

Recent IBM Patents

The following patents were recently issued by the countries in which the inventions were made.

France

6,915,338 Data Transmission System *M. F. Choquet*

Sweden

0,337,717 Measuring of Production Information in Discrete Manufacturing *E. P. Mårtensson*

Switzerland

0,515,659 Controllable Electronic Switch with a Field-effect Semiconductor Element .. *K. E. Drangeid and P. Vettiger*

United Kingdom

1,238,161 Data Processing Apparatus *J. A. Arulpragasam, D. C. Binks,
J. J. Holmes, J. F. Minshull,
M. C. Pinnell, and C. Williams*
1,238,162 Data Processing Systems *J. A. Arulpragasam, J. F. Minshull,
M. C. Pinnell, H. W. Tuffill,
and C. Williams*
1,240,978 Data Processing Systems *M. C. Pinnell and R. B. Talmadge*
1,240,434 Data Storage Apparatus *P. C. Austin*

United States

3,616,942 Selective Chip Pickup Apparatus for Multiple Feed Bowls *L. W. Gruber*
3,616,979 Hydraulic Stepping Mechanism for Forms Feeding *S. C. Titcomb*
3,617,134 Optical Image Frame Coordinate Data Determining System *D. I. Frush and A. D. Rizzi*
3,617,378 Magnetic Recording Media *C. K. Beck*
3,617,398 A Process for Fabricating Semiconductor Devices having Compensated Barrier Zones Between NP-Junctions *O. Bilous, D. R. Meulemans,
R. P. Pecorado, and M. C. Selby*
3,617,411 Process for Etching a Pattern of Closely Spaced Conducting Lines in an Integrated Circuit *R. A. Couture, J. J. Lajza, Jr.,
and W. E. Wright*
3,617,459 RF Sputtering Method and Apparatus for Producing Insulating Films of Varied Physical Properties *J. S. Logan*
3,617,463 Apparatus and Method for Sputter Etching *L. V. Gregor, L. I. Maissel,
and C. L. Standley*
3,617,648 Magnetic Copying Apparatus with Inertia Control Feature *W. F. Irving and W. F. Klein*
3,617,660 Keyboard Actuating Mechanism for Diaphragm Electric Switch Contact Array *M. Krakinowski*
3,617,770 Sensing Circuit having Regenerative Latching Circuits Responsive to Threshold Differences in Biasing Voltages derived from a Pair of Differentially Variable Currents *D. E. Norton and J. A. Lake, Jr.*
3,617,772 Sense Amplifier/Bit Driver for a Memory Cell *K. G. Tertel*
3,617,774 Automatic Phase Control Circuit *W. G. Crouse*
3,617,816 Composite Metallurgy Stripe for Semiconductor Devices *J. Riseman and P. A. Totta*
3,617,914 Monolithic Constant Voltage Source *J. A. Dorler and R. Robertaccio*
3,617,952 Stepped-impedance Directional Coupler *E. E. Beech*
3,618,016 Character Recognition using Mask Integrating Recognition Logic *H. Van Steenis*
3,618,018 Unformatted Scanning in a Character-recognition System *D. L. Johnston and P. E. Nelson*
3,618,028 Local Storage Facility *A. M. Johnson and
L. D. Youngblood*
3,618,032 Automatic Data Composing, Editing and Formatting System *P. E. Goldsberry and
J. W. Simpson*
3,618,735 Spherical Type Element Support *C. D. Bleau*
3,618,736 Variable Force Impact Printer with Backspace Mechanism *W. A. Abell, Jr., C. M. Isaacs,
and J. B. O'Daniel*
3,618,738 Vertical Paper Feed for a Drafting Typewriter *R. G. Boyatt and G. T. Williams*
3,618,867 Toner Replenisher Device *R. A. Berlier and D. T. McCrory*
3,618,869 Servoing Mechanism for Improved Typewriter Ribbon Spooling *D. R. Cialone, C. E. Herrick,
and G. T. Slaughter*
3,619,022 Method of Making an Object Dependent Diffuser *P. M. Hirsch, J. A. Jordan, Jr.,
and L. B. Lesem*
3,619,282 Method for Vapor Growing Ternary Compounds *G. W. Manley, P. S. McDermott,
E. S. Pan, and R. J. Riley*
3,619,283 Method for Epitaxially Growing Thin Films *D. R. Carpenter, G. W. Manley,
P. S. McDermott, and R. J. Riley*

3,619,501	Multiphase Modulated Transmission Encoder	H. J. Nussbaumer
3,619,502	Process for Directly Generating a Data Representing Signal having Its Main Components in One Frequency Octave	A. Croisier and H. J. Nussbaumer
3,619,504	Directional Nonreturn to Zero Computer Bussing System	J. A. De Veer and H. H. Nick
3,619,507	Transmit Only Acoustic Coupler	P. B. Metz
3,619,735	Integrated Circuit with Buried Decoupling Capacitor	C. Y. Chen, V. A. Dhaka, and W. F. Krolkowski
3,619,737	Planar Junction-gate Field-effect Transistors	T.-L. Chiu
3,620,344	Selection System for a Dual-element Typewriter	D. E. Clancy and J. B. O'Daniel
3,620,430	Constant Mass Flow Pressurized Air Bearing	G. W. Baumann, R. E. Norwood, and W. J. Rueger
3,620,478	Tape Reel Cover Assembly with Three-position Integral Hinge Mechanism	R. J. Fitzgerald, R. R. Jacobsen, and W. J. Rueger
3,620,617	Electrophotographic Apparatus with Improved Toner Transfer	M. J. Kelly and M. F. Shlatz
3,620,837	Reliability of Aluminum and Aluminum Alloy Lands	J. Leff and A. A. Roberts
3,620,841	Process for Making Continuous Magnetite Films	R. L. Comstock and E. B. Moore
3,621,153	Magnetic Read/Write Head with Partial Gap and Method of Making	J. W. Wenner
3,621,213	Programmed Digital-computer-controlled System for Automatic Growth of Semiconductor Crystals	D. P. Jen, R. A. Slocum, and C. R. Valentino
3,621,216	Linear Interpolator	D. Wortzman
3,621,279	High-density Dynamic Shift Register	T.-S. Jen, W. D. Pricer, and N. G. Vogl, Jr.
3,621,301	Threshold-responsive Regenerative Latching Circuit	J. J. Tomczak
3,621,302	Monolithic-integrated Semiconductor Array having Reduced Power Consumption	W. D. Pricer
3,621,346	Process for Forming Semiconductor Devices with Polycrystalline Diffusion Pathways and Devices Formed Thereby	J. J. Chang and M. B. Vora
3,621,389	Frequency Domain Analyzer using Variable-rate Time Compression	J. T. Murray
3,622,315	Photoerasable Scan Converter	J. W. Brookman, J. B. Murphy, and Z. D. Reynolds
3,622,382	Semiconductor Isolation Structure and Method of Producing	K. Brack, E. F. Gorey, and G. H. Schwutke
3,622,469	Method for Edge-plating Coupled Film Devices	G. S. Alberts and J. M. Brownlow
3,622,767	Adaptive Control System and Method	R. W. Koepcke
3,622,793	Fiber Optic Light Transmitting Assembly Compensating for Shadows	J. J. Dalton and G. P. Taylor
3,622,842	Semiconductor Device having High Switching Speed and Method of Making	A. S. Oberai
3,622,883	Pulsed Current Transistor Beta Tester having Feedback to Maintain Emitter to Collector Current Constant	K. E. Haire
3,622,894	Predetection Signal Compensation	R. F. Heidecker and R. G. Laatt
3,622,932	Self-restoring Thermal Switch with Means for Indicating Previous Overtemperature Condition	P. J. Cunavelis, E. J. Distefano, and D. L. Osterhoudt, Jr.
3,622,982	Method and Apparatus for Triple Error Correction	B. S. Clark, Jr. and A. H. Frey, Jr.
3,622,984	Error Correcting System and Method	H. P. Eastman
3,622,985	Optimum Error-correcting Code Device for Parallel-serial Transmissions in Shortened Cyclic Codes	J. K. Ayling and H.-T. Lee
3,622,986	Error-detecting Technique for Multilevel Precoded Transmission	D. T. Tang and H. Kobayashi
3,623,004	Buffering and Transferring Signals	J. W. Irwin
3,623,012	Accounting System with Program by Example Facilities	D. E. Lowry and W. L. McDonald
3,623,016	Electronic Keyboard	V. D. Winkler
3,623,018	Mechanism for Searching for Selected Records in Random Access Storage Devices of a Data Processing System	J. R. Evans and J. W. Roossien
3,623,022	Multiplexing System for Interleaving Operations of a Processing Unit	R. C. Day
3,623,029	Bistable Multi-emitter Silicon-controlled Rectifier Storage Cell	E. E. Davidson
3,623,041	Method and Apparatus for Encoding and Decoding Digital Data	D. L. MacDougall, Jr.
3,623,068	Serving Display Functions by Means of Coded Space Information	T. B. Horgan, L. G. Mosher, C. E. Mullery, and C. E. Newcomb
3,623,069	Multiplex Character Generator	A. E. Malden
3,623,074	Digital Data Recovery by Wavelength Interpretation	D. L. Bailey
3,623,155	Optimum Apparatus and Method for Check Bit Generation and Error Detection, Location and Correction	M.-Y. Hsiao and E. Kolankowsky
3,623,158	Data Processing System Including Nonassociative Data Store and Associative Working and Address Stores	R. J. Llewelyn and J. F. Minshall
3,623,220	Method of Making a Tubular Printed Circuit Armature using Plating Techniques	G. G. Chase and J. E. Parker
3,623,386	High Throughput On-the-fly Card Cutting Apparatus	P. S. Bach and E. R. Clark
3,623,427	Rotating Type Carrier with Shiftable Hammer Carrier	G. Buehrmann and G. H. Schacht
3,623,493	Method and System for Operating Fluid Logic Devices	M. A. Hunter and R. E. Languell
3,623,735	Dictating and Transcribing Apparatus with Automatic and Semiautomatic Operator-controlled Facilities	C. M. Fackler, F. W. Johnson, and B. F. Wehmer

3,623,775	Loading and Unloading an Endless Web in a Cartridge	<i>P. J. Arseneault, L. B. Feierabend, W. R. Goltz, O. R. Luhrs, and J. T. Smith</i>
3,623,818	Measurement of Carrier Concentration of Semiconductor Material	<i>E. E. Gardner, W. A. Keenan, and P. A. Schumann, Jr.</i>
3,623,923	Junction Transistor using a Thin Layer of Semiconductor Material of a Diffusion-proof Substrate	<i>D. P. Kennedy, J. A. Perri, and J. Riseman</i>
3,624,338	Electrical Discharge Machining Pulse-polarity-reversing Control	<i>R. E. Ellis and H. O. Winters</i>
3,624,637	Digital Code to Digital Code Conversions	<i>J. W. Irwin</i>
3,625,334	Apparatus for Erasing Typewriter Tape	<i>K. Y. Ahn</i>
3,625,384	Article-handling Apparatus	<i>F. E. Boerger, C. Nuccio, and C. A. Rosboschil</i>
3,625,457	Reel-feed Tape Drive with Velocity Compensation	<i>J. A. Weidenhammer</i>
3,625,583	Erasable Hologram	<i>G. T. Fan and J. H. Greiner</i>
3,625,590	Optical Circulator and Energy Converter	<i>M. A. Habegger</i>
3,625,591	Liquid Crystal Display Element	<i>M. J. Freiser and I. Haller</i>
3,625,594	Electric Field Gradient Beam Deflector	<i>C. Lanza</i>
3,625,598	Light Beam Deflector	<i>B. R. Brown, K. Sanders, L. F. Shew, and H. J. Zweig</i>
3,625,600	Acoustic Light Deflection Method	<i>S. H. Rowe</i>
3,625,781	Method of Reducing Carrier Lifetime in Semiconductor Structures	<i>M. L. Joshi, B. J. Masters, O. R. Viva, and T.-H. Yeh</i>
3,625,849	Manufacture of Magnetic Medium	<i>D. R. Rogalla</i>
3,626,084	Deformographic Storage Display Tube	<i>R. J. Wohl, F. A. Hawn, and H. C. Medley</i>
3,626,092	Video Amplifier for Optical Scanners	<i>M. G. Wilson</i>
3,626,096	Microphone for Digital Speech Transmission	<i>W. K. von Muench and E. H. Rothauser</i>
3,626,157	Field-effect Perforated Media Reader	<i>W. R. Smith and N. L. Walters</i>
3,626,160	Magnetic Record Sensing Device	<i>J. J. Hagopian</i>
3,626,257	Semiconductor Device with Superlattice Region	<i>L. Esaki, R. Ludeke, and R. Tsu</i>
3,626,317	Digitalized Scanlaser	<i>M. L. Dakss, R. L. Garwin, and R. V. Pole</i>
3,626,320	Image Display Apparatus	<i>R. L. Garwin and R. V. Pole</i>
3,626,321	Optical Scanner and Method for Optical Scanning	<i>A. W. Smith</i>
3,626,324	Volume Reflector for Laser Cavities	<i>E. G. Lean and R. A. Myers</i>
3,626,328	Semiconductor Bulk Oscillator	<i>L. Esaki, W. E. Howard, Jr., and R. Tsu</i>
3,626,334	Electrically Variable Acoustic Delay Line	<i>R. W. Keyes</i>
3,626,376	Skewing Circuit for Memory	<i>L. B. Anderson, R. S. Capowski, G. C. Hiatt, and J. H. Miller</i>
3,626,381	Pattern Recognition using An Associative Store	<i>A. Dubinsky and P. J. Titman</i>
3,626,384	Method for Representing Measured Data Values by Coefficient Values	<i>J. B. Davis, N. P. Edwards, and H. H. Herd</i>
3,626,385	Time-shared Numerical Control System	<i>G. H. Bouman</i>
3,626,387	FET Storage-threshold Voltage Changed by Irradiation	<i>L. M. Terman</i>
3,626,390	Minimemory Cell with Epitaxial Layer Resistors and Diode Isolation	<i>J. J. Chang, I. T. Ho, N. G. Vogl, Jr., and B. P. F. Wu</i>
3,626,391	Josephson Tunneling Memory Array Including Drive Decoders Therefor ..	<i>W. Anacker</i>
3,626,396	Thin-film Magnetic Recording Head	<i>D. E. Eastman and G. J. Fan</i>
3,626,407	Circuits for Conversion between Analog and Digital Representations of Data	<i>K. E. Drangeid and A. Moser</i>
3,626,409	Keyboard Data Entry Device	<i>R. M. Hill and L. D. Lewis</i>
3,626,427	Large-scale Data Processing System	<i>O. L. MacSorley, L. J. Hasbrouck, W. C. Stetler, C. R. Holleran, A. R. Geller, C. Kurtz, R. A. Nelson, G. L. Smith, D. R. Spencer, J. F. Timm, W. P. Wissick, R. G. Allen, T. F. DuBois, G. E. Hack, E. J. Annunziata, W. C. Hoskinson, L. E. King, and T.-J. Johansen</i>
3,626,640	Apparatus for Providing a Finished Surface on Workpieces	<i>F. E. Goetz, P. R. Druzba, Jr., J. R. Hause, and G. Seeley</i>
3,626,769	Apparatus for Positioning Workpieces in Selected Translational and Rotational Orientations	<i>E. P. Hecker, J. E. Kulak, and B. Musits</i>
3,627,023	Apparatus for Casting and Shearing Solidified Sprues	<i>K. Clark and W. A. Klein</i>
3,627,096	Wire Printing Method	<i>E. D. Finnegan</i>
3,627,225	Record Member Container	<i>P. J. Badum and H. Zeiger</i>
3,627,231	Article Carrier Transfer and Tracking Systems	<i>C. H. Kalthoff</i>

3,627,401	Binary-coded Hologram Recording System	J. P. Kirk
3,627,402	High-capacity Holographic Memory	R. L. Gamblin
3,627,663	Method and Apparatus for Coating a Substrate by Utilizing the Hollow Cathode Effect with RF Sputtering	P. D. Davidse and H. L. Whitaker
3,627,743	Photoresist Polymer and Process for its Preparation	R. K. Agnihotri, F. P. Hood, and L. G. Lesoine
3,627,925	Beam Velocity Correction for Flying Spot Optical Scanners	D. C. Roberts
3,628,000	Data Handling Devices for Radix "N+2" Operation	L. Weiss
3,628,053	Logic Switch with Variable Threshold Circuit	L. Weiss
3,628,069	Monolithic Integrated Circuit having Inversely Operated Transistors	K. K. Najmann and H. Frantz
3,628,119	Two-speed Bidirectional Closed Loop Stepper Motor Control Circuit	D. G. Abraham
3,628,144	Electrical Contact Cleaning Device	J. Aronstein and R. J. Gunthert
3,628,184	Superconducting Oscillators and Method for Making the Same	W. A. Thompson
3,628,644	Electrically Driven Type Element	W. O. Cralle, Jr., H. W. Simpson, and B. C. Kockler
3,628,717	Apparatus for Positioning and Bonding	J. R. Lynch, L. E. Otten, and H. Wenskus
3,628,998	Method for Growth of a Mixed Crystal with Controlled Composition	S. E. Blum and R. J. Chicotka
3,629,517	Method and Apparatus for Magneto-optical Reading of Superimposed Magnetic Recordings	M. A. Grimm
3,629,565	Decimal Adder for Directly Implementing BCD Addition Utilizing Logic Circuitry	M. S. Schmookler and A. Weinberger
3,629,667	Semiconductor Resistor with Uniform Current Distribution at its Contact Surface	N. D. Lubart and M. B. Vora
3,629,740	Transmission Line Filter Circuit	J. F. Merrill
3,629,824	Apparatus for Multiple-error Correcting Codes	D. C. Bossen
3,629,825	Error-detecting System for Data-processing Circuitry	E. M. Bloom, Jr.
3,629,826	Sectioning Apparatus and Method for Character Recognition Systems	A. Cutaja, J. W. McCullough, and D. W. Piller
3,629,827	System and Method for Determining the Position, Height and Width of a Character Marking	D. L. Johnston and P. E. Nelson
3,629,828	System having Scanner Controlled by Video Clipping Level and Recognition Exception Routines	F. M. Demer
3,629,829	Character Recognition Circuitry	R. Ordower
3,629,833	Character Recognition System Employing a Plurality of Character Compression Transforms	F. M. Demer
3,629,848	Print Compare Operation from Main Storage	R. G. Gibson, A. Greenberg, and J. D. Wilcox
3,629,853	Data-processing Element	J. D. Newton
3,629,860	Record Locate Apparatus for Variable Length Records on Magnetic Disk Units	A. J. Capozzi
3,630,144	Type Carrier Toothed Belt	F. Hilpert and G. Schacht
3,630,336	Proportional Spacing Printer Incorporating Word Underscore Control	C. F. Johnson and W. R. McCray
3,630,881	Cathode-target Assembly for RF Sputtering Apparatus	W. C. Lester, C. Nuccio, and E. S. Ward
3,631,229	Monolithic Memory Array Tester	F. N. Bens, K. E. Dimitri, M. J. Moore, J. E. Tomko, and W. W. Wajda
3,631,230	Binary Arithmetic Unit Implementing a Multiplicative Steration for the Exponential, Logarithm, Quotient and Square Root Functions	T. C. Chen
3,631,263	Signal Detection Circuit	I. H. Graham, H. A. Skovmand, and J. S. Swartz
3,631,290	Thermionic Cathode for Electron Beam Apparatus	K. H. Loeffler
3,631,394	Character Recognition Scanning Apparatus	J. D. Harr, R. B. Johnson, R. E. Marrs, E. G. Nassimbene, and G. E. Price
3,631,400	Data-processing System having Logical Storage Data Register	J. T. Dervan and J. R. Moysey
3,631,422	System for Detection of Data by Time Interval Measurement	W. F. Krajewski, M. Padalino, and D. H. Paulson
3,631,425	Magnetic Head Slider with Orifice	T.-M. Tang
3,631,462	Multipurpose Graphic Input Pulse Transducing Circuit	H. Dym