. These applications include excimer lasers, radar, microwave source switching, particle accelerators, gyratrons, free electron lasers, generating types of plasma and relativistic magnetrons.
Main Advantages: The switch had many novel features. 1) Since switching is initiated by light incident it has eliminated need for a control grid, simplifies the structure of the switch and minimizes the damage to the surface of the cathode. 2) Light can be generated from external sources which allows for complete electrical, mechanical and thermal isolation of the triggering circuit from the main body of the switch. 3) Various light sources can be used.
Degree of Development: Lab or Prototype
Economic Data Available: N/A
Know-How Available: Yes
Type of License Sought: Optional
Secrecy Agreement Required: Yes
Patent No: USA 4,771,168
This technology is available for license as follows: WORLD-WIDE 2, USA 1.

OPTOELECTRONIC INTEGRATED CIRCUIT MULTIPLEXER

Licensor: AA4726
Description: An apparatus and method for improving VLSI and VHSIC system data transmission relies on a plurality of optoelectronic switches actuated by pulses from at least one light source, a laser. Differing lengths of optical fibers couple the pulsed light from the laser at different times to create a sequence of actuation light pulses for the plurality of optoelectronic switches each time the light source is pulsed. Thus, the information appearing at a plurality of parallel data nodes is converted to serial form at an output bonding pad on th chip. Optionally, a similar pulsing of electrooptic switches coupled to an input bonding pad converts serial data to parallel form. Faster input and output switching times are provided, reliability and complexity are reduced, particularly as compared to off-chip coupling arrangements, and power consumption and dissipation are reduced.
Degree of Development: Lab or Prototype
Economic Data Available: N/A
Know-How Available: Yes
Type of License Sought: Optional
Secrecy Agreement Required: No
Patent No: USA 4 718 063
This technology is available for license as follows: WORLD-WIDE 2, USA 1.