

Russell 3000[®] Index – Deletions

Company	Symbol	Industry
1ST CONSTITUTION BANCORP	FCCY	Financials
ABEONA THERAPEUTICS INC	ABEO	Health Care
ACELRX PHARMACEUTICALS	ACRX	Health Care
ACNB CORP	ACNB	Financials
ADAMS RESOURCES & ENERGY	AE	Energy
ADMA BIOLOGICS INC	ADMA	Health Care
ADVANCED EMISSIONS SLTNS	ADES	Utilities
AGILE THERAPEUTICS INC	AGRX	Health Care
AGRIFY	AGFY	Industrials
AGROFRESH SOLUTIONS INC	AGFS	Basic Materials
AKERNA CORPORATION (A)	KERN	Technology
ALASKA COMMUNICATIONS	ALSK	Telecommunications
ALICO INC	ALCO	Consumer Staples
ALPHA PRO TECH LTD	APT	Industrials
ALPINE INCOME PROPERTY T	PINE	Real Estate
ALSET EHOME INTERNATIONAL	AEI	Real Estate
ALTISOURCE PORTFOLIO	ASPS	Real Estate
AMERICAN RLTY INVS INC	ARL	Real Estate
AMES NATL CORP	ATLO	Financials
APPLIED GENETIC TECH	AGTC	Health Care
APPLIED OPTOELECTRONICS	AAOI	Telecommunications
APREA THERAPEUTICS	APRE	Health Care

APTINYX INC	APTX	Health Care
AQUESTIVE THERAPEUTICS	AQST	Health Care
ARAVIVE INC	ARAV	Health Care
ARDMORE SHIPPING CORP	ASC	Industrials
ARLINGTON ASSET INVT	AAIC	Financials
ASPEN GROUP INC	ASPU	Consumer Discretionary
ASSEMBLY BIOSCIENCES INC	ASMB	Health Care
ASURE SOFTWARE INC	ASUR	Technology
AUBURN NATL BANCORP	AUBN	Financials
AVALON GLOBOCARE CORP	AVCO	Real Estate
AVENUE THERAPEUTICS	ATXI	Health Care
AVEO PHARMACEUTICALS INC	AVEO	Health Care
AXCELLA HEALTH	AXLA	Health Care
Aytu Biopharpm Inc	AYTU	Health Care
AZIYO BIOLOGICS	AZYO	Health Care
BANK COMM HLDGS	BOCH	Financials
BANK OF PRINCETON	BPRN	Financials
BANK7 CORP	BSVN	Financials
BANKFINANCIAL CORP	BFIN	Financials
BANKWELL FINL GROUP INC	BWFG	Financials
BAYCOM CORPORATION	BCML	Financials
BCB BANCORP INC	BCBP	Financials
BEL FUSE INC	BELFB	Telecommunications
BELLEROPHON THERA INC	BLPH	Health Care
BEYOND AIR INC	XAIR	Health Care
BGSF INC	BGSF	Industrials
BIGLARI HOLDINGS A	BH.A	Consumer Discretionary
BIOSIG TECHNOLOGIES INC	BSGM	Health Care
BLUEROCK RESIDENT REIT	BRG	Real Estate
BOGOTA FINANCIAL	BSBK	Financials
BRAINSTORM CELL THERA	BCLI	Health Care
BRIDGFORD FOODS CORP	BRID	Consumer Staples
C & F FINANCIAL CORP	CFFI	Financials
CABALETTA BIO	CABA	Health Care
CALEDONIA MINING CORP	CMCL	Basic Materials

CALIFORNIA BANCORP	CALB	Financials
CALITHERA BIOSCIENCES	CALA	Health Care
CALYXT	CLXT	Consumer Staples
CASI PHARMACEUTICALS INC	CASI	Health Care
CATABASIS PHARACEUTICALS	CATB	Health Care
CATALYST BIOSCIENCES INC	CBIO	Health Care
CB FINL SVCS INC	CBFV	Financials
CENTOGENE NV	CNTG	Health Care
CENTRAL VALLEY CMNTY	CVCY	Financials
CHAMPIONS ONCOLOGY INC	CSBR	Health Care
CHECKMATE PHARMACEUTICAL	CMPI	Health Care
CHECKPOINT THERAPEUTICS	CKPT	Health Care
CHEMBIO DIAGNOSTICS INC	CEMI	Health Care
CHEMUNG FINL CORP	CHMG	Financials
CHERRY HILL MORTGAGE INV	CHMI	Financials
CHIASMA INC	CHMA	Health Care
CHOICEONE FINANCIAL SERV	COFS	Financials
CIDARA THERAPEUTICS INC	CDTX	Health Care
CIM COMMERCIAL TRUST	CMCT	Real Estate
CITIZENS HLDG CO MISS	CIZN	Financials
CO-DIAGNOSTICS INC	CODX	Health Care
CODORUS VY BANCORP INC	CVLY	Financials
COGNYTE SOFTWARE	CGNT	Technology
COHBAR INC	CWBR	Health Care
COLONY BANCORP INC	CBAN	Financials
COMMUNITY BANKERS TRUST	ESXB	Financials
COMMUNITY FINL CORP MD	TCFC	Financials
CONCERT PHARMACEUTICALS	CNCE	Health Care
CONSOLIDATED WATER CO	CWCO	Utilities
CONTRAFECT CORP	CFRX	Health Care
CORBUS PHARMACEUTICALS	CRBP	Health Care
COREENERGY INFRASTRUCT	CORR	Real Estate
COUNTY BANCORP INC	ICBK	Financials
CYBEROPTICS CORP	CYBE	Technology
CYCLERION THERAPEUTICS	CYCN	Health Care

DECIBEL THERAPEUTICS	DBTX	Health Care
DHI GROUP INC	DHX	Industrials
DYADIC INTERNATIONAL	DYAI	Health Care
EAGLE BANCORP MONT INC	EBMT	Financials
EASTERN CO	EML	Basic Materials
ELECTROMED INC	ELMD	Health Care
ELLINGTON RESIDENTIAL	EARN	Financials
ELOXX PHARMACEUTICALS	ELOX	Health Care
ENETI INC	NETI	Industrials
ENOCHIAN BIOSCIENCES	ENOB	Health Care
ENVELA	ELA	Consumer Discretionary
ENZO BIOCHEM INC	ENZ	Health Care
EROS STX GLOBAL CORP	ESGC	Consumer Discretionary
ESQUIRE FINANCIAL HLDGS	ESQ	Financials
ESSA BANCORP INC	ESSA	Financials
ETON PHARMACEUTICALS	ETON	Health Care
EVANS BANCORP INC	EVBN	Financials
EVOFEM BIOSCIENCES INC	EVFM	Health Care
EVOLUTION PETROLEUM CORP	EPM	Energy
EXICURE	XCUR	Health Care
EXPRESS INC	EXPR	Consumer Discretionary
EXTERRAN CORPORATION	EXTN	Energy
FARMER BROS CO	FARM	Consumer Staples
FARMERS & MERCHANTS BNCP	FMAO	Financials
FEDNAT HOLDING COMPANY	FNHC	Financials
FENNEC PHARMACEUTICALS	FENC	Health Care
FIRST BUSINESS FINL SVCS	FBIZ	Financials
FIRST CAPITAL INC	FCAP	Financials
FIRST CMNTY CORP SC	FCCO	Financials
FIRST GUARANTY BANCSHARE	FGBI	Financials
FIRST NORTHWEST BANCORP	FNWB	Financials
FIRST SAVINGS FINANCIAL	FSFG	Financials
FIRST UNITED CORP	FUNC	Financials
FIRST WESTERN FINANCIAL	MYFW	Financials
FIVE STAR SENIOR LIVING	FVE	Health Care

FNCB BANCORP INC	FNCB	Financials
FONAR CORP	FONR	Health Care
FOSTER L B CO	FSTR	Industrials
FRANKLIN FINANCIAL SERV	FRAF	Financials
FRANK'S INTERNATIONAL	FI	Energy
FVCBANKCORP INC	FVCB	Financials
GAIA INC	GAIA	Consumer Discretionary
GALECTIN THERAPEUTICS	GALT	Health Care
GALERA THERAPEUTICS	GRTX	Health Care
GENASYS INC	GNSS	Telecommunications
GENCOR INDUSTRIES INC	GENC	Industrials
GENIE ENERGY LTD	GNE	Utilities
GENPREX INC	GNPX	Health Care
GLYCOMIMETICS INC	GLYC	Health Care
GOLD RESOURCE CORP	GORO	Basic Materials
GOODRICH PETROLEUM CORP	GDP	Energy
GRAHAM CORP	GHM	Industrials
GRAYBUG VISION	GRAY	Health Care
GREENE COUNTY BANCORP	GCBC	Financials
GSI TECHNOLOGY	GSIT	Technology
GTT COMMUNICATIONS INC	GTT	Telecommunications
GWG HLDGS INC	GWGH	Financials
HARROW HEALTH INC.	HROW	Health Care
HAWTHORN BANCSHARES INC	HWBK	Financials
HURCO COMPANIES INC	HURC	Industrials
IMARA	IMRA	Health Care
IMMERSION CORP	IMMR	Technology
IMMUNOME	IMNM	Health Care
INFORMATION SERVICES GRP	III	Industrials
INTELLICHECK INC	IDN	Technology
INTEVAC INC	IVAC	Technology
INTRICON CORP	IIN	Health Care
INVESTAR HOLDING CORP	ISTR	Financials
KINDRED BIOSCIENCES INC	KIN	Health Care
LA JOLLA PHARMACEUTICAL	LJPC	Health Care

LAKELAND INDUSTRIES INC	LAKE	Consumer Discretionary
LANDMARK BANCORP INC	LARK	Financials
LANNETT CO INC	LCI	Health Care
LCNB CORP	LCNB	Financials
LENSAR	LNSR	Health Care
LEVEL ONE BANCORP INC	LEVL	Financials
LIFEVANTAGE CORP	LFVN	Consumer Staples
LIMESTONE BANCORP INC	LMST	Financials
LINDE PLC	LIN	Basic Materials
LIQUIDIA CORPORATION	LQDA	Health Care
LOGICBIO THERAPEUTICS	LOGC	Health Care
LSI INDUSTRIES INC	LYTS	Industrials
LUCIRA HEALTH	LHDX	Health Care
LYRA THERAPEUTICS	LYRA	Health Care
MACKINAC FINL CORP	MFNC	Financials
MAINSTREET BANCSHARES	MNSB	Financials
MARKER THERAPEUTICS INC	MRKR	Health Care
MASTECH DIGITAL INC	MHH	Technology
MAUI LAND & PINEAPPLE CO	MLP	Real Estate
MAXEON SOLAR TECHNOLOGIE	MAXN	Energy
MEDICINOVA INC	MNOV	Health Care
MERIDIAN CORPORATION	MRBK	Financials
METACRINE	MTCR	Health Care
MIDDLEFIELD BANC CORP	MBCN	Financials
MIDWEST HOLDINGS	MDWT	Financials
MILESTONE SCIENTIFIC INC	MLSS	Health Care
MINERVA NEUROSCIENCES	NERV	Health Care
MMA CAPITAL HOLDINGS INC	MMAC	Financials
NACCO INDUSTRIES INC	NC	Energy
NATIONAL BANKSHARES INC	NKSH	Financials
NEMAURA MEDICAL INC	NMRD	Health Care
NEUBASE THERAPEUTICS	NBSE	Health Care
NEUROBO PHARMACEUTICALS	NRBO	Health Care
NEXTCURE	NXTC	Health Care
NEXTDECADE	NEXT	Energy

NORTHEAST BANK	NBN	Financials
NORWOOD FINANCIAL CORP	NWFL	Financials
NYMOX PHARMACEUTICAL	NYMX	Health Care
OAK VALLEY BANCORP	OVLY	Financials
OCONEE FEDERAL FINANCIAL	OFED	Financials
ODONATE THERAPEUTICS INC	ODT	Health Care
OHIO VY BANC CORP	OVBC	Financials
OP BANCORP	OPBK	Financials
OPTINOSE INC	OPTN	Health Care
ORGENESIS INC	ORGS	Health Care
ORION ENERGY SYSTEMS INC	OESX	Industrials
OSMOTICA PHARMACEUTICALS	OSMT	Health Care
OVERSEAS SHIPHOLDING INC	OSG	Industrials
OVID THERAPEUTICS INC	OVID	Health Care
PANGAEA LOGS SOLUTIONS	PANL	Industrials
PARK CITY GROUP INC	PCYG	Technology
PARKE BANCORP INC	PKBK	Financials
PARTNERS BANCORP	PTRS	Financials
PAYSIGN INC	PAYS	Industrials
PCB BANCORP	PCB	Financials
PCTEL INC	PCTI	Telecommunications
PDL COMMUNITY BANCORP	PDLB	Financials
PENNS WOODS BANCORP INC	PWOD	Financials
PEOPLES BANCORP N C INC	PEBK	Financials
PFSWEB INC	PFSW	Industrials
PHASEBIO PHARMACEUTICALS	PHAS	Health Care
PIERIS PHARMACEUTICALS	PIRS	Health Care
PIXELWORKS INC	PXLW	Technology
PLUMAS BANCORP	PLBC	Financials
POWERFLEET INC	PWFL	Telecommunications
PRIMEENERGY RESOURCES	PNRG	Energy
PROFESSIONAL HOLDING	PFHD	Financials
PROGENITY	PROG	Health Care
PROTARA THERAPEUTICS INC	TARA	Health Care
PROVIDENT FINL HLDGS INC	PROV	Financials

PRUDENTIAL BANCORP INC	PBIP	Financials
QUAD / GRAPHICS INC	QUAD	Industrials
RECRO PHARMA INC	REPH	Health Care
RED VIOLET	RDVT	Technology
REPRO MED SYSTEMS	KRMD	Health Care
RESEARCH FRONTIERS INC	REFR	Technology
RESONANT INC	RESN	Telecommunications
RGC RES INC	RGCO	Utilities
RICHMOND MUTUAL BANCORP	RMBI	Financials
RIVERVIEW BANCORP INC	RVSB	Financials
ROCKWELL MEDICAL INC	RMTI	Health Care
SAFEGUARD SCIENTIFICS	SFE	Financials
SAGA COMMUNICATIONS INC	SGA	Consumer Discretionary
SALISBURY BANCORP INC	SAL	Financials
SATSUMA PHARMACEUTICALS	STSA	Health Care
SAVARA INC	SVRA	Health Care
SB FINL GROUP INC	SBFG	Financials
SCOPUS BIOPHARMA	SCPS	Health Care
SCPHARMACEUTICALS INC	SCPH	Health Care
SEACHANGE INTERNATIONAL	SEAC	Technology
SECURITY NATL FINL CORP	SNFCA	Financials
SELECT BANCORP INC	SLCT	Financials
SERVICESTOURCE INTL	SREV	Industrials
SHORE BANCSHARES INC	SHBI	Financials
SIEBERT FINANCIAL CORP	SIEB	Financials
SILVERCREST ASSET MNGMT	SAMG	Financials
SOLAREEDGE TECHNOLOGIES	SEDG	Energy
SOLENO THERAPEUTICS INC	SLNO	Health Care
SPOK HOLDINGS INC	SPOK	Telecommunications
STERLING BANCORP INC	SBT	Financials
STRATUS PPTYS INC	STRS	Real Estate
STRONGBRIDGE BIOPHARMA	SBBP	Health Care
SURGALIGN HOLDINGS INC	SRGA	Health Care
SWK HOLDINGS	SWKH	Financials
SYNCHRONOSS TECHNOLOGY	SNCR	Technology

TELA BIO	TELA	Health Care
TERRITORIAL BANCORP INC	TBNK	Financials
TIMBERLAND BANCORP INC	TSBK	Financials
TRANSCONTINENTAL REALTY	TCI	Real Estate
TRANSOCEAN LTD	RIG	Energy
TRECORA RESOURCES	TREC	Energy
TRICIDA INC	TCDA	Health Care
TYME	TYME	Health Care
ULTRALIFE CORPORATION	ULBI	Industrials
UNITED SECURITY BANC	UBFO	Financials
UNITY BANCORP INC	UNTY	Financials
UNITY BIOTECHNOLOGY	UBX	Health Care
UNIVERSAL TECHNICAL INST	UTI	Consumer Discretionary
VENUS CONCEPT	VERO	Health Care
VERICITY	VERY	Financials
VIDLER WATER RESOURCES	VWTR	Real Estate
VOLITIONRX LTD	VNRX	Health Care
VOYAGER THERAPEUTICS INC	VYGR	Health Care
VTV THERAPEUTICS INC	VTVT	Health Care
VYNE THERAPEUTICS INC	VYNE	Health Care
WAITR HOLDINGS INC	WTRH	Technology
WESTERN ASSET MTG CAP	WMC	Financials
WESTERN NEW ENGLAND	WNEB	Financials
WESTWOOD HOLDINGS GROUP	WHG	Financials
WEYCO GROUP INC	WEYS	Consumer Discretionary
WRAP TECHNOLOGIES	WRAP	Industrials
X4 PHARMACEUTICALS INC	XFOR	Health Care
XERIS PHARMACEUTICALS	XERS	Health Care

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