

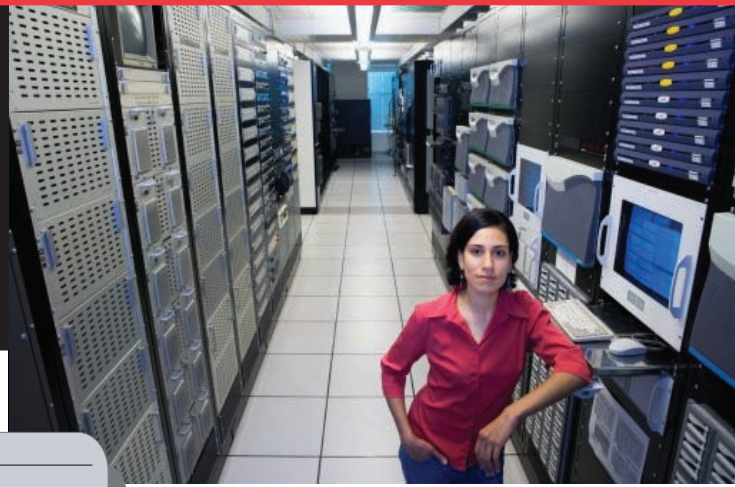
DR DATARAM
Optimizing Value and Performance

IBM®

memory portfolio



The DATARAM Advantage



The DATARAM Product Line

HP

Servers

ProLiant DL
ProLiant ML
ProLiant BL blades
Integrity rx servers
Integrity BL blades
HP 9000 rp servers
AlphaServers

Workstations

Personal Workstations
RISC/Unix Workstations
AlphaStations

SUPERMICRO

Intel-based Server Boards

AMD

Opteron-based Server Boards

IBM

Servers

System p (pSeries)
System x (xSeries)
System i (iSeries)
BladeCenter
POWER processor-based servers
Intel-processor based servers
AMD processor-based servers

Workstations

IntelliStation Pro
IntelliStation POWER

INTEL

Server, Workstation
and Desktop Boards

DELL

Servers

PowerEdge

Workstations

Precision

SUN

Servers

Sun Fire
Enterprise
Netra

Workstations

Sun Blade
Ultra
Java

Should you need technical assistance, help is just a phone call or email away, as our customer support personnel are available at no extra charge.

In addition, Dataram memory products installed in IBM servers and workstations with Intel or AMD processors are eligible for support by IBM in the USA.

Lifetime Warranty

Dataram Corporation warrants that its memory products will be free from defects in materials and workmanship and conform to the manufacturer's specifications for the computer in which it is originally installed. This warranty is extended to the original end user for the lifetime of the system.

Responsiveness

Whether it's first-to-market memory for the latest system, up-to-the-minute product information via an on-line memory selector, contact with a memory specialist or timely receipt of competitive quotations, Dataram responds fast. Flexible manufacturing enables quick delivery of products. Plus Dataram's worldwide network of distributors and resellers enable local presence and in-house service regardless of your geography or time zone.

Dependability

No other memory company in the world can match our experience as an independent memory supplier. More than 60 of Fortune 100 companies have used Dataram memory. As a financially strong public company (Nasdaq: DRAM), Dataram is ready and capable of being your valued partner. **DATARAM is the Best Choice in Memory.**

Savings

Top organizations throughout the world choose Dataram to save up to 50% off OEM memory prices. You can too! Compare us and save thousands on your next memory upgrade purchase. Or to save even more, buy new servers with the factory minimum memory configuration and fill all remaining slots with cost effective Dataram memory upon delivery of the new systems.

Guaranteed Compatibility

Dataram is THE memory specialist with over 40 years experience designing, manufacturing and testing memory products. In addition, our memory modules are tested, validated and certified by Intel, AMD and CMTL. Beta sites enable additional testing in a wide range of applications and environments. Dataram has a ten-year relationship with

CMTL (Computer Memory Test Labs) where 2000+ system level tests have been performed on Intel and AMD based motherboards to ensure the highest level of memory compatibility available. For a greener earth, Dataram memory products are RoHS compliant and energy conserving low power modules are available. DATARAM memory modules are guaranteed to be 100% form, fit and function compatible for the system they are installed in.

Superior Quality - Exceptional Support

You expect memory products to last a lifetime and we go to great lengths to meet or exceed your expectations! DATARAM memory products are manufactured in our own state-of-the-art ISO 9001 manufacturing facility in the USA, adhering to the world's highest standards for quality excellence. Every module is 100% tested prior to shipment.

DATARAM

The Best Choice in Memory

800.DATARAM | usasales@dataram.com

Founded in 1967, Dataram is a worldwide leader in the design and manufacture of reliable, high capacity and innovative memory solutions. Dataram provides customized memory solutions for OEMs and memory upgrades for leading brands including HP, IBM, Sun Microsystems, Dell, Intel and AMD Opteron. For more information about Dataram's memory offerings, visit www.dataram.com

FAMILY	MODEL	MAX	SLOTS	CAPACITY	MFG #	DATARAM #	BOARDS	
IBM								
POWER SYSTEMS (System p, System i)								
System p5 185	7037-A50	8GB	4	2GB 4GB	4461 4463	DRI185/2GB DRI185/4GB	2 2	
pSeries 610	7028-6C1, 7028-6E1	8GB	1 ¹⁾	1GB	4121	DRI170-R5/1024	2	
¹⁾ System supports a single 16-slot IBM memory card. DIMMs must be installed in pairs.								
pSeries 615	7029-6C3, 7029-6E3	16GB	8	4GB 8GB	4448, 4445 4449	DRI615/4096 DRI615/8192	4 4	
System p5 505/505Q	9115-505	32GB	8	2GB 4GB 8GB	1931 1932 1934	DRI550D2/2GB DRI550D2/4GB DRI550D2/8GB	2 ¹⁾ 2 ¹⁾ 2 ¹⁾	
¹⁾ DIMMs must be installed in matched groups of fours (quads) for best performance.								
System p5 510/510Q	9110-51A	32GB	8	2GB 4GB 8GB	1931 1932 1934	DRI550D2/2GB DRI550D2/4GB DRI550D2/8GB	2 ¹⁾ 2 ¹⁾ 2 ¹⁾	
¹⁾ DIMMs must be installed in matched groups of fours (quads) for best performance.								
eServer p5 510	9110-510	32GB	8 ¹⁾	4GB 8GB 16GB	4448, 4445 4449 4450	DRI615/4096 DRI615/8192 DRI550/16GB	4 4 4	
¹⁾ System supports one IBM Processor Card containing 8 DIMM slots.								
Power 520	9407-M15	16GB	4	4GB 8GB	4522 4523	DRI520P6/4GB DRI520P6/8GB	2 2	
Memory is added in pairs. All DIMMs must be of the same capacity.								
Power 520	9408-M25	32GB	4	4GB 8GB 16GB	4522 4523 4524	DRI520P6/4GB DRI520P6/8GB DRI520P6/16GB	2 2 2	
Memory is added in pairs. All DIMMs must be of the same capacity.								
NEW	Power 520	8203-E4A	64GB	8¹⁾	4GB 4532 4GB 4522 8GB 4523 16GB 4524	DRI520P6S/4GB DRI520P6/4GB DRI520P6/8GB DRI520P6/16GB	2 2 2 2	
	¹⁾ Models with one single-core processor use 4 DIMM slots, support 16GB maximum and cannot utilize 16GB kits. Models with one dual-core processor use 4 DIMM slots and support 32GB maximum. 4-core models use 8 DIMM slots, 64GB maximum. Models with two dual-core processors use 8 DIMM slots (4 per processor) and support 64GB maximum. All DIMMs per processor must be of the same capacity. For optimum performance balance the memory equally across both processors.							
	Power 550	9409-M50	128GB	16 ¹⁾	4GB 8GB 16GB	4522 4523 4524	DRI520P6/4GB DRI520P6/8GB DRI520P6/16GB	2 2 2
	¹⁾ Memory is installed on 1 or 2 processor cards, each having 8 DIMM slots. Memory is added in pairs. All DIMMs on a processor card must be the same capacity.							
	NEW	Power 550	8204-E8A	256GB	32¹⁾	4GB 4532 4GB 4522 8GB 4523 16GB 4524	DRI520P6S/4GB DRI520P6/4GB DRI520P6/8GB DRI520P6/16GB	2 2 2 2
¹⁾ Memory is installed on 1 to 4 processor cards, each having 8 DIMM slots. DIMMs must be added in matched sets of 2, 4, or 8. All DIMMs on a processor card must be the same capacity. Distribute memory evenly across all processor cards in the system for best performance.								
System p5 520/520Q		9131-52A	32GB	8	2GB 4GB 8GB	1931 1932 1934	DRI550D2/2GB DRI550D2/4GB DRI550D2/8GB	2 ¹⁾ 2 ¹⁾ 2 ¹⁾
¹⁾ DIMMs must be installed in matched groups of fours (quads) for best performance.								
eServer p5 520		9111-520	32GB	8 ¹⁾	4GB 8GB 16GB	4448, 4445 4449 4450	DRI615/4096 DRI615/8192 DRI550/16GB	4 4 4
¹⁾ System supports one IBM Processor Card containing 8 DIMM slots.								

FAMILY	MODEL	MAX	SLOTS	CAPACITY	MFG #	DATARAM #	BOARDS
System p5 550/550Q	9133-55A	64GB	16 ¹⁾	2GB	1931	DRI550D2/2GB	2 ²⁾
				4GB	1932	DRI550D2/4GB	2 ²⁾
				8GB	1934	DRI550D2/8GB	2 ²⁾
¹⁾ System supports a maximum of 2 IBM Processor/Memory Cards. ²⁾ DIMMs must be installed in matched groups of fours (quads) for best performance.							
eServer p5 550	9113-550	64GB	16 ¹⁾	4GB	4448, 4445	DRI615/4096	4
				8GB	4449	DRI615/8192	4
				16GB	4450	DRI550/16GB	4
¹⁾ System supports two IBM Processor Cards each containing 8 DIMM slots.							
System p5 560Q	9116-561	128GB	16 ¹⁾	2GB	1931	DRI550D2/2GB	2 ²⁾
				4GB	1932	DRI550D2/4GB	2 ²⁾
				8GB	1934	DRI550D2/8GB	2 ²⁾
¹⁾ System features a 4U drawer as its basic building block and up to two drawers are supported in a single rack. Each drawer supports two IBM Processor/Memory Cards, each containing one or two processors and 8 DIMM slots. ²⁾ DIMMs must be installed in matched groups of fours (quads) for best performance.							
pSeries 630	7028-6C4, 7028-6E4	32GB	2 ¹⁾	4GB	4453, 4490	DRI630/4096	4
				8GB	4454	DRI630/8192	4
¹⁾ Memory is installed on 1 or 2 processor cards, each supporting 1 or 2 processors. Each processor card contains 8 DIMM slots. DIMMs must be added in sets of 4 identical modules. For 4-way configurations memory should be balanced across both processor cards for the best performance.							
System p5 570 (with POWER5+ Processors & DDR2 Memory)	9117-570	512GB	64 ¹⁾	8GB	7894	DRI575D2/8GB	4
				16GB	4497	DRI570D2/16GB	4
				32GB ²⁾	4498	DRI570D2/32GB	4
¹⁾ Memory is installed on 2 or 8 IBM Processor Cards each containing 8 DDR2 DIMM slots. Balance memory across processors for best performance. ²⁾ 32GB kits are supported on 2.2GHz processor cards only and except for IBM's FC4499 cannot be mixed with any other capacity on the same card.							
eServer p5 570 (with POWER5 Processors)	9117-570	512GB	64 ¹⁾	4GB	4490	DRI630/4096	4
				8GB	4454	DRI630/8192	4
				16GB	4491	DRI570/16GB	4
¹⁾ Memory is installed on 2 or 8 IBM Processor Cards each containing 8 DIMM slots. DDR1 memory is supported on 1.5 GHz processor cards (#7834), 1.65 GHz processor cards (#7830), and 1.9 GHz processor cards (#7832). DDR2 memory is supported on 1.9 GHz processor cards (#7833), 1.9 GHz processor card (#7782), and 2.2 GHz processor card (#8338). All DIMMs in a 570 system must use the same memory technology, either DDR1 or DDR2. IBM and Dataram options listed are DDR1 type memory.							
System p5 575 (with POWER5+ Processors & DDR2 Memory)	9118-575	256GB	64	8GB	7894	DRI575D2/8GB	4
eServer p5 575 (with POWER5 Processors)	9118-575	256GB	64	4GB	4490	DRI630/4096	4
				8GB	4454	DRI630/8192	4
				16GB	4491	DRI570/16GB	4
All memory listed above is DDR1. The p5-575 with POWER5 processors uses DDR1 type DIMMs. The p5-575 with POWER5+ processors uses DDR2 type DIMMs. Dataram does not offer DDR2 type memory for the p5 575.							
pSeries 640	7026-B80	16GB	2	1GB	4121	DRI170-R5/1024	2 ¹⁾
¹⁾ System supports a maximum of 2 IBM memory cards (FC# 4098) Each memory card holds 16 modules (8 pairs).							
pSeries 650	7038-6M2	64GB	4 ¹⁾	4GB	4453, 4490	DRI630/4096	4
				8GB	4454	DRI630/8192	4
¹⁾ Memory is installed on 1 to 4 processor cards, each supporting 1 or 2 processors. Each processor card contains 8 DIMM slots. DIMMs must be added in sets of 4 identical modules. Each processor card must have an equal amount of memory installed.							
System i5 515	(9407-515)	16GB	8	2GB	4474	DRI550I2/2GB	2
				4GB	4475	DRI550I2/4GB	2
System i5 520 (with POWER5+ processors)	(9405-520)	32GB	8	2GB	4474	DRI550I2/2GB	2
				4GB	4475	DRI550I2/4GB	2
				8GB	4477	DRI550I2/8GB	2
System i5 520	(9406-520)	32GB	8	2GB	4474	DRI550I2/2GB	2
				4GB	4475	DRI550I2/4GB	2
				8GB	4477	DRI550I2/8GB	2

FAMILY	MODEL	MAX	SLOTS	CAPACITY	MFG #	DATARAM #	BOARDS
System i5 525	(9406-525)	32GB	8	2GB	4474	DRI550I2/2GB	2
				4GB	4475	DRI550I2/4GB	2
				8GB	4477	DRI550I2/8GB	2
System i5 550	(9406-550)	64GB	16	2GB	4474	DRI550I2/2GB	2
				4GB	4475	DRI550I2/4GB	2
				8GB	4477	DRI550I2/8GB	2
eServer i5 (9406-520)	520	32GB	8	4GB	4448, 4445	DRI615/4096	4
				8GB	4449	DRI615/8192	4
				16GB	4450	DRI550/16GB	4
eServer i5 (9113-550)	550	64GB	16 ¹⁾	4GB	4448, 4445	DRI615/4096	4
				8GB	4449	DRI615/8192	4
				16GB	4450	DRI550/16GB	4
¹⁾ System supports two IBM Processor Cards each containing 8 DIMM slots.							
eServer i5 (9406-570)	570	64GB	16	4GB	4453, 4490	DRI630/4096	4
				8GB	4454	DRI630/8192	4
				16GB	4491	DRI570/16GB	4

RS/6000 SERVERS

RS/6000 44P Series	7044-170	2GB	4	1GB	4121	DRI170-R5/1024	2
RS/6000 44P Series	7044-270	16GB	2	1GB	4121	DRI170-R5/1024	2 ^{1), 2)}
¹⁾ System supports a maximum of 2 IBM carrier cards (FC# 4098). Each carrier supports 16 DIMMs (8 pairs)							
²⁾ Systems with a serial number of "39D1F" and above (U.S.) or those with a 'C' suffix (e.g. 44xxxCxx) (EMEA) support the 1GB memory feature (#4121)							

BLADES

BladeCenter HC10 Blade Workstation	7996-xxx	8GB	4	4GB	41Y2828	DRIHC10/4GB	2				
BladeCenter HS12	8014-xxx, 8028-xxx	24GB	6	4GB	46C0512	DRILS41S/4GB	2				
				8GB	46C0513	DRILS41-6/8GB	2				
BladeCenter HS20	8832-xxx 8678-xxx	8GB	4	1GB	33L5039	DRIX235/1024	1 ¹⁾				
				2GB	33L5040	DRIX235/2048	1 ¹⁾				
¹⁾ Memory must be ordered and installed in pairs of identical modules.											
BladeCenter HS20	8843-xxx	16GB	4	2GB	39M5809, 73P2866	DRIX346/2GB	2				
				4GB	39M5812, 73P2867	DRIX346/4GB	2				
				8GB	30R5145	DRIX346D/8GB	2				
The server supports single- and dual-rank DIMMs. If using both types, the dual-rank DIMMs must be installed in slots 1 and 2. The 2GB upgrade contains single-rank DIMMs; the 4GB and 8GB upgrades contain dual-rank DIMMs.											
BladeCenter HS20	7981-xFU	16GB	4	2GB	39M5809, 73P2866	DRIX346/2GB	2				
				4GB	39M5812, 73P2867	DRIX346/4GB	2				
				8GB	30R5145	DRIX346D/8GB	2				
The server supports single- and dual-rank DIMMs. If using both types, the dual-rank DIMMs must be installed in slots 1 and 2. The 2GB upgrade contains single-rank DIMMs; the 4GB and 8GB upgrades contain dual-rank DIMMs.											
BladeCenter HS21	8853-xxx	64GB ¹⁾	8	2GB	39M5785	DRIX3650/2GB	2				
				4GB	39M5791	DRIX3650/4GB	2				
				8GB	39M5797	DRIX3650/8GB	2				
				16GB	46C7577	DRIX3650Q/16GB	2				
				2GB	46C7418	DRIX3650LP/2GB	2				
				4GB	46C7419	DRIX3650LP/4GB	2				
				8GB	46C7420	DRIX3650LP/8GB	2				
				¹⁾ Up to 64GB is achieved by populating all four DIMM slots with 4 x 8GB DIMMs and selecting the IBM BladeCenter Memory and I/O Expansion Blade (42C1600) which adds an additional four DIMM slots.							
				Dataram recommends updating to the latest BIOS version (V1.15 or later) for the support of 4R 8GB DIMMs (46C7577, DRIX3650Q/16GB) and Low-Power options (46C74xx, DRIX3650LP/xxx) DIMMs within a bank must be identical.							

FAMILY	MODEL	MAX	SLOTS	CAPACITY	MFG #	DATARAM #	BOARDS
BladeCenter HS21	8864-xxx	32GB ¹⁾	4	2GB	39M5785	DRIX3650/2GB	2
				4GB	39M5791	DRIX3650/4GB	2
				8GB	39M5797	DRIX3650/8GB	2

¹⁾ Up to 32GB is achieved by populating all four DIMM slots with 4 x 4GB DIMMs and selecting the IBM BladeCenter Memory and I/O Expansion Blade (42C1600) which adds an additional four DIMM slots.

BladeCenter HS21 XM	7995-xxx	64GB	8	2GB	39M5785	DRIX3650/2GB	2
				4GB	39M5791	DRIX3650/4GB	2
				8GB	39M5797	DRIX3650/8GB	2
				16GB	46C7577	DRIX3650Q/16GB	2
				2GB	46C7418	DRIX3650LP/2GB	2
				4GB	46C7419	DRIX3650LP/4GB	2
8GB	46C7420	DRIX3650LP/8GB	2				

Dataram recommends updating to the latest BIOS version (V1.15 or later) for the support of 4R 8GB DIMMs (46C7577, DRIX3650Q/16GB) and Low-Power options (46C74xx, DRIX3650LP/xxx) DIMMs within a bank must be identical.

BladeCenter HS40	8839-xxX	16GB	8	1GB	33L5039	DRIX235/1024	1 ¹⁾
				2GB	33L5040	DRIX235/2048	1 ¹⁾

¹⁾ Memory must be ordered and installed in pairs of identical modules.

NEW	BladeCenter JS12	7998-60X	64GB	8	4GB	8229	DRIJS12/4GB	2
					8GB	8239	DRIJS12/8GB	2
					16GB	8245	DRIJS12/16GB	2

BladeCenter JS21	7988-xxx	16GB	4	4GB	8387, 41Y2715	DRIJS21-5/4GB	2
				8GB	8388, 41Y2723	DRIJS21-5/8GB	2

BladeCenter JS21	8844-xxx	16GB	4	4GB ¹⁾	8387, 41Y2715	DRIJS21-5/4GB	2
				8GB ¹⁾	8388, 41Y2723	DRIJS21-5/8GB	2
				2GB ²⁾	39M5809/73P2866	DRIX346/2GB	2
				4GB ²⁾	39M5812/73P2867	DRIX346/4GB	2

¹⁾ DDR2-533

²⁾ DDR2-400

BladeCenter JS22	7998-61X	32GB	4	4GB	8233	DRIJS22/4GB	2
				8GB	8234	DRIJS22/8GB	2
				16GB	8235	DRIJS22/16GB	2

BladeCenter LS21	7971-xxx	64GB	8	4GB	46C0512	DRILS41S/4GB	2
				8GB	46C0513	DRILS41-6/8GB	2
				16GB	Not Offered	DRILS42/16GB	2

BladeCenter LS41	7972-xxx	128GB ¹⁾	16	4GB	46C0512	DRILS41S/4GB	2
				8GB	46C0513	DRILS41-6/8GB	2
				16GB	Not Offered	DRILS42/16GB	2

¹⁾ 16 slots, 128GB max with the optional multi-processor expansion (MPE) unit; otherwise 8 slots, 64GB max.

BladeCenter LS22	7901	64GB	8	4GB	46C0512	DRILS41S/4GB	2
				8GB	46C7524	DRILS42-6/8GB	2
				8GB	46C7525	DRILS42-8/8GB	2
				16GB	44T1547	DRILS42/16GB	2

BladeCenter LS42	7902	128GB ¹⁾	16	4GB	46C0512	DRILS41S/4GB	2
				8GB	46C7524	DRILS42-6/8GB	2
				8GB	46C7525	DRILS42-8/8GB	2
				16GB	44T1547	DRILS42/16GB	2

¹⁾ 16 slots, 128GB max with the optional multi-processor expansion (MPE) unit; otherwise 8 slots, 64GB max.

FAMILY	MODEL	MAX	SLOTS	CAPACITY	MFG #	DATARAM #	BOARDS
SYSTEM X (XSERIES) SERVERS							
System x3105	4347-xxx	8GB	4	2GB	41Y2729	DRIX3250/2GB	2
				4GB	41Y2732	DRIX3250/4GB	2
Performance-enhancing interleaved mode can only be attained with matched DIMMs in pairs or fours.							
System x3200	4262-xxx, 4263-xxx, 4264-xxx	8GB	4	2GB	41Y2729	DRIX3250/2GB	2
				4GB	41Y2732	DRIX3250/4GB	2
Performance-enhancing interleaved mode can only be attained with matched DIMMs in pairs or fours.							
System x3200 M2	4367, 4368	8GB	4	2GB	41Y2729	DRIX3250/2GB	2
				4GB	41Y2732	DRIX3250/4GB	2
				2GB	46C7428	DRIX3250-8/2GB	2
				4GB	46C7429	DRIX3250-8/4GB	2
Performance-enhancing interleaved mode can only be attained with matched DIMMs in pairs or fours.							
System x3250	4364-xxx, 4365-xxx	8GB	4	2GB	41Y2729	DRIX3250/2GB	2
				4GB	41Y2732	DRIX3250/4GB	2
Performance-enhancing interleaved mode can only be attained with matched DIMMs in pairs or fours.							
System x3250 M2	4190, 4191, 4194	8GB	4	2GB	41Y2729	DRIX3250/2GB	2
				4GB	41Y2732	DRIX3250/4GB	2
				2GB	46C7428	DRIX3250-8/2GB	2
				4GB	46C7429	DRIX3250-8/4GB	2
Performance-enhancing interleaved mode can only be attained with matched DIMMs in pairs or fours.							
System x3350 M2	4192, 4193	8GB	4	2GB	41Y2729	DRIX3250/2GB	2
				4GB	41Y2732	DRIX3250/4GB	2
				2GB	46C7428	DRIX3250-8/2GB	2
				4GB	46C7429	DRIX3250-8/4GB	2
Performance-enhancing interleaved mode can only be attained with matched DIMMs in pairs or fours.							
System x3400	7973-xxx, 7974-xxx, 7975-xxx, 7976-xxx	32GB	8	2GB	39M5785	DRIX3650/2GB	2
				2GB	46C7418	DRIX3650LP/2GB	2
				4GB	39M5791	DRIX3650/4GB	2
				4GB	46C7419	DRIX3650LP/4GB	2
				8GB	39M5797	DRIX3650/8GB	2
				8GB	46C7420	DRIX3650LP/8GB	2
IBM's 46C74xx and Dataram's DRIX3650LP/xxx are low-power options and may require a BIOS update. DIMMs within a bank must be identical.							
System x3450	7948-2CX, 3CX, 5CX, 5DX, 5FX, 5GX, 6CX	64GB	16	4GB	46C7571	DRIX3650-8/4GB	2
				8GB	46C7572	DRIX3650-8/8GB	2
System x3450	7948-xBX, x2X, 54X, 56X, 58X	64GB	16	4GB	39M5791	DRIX3650/4GB	2
				8GB	39M7597	DRIX3650/8GB	2
System x3455	7984-xxx, 7986-xxx, 7940-xxx	48GB ¹⁾	12	4GB	41Y2765, 46C7539	DRIX3755/4GB	2
				8GB	41Y2768, 46C7538	DRIX3755/8GB	2
¹⁾ Dual-processor models support up to 48GB; single processor models support up to 24GB							
System x3500	7977-xxx	48GB	12	2GB	39M5785	DRIX3650/2GB	2
				2GB	46C7418	DRIX3650LP/2GB	2
				4GB	39M5791	DRIX3650/4GB	2
				4GB	46C7419	DRIX3650LP/4GB	2
				8GB	39M5797	DRIX3650/8GB	2
				8GB	46C7420	DRIX3650LP/8GB	2
IBM's 46C74xx and Dataram's DRIX3650LP/xxx are low-power options and may require a BIOS update. DIMMs within a bank must be identical.							

FAMILY	MODEL	MAX	SLOTS	CAPACITY	MFG #	DATARAM #	BOARDS
System x3550	7978-xxx	32GB	8	2GB	39M5785	DRIX3650/2GB	2
				2GB	46C7418	DRIX3650LP/2GB	2
				4GB	39M5791	DRIX3650/4GB	2
				4GB	46C7419	DRIX3650LP/4GB	2
				8GB	39M5797	DRIX3650/8GB	2
				8GB	46C7420	DRIX3650LP/8GB	2
IBM's 46C74xx and Dataram's DRIX3650LP/xxx are low-power options and may require a BIOS update. DIMMs within a bank must be identical.							
System x3650	7979-xxx	48GB	12	2GB	39M5785	DRIX3650/2GB	2
				2GB	46C7418	DRIX3650LP/2GB	2
				4GB	39M5791	DRIX3650/4GB	2
				4GB	46C7419	DRIX3650LP/4GB	2
				8GB	39M5797	DRIX3650/8GB	2
				8GB	46C7420	DRIX3650LP/8GB	2
IBM's 46C74xx and Dataram's DRIX3650LP/xxx are low-power options and may require a BIOS update. DIMMs within a bank must be identical.							
System x3650 T	7980-xxx	16GB	6	2GB	39M5809, 73P2866	DRIX346/2GB	2
				4GB	39M5812, 73P2867	DRIX346/4GB	2
				8GB	30R5145	DRIX346D/8GB	2
The server supports single- and dual-rank DIMMs. If using both types, the dual-rank DIMMs must be installed first and are not supported in slots 5-6. No more than the equivalent of eight ranks is permitted. The 2GB upgrade is single-rank. 4 and 8GB kits are dual-rank.							
System x3655	7985-xxx, 7943-xxx	64GB ¹⁾	16	4GB	41Y2765, 46C7539	DRIX3755/4GB	2
				8GB	41Y2768, 46C7538	DRIX3755/8GB	2
¹⁾ Dual-processor models support up to 64GB; single processor models support up to 32GB							
System x3755	8877-xxx, 7163-xxx	256GB	32 ¹⁾	4GB	41Y2765, 46C7539	DRIX3755/4GB	2
				8GB	41Y2768, 46C7538	DRIX3755/8GB	2
				16GB	Not Offered by IBM	DRIX3755/16GB	2
¹⁾ The system supports 1 to 4 IBM Processor Cards each having 8 DIMM slots.							
System x3800	8865-xxx	64GB	16 ¹⁾	2GB	39M5809, 73P2866	DRIX346/2GB	2
				4GB	39M5812, 73P2867	DRIX346/4GB	2
				8GB	30R5145	DRIX346D/8GB	2
¹⁾ Memory is installed on two to four IBM Memory Cards (13M7409), each containing four DIMM slots. One Card is standard.							
System x3800	8866-xxx	64GB	16 ¹⁾	2GB	39M5809, 73P2866	DRIX346/2GB	2
				4GB	39M5812, 73P2867	DRIX346/4GB	2
				8GB	30R5145	DRIX346D/8GB	2
¹⁾ Memory is installed on two to four IBM Memory Cards (41Y5000), each containing four DIMM slots. One or two cards are standard.							
System x3850	8863-xxx, 8864-xxx	64GB	16 ¹⁾	2GB	39M5809, 73P2866	DRIX346/2GB	2
				4GB	39M5812, 73P2867	DRIX346/4GB	2
				8GB	30R5145	DRIX346D/8GB	2
¹⁾ Memory is installed on two to four IBM Memory Cards (13M7409 or 41Y5000), each containing four DIMM slots. One or two cards are standard.							
System x3850 M2	7141-xxx, 7233-xxx	256GB	32 ¹⁾	4GB	41Y2771	DRIX3755S/4GB	2
				8GB	41Y2768, 46C7538	DRIX3755/8GB	2
				16GB	43V7356	DRIX3755/16GB	2
¹⁾ Memory is installed on two to four IBM Memory Cards (44E4252), each containing eight DIMM slots. One or two cards are standard.							
System x3950	8872-xxx, 8874-xxx, 8878-xxx	64GB	16 ¹⁾	2GB	39M5809, 73P2866	DRIX346/2GB	2
				4GB	39M5812, 73P2867	DRIX346/4GB	2
				8GB	30R5145	DRIX346D/8GB	2
¹⁾ Memory is installed on two to four IBM Memory Cards (13M7409 or 41Y5000), each containing four DIMM slots. Two Cards are standard.							
System x3950 M2	7141-xxx, 7233-xxx	256GB	32 ¹⁾	4GB	41Y2771	DRIX3755S/4GB	2
				8GB	41Y2768, 46C7538	DRIX3755/8GB	2
				16GB	43V7356	DRIX3755/16GB	2
¹⁾ Memory is installed on two to four IBM Memory Cards (44E4252), each containing eight DIMM slots. One or two cards are standard.							
eServer 326m	7969-xxx	32GB ¹⁾	8	4GB	39M5806, 73P3235	DRI326/4GB	2
				8GB	Not Offered by IBM	DRI326/8GB	2
¹⁾ 16GB with single processor models. 4 DIMM slots per processor.							

FAMILY	MODEL	MAX	SLOTS	CAPACITY	MFG #	DATARAM #	BOARDS
eSeries 326	8848-xxx	32GB ¹⁾	8	4GB	39M5806, 73P3235	DRI326/4GB	2
				8GB	Not Offered by IBM	DRI326/8GB	2
¹⁾ 16GB with single processor models. 4 DIMM slots per processor. ²⁾ Memory must be ordered and installed in pairs of identical modules.							
xSeries 225	8647-2xX, 3xX, 4xX, 5xX, 6xX 8649-4xX, 5xX, 6xX	8GB	4	1GB	33L5039	DRIX235/1024	1 ¹⁾
				2GB	33L5040	DRIX235/2048	1 ¹⁾
¹⁾ Memory must be installed in pairs of identical modules.							
xSeries 226	8648-xxx 8848-xxx	12GB	6	2GB	39M5809, 73P2866	DRIX346/2GB	2
				4GB	39M5812, 73P2867	DRIX346/4GB	2
				4GB	39M5815, 73P4792	DRIX346S/4GB	2
The server supports single- and dual-rank DIMMs. Dual-rank DIMMs must be installed in slots 1 and 2 and are not supported in slots 3-6. All upgrades are single-rank except for the DRIX346/4GB, which is dual-rank.							
xSeries 235	8671-x1X, xAX,	12GB	6	1GB	33L5039	DRIX235/1024	1 ¹⁾
				2GB	33L5040	DRIX235/2048	1 ¹⁾
¹⁾ Memory must be installed in pairs of identical modules.							
xSeries 236	8841-xxx	16GB	8	2GB	39M5809, 73P2866	DRIX346/2GB	2
				4GB	39M5812, 73P2867	DRIX346/4GB	2
				4GB	39M5815, 73P4792	DRIX346S/4GB	2
The server supports single- and dual-rank DIMMs. If using both types, the dual-rank DIMMs must be installed first and are not supported in slots 5-8. No more than the equivalent of eight ranks is permitted. All upgrades are single-rank except for the DRIX346/4GB, which is dual-rank.							
xSeries 260	8865-xxx	64GB	16 ¹⁾	2GB	39M5809, 73P2866	DRIX346/2GB	2
				4GB	39M5812, 73P2867	DRIX346/4GB	2
				8GB	30R5145	DRIX346D/8GB	2
¹⁾ Memory is installed on two to four IBM Memory Cards (13M7409), each containing four DIMM slots. One Card is standard.							
xSeries 305	8673-x2X, x3X, 4AX	4GB	4	1GB	33L5039	DRIX235/1024	1
xSeries 335	8676-xxx, 8830-xxx	8GB	4	1GB	33L5039	DRIX235/1024	1 ¹⁾
				2GB	33L5040	DRIX235/2048	1 ¹⁾
¹⁾ Memory must be installed in pairs of identical modules.							
xSeries 336	8837-xxx	16GB	8	2GB	39M5809, 73P2866	DRIX346/2GB	2
				4GB	39M5812, 73P2867	DRIX346/4GB	2
				4GB	39M5815, 73P4792	DRIX346S/4GB	2
The server supports single- and dual-rank DIMMs. If using both types, the dual-rank DIMMs must be installed first and are not supported in slots 5-8. No more than the equivalent of eight ranks is permitted. All upgrades are single-rank except for the DRIX346/4GB, which is dual-rank.							
xSeries 345	8670-xxx	8GB	4	1GB	33L5039	DRIX235/1024	1 ¹⁾
				2GB	33L5040	DRIX235/2048	1 ¹⁾
¹⁾ Memory must be installed in pairs of identical modules.							
xSeries 346	8840-xxx	16GB	8	2GB	39M5809, 73P2866	DRIX346/2GB	2
				4GB	39M5812, 73P2867	DRIX346/4GB	2
				4GB	39M5815, 73P4792	DRIX346S/4GB	2
The server supports single- and dual-rank DIMMs. If using both types, the dual-rank DIMMs must be installed first and are not supported in slots 5-8. No more than the equivalent of eight ranks is permitted. All upgrades are single-rank except for the DRIX346/4GB, which is dual-rank.							
xSeries 365	8861-xRX, 8862-xRX	32GB	16 ¹⁾	2GB	73P2030	DRIX235/2048	1 ²⁾
¹⁾ 8 slots/16GB max with 8-slot IBM Memory Card (standard on some models), 16 slots/32GB max with 16-slot IBM Memory Card# 73P9710. ²⁾ DIMMs must be installed in matched sets of two.							
xSeries 366	8863-xxx	64GB	16 ¹⁾	2GB	39M5809, 73P2866	DRIX346/2GB	2
				4GB	39M5812, 73P2867	DRIX346/4GB	2
				8GB	30R5145	DRIX346D/8GB	2
¹⁾ Memory is installed on two to four IBM Memory Cards (13M7409), each containing four DIMM slots. One Card is standard.							
xSeries 382	8834-32X	16GB	8	1GB	33L5039	DRIX235/1024	1
				2GB	33L5040	DRIX235/2048	1

FAMILY	MODEL	MAX	SLOTS	CAPACITY	MFG #	DATARAM #	BOARDS
xSeries 450	8688-xRX	40GB ¹⁾	28	2GB	73P2030	DRIX235/2048	1 ²⁾
¹⁾ Although it is possible to physically install more memory, the system will only recognize 40GB maximum. ²⁾ Install DIMMs in matched pairs (2-way interleaving) or quads (4-way interleaving and memory mirroring support).							
xSeries 445	8870-xxx	64GB	16 ¹⁾	1GB	33L5039	DRIX235/1024	1
				2GB	33L5040	DRIX235/2048	1
¹⁾ Memory is installed on one or two SMP Expansion Modules (IBM# 02R1870/71). Each Expansion Module contains 16 DIMM slots (32GB per module). DIMMs must be installed in matched sets of two.							
xSeries 455	8855-xRX, xAX	56GB	28 ¹⁾	1GB	33L5039	DRIX235/1024	1
				2GB	33L5040	DRIX235/2048	1
¹⁾ DIMMs must be installed in matched sets of two. When using memory mirroring DIMMs must be installed in matched sets of four.							
xSeries 460	8872-xxx, 8874-xxx	64GB	16 ¹⁾	2GB	39M5809, 73P2866	DRIX346/2GB	2
				4GB	39M5812, 73P2867	DRIX346/4GB	2
				8GB	30R5145	DRIX346D/8GB	2
¹⁾ Memory is installed on two to four IBM Memory Cards (13M7409), each containing four DIMM slots. Two Cards are standard.							

INTELLISTATION PRO AND POWER WORKSTATIONS

IntelliStation M Pro	9229-xxx	8GB	4	2GB	41Y2729	DRIX3250/2GB	2
				4GB	41Y2732	DRIX3250/4GB	2
IntelliStation Z Pro	9228-xxx	32GB	8	2GB	39M5785	DRIX3650/2GB	2
				4GB	39M5791	DRIX3650/4GB	2
				8GB	39M5797	DRIX3650/8GB	2
IntelliStation Z Pro	6221-xxx	8GB	4	1GB	33L5039	DRIX235/1024	1 ¹⁾
				2GB	33L5040	DRIX235/2048	1 ¹⁾
¹⁾ Memory must be installed in pairs of identical modules.							
IntelliStation Z Pro	6223-xxx	16GB ¹⁾	6	2GB	39M5809, 73P2866	DRIX346/2GB	2
				4GB	39M5812, 73P2867	DRIX346/4GB	2
				4GB	39M5815, 73P4792	DRIX346S/4GB	2
¹⁾ Except for a single DIMM in the 1st slot, odd numbered DIMMs are not supported. DIMMs must be installed in matched pairs. If mixing single- and dual-rank DIMM pairs, the dual-rank DIMMs must be installed in slots 1 and 2. No more than the equivalent of eight ranks are supported. The DRIX346/4GB contains dual-rank DIMMs. 16GB max when 4GB DIMMs are available.							
IntelliStation POWER 185 Express	7047-185	8GB	4	2GB	4461	DRI185/2GB	2
				4GB	4463	DRI185/4GB	2
IntelliStation POWER 265	9112-265	8GB	16 ¹⁾	1GB	4121	DRI170-R5/1024	2
¹⁾ DIMMs are installed on an IBM memory card. The card supports 16 DIMMs (8 pairs)							
IntelliStation POWER 275	9114-275	16GB	8	4GB	4448, 4445	DRI615/4096	4
				8GB	4449	DRI615/8192	4
IntelliStation POWER 285 Express	9111-285	32GB	8	2GB	1931	DRI550D2/2GB	2 ¹⁾
				4GB	1932	DRI550D2/4GB	2 ¹⁾
				8GB	1934	DRI550D2/8GB	2 ¹⁾
¹⁾ DIMMs must be installed in matched groups of fours (quads) for best performance.							



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February 27, 2008

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Subject: International Technical Support Agreement No. MW00404

The following information outlines service provided by IBM for Dataram Corporation products in the United States and Puerto Rico. It supersedes previous communications, both oral and written. The service described will be subject to change with IBM's business practices and any amended contract.

IBM and Dataram Corporation entered into the subject International Technical Support Agreement (the "Agreement"), effective February 14, 2008. The Agreement allows IBM to provide service on Dataram Corporation products sold after the effective date of the Agreement and installed in or attached to IBM machines in the United States and Puerto Rico.

In accordance with the terms of the Agreement, during the Dataram Corporation warranty period, IBM will provide service to replace Dataram Corporation products which are eligible for service under the Agreement, have an IBM-approved field replaceable unit ("FRU") label attached, and are installed in or attached to IBM machines covered by either an IBM maintenance agreement or a purchased upgrade to an IBM machine warranty. The IBM machines are AMD-based and Intel-based: desktops, mobile devices, and servers.

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Should you have any questions, please feel free to contact Mr. David Bodden (Project Manager, IBM Global Services) at 866-301-6889.

Sincerely,

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Customer Support

Customer Support representatives are available for Asia, Europe and the USA to help with detailed technical information, installation questions and troubleshooting.

For the latest information, please consult Dataram's Memory Configurator and Product Support FAQ at <http://www.dataram.com>. Dataram memory products are covered by a lifetime warranty. Complete warranty information is also available on Dataram's website.

Prior to returning products to Dataram, please contact Customer Support via email or telephone to obtain an RMA (Return Material Authorization) tracking number

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About Dataram

Founded in 1967, Dataram is a worldwide leader in the design and manufacture of reliable, high capacity and innovative memory solutions. Dataram provides customized memory solutions for OEMs and memory upgrades for leading brands including HP, IBM, SGI, Sun Microsystems, Dell, Intel and AMD Opteron. For more information about Dataram's memory offerings, visit www.dataram.com