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Technical and Applications Literature

Selector Guide and Cross References

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MOTOROLA
Semiconductor Products Sector

MOTOROLA

Technical and Applications Literature

Selector Guide and Cross References

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Introduction

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Motorola attempts to fill the need for applications information concerning today's highly complex electronic components. Each year dozens of authors from colleges and universities, and from the industry, add their individual contributions to the collective literature. From these, Motorola has selected a number of texts which add substantially to the comprehension and applications of some of the more complex products. By buying these in large quantities and providing them to customers at lower than retail cost, Motorola hopes to foster a more comprehensive acquaintance with these products at greatly reduced prices.

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Applications Documents

Introduction

Motorola's Applications Literature provides guidance to the effective use of its semiconductor families across a broad range of practical applications. Many different topics are discussed – in a way that is not possible in a device data sheet – from detailed circuit designs complete with PCB layouts, through matters to consider when embarking on a design, to complete overviews of a microprocessor family and its design philosophy.

Information is presented in the form of Application Notes and Article Reprints (originally published[1] in the electronics press), plus detailed Engineering Bulletins, Benchbriefs[2], Design Concepts and APRs[3]. This section provides a guide to these items; it includes a Selector Guide listing documents under subject or device-type headings, and a Device Cross Reference listing them by featured devices. Documents new to this issue are highlighted.

The Application Notes, Article Reprints, Engineering Bulletins, and Design Concepts are included to enhance the user's knowledge and understanding of Motorola's products. However, before attempting to design-in a device referenced in these documents, contact the local Motorola supplier for product availability and available application support.

Each section of the Applications Literature Selector Guide also includes cross references to a selection from Motorola's extensive range of Data Books, Brochures, Technical Bulletins and Selector Guides which may provide further relevant information.

Information in this document is given in good faith and no liability is accepted for errors or omissions. Includes literature available as of June 1, 1997.

1 Article Reprints are reproduced with the permission of the original publisher.

2 A Benchbrief is an Engineering Bulletin produced by Motorola Asia-Pacific Group.

3 APRs are applications documents relating specifically to Digital Signal Processing.

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	AN968/D	A Digital Voice/Data Telephone Set
MC145426	AN943/D	UDLT Evaluation Board
	AN948/D	Data Multiplexing Using the Universal Digital Loop Transceiver and the...
	AN949/D	A Voice/Data Modem Using the MC145422/26, MC145428 and MC14403
	AN968/D	A Digital Voice/Data Telephone Set
MC145428	AN948/D	Data Multiplexing Using the Universal Digital Loop Transceiver and the...
	AN949/D	A Voice/Data Modem Using the MC145422/26, MC145428 and MC14403
	AN968/D	A Digital Voice/Data Telephone Set
MC145429	AN1054/D	ISDN System Development Using MC145490EVK/MC145491EVK Development...
MC145436A	*AN1603/D	Providing a POTS Phone in an ISDN or Similar Environment
MC145440	AN-HK-01/H	300 Baud Smart Modem with Intelligent MCU Controller
MC145441	AN-HK-01/H	300 Baud Smart Modem with Intelligent MCU Controller
MC145445	AN-HK-01/H	300 Baud Smart Modem with Intelligent MCU Controller
MC145453	AN1326/D	Barometric Pressure Measurement Using Semiconductor Pressure Sensors
	AN1536/D	Digital Boat Speedometers
MC145472	AN474/D	ADS302 Monitor for ISDN Development
MC145474	AN445/D	Software Model for the Implementation of I.430 ISDN Physical Layer on...
	AN1054/D	ISDN System Development Using MC145490EVK/MC145491EVK Development...
MC145475	AN445/D	Software Model for the Implementation of I.430 ISDN Physical Layer on...

MC145484	*AN1603/D	Providing a POTS Phone in an ISDN or Similar Environment
MC145488	AN1054/D	ISDN System Development Using MC145490EVK/MC145491EVK Development...
MC145490EVK	AN1054/D	ISDN System Development Using MC145490EVK/MC145491EVK Development...
MC145494	AN474/D	ADS302 Monitor for ISDN Development
MC145494EVK	AN474/D	ADS302 Monitor for ISDN Development
MC145554	AN1054/D	ISDN System Development Using MC145490EVK/MC145491EVK Development...
MC146805G2	AN1011/D	MC146805G2 to MC68HC05C4 Conversion
MC146818	AN864A/D AN894A/D	Interfacing Multiplexed Bus Peripherals with Non-Multiplexed MPUs User Considerations for MC146818 Real Time Clock Applications
MC146823	AN864A/D	Interfacing Multiplexed Bus Peripherals with Non-Multiplexed MPUs
MCCS142234	AN1408/D	Power Dissipation for Active SCSI Terminators
MCCS142235	AN1408/D	Power Dissipation for Active SCSI Terminators
MCCS142237	AN1408/D	Power Dissipation for Active SCSI Terminators
MCD210	AN492/D	A Video Display Board for CD-i Development
MCD1460	AN492/D	A Video Display Board for CD-i Development
MCM5V4800A	AN1202/D	Battery Back-Up of Self-Refreshing Dynamic Random Access Memory
MCM60L256	AN441/D	MC68HC05E0 EPROM Emulator
MCM67B518	AN1223/D	A Zero Wait State Secondary Cache for Intel's Pentium
MCM67B618	AN1223/D	A Zero Wait State Secondary Cache for Intel's Pentium
MCM69F536	AN1261/D	Use of 32K x 36 FSRAM in Non-Parity Applications
MCM69P536	AN1261/D	Use of 32K x 36 FSRAM in Non-Parity Applications
MCM4180	AR270/D	Designing a Cache for a Fast Processor
MCM6164	ANE426/D	An MC68030 32-bit High Performance Minimum System
MCM6206	*AN1582/D	Board and Interface Design for AutoBahn and Spanceiver
MCM6287	AR241/D DCE402/D	Building Fast SRAMs with no Process 'Tricks' MC68030 25MHz Benchmarking Board
MCM6288	AR241/D	Building Fast SRAMs with no Process 'Tricks'
MCM6292	AR256/D AR258/D AR260/D	Motorola's Radical SRAM Design Speeds Systems 40% High Frequency System Operation Using Synchronous SRAMs Enhancing System Performance Using Synchronous SRAMs
MCM6293	AR256/D AR258/D AR260/D	Motorola's Radical SRAM Design Speeds Systems 40% High Frequency System Operation Using Synchronous SRAMs Enhancing System Performance Using Synchronous SRAMs
MCM6294	AR256/D AR258/D AR260/D	Motorola's Radical SRAM Design Speeds Systems 40% High Frequency System Operation Using Synchronous SRAMs Enhancing System Performance Using Synchronous SRAMs
MCM6295	AR256/D AR258/D AR260/D	Motorola's Radical SRAM Design Speeds Systems 40% High Frequency System Operation Using Synchronous SRAMs Enhancing System Performance Using Synchronous SRAMs
MCM6665	AN896A/D	Serial I/O, Timer and Interface Capabilities of the MC68901 Multi-Function...
MCM6665L15	AN897/D	MC68008 Minimum Configuration System
MCM54400	APR405/D	Minimal Logic DRAM Interface for the DSP56156
MCM62350	AR270/D	Designing a Cache for a Fast Processor
MCM62351	AR270/D	Designing a Cache for a Fast Processor
MCM62486	AN1209/D	The Motorola BurstRAM
MCM91000	AN1125/D	DRAM Interface to the MC88200 M Bus
MCM514256	APR11/D	DSP56001 Interface Techniques and Examples
MCM514400	AN1063/D	DRAM Controller for the MC68340

MCM518128	AN1059/D	Pseudo Static RAM Simplifies Interfacing with Microprocessors
MCR08BT	AN1538/D	Water Level Control for Wells Using Small Surface Mount Devices
MCS3201	AN1123/D	MCS3201 Floppy Disk Controller in MC68000 System
MDC1000A	AN1101/D	One-Horsepower Off-Line Brushless Permanent Magnet Motor Drive
	AN1319/D	Design Considerations for a Low Voltage N-Channel H-Bridge Motor Drive
	AR341/D	Power MOSFET 1HP Brushless DC Motor Drive Withstands Commutation Stresses
	EB142/D	The MOSFET Turn-Off Device – A New Circuit Building Block
MDC1000B	EB142/D	The MOSFET Turn-Off Device – A New Circuit Building Block
MDC1000C	EB142/D	The MOSFET Turn-Off Device – A New Circuit Building Block
MFE2012	AN211A/D	Field Effect Transistors in Theory and Practice
MFE4007	AN211A/D	Field Effect Transistors in Theory and Practice
MGRB2025CT	AR607/D	Modular DC-DC Converter Sends Power Density Soaring
MHPM7A12A120A	AN1524/D	AC Motor Drive Using Integrated Power Stage
MHPM7A15A60A	AN1524/D	AC Motor Drive Using Integrated Power Stage
MHPM7A16A120B	AN1524/D	AC Motor Drive Using Integrated Power Stage
MHPM7A20A60A	AN1524/D	AC Motor Drive Using Integrated Power Stage
MHPM7A30A60B	AN1524/D	AC Motor Drive Using Integrated Power Stage
MHPM7A8A120A	AN1524/D	AC Motor Drive Using Integrated Power Stage
MHW612	EB107/D	Mounting Considerations for Motorola RF Power Modules
MHW613	EB107/D	Mounting Considerations for Motorola RF Power Modules
MHW709	EB107/D	Mounting Considerations for Motorola RF Power Modules
MHW710	EB107/D	Mounting Considerations for Motorola RF Power Modules
MHW720	EB107/D	Mounting Considerations for Motorola RF Power Modules
MHW801	AN1106/D	Considerations in Using the MHW801 and MHW851 Series RF Power Modules
MHW808	EB107/D	Mounting Considerations for Motorola RF Power Modules
MHW820	EB107/D	Mounting Considerations for Motorola RF Power Modules
MHW851	AN1106/D	Considerations in Using the MHW801 and MHW851 Series RF Power Modules
MHW10000	AR333/D	RF Modems Simplified
MJ16000A	AN951/D	Drive Optimization for 1.0kV Off-Line Converter Transistors
MJ16004	AN952/D	Ultrafast Recovery Rectifiers Extend Power Transistor SOA
MJ16008	AN952/D	Ultrafast Recovery Rectifiers Extend Power Transistor SOA
MJ16012	AN952/D	Ultrafast Recovery Rectifiers Extend Power Transistor SOA
MJ16016	AN952/D	Ultrafast Recovery Rectifiers Extend Power Transistor SOA
MJ16018	AN952/D	Ultrafast Recovery Rectifiers Extend Power Transistor SOA
MJD18002D2	*AN1577/D	Motorola's D2 Series Transistors for Fluorescent Converters
MJE1123	AR514/D	Build Ultra-Low Dropout Regulator
MJE13002	AR180/D	Electronic Ballasts
MJE16106	EB85A/D	Full-Bridge Switching Power Supplies
MJE18002D2	*AN1577/D	Motorola's D2 Series Transistors for Fluorescent Converters
MJE18004	AN1080/D	External-Sync Power Supply with Universal Input Voltage Range for Monitors
MJE18004D2	*AN1577/D	Motorola's D2 Series Transistors for Fluorescent Converters
MJE18604D2	*AN1577/D	Motorola's D2 Series Transistors for Fluorescent Converters
MJH16006A	AN951/D	Drive Optimization for 1.0kV Off-Line Converter Transistors
MJH16106	EB85A/D	Full-Bridge Switching Power Supplies
MJH16110	EB85A/D	Full-Bridge Switching Power Supplies
MJH18010	AN479/D	Universal Input Voltage Range Power Supply for High Resolution Monitors...
MJW18010	AN1320/D	300 Watt, 100kHz Converter Utilizes Economical Bipolar Planar Power Transistors

MKP9V240	AR450/D	Characterizing Overvoltage Transient Suppressors
MMAS40G	AN1559/D	Application Considerations for a Switched Capacitor Accelerometer
MMAS40G10D	*AN1612/D	Shock and Mute Pager Applications Using Accelerometer
	*AN4004/D	±2g Acceleration Sensing Module Based on a ±40g Integrated Accelerometer
MMAS40G10S	*AN1611/D	Impact and Tilt Measurement Using Accelerometer
MMBT3904L	AR560/D	Simple Pressure Switches Comprise Transducers, Comparators and Op Amps
MMDF2C02E	AN1520/D	HDTMOS Power MOSFETs Excel in Synchronous Rectifier Applications
MMDF2C05E	AN1321/D	Brushless DC Motor Drive Incorporates Small Outline Integrated Circuit...
MMDF2P02HD	AN1520/D	HDTMOS Power MOSFETs Excel in Synchronous Rectifier Applications
MMG05N60E	AN1576/D	Reduce Compact Fluorescent Cost with Motorola's PowerLux IGBT
MMSF3P02HD	AN1520/D	HDTMOS Power MOSFETs Excel in Synchronous Rectifier Applications
MMSF5N03HD	AN1520/D	HDTMOS Power MOSFETs Excel in Synchronous Rectifier Applications
MMSF3300R2	*AR616/D	Power MOSFET Combines Low RDS(on), High Speed Switching, and Soft Recovery
MOC2A40	AN1511/D	Applications of the MOC2A40 and MOC2A60 Series POWER OPTO Isolators
	EB200/D	An Evaluation Board for the MOC2A40 Series and MOC2A60 Series – Optically...
MOC2A60	AN1511/D	Applications of the MOC2A40 and MOC2A60 Series POWER OPTO Isolators
	AN1516/D	Liquid Level Control Using a Motorola Pressure Sensor
	AN1538/D	Water Level Control for Wells Using Small Surface Mount Devices
	EB200/D	An Evaluation Board for the MOC2A40 Series and MOC2A60 Series – Optically...
MOC3012	AN1515/D	Optically Isolated Phase Controlling Circuit Solution
MOC3023	AN1515/D	Optically Isolated Phase Controlling Circuit Solution
MOC3051	AN1515/D	Optically Isolated Phase Controlling Circuit Solution
MOC5009	AN1515/D	Optically Isolated Phase Controlling Circuit Solution
MOC8101	AN1320/D	300 Watt, 100kHz Converter Utilizes Economical Bipolar Planar Power Transistors
MOC8102	AN1078/D	New Components Simplify Brush DC Motor Drives
	AN1080/D	External-Sync Power Supply with Universal Input Voltage Range for Monitors
	AN1101/D	One-Horsepower Off-Line Brushless Permanent Magnet Motor Drive
	AN1108/D	Design Considerations for a Two Transistor, Current Mode Forward Converter
	AN1327/D	Very Wide Input Voltage Range, Off-line Flyback Switching Power Supply
	AR341/D	Power MOSFET 1HP Brushless DC Motor Drive Withstands Commutation Stresses
	EB126/D	Ultra-Rapid Nickel-Cadmium Battery Charger
MPA1000	AN1588/D	Using Mentor Graphics' Design Architect ver. A3 with the MPA Design System
	AN1589/D	Using OrCAD's Capture and Simulate with the MPA Design System
	AN1592/D	Using VIEWlogic's Workview Office 7.0 with the MPA Design System
MPA1036	AN1566/D	In System Prototyping Using HDLs and FPGAs
MPA1064KE	AN1595/D	Programming Large Configuration Files into Smaller Serial PROMs
MPA17128	AN1595/D	Programming Large Configuration Files into Smaller Serial PROMs
MPC105	AN1269/D	PowerPC Microprocessor Clock Modes
MPC106	AN1265/D	Configuring the MPC2604GA Integrated L2 Cache with the MPC106
	AN1269/D	PowerPC Microprocessor Clock Modes
MPC505	AN1281/D	MPC505 Interrupts
	*AN1282/D	Board Strategies for Ensuring Optimum Frequency Synthesizer Performance
MPC509	*AN1282/D	Board Strategies for Ensuring Optimum Frequency Synthesizer Performance
MPC601	AN486/D	Low Cost MPC601 EVM
	AN1271/D	PowerPC 60x Microprocessor to AD1848 CODEC Interface
	AN1272/D	Spreadsheet Estimation of CPU-DRAM Subsystem Power Consumption
	*AN1564/D	Interfacing to the PowerPC with a Motorola Programmable Array
	AN4000/D	Visual Debug for MPC60x
	DC415/D	Interfacing MPC60x to MC68360
	EB418/D	PowerPC 601, PowerPC 603 and PowerPC 604 Common Bus

MPC602	AN1269/D	PowerPC Microprocessor Clock Modes
MPC603	AN1269/D	PowerPC Microprocessor Clock Modes
	AN1271/D	PowerPC 60x Microprocessor to AD1848 CODEC Interface
	AN1272/D	Spreadsheet Estimation of CPU-DRAM Subsystem Power Consumption
	*AN1564/D	Interfacing to the PowerPC with a Motorola Programmable Array
	AN4000/D	Visual Debug for MPC60x
	AR359/D	The Making of the PowerPC
	DC415/D	Interfacing MPC60x to MC68360
	EB418/D	PowerPC 601, PowerPC 603 and PowerPC 604 Common Bus
MPC603e	AN1269/D	PowerPC Microprocessor Clock Modes
	AN1294/D	Multiprocessor Systems and the PowerPC 603e Microprocessor
MPC604	AN1269/D	PowerPC Microprocessor Clock Modes
	AN1271/D	PowerPC 60x Microprocessor to AD1848 CODEC Interface
	AN1272/D	Spreadsheet Estimation of CPU-DRAM Subsystem Power Consumption
	AN1291/D	Avoiding Multiprocessing Paradoxes with the PowerPC 604 Microprocessor
	*AN1564/D	Interfacing to the PowerPC with a Motorola Programmable Array
	AN4000/D	Visual Debug for MPC60x
	DC415/D	Interfacing MPC60x to MC68360
	EB418/D	PowerPC 601, PowerPC 603 and PowerPC 604 Common Bus
MPC604e	AN1269/D	PowerPC Microprocessor Clock Modes
MPC620	AR360/D	PowerPC 620 Soars
MPC2604GA	AN1265/D	Configuring the MPC2604GA Integrated L2 Cache with the MPC106
MPF102	AN211A/D	Field Effect Transistors in Theory and Practice
MPF960	AN1543/D	Electronic Lamp Ballast Design
MPIC21xx	EB206/D	Solving Noise Problems in High Power, High Frequency Control IC Driven...
	EB208/D	Design Check List for MPIC21XX Control ICs
MPIC2113	EB207/D	High Current Buffer for Control ICs
MPIC2151	AN1546/D	High Voltage, High Side Driver for Electronic Lamp Ballast Applications
	AN1576/D	Reduce Compact Fluorescent Cost with Motorola's PowerLux IGBT
MPM3002	AN1078/D	New Components Simplify Brush DC Motor Drives
	AN1300/D	Interfacing Microcomputers to Fractional Horsepower Motors
	AN1301/D	Interfacing Analog Inputs to Fractional Horsepower Motors
	EB123/D	A Simple Brush Type DC Motor Controller
	EB128/D	Simple, Low-Cost Motor Controller
MPM3003	AN1046/D	Three Piece Solution for Brushless Motor Controller Design
MPM3004	AN1120/D	Basic Servo Loop Motor Control Using the MC68HC05B6 MCU
MPM3017	AN1319/D	Design Considerations for a Low Voltage N-Channel H-Bridge Motor Drive
MPN3401	AN753/D	Scanning Logic for RF Scanner-Receivers Using CMOS Integrated Circuits
MPN3402	AN753/D	Scanning Logic for RF Scanner-Receivers Using CMOS Integrated Circuits
MPSA56	AN1300/D	Interfacing Microcomputers to Fractional Horsepower Motors
MPSA06	AN1300/D	Interfacing Microcomputers to Fractional Horsepower Motors
MPSG1000	AN1076/D	Speeding up Horizontal Outputs
	AN1078/D	New Components Simplify Brush DC Motor Drives
MPSW06	AN1300/D	Interfacing Microcomputers to Fractional Horsepower Motors
MPX10	AN935/D	Compensating for Nonlinearity in the MPX10 Series Pressure Transducer
	AN1556/D	Designing Sensor Performance Specifications for MCU-based Systems
	AN1557/D	A Cookbook Approach to Designing a Differential-Signal Amplifier for Sensor...
	AN1585/D	High-Performance, Dynamically-Compensated Smart Sensor System
MPX11	AN935/D	Compensating for Nonlinearity in the MPX10 Series Pressure Transducer
MPX12	AN935/D	Compensating for Nonlinearity in the MPX10 Series Pressure Transducer
MPX50	AN935/D	Compensating for Nonlinearity in the MPX10 Series Pressure Transducer

MPX100	AN935/D	Compensating for Nonlinearity in the MPX10 Series Pressure Transducer
MPX200	AN919/D	Using the Motorola X-ducer Pressure Sensor Data Sheet
	AN935/D	Compensating for Nonlinearity in the MPX10 Series Pressure Transducer
MPX201	AN919/D	Using the Motorola X-ducer Pressure Sensor Data Sheet
MPX700	AN1105/D	A Digital Pressure Gauge Using the Motorola MPX700 Series Differential...
MPX2000	AN1097/D	Calibration-Free Pressure Sensor System
	AN1309/D	Compensated Sensor Bar Graph Pressure Gauge
	AN1322/D	Applying Semiconductor Sensors to Bar Graph Pressure Gauges
	AN1325/D	Amplifiers for Semiconductor Pressure Sensors
	AN1513/D	Mounting Techniques and Plumbing Options of Motorola's MPX Series Pressure...
	AN1586/D	Designing a Homemade Digital Output for Analog Voltage Output Sensors
MPX2010	AN1315/D	An Evaluation System Interfacing the MPX2000 Series Pressure Sensors to...
	AN1324/D	A Simple Sensor Interface Amplifier
	AN1325/D	Amplifiers for Semiconductor Pressure Sensors
	AN1516/D	Liquid Level Control Using a Motorola Pressure Sensor
	AN1551/D	Low-Pressure Sensing with the MPX2010 Pressure Sensor
	AN1556/D	Designing Sensor Performance Specifications for MCU-based Systems
	AN1557/D	A Cookbook Approach to Designing a Differential-Signal Amplifier for Sensor...
	AN1584/D	"Very Low Pressure" Smart Sensing Solution with Serial Communications...
MPX2050	AN1315/D	An Evaluation System Interfacing the MPX2000 Series Pressure Sensors to...
	AN1324/D	A Simple Sensor Interface Amplifier
	AN1516/D	Liquid Level Control Using a Motorola Pressure Sensor
MPX2100	AN1082/D	Simple Design for a 4-20mA Transmitter Interface Using a Motorola Pressure...
	AN1315/D	An Evaluation System Interfacing the MPX2000 Series Pressure Sensors to...
	AN1316/D	Frequency Output Conversion for MPX2000 Series Pressure Sensors
	AN1318/D	Interfacing Semiconductor Pressure Sensors to Microcomputers
	AN1324/D	A Simple Sensor Interface Amplifier
	AN1513/D	Mounting Techniques and Plumbing Options of Motorola's MPX Series Pressure...
	AN1516/D	Liquid Level Control Using a Motorola Pressure Sensor
	AN1517/D	Pressure Switch Design with Semiconductor Pressure Sensors
MPX2100A	AN1326/D	Barometric Pressure Measurement Using Semiconductor Pressure Sensors
MPX2100DP	AR560/D	Simple Pressure Switches Comprise Transducers, Comparators and Op Amps
MPX2200	AN1100/D	Analog to Digital Converter Resolution Extension Using a Motorola Pressure...
	AN1315/D	An Evaluation System Interfacing the MPX2000 Series Pressure Sensors to...
	AN1324/D	A Simple Sensor Interface Amplifier
	AN1513/D	Mounting Techniques and Plumbing Options of Motorola's MPX Series Pressure...
	AN1516/D	Liquid Level Control Using a Motorola Pressure Sensor
MPX2700	AN1315/D	An Evaluation System Interfacing the MPX2000 Series Pressure Sensors to...
	AN1324/D	A Simple Sensor Interface Amplifier
	AN1513/D	Mounting Techniques and Plumbing Options of Motorola's MPX Series Pressure...
MPX5050GP	AN1571/D	Digital Blood Pressure Meter
MPX5100	AN1304/D	Integrated Sensor Simplifies Bar Graph Pressure Gauge
	AN1305/D	An Evaluation System for Direct Interface of the MPX5100 Pressure Sensor...
	AN1307/D	A Simple Pressure Regulator Using Semiconductor Pressure Transducers
	AN1322/D	Applying Semiconductor Sensors to Bar Graph Pressure Gauges
	AN1513/D	Mounting Techniques and Plumbing Options of Motorola's MPX Series Pressure...
	AN1518/D	Using a Pulse Width Modulated Output with Semiconductor Pressure Sensors
	AR502S/D	The Design of a Monolithic Signal Conditioned Pressure Sensor
MPX7100	AN1513/D	Mounting Techniques and Plumbing Options of Motorola's MPX Series Pressure...
MPX7100AP	AN1552/D	MPX7100AP: The Sensor at the Heart of Solid-State Altimeter Applications
MR2520L	AR450/D	Characterizing Overvoltage Transient Suppressors
MRF50	EB104/D	Get 600 Watts RF from Four Power FETs

MRF141G	AN1041/D	Mounting Procedures for Very High Power RF Transistors
MRF150	AR141/D	Applying Power MOSFETs in Class D/E RF Power Amplifier Design
MRF151G	AN1041/D	Mounting Procedures for Very High Power RF Transistors
MRF153	AN1041/D	Mounting Procedures for Very High Power RF Transistors
MRF154	AN1041/D	Mounting Procedures for Very High Power RF Transistors
	AR176/D	New MOSFETs Simplify High Power RF Amplifier Design
	AR347/D	A Compact 1kW 2-50MHz Solid-State Linear Amplifier
MRF155	AN1041/D	Mounting Procedures for Very High Power RF Transistors
MRF175G	AN1041/D	Mounting Procedures for Very High Power RF Transistors
MRF176G	AN1041/D	Mounting Procedures for Very High Power RF Transistors
MRF237	AN955/D	A Cost Effective VHF Amplifier for Land Mobile Radios
MRF260	EB90/D	Low-Cost VHF Amplifier Has Broadband Performance
MRF262	EB90/D	Low-Cost VHF Amplifier Has Broadband Performance
MRF264	EB93/D	60 Watt VHF Amplifier Uses Splitting/Combining Techniques
MRF422	EB27A/D	Get 300 Watts PEP Linear Across 2 to 30MHz from this Push-Pull Amplifier
MRF430	AN1041/D	Mounting Procedures for Very High Power RF Transistors
MRF553	AN938/D	Mounting Techniques for PowerMacro Transistor
MRF630	EB109/D	Low Cost UHF Device Gives Broadband Performance at 3.0 Watts Output
MRF873	AN1526/D	RF Power Device Impedances: Practical Considerations
MRF1946A	AN955/D	A Cost Effective VHF Amplifier for Land Mobile Radios
MRF2001	EB89/D	A 1 Watt, 2.3GHz Amplifier
MRFIC2401	AR597/D	GaAs RF ICs Target 2.4GHz Frequency Band
MRFIC2403	AR597/D	GaAs RF ICs Target 2.4GHz Frequency Band
MRFIC2404	AR597/D	GaAs RF ICs Target 2.4GHz Frequency Band
MTB3N120E	AN1327/D	Very Wide Input Voltage Range, Off-line Flyback Switching Power Supply
MTB23PO6E	AN1317/D	High-Current DC Motor Drive Uses Low On-Resistance Surface Mount MOSFETs
MTB30P06V	*AN1607/D	ITC122 Low Voltage Micro to Motor Interface
MTB36N06E	AN1317/D	High-Current DC Motor Drive Uses Low On-Resistance Surface Mount MOSFETs
MTB36N06V	*AN1607/D	ITC122 Low Voltage Micro to Motor Interface
MTD1N50E	AN1576/D	Reduce Compact Fluorescent Cost with Motorola's PowerLux IGBT
MTD5N10E	EB207/D	High Current Buffer for Control ICs
MTD6P10E	EB207/D	High Current Buffer for Control ICs
MTD10N05E	AR323/D	Managing Heat Dissipation in DPAK Surface-Mount Power Packages
MTD20N03HDL	AN1547/D	A DC to DC Converter for Notebook Computers Using HDTMOS and Synchronous...
MTH5N100	AR326/D	High-Voltage MOSFETs Simplify Flyback Design
MTH7N50	EB85A/D	Full-Bridge Switching Power Supplies
MTH13N50	EB85A/D	Full-Bridge Switching Power Supplies
MTH15N20	EB85A/D	Full-Bridge Switching Power Supplies
MTP2N50	AN1090/D	Understanding and Predicting Power MOSFET Switching Behavior
MTP2N50E	AN1546/D	High Voltage, High Side Driver for Electronic Lamp Ballast Applications
MTP4N50	AN929/D	Insuring Reliable Performance from Power MOSFETs
	EB85A/D	Full-Bridge Switching Power Supplies
MTP4N50E	AN1108/D	Design Considerations for a Two Transistor, Current Mode Forward Converter
MTP4N90	AN1080/D	External-Sync Power Supply with Universal Input Voltage Range for Monitors
MTP7N20	EB85A/D	Full-Bridge Switching Power Supplies
MTP8N50	EB85A/D	Full-Bridge Switching Power Supplies
MTP8N50E	AN1543/D	Electronic Lamp Ballast Design

MTP10N10M	AN976/D	A New High Performance Current Mode Controller Teams Up with Current Sensing...
	AN1001/D	Understanding SENSEFETs
	AR160/D	Lossless Current Sensing with SENSEFETs Enhances Motor Drive
MTP10N25	EB85A/D	Full-Bridge Switching Power Supplies
	EB141/D	Boost MOSFETs Drive Current in Solid State AC Relay
MTP10N40E	EB206/D	Solving Noise Problems in High Power, High Frequency Control IC Driven...
MTP12N10	AN1042/D	High Fidelity Switching Audio Amplifiers Using TMOS Power MOSFETs
MTP12N20	EB85A/D	Full-Bridge Switching Power Supplies
MTP12P10	AN1042/D	High Fidelity Switching Audio Amplifiers Using TMOS Power MOSFETs
MTP15N05	AR164/D	Good RF Construction Practices and Techniques
MTP23N25E	AR341/D	Power MOSFET 1HP Brushless DC Motor Drive Withstands Commutation Stresses
MTP40N06M	AN1078/D	New Components Simplify Brush DC Motor Drives
MTP50N05E	EB201/D	High Cell Density MOSFETs
MTP75N05HD	EB201/D	High Cell Density MOSFETs
MTP3055E	AN1102/D	Interfacing Power MOSFETs to Logic Devices
	EB126/D	Ultra-Rapid Nickel-Cadmium Battery Charger
MTP3055EL	AN1076/D	Speeding up Horizontal Outputs
	AN1102/D	Interfacing Power MOSFETs to Logic Devices
MTW23N25E	AN1101/D	One-Horsepower Off-Line Brushless Permanent Magnet Motor Drive
MUN2111T1	AN1538/D	Water Level Control for Wells Using Small Surface Mount Devices
MUR150	EB407/D	Basic Halogen Converter
MUR180E	AN1320/D	300 Watt, 100kHz Converter Utilizes Economical Bipolar Planar Power Transistors
MUR450	EB407/D	Basic Halogen Converter
MUR804PT	EB85A/D	Full-Bridge Switching Power Supplies
MUR3015PT	EB85A/D	Full-Bridge Switching Power Supplies
MUR3040PT	EB85A/D	Full-Bridge Switching Power Supplies
MUR8100	AN952/D	Ultrafast Recovery Rectifiers Extend Power Transistor SOA
MUR10010CT	EB85A/D	Full-Bridge Switching Power Supplies
MUR10015CT	EB85A/D	Full-Bridge Switching Power Supplies
MUR20010CT	EB85A/D	Full-Bridge Switching Power Supplies
P6KE30	AR450/D	Characterizing Overvoltage Transient Suppressors
PAL16R6	APR405/D	Minimal Logic DRAM Interface for the DSP56156
PBGA	AN1231/D	Plastic Ball Grid Array (PBGA)
	AN1232/D	Thermal Performance of Plastic Ball Grid Array (PBGA) Packages for Next...
PCF8573	AN1066/D	Interfacing the MC68HC05C5 SIOP to an I²C Peripheral
SC371016	AN1212/D	J1850 Multiplex Bus Communication Using the MC68HC705C8 and the...
SN75172	AN781A/D	Revised Data-Interface Standards
SN75173	AN781A/D	Revised Data-Interface Standards
SN75174	AN781A/D	Revised Data-Interface Standards
SN75175	AN781A/D	Revised Data-Interface Standards
SX1451	*AN1582/D	Board and Interface Design for AutoBahn and Spanceiver
TCA3385	AN488/D	Telephone Handset with DTMF using the 68HC05F4
TCA3388	AN488/D	Telephone Handset with DTMF using the 68HC05F4
TDA3048	AN465/D	Secure Remote Control using the 68HC05K1 and the 68HC05P3
TL431	EB85A/D	Full-Bridge Switching Power Supplies
TL431CLP	AN1108/D	Design Considerations for a Two Transistor, Current Mode Forward Converter
TL494	EB85A/D	Full-Bridge Switching Power Supplies

TP9383	AN1037/D	Solid State Power Amplifier, 300W FM, 88-108MHz
TPV375	AN1028/D	35/50 Watt Broadband (160-240MHz) Push-Pull TV Amplifier Band III
TPV593	AN1039/D	470-860 MHz Broadband Amplifier 5W
TPV596	AN1029/D	TV Transposers Band IV and V Po = 0.5W/1.0W
TPV597	AN1030/D	1W/2W Broadband TV Amplifier Band IV and V
TZA120	AN1082/D	Simple Design for a 4-20mA Transmitter Interface Using a Motorola Pressure...
UAA1041	AN428/D	Automotive Direction Indicator with Short Circuit Detection Using the...
UC3842A	AN1080/D	External-Sync Power Supply with Universal Input Voltage Range for Monitors
UC3843	EB126/D	Ultra-Rapid Nickel-Cadmium Battery Charger
UC3843A	AN1080/D	External-Sync Power Supply with Universal Input Voltage Range for Monitors
UC3844AN	AN1108/D	Design Considerations for a Two Transistor, Current Mode Forward Converter
XGR2018CT	AR564/D	Dual 180V GaAs Schottky Diode Rectifies 10A/leg

Applications Documents Literature Selector Guide

This selector guide lists applications documents under subject and device-type headings. It also includes cross references to some of Motorola's other literature which may provide further relevant information.

A/D and D/A Conversion

AN477/D	Simple A/D for MCUs without Built-In A/D Converters
AN559/D	A Single Ramp Analog-to-Digital Converter
AN587/D	Analysis and Design of the Op Amp Current Source
AN702/D	High Speed Digital-to-Analog and Analog-to-Digital Techniques
AN926/D	Techniques for Improving the Settling Time of a DAC and Op-Amp Combination
AN1058/D	Reducing A/D Errors in Microcontroller Applications
AN1062/D	Using the QSPI for Analog Data Acquisition
AN1211/D	Interfacing DACs and ADCs to the Neuron IC
AN1222/D	Arithmetic Waveform Synthesis with the HC05/08 MCUs
AN1256/D	Interfacing the HC05 MCU to a Multi-channel Digital-to-Analog Converter using the MC68HC705C8A and the MC68HC705J1A
AN1544/D	Design of Continuously Variable Slope Delta Modulation Communication Systems
*AN1708/D	Single-Slope Analog-to-Digital (A/D) Conversion
EB51/D	Successive Approximation BCD A/D Converter
EB155/D	Analog to Digital Conversion with the Neuron Chip

Additional information relevant to A/D and D/A Conversion may be found in the following Motorola documents:

ADCRM/AD	Analog-to-Digital Converter Reference Manual
BR1137/D	The Motorola Explorer's Guide to the World of Embedded Control Solutions
DL128/D	Analog/Interface Integrated Circuits (vol. 1 and 2)
DL136/D	Communications Device Data
DL158/D	Multimedia Device Data
QADCRM/AD	Queued Analog-to Digital Converter Reference Manual
SG96/D	Analog/Interface Integrated Circuits Selector Guide & Cross Reference
SG169/D	Mixed-Signal Solutions from Wireline IC Division

ASICs (Application Specific ICs)

AN981/D	Building Counters with Motorola's Macrocell Arrays
AN1093/D	Delay and Timing Methods for CMOS ASICs
AN1095/D	Clock Distribution Techniques for HDC Series Arrays
AN1096/D	Guidelines for Using the Mustang™ ATPG System
AN1099/D	Test Methodology and Release Issues for HDC Series Gate Arrays
AN1500/D	IEEE Std. 1149.1 Boundary Scan for H4C Arrays
AN1502/D	Embedded RAM BIST
AN1508/D	High Frequency Design Techniques and Guidelines for Bipolar Gate Arrays
AN1509/D	ASIC Clock Distribution using a Phase-Locked Loop (PLL)
AN1512/D	TestPAS Primer
AN1514/D	H4CPlus Series 3.3V/5V Design Considerations
AN1521/D	High-Performance CMOS Interfaces for the H4CPlus Series Gate Arrays

ASICs (Application Specific ICs) continued

AN1522/D	Analog Phase-Locked Loop for H4CPlus and M5C Series Arrays
AN1534/D	Design Considerations of Plastic Ball Grid Arrays for CMOS Gate Arrays
AN1553/D	Minimizing Skew Across Multiple Clock Trees in Gate Arrays
AN1554/D	SRAM Built-in Self Test
AN1565/D	Using VIEWlogic's PROSeries 6.1 with the MPA Design System
AN1566/D	In System Prototyping Using HDLs and FPGAs
AN1568/D	Interfacing Between LVDS and ECL
AN1588/D	Using Mentor Graphics' Design Architect ver. A3 with the MPA Design System
AN1589/D	Using OrCAD's Capture and Simulate with the MPA Design System
AN1592/D	Using VIEWlogic's Workview Office 7.0 with the MPA Design System
AN1595/D	Programming Large Configuration Files into Smaller Serial PROMs
*AN1604/D	Using Exemplar Logic's Galileo with the MPA Design System
*AN1615/D	An FPGA Primer for PLD Users
AR108/D	Macrocell Arrays: An Alternative to Custom LSI
AR128/D	Array-Based Logic Boosts System Performance
AR306/D	Densest Gate Arrays Ever from LSI Logic, Motorola
AR307/D	Jumbo High-Density Gate Arrays Score a Round of Industry Firsts
AR308/D	Motorola's Arrays Hit a New High: 80% Gate Utilization
AR309/D	High-Density ASIC Family Achieves 100k-Cell Arrays
AR310/D	Software for Sea-of-Gates Arrays Places and Routes Over 70% of Available Gates
AR518/D	Gate Arrays Simplify Translation between High Speed Logic Families
AR520/D	Application Specific MultiChip Modules
AR522/D	Ranking of Gate Array and Cell-Based ASIC Vendors by Customers
AR524/D	Pick The Right Package For Your Next ASIC Design

Additional information relevant to ASICs (Application Specific ICs) may be found in the following Motorola documents:

BR466/D	Submicron CMOS Gate Arrays
BR916/D	Packaging Manual for ASIC Arrays
BR1341/D	MPA: Motorola Programmable Arrays – Products Update
BR1400/D	OACS (ASIC) – Open Architecture CAD System
BR1417/D	OACS 3.1M – Changing the World of ASIC Design
BR1427/D	PC Brochure
BR1435/D	Application Specific Multichip Modules – MCML Series
BR1473/D	The Individual Solution: ASIC
BR1481/D	Predix Floorplanner and Physical Design System for Gate Array and Cell–Based ASIC Architectures
BR1482/D	ATM Solutions: Application Specific Standard Products
BR3006/D	Wireless Communications Resource Guide
DL201/D	MPA: Motorola Programmable Array Data
H4CDM/D	H4C Series Design Reference Guide
H4CPDM/D	H4CPlus Series Design Reference Guide
H4EPDM/D	H4EPlus Series Design Reference Guide
HDCDM/D	HDC Series Design Reference Guide
M5CDM/D	M5C Series Design Reference Guide
SG169/D	Mixed-Signal Solutions from Wireline IC Division
SG367/D	High-Performance Gate Arrays

Audio Amplifiers and Systems

AN485/D	High-Power Audio Amplifiers with Short-Circuit Protection
AN1042/D	High Fidelity Switching Audio Amplifiers Using TMOS Power MOSFETs
AN1081/D	Minimise the "pop" in the MC34119 Low Power Audio Amplifier
AN1292/D	Adding a Voice User Interface to M68HC05 Applications
AN1308/D	100 and 200 Watt High Fidelity Audio Amplifiers Utilizing a Wideband Low Feedback Design

Additional information relevant to Audio Amplifiers and Systems may be found in the following Motorola documents:

DL111/D	Bipolar Power Transistor Data
DL126/D	Small-Signal Transistors, FETs and Diodes Device Data
DL128/D	Analog/Interface Integrated Circuits (vol. 1 and 2)

DL136/D	Communications Device Data
DL158/D	Multimedia Device Data
DSP56009UM/AD	DSP56009 User's Manual
SG96/D	Analog/Interface Integrated Circuits Selector Guide & Cross Reference
SG426/D	DINO: Discrete Innovation News Overview – Quarter 3, 1994

Automotive Applications

AN428/D	Automotive Direction Indicator with Short Circuit Detection Using the UAA1041
AN464/D	Software Driver Routines for the Motorola MC68HC05 CAN Module
AN465/D	Secure Remote Control using the 68HC05K1 and the 68HC05P3
AN475/D	Single Wire MI Bus Controlling Stepper Motors
AN476/D	CPU16 and the Configurable Timer Module (CTM) in Engine Control
AN1067/D	Pulse Generation and Detection with Microcontroller Units
AN1212/D	J1850 Multiplex Bus Communication Using the MC68HC705C8 and the SC371016 J1850 Communications Interface (JCI)
AN1224/D	Example Software Routines for the Message Data Link Controller Module on the MC68HC705V8
AN1257/D	Using the M68HC05 Family On-Chip Voltage Regulator
AN1259/D	System Design and Layout Techniques for Noise Reduction in MCU-Based Systems
*AN4004/D	±2g Acceleration Sensing Module Based on a ±40g Integrated Accelerometer
AR517/D	High Resolution Position Sensor for Motion Control System
*AR618/D	Three Large Markets Drive for Low Power
EB126/D	Ultra-Rapid Nickel-Cadmium Battery Charger
EB412/D	Using Fuzzy Logic in Practical Applications
EB421/D	The Motorola MCAN Module
TPUPN14/D	Position-Synchronised Pulse Generator (PSP)
TPUPN15A/D	Period Measurement with Additional Transition Detection TPU Function (PMA)
TPUPN15B/D	Period Measurement with Missing Transition Detection TPU Function (PMM)

Additional information relevant to Automotive Applications may be found in the following Motorola documents:

BR470/D	Motorola Discretes – The Complete Solution
BR475/D	Advanced Logic Functions
BR477/D	Smart Mover – Stepper Motors with Integrated Serial Bus Controller
BR484/D	68302
BR934/D	Sensing Solutions from Motorola – Sensors for the Automotive Industry
BR1305/D	Analog Integrated Circuits: New Product Calendar
BR1424/D	Sensing the Needs of the Future – Automotive Sensor Solutions
BR1459/D	OPTOBUS Technical Information
BR1465/D	8-bit Microcontrollers for Multiplex Wiring
*BR1704/D	68HC08: High Performance, 8-bit Microcontrollers with CAN, J1850 and Flash Memory Options
*BR1714/D	RTEK Real-Time Kernel for Motorola Microcontrollers
BR3005/D	Intelligent Sensor Solutions
DL128/D	Analog/Interface Integrated Circuits (vol. 1 and 2)
DL151/D	Rectifier Device Data
SG96/D	Analog/Interface Integrated Circuits Selector Guide & Cross Reference
SG267/D	Rectifier Product Update
SG424/D	EAGLES: European Analog Guide for Leading & Emerging Systems
SG426/D	DINO: Discrete Innovation News Overview – Quarter 3, 1994

Computer Systems

AN917/D	Reading and Writing in Floppy Disc Systems Using Motorola Integrated Circuits
AN1050/D	Designing for Electromagnetic Compatibility (EMC) with HCMOS Microcontrollers
AN1051/D	Transmission Line Effects in PCB Applications
AN1061/D	Reflecting on Transmission Line Effects

Computer Systems continued

AN1091/D	Low Skew Clock Drivers and their System Design Considerations
AN1128/D	MC68EC030 40MHz Minimal System
AN1202/D	Battery Back-Up of Self-Refreshing Dynamic Random Access Memory
AN1207/D	The MC145170 in Basic HF and VHF Oscillators
AN1209/D	The Motorola BurstRAM
AN1210/D	A Protocol Specific Memory for Burstable Fast Cache Memory Applications
AN1223/D	A Zero Wait State Secondary Cache for Intel's Pentium
AN1265/D	Configuring the MPC2604GA Integrated L2 Cache with the MPC106
AN1272/D	Spreadsheet Estimation of CPU-DRAM Subsystem Power Consumption
*AN1282/D	Board Strategies for Ensuring Optimum Frequency Synthesizer Performance
AN1288/D	Programming the MC68HC(8)05K3's Personality EEPROM on the MMDS and MMEVS
AN1405/D	ECL Clock Distribution Techniques
AN1408/D	Power Dissipation for Active SCSI Terminators
AN1547/D	A DC to DC Converter for Notebook Computers Using HDTMOS and Synchronous Rectification
*AN1564/D	Interfacing to the PowerPC with a Motorola Programmable Array
AN1572/D	Applying the Optobus I Multichannel Optical Data Link to High-Performance Communication Systems: SCI, Fibre Channel, and ATM
APR10/D	DSP96002 Interface Techniques and Examples
AR519/D	Low-Skew Clock Drivers: Which Type is Best?
AR563/D	Active SCSI Terminators Confront Critics and Gain Acceptance
AR600/D	Parallel Optical Links Move Data at 3 GBits/s
*AR618/D	Three Large Markets Drive for Low Power

Additional information relevant to Computer Systems may be found in the following Motorola documents:

BR475/D	Advanced Logic Functions
BR488/D	68306 68307 68322
BR1159/D	Motorola's Chisholm LBP Board
BR1180/D	Motorola Fast SRAM: Level 2 Cache Modules
BR1305/D	Analog Integrated Circuits: New Product Calendar
BR1332/D	Logic Integrated Circuits Division: New Product Calendar
BR1333/D	Timing Solutions
BR1427/D	PC Brochure
BR1459/D	OPTOBUS Technical Information
*BR1486/D	SCSI Terminators
BR1701/D	Fast Static RAMS and The Cache Memory Market
DL136/D	Communications Device Data
DL156/D	Fast Static RAM – Component and Module Data
EMDVPOC/D	Embedded Developer Pocket Guide
LP2/D	Portable Power: The Competitive Edge of the 68HC11 – Low Power Design Guidebook
MPC821UM/AD	MPC821 PowerPC Portable Systems Microprocessor User's Manual
SG169/D	Mixed-Signal Solutions from Wireline IC Division
SG171/D	Fast Static RAM Division Product Update
SG365/D	Timing Solutions Selector Guide

Digital Signal Processing

AN480/D	Dual DSP56002 Master Slave Communications
AN1051/D	Transmission Line Effects in PCB Applications
AN1213/D	16-bit DSP Servo Control with the MC68HC16Z1
AN1233/D	Using M68HC16 Digital Signal Processing to Build an Audio Frequency Analyzer
*AN1289/D	DSP5630x FSRAM Module Interfacing
APR1/D	Digital Sine-Wave Synthesis Using the DSP56001/DSP56002
APR2/D	Digital Stereo 10-Band Graphic Equalizer Using the DSP56001
APR3/D	Fractional and Integer Arithmetic Using the DSP56000 Family of General-Purpose Digital Signal Processors
APR4/D	Implementation of Fast Fourier Transforms on Motorola's DSP56000/ DSP56001 and DSP96002 Digital Signal Processors

APR5/D	Implementation of PID Controllers on the Motorola DSP56000/DSP56001
APR6/D	Convolutional Encoding and Viterbi Decoding Using the DSP56001 with a V.32 Modem Trellis Example
APR7/D	Implementing IIR/FIR Filters with Motorola's DSP56000/DSP56001
APR8/D	Principles of Sigma-Delta Modulation for Analog-to-Digital Converters
APR9/D	Full-Duplex 32 kbit/s CCITT ADPCM Speech Coding on the Motorola DSP56001
APR10/D	DSP96002 Interface Techniques and Examples
APR11/D	DSP56001 Interface Techniques and Examples
APR12/D	Twin CODEC Expansion Board for the DSP56000 Application Development System
APR14/D	Conference Bridging in the Digital Telecomms Environment Using the Motorola DSP56000
APR15/D	Implementation of Adaptive Controllers on the Motorola DSP56000/DSP56001
APR16/D	Calculating Timing Requirements of External SRAM for the 24-bit DSP56000 Family
*APR20/D	Application Optimization for the DSP56300/DSP56600 Digital Signal Processors
*APR21/D	Software UART on the DSP56L811 Using GPIO Port B
*APR22/D	Application Conversion from the DSP56100 Family to the DSP56300/600 Families
APR404/D	G.722 Audio Processing on the DSP56100 Microprocessor Family
APR405/D	Minimal Logic DRAM Interface for the DSP56156
DC407/D	Interfacing MC68020 and MC68030 to DSP56001 Host Port
DCE406/D	Interface for MC68000 to DSP56001 Host Port
EB420/D	Converting DSP56001-Based Designs to the DSP56002

Additional information relevant to Digital Signal Processing may be found in the following Motorola documents:

BR297/D	Dr. Bub — DSP Electronic Bulletin Board
BR348/D	Technical Training: Course Reference Guide & Schedule – July-December 1996
BR517/D	DSP56000ADSx & DSP56KEMULTRCABL for DSP56000 Family Products
BR526/D	DSP56000CLASx Software Summary
BR541/D	DSP56KCCx DSP56000/DSP56001 C Cross Compiler – Software Summary
BR718/D	DSP56ADC16EVB Evaluation Board and Software
BR725/D	DSP96000CLASx Software Summary
BR749/D	DSP96000ADSx Application Development System
BR786/D	DSP56156ADSx Application Development System
BR1105/D	DSP – Motorola's 16, 24 and 32-bit Digital Signal Processing Families
BR1126/D	DSP96KCCx: DSP96002 C Cross Compiler Software Summary
BR1128/D	DSP56100CLASx DSP Development Software: Software Tool Summary
BR1130/D	Coming Through Loud and Clear
BR1137/D	The Motorola Explorer's Guide to the World of Embedded Control Solutions
BR1192/D	Introducing the DSP56300 Family
BR1193/D	Introducing the DSP56800 Family
BR1430/D	56ADC16 A/D Wave Rider
BR3006/D	Wireless Communications Resource Guide
DSPNEWSL/D	DSP News
DSP002EVMSG/D	DSP56002EVM – Test Drive the Future
DSP56KFAMUM/AD	DSP56000 Digital Signal Processor Family Manual
*DSP56L811EMUM/AD	DSP56L811 Evaluation Module User's Manual
DSP56L811UM/AD	DSP56L811 User's Manual
DSP56000UM/AD	DSP56000/DSP56001 Digital Signal Processor User's Manual
DSP56002PIX/D	Motorola's DSP56002 24-bit General Purpose Digital Signal Processor
DSP56002SG/D	DSP56002 – Digitizing the Future
DSP56002UM/AD	DSP56002 Digital Signal Processor User's Manual
DSP56003UM/AD	DSP56003/005 Digital Signal Processor User's Manual
DSP56004PIX/D	Motorola's DSP56004 24-bit Digital Signal Processor
DSP56004SG/D	DSP56004
DSP56004UM/AD	DSP56004 Digital Signal Processor User's Manual
DSP56007PIX/D	Motorola's DSP56007 24-bit Digital Processor
DSP56007SG/D	DSP56007
DSP56009UM/AD	DSP56009 User's Manual
DSP56100FM/AD	DSP56100 Digital Signal Processor Family Manual

Digital Signal Processing continued

DSP56156UM/AD	DSP56156 Digital Signal Processor User's Manual
DSP56166UM/AD	DSP56166 Digital Signal Processor User's Manual
DSP56300FM/AD	DSP56300 24-Bit Digital Signal Processor Family Manual
DSP56301UM/AD	DSP56301 24-Bit Digital Signal Processor User's Manual
* DSP56302UM/AD	DSP56302 User's Manual
* DSP56303UM/AD	DSP56303 User's Manual
* DSP56603EMUM/AD	DSP56603 Evaluation Module User's Manual
DSP56800FM/AD	DSP56800 Family Manual
* DSP56800WP1/D	Novel Digital Signal Processing Architecture with Microcontroller Features
DSP96002UM/AD	DSP96002 IEEE Floating-Point Dual-Port Processor User's Manual
MRQS/D	Advanced Microcontroller Division: Reliability and Quality Monitor Report – Quarter 4, 1995
MC68356UM/AD	MC68356 Signal Processing Communications Engine User's Manual
SG146/D	Digital Signal Processors Update
SG171/D	Fast Static RAM Division Product Update
SG423/D	TIGER: The Integrated Guide to European RAMs

FETs and Power MOSFETs

AN211A/D	Field Effect Transistors in Theory and Practice
AN220/D	FETs in Chopper and Analog Switching Circuits
AN462/D	FET Current Regulators – Circuits and Diodes
AN860/D	Power MOSFETs versus Bipolar Transistors
AN913/D	Designing with TMOS Power MOSFETs
AN918/D	Paralleling Power MOSFETs in Switching Applications
AN929/D	Insuring Reliable Performance from Power MOSFETs
AN976/D	A New High Performance Current Mode Controller Teams Up with Current Sensing Power MOSFETS
AN1000/D	SENSEFETs For High Frequency Applications
AN1001/D	Understanding SENSEFETs
AN1043/D	Spice Model for TMOS Power MOSFETs
AN1076/D	Speeding up Horizontal Outputs
AN1090/D	Understanding and Predicting Power MOSFET Switching Behavior
AN1101/D	One-Horsepower Off-Line Brushless Permanent Magnet Motor Drive
AN1102/D	Interfacing Power MOSFETs to Logic Devices
AN1120/D	Basic Servo Loop Motor Control Using the MC68HC05B6 MCU
AN1317/D	High-Current DC Motor Drive Uses Low On-Resistance Surface Mount MOSFETs
AN1319/D	Design Considerations for a Low Voltage N-Channel H-Bridge Motor Drive
AN1321/D	Brushless DC Motor Drive Incorporates Small Outline Integrated Circuit Packaged MOSFETs
AN1327/D	Very Wide Input Voltage Range, Off-line Flyback Switching Power Supply
AN1520/D	HDTMOS Power MOSFETs Excel in Synchronous Rectifier Applications
AN1541/D	Introduction to Insulated Gate Bipolar Transistors
AN1542/D	Active Inrush Current Limiting Using MOSFETs
AR141/D	Applying Power MOSFETs in Class D/E RF Power Amplifier Design
AR160/D	Lossless Current Sensing with SENSEFETs Enhances Motor Drive
AR175/D	A Power FET SPICE Model From Data Sheet Specs
AR326/D	High-Voltage MOSFETs Simplify Flyback Design
AR346/D	RF Power FETs: Their Characteristics and Applications
*AR616/D	Power MOSFET Combines Low RDS(on), High Speed Switching, and Soft Recovery
*AR617/D	Next Generation Power MOSFETs Slash On-Resistance, Manufacturing Cost
*AR618/D	Three Large Markets Drive for Low Power
EB104/D	Get 600 Watts RF from Four Power FETs
EB123/D	A Simple Brush Type DC Motor Controller
EB124/D	MOSFETs Compete with Bipolars in Flyback Power Supplies
EB125/D	Testing Power MOSFET Gate Charge

EB128/D	Simple, Low-Cost Motor Controller
EB131/D	Curve Tracer Measurement Techniques for Power MOSFETs
EB141/D	Boost MOSFETs Drive Current in Solid State AC Relay
EB142/D	The MOSFET Turn-Off Device – A New Circuit Building Block
EB201/D	High Cell Density MOSFETs
EB206/D	Solving Noise Problems in High Power, High Frequency Control IC Driven Power Stages
EB207/D	High Current Buffer for Control ICs
EB208/D	Design Check List for MPIC21XX Control ICs

Additional information relevant to FETs and Power MOSFETs may be found in the following Motorola documents:

BR470/D	Motorola Discretes – The Complete Solution
BR923/D	Communications, Power & Signal Technologies Group – Reliability Audit Report
BR1442/D	HDTMOS FETs – Step Up to the Next Level of Power Efficiency
BR1463/D	TMOS V: Better Design Efficiency Has Arrived
BR1480/D	Silicon Solutions for Off Line Motor Drives
BR3003/D	Planet Earth is "On" – GreenLine
CALCPSTG/D	Communications, Power and Signal Technologies Group: New Product Calendar and Key Focus Products
* CR108/D	Low Voltage MOSFET Cross Reference
DL126/D	Small-Signal Transistors, FETs and Diodes Device Data
DL135/D	TMOS Power MOSFET Transistor Data
PPDNEWS/D	Power Scene – Fall 1995
SG46/D	RF Products Selector Guide
SG265/D	Power MOSFETs Product Update
SG275/D	Small-Signal Operations: Surface Mount Packages
SG370/D	Discrete & RF ICs Surface Mount Selector Guide
SG371/D	DPAK Surface Mount Selector Guide
* SG385/D	Low Voltage MOSFET Selector Guide

Instrumentation and Control

AN220/D	FETs in Chopper and Analog Switching Circuits
AN431/D	Temperature Measurement and Display Using the MC68HC05B4 and the MC14489
AN477/D	Simple A/D for MCUs without Built-In A/D Converters
AN581/D	An MSI 500MHz Frequency Counter Using MECL and MTTL
AN782/D	Interfacing and Controlling Digital Temperature Data Using the MC6800
AN923/D	800MHz Test Fixture Design
AN924/D	Measurement of Zener Voltage to Thermal Equilibrium with Pulsed Test Current
AN1050/D	Designing for Electromagnetic Compatibility (EMC) with HCMOS Microcontrollers
AN1058/D	Reducing A/D Errors in Microcontroller Applications
AN1065/D	Use of the MC68HC68T1 Real-Time Clock with Multiple Time Bases
AN1067/D	Pulse Generation and Detection with Microcontroller Units
AN1102/D	Interfacing Power MOSFETs to Logic Devices
AN1126/D	Evaluation Systems for Remote Control Devices on an Infrared Link
AN1215/D	PID Routines for MC68HC11K4 and MC68HC11N4 Microcontrollers
AN1216/D	Setback Thermostat Design Using the Neuron® IC
AN1225/D	Fuzzy Logic and the Neuron Chip
AN1239/D	HC05 MCU Keypad Decoding Techniques Using the MC68HC705J1A
AN1241/D	Interfacing the MC68HC705J1A to 9356/ 9366 EEPROMs
AN1259/D	System Design and Layout Techniques for Noise Reduction in MCU-Based Systems
AN1292/D	Adding a Voice User Interface to M68HC05 Applications
AN1304/D	Integrated Sensor Simplifies Bar Graph Pressure Gauge
AN1305/D	An Evaluation System for Direct Interface of the MPX5100 Pressure Sensor with a Microprocessor
AN1316/D	Frequency Output Conversion for MPX2000 Series Pressure Sensors
AN1322/D	Applying Semiconductor Sensors to Bar Graph Pressure Gauges
AN1405/D	ECL Clock Distribution Techniques
AN1516/D	Liquid Level Control Using a Motorola Pressure Sensor

Instrumentation and Control continued

AN1517/D	Pressure Switch Design with Semiconductor Pressure Sensors
AN1518/D	Using a Pulse Width Modulated Output with Semiconductor Pressure Sensors
AN1538/D	Water Level Control for Wells Using Small Surface Mount Devices
APR15/D	Implementation of Adaptive Controllers on the Motorola DSP56000/DSP56001
AR511/D	Biasing Solid State Amplifiers to Linear Operation
AR517/D	High Resolution Position Sensor for Motion Control System
AR560/D	Simple Pressure Switches Comprise Transducers, Comparators and Op Amps
*AR619/D	Op Amp Supply Squeezed Down to 1V Rail-to-Rail
BF8105/D	MC145026 and MC145027 Remote Control System
DC410/D	Fuzzy Logic – A New Approach to Embedded Control Solutions
EB20/D	Multiplier/OP Amp Circuit Detects True RMS
EB48/D	A Time Base and Control Logic Subsystem for High-Frequency, High-Resolution Counters
EB146/D	Neuron Chip Quadrature Input Function Interface
EB151/D	Scanning a Keypad with the Neuron Chip
EB152/D	How to Use SNVTs in LonWorks Applications
EB157/D	Creating Applications with the LonBuilder Multi-Function I/O Kit
EB412/D	Using Fuzzy Logic in Practical Applications

Additional information relevant to Instrumentation and Control may be found in the following Motorola documents:

BR475/D	Advanced Logic Functions
BR484/D	68302
BR489/D	68360 Quad Integrated Communications Controller (QUICC)
BR1188/D	LonWorks Networks for Industrial and Process Control
BR1422/D	Power Opto Isolators
*BR1704/D	68HC08: High Performance, 8-bit Microcontrollers with CAN, J1850 and Flash Memory Options
*BR1714/D	RTEK Real-Time Kernel for Motorola Microcontrollers
BR3005/D	Intelligent Sensor Solutions
DL128/D	Analog/Interface Integrated Circuits (vol. 1 and 2)
DL136/D	Communications Device Data
MC68307UM/AD	MC68307 Integrated Multiple-Bus Processor User's Manual
SG96/D	Analog/Interface Integrated Circuits Selector Guide & Cross Reference
SG169/D	Mixed-Signal Solutions from Wireline IC Division

Interfacing

see also Telecommunications

AN442/D	Driving LCDs with M6805 Microprocessors
AN449/D	An MC68340 to M88000 MBUS Bus Translator
AN463/D	68HC05K0 Infra-Red Remote Control
AN472/D	Software SCI with Receive Buffer for the MC68HC11
AN475/D	Single Wire MI Bus Controlling Stepper Motors
AN708A/D	Line Driver and Receiver Considerations
AN781A/D	Revised Data-Interface Standards
AN782/D	Interfacing and Controlling Digital Temperature Data Using the MC6800
AN864A/D	Interfacing Multiplexed Bus Peripherals with Non-Multiplexed MPUs
AN991/D	Using the Serial Peripheral Interface to Communicate Between Multiple Microcomputers
AN1061/D	Reflecting on Transmission Line Effects
AN1066/D	Interfacing the MC68HC05C5 SIOP to an I^2C Peripheral
AN1082/D	Simple Design for a 4-20mA Transmitter Interface Using a Motorola Pressure Sensor
AN1123/D	MCS3201 Floppy Disk Controller in MC68000 System
AN1126/D	Evaluation Systems for Remote Control Devices on an Infrared Link
AN1211/D	Interfacing DACs and ADCs to the Neuron IC
AN1239/D	HC05 MCU Keypad Decoding Techniques Using the MC68HC705J1A

AN1240/D	HC05 MCU Software-Driven Asynchronous Serial Communication Techniques Using the MC68HC705J1A
AN1256/D	Interfacing the HC05 MCU to a Multichannel Digital-to-Analog Converter using the MC68HC705C8A and the MC68HC705J1A
AN1292/D	Adding a Voice User Interface to M68HC05 Applications
AN1316/D	Frequency Output Conversion for MPX2000 Series Pressure Sensors
*AN1564/D	Interfacing to the PowerPC with a Motorola Programmable Array
AN1568/D	Interfacing Between LVDS and ECL
AN1572/D	Applying the Optobus I Multichannel Optical Data Link to High-Performance Communication Systems: SCI, Fibre Channel, and ATM
*AN1582/D	Board and Interface Design for AutoBahn and Spanceiver
ANE405/D	Bi-Directional Data Transfer Between MC68HC11 and MC6805L3 Using SPI
ANE415/D	MC68HC11 Implementation of IEEE-488 Interface for DSP56000 Monitor
*APR21/D	Software UART on the DSP56L811 Using GPIO Port B
AR518/D	Gate Arrays Simplify Translation between High Speed Logic Families
AR563/D	Active SCSI Terminators Confront Critics and Gain Acceptance
AR600/D	Parallel Optical Links Move Data at 3 GBits/s
DC409/D	FDDI Chip Set Interface to an 80486 System
DC413/D	Multiple QUICC Interfacing
DC415/D	Interfacing MPC60x to MC68360
EB406/D	Getting Started with the FDDI ADS Board
EB421/D	The Motorola MCAN Module
TPUPN07/D	Asynchronous Serial Interface TPU Function (UART)

Additional information relevant to Interfacing may be found in the following Motorola documents:

BR475/D	Advanced Logic Functions
BR477/D	Smart Mover – Stepper Motors with Integrated Serial Bus Controller
BR1133/D	HIPPO: High-Performance Internal Product Portfolio Overview
BR1305/D	Analog Integrated Circuits: New Product Calendar
BR1332/D	Logic Integrated Circuits Division: New Product Calendar
BR1459/D	OPTOBUS Technical Information
*BR1486/D	SCSI Terminators
BR3020/D	ISDN Solutions Kit
DL128/D	Analog/Interface Integrated Circuits (vol. 1 and 2)
DL136/D	Communications Device Data
MC68EN302RM/AD	MC68EN302 Integrated Multiprotocol Processor with Ethernet Reference Manual (Supplement to MC68302UM/AD)
MC68360UM/AD	MC68360 Quad Integrated Communications Controller User's Manual
MC92005UM/D	MC92005 SBus Slave Interface Controller User's Manual
SG96/D	Analog/Interface Integrated Circuits Selector Guide & Cross Reference
SG167/D	High Performance Embedded Systems Fact Sheet
SG169/D	Mixed-Signal Solutions from Wireline IC Division

Logic

CMOS

AN450/D	IC Design: A Statistical Approach to Electromigration
AN753/D	Scanning Logic for RF Scanner-Receivers Using CMOS Integrated Circuits
AN759/D	A CMOS Keyboard Data Entry System for Bus Oriented Memory Systems
AN1091/D	Low Skew Clock Drivers and their System Design Considerations
AN1102/D	Interfacing Power MOSFETs to Logic Devices
AN1400/D	MC10/100H640 Clock Driver Family I/O SPICE Modelling Kit
AN1401/D	Using SPICE to Analyze the Effects of Board Layout on System Skew when Designing with the MC10/100H640 Family of Clock Drivers
AN1402/D	MC10/100H00 Translator Family I/O SPICE Modelling Kit
AN1406/D	Designing with PECL (ECL at +5.0V)
AR300/D	The Hidden Dangers of Electrostatic Discharge – ESD

Logic: CMOS continued

AR519/D	Low-Skew Clock Drivers: Which Type is Best?

Additional information relevant to CMOS may be found in the following Motorola documents:

BR475/D	Advanced Logic Functions
BR1332/D	Logic Integrated Circuits Division: New Product Calendar
BR1335/D	Low Voltage Products
BR1339/D	LCX Data Low-Voltage CMOS Logic
BR3006/D	Wireless Communications Resource Guide
DL129/D	High Speed CMOS Data
DL131/D	CMOS Logic Data
DL138/D	FACT Data
* DL203/D	Advanced High-Speed CMOS Data

ECL

AN556/D	Interconnection Techniques for Motorola's MECL 10,000 Series Emitter Coupled Logic
AN581/D	An MSI 500MHz Frequency Counter Using MECL and MTTL
AN701/D	Understanding MECL 10 000 DC and AC Data Sheet Specifications
AN720/D	Interfacing with MECL 10,000 Integrated Circuits
AN726/D	Bussing with MECL 10 000 Integrated Circuits
AN1051/D	Transmission Line Effects in PCB Applications
AN1061/D	Reflecting on Transmission Line Effects
AN1092/D	Driving High Capacitance DRAMs in an ECL System
AN1400/D	MC10/100H640 Clock Driver Family I/O SPICE Modelling Kit
AN1401/D	Using SPICE to Analyze the Effects of Board Layout on System Skew when Designing with the MC10/100H640 Family of Clock Drivers
AN1402/D	MC10/100H00 Translator Family I/O SPICE Modelling Kit
AN1404/D	ECLinPS Circuit Performance at Non-Standard VIH Levels
AN1405/D	ECL Clock Distribution Techniques
AN1406/D	Designing with PECL (ECL at +5.0V)
AN1503/D	ECLinPS™ I/O SPICE Modelling Kit
AN1504/D	Metastability and the ECLinPS™ Family
AN1560/D	Low Voltage ECLinPS SPICE Modeling Kit
AN1578/D	MECL 10H SPICE Kit for Berkeley SPICE (PSPICE)
AR519/D	Low-Skew Clock Drivers: Which Type is Best?

Additional information relevant to ECL may be found in the following Motorola documents:

BR475/D	Advanced Logic Functions
BR1332/D	Logic Integrated Circuits Division: New Product Calendar
BR1333/D	Timing Solutions
BR1335/D	Low Voltage Products
DL122/D	MECL Data
DL140/D	High Performance ECL Data – ECLinPS and ECLinPS Lite
HB205/D	MECL System Design Handbook
SG365/D	Timing Solutions Selector Guide

TTL

AN581/D	An MSI 500MHz Frequency Counter Using MECL and MTTL
AN1051/D	Transmission Line Effects in PCB Applications
AN1061/D	Reflecting on Transmission Line Effects
AN1091/D	Low Skew Clock Drivers and their System Design Considerations
AN1102/D	Interfacing Power MOSFETs to Logic Devices
AN1400/D	MC10/100H640 Clock Driver Family I/O SPICE Modelling Kit
AN1401/D	Using SPICE to Analyze the Effects of Board Layout on System Skew when Designing with the MC10/100H640 Family of Clock Drivers
AN1402/D	MC10/100H00 Translator Family I/O SPICE Modelling Kit
AN1403/D	FACT I/O Model Kit
AN1406/D	Designing with PECL (ECL at +5.0V)
AN1408/D	Power Dissipation for Active SCSI Terminators
AR519/D	Low-Skew Clock Drivers: Which Type is Best?

Additional information relevant to TTL may be found in the following Motorola documents:

BR475/D	Advanced Logic Functions
BR1332/D	Logic Integrated Circuits Division: New Product Calendar
BR1335/D	Low Voltage Products
DL121/D	FAST and LS TTL Data
DL138/D	FACT Data

Memory

AN432/D	128K byte Addressing with the M68HC11
AN434/D	Serial Bootstrap for the RAM and EEPROM1 of the MC68HC05B6
AN441/D	MC68HC05E0 EPROM Emulator
AN447/D	An MC88100/MC88200 20/25/33MHz System DRAM Design
AN447A/D	Appendix to AN447/D
AN452/D	Using the MC68HC11K4 Memory Mapping Logic
AN941/D	A 2.0MHz MC68B09E System with Transparent Refresh of Dynamic RAM
AN971/D	Avoiding Bus Contention in Fast Access RAM Designs
AN973/D	Avoiding Data Errors with Fast Static RAMs
AN986/D	Page, Nibble and Static Column Modes: High-Speed, Serial-Access Options on 1 Mbit+ DRAMS
AN987/D	DRAM Refresh Modes
AN1051/D	Transmission Line Effects in PCB Applications
AN1059/D	Pseudo Static RAM Simplifies Interfacing with Microprocessors
AN1061/D	Reflecting on Transmission Line Effects
AN1063/D	DRAM Controller for the MC68340
AN1092/D	Driving High Capacitance DRAMs in an ECL System
AN1124/D	1 Meg to 4 Meg DRAM Upgrading
AN1125/D	DRAM Interface to the MC88200 M Bus
AN1127/D	High Speed DRAM Design for the 40MHz MC68EC030
AN1202/D	Battery Back-Up of Self-Refreshing Dynamic Random Access Memory
AN1209/D	The Motorola BurstRAM
AN1210/D	A Protocol Specific Memory for Burstable Fast Cache Memory Applications
AN1214/D	MC88110 64-bit External Bus Interface to 16-bit EPROM
AN1223/D	A Zero Wait State Secondary Cache for Intel's Pentium
AN1227/D	Using 9346 Series Serial EEPROMs with 6805 Series Microcontrollers
AN1231/D	Plastic Ball Grid Array (PBGA)
AN1232/D	Thermal Performance of Plastic Ball Grid Array (PBGA) Packages for Next Generation FSRAM Devices
AN1241/D	Interfacing the MC68HC705J1A to 9356/ 9366 EEPROMs
AN1243/D	Output Loading Effects on Fast Static RAMS
AN1255/D	MC68F333 Flash EEPROM Programming Utilities
AN1261/D	Use of 32K x 36 FSRAM in Non-Parity Applications
AN1265/D	Configuring the MPC2604GA Integrated L2 Cache with the MPC106
*AN1289/D	DSP5630x FSRAM Module Interfacing
AN1502/D	Embedded RAM BIST
*AN1709/D	Motorola Fast Static RAM Known Good Die Manufacturing Process
APR11/D	DSP56001 Interface Techniques and Examples
APR405/D	Minimal Logic DRAM Interface for the DSP56156
AR241/D	Building Fast SRAMs with no Process 'Tricks'
AR256/D	Motorola's Radical SRAM Design Speeds Systems 40%
AR258/D	High Frequency System Operation Using Synchronous SRAMs
AR260/D	Enhancing System Performance Using Synchronous SRAMs
AR270/D	Designing a Cache for a Fast Processor

Additional information relevant to Memory may be found in the following Motorola documents:

BR490/D	Breakthrough in EEPROM Performance
BR1100/D	Semiconductor Products Sector, Microprocessor and Memory Technologies Group: Reliability and Quality Report
BR1143/D	Fast Static RAM Cross Reference Guide
BR1149/D	Secondary Cache SRAMs for PowerPC
BR1150/D	7 x 17 PBGA Sample Preview
BR1152/D	Secondary Cache SRAMs for 486 and Pentium

Memory continued

BR1180/D	Motorola Fast SRAM: Level 2 Cache Modules
BR1191/D	Without the Right Fast SRAM Solution, You Could Find Yourself Dead in the Water
BR1701/D	Fast Static RAMS and The Cache Memory Market
BR1702/D	Fast Static RAMS and The Communications Market
DL155/D	Dynamic RAMs & Memory Modules
DL156/D	Fast Static RAM – Component and Module Data
* FLASHMEMUM/AD	8 Mbit MobileFLASH User's Manual
MC88200UM/AD	MC88200 Cache/Memory Management Unit User's Manual
SG171/D	Fast Static RAM Division Product Update
SG172/D	Dynamic Memory Update
SG423/D	TIGER: The Integrated Guide to European RAMs

Microprocessors

8-bit MPU/MCU

AN427/D	MC68HC11 EEPROM Error Correction Algorithms in C
AN431/D	Temperature Measurement and Display Using the MC68HC05B4 and the MC14489
AN432/D	128K byte Addressing with the M68HC11
AN433/D	TV On-Screen Display Using the MC68HC05T1
AN434/D	Serial Bootstrap for the RAM and EEPROM1 of the MC68HC05B6
AN441/D	MC68HC05E0 EPROM Emulator
AN442/D	Driving LCDs with M6805 Microprocessors
AN448/D	"FLOF" Teletext using M6805 Microcontrollers
AN452/D	Using the MC68HC11K4 Memory Mapping Logic
AN456/D	Using PCbug11 as a Diagnostic Aid for Expanded Mode M68HC11 Systems
AN458/D	A Self-Test Approach for the MC68HC11A/E
AN459/D	A Monitor for the MC68HC05E0
AN460/D	An RDS Decoder Using the MC68HC05E0
AN463/D	68HC05K0 Infra-Red Remote Control
AN464/D	Software Driver Routines for the Motorola MC68HC05 CAN Module
AN465/D	Secure Remote Control using the 68HC05K1 and the 68HC05P3
AN472/D	Software SCI with Receive Buffer for the MC68HC11
AN475/D	Single Wire MI Bus Controlling Stepper Motors
AN477/D	Simple A/D for MCUs without Built-In A/D Converters
AN478/D	HC05 to HC11 Code Conversion
AN488/D	Telephone Handset with DTMF using the 68HC05F4
AN495/D	RDS Decoding for an HC11-Controlled Radio
AN499/D	Let the MC68HC705 Program Itself
AN864A/D	Interfacing Multiplexed Bus Peripherals with Non-Multiplexed MPUs
AN894A/D	User Considerations for MC146818 Real Time Clock Applications
AN906A/D	Self-Programming the MC68701 and the MC68701U4
AN941/D	A 2.0MHz MC68B09E System with Transparent Refresh of Dynamic RAM
AN974/D	MC68HC11 Floating-Point Package
AN991/D	Using the Serial Peripheral Interface to Communicate Between Multiple Microcomputers
AN997/D	CONFIG Register Issues Concerning the M68HC11 Family
AN1010/D	MC68HC11 EEPROM Programming from a Personal Computer
AN1011/D	MC146805G2 to MC68HC05C4 Conversion
AN1050/D	Designing for Electromagnetic Compatibility (EMC) with HCMOS Microcontrollers
AN1055/D	M6805 16-bit Support Macros
AN1057/D	Selecting the Right Microcontroller Unit
AN1058/D	Reducing A/D Errors in Microcontroller Applications
AN1060/D	MC68HC11 Bootstrap Mode
AN1064/D	Use of Stack Simplifies M68HC11 Programming
AN1065/D	Use of the MC68HC68T1 Real-Time Clock with Multiple Time Bases
AN1066/D	Interfacing the MC68HC05C5 SIOP to an I^2C Peripheral

AN1067/D	Pulse Generation and Detection with Microcontroller Units
AN1091/D	Low Skew Clock Drivers and their System Design Considerations
AN1097/D	Calibration-Free Pressure Sensor System
AN1102/D	Interfacing Power MOSFETs to Logic Devices
AN1120/D	Basic Servo Loop Motor Control Using the MC68HC05B6 MCU
AN1122/D	Running the MC44802A PLL Circuit
AN1212/D	J1850 Multiplex Bus Communication Using the MC68HC705C8 and the SC371016 J1850 Communications Interface (JCI)
AN1215/D	PID Routines for MC68HC11K4 and MC68HC11N4 Microcontrollers
AN1218/D	HC05 to HC08 Optimization
AN1219/D	M68HC08 Integer Math Routines
AN1220/D	Optical Character Recognition Using Fuzzy Logic
AN1222/D	Arithmetic Waveform Synthesis with the HC05/08 MCUs
AN1224/D	Example Software Routines for the Message Data Link Controller Module on the MC68HC705V8
AN1226/D	Use of the 68HC705C8A in Place of a 68HC705C8
AN1227/D	Using 9346 Series Serial EEPROMs with 6805 Series Microcontrollers
AN1238/D	HC05 MCU LED Drive Techniques Using the MC68HC705J1A
AN1239/D	HC05 MCU Keypad Decoding Techniques Using the MC68HC705J1A
AN1240/D	HC05 MCU Software-Driven Asynchronous Serial Communication Techniques Using the MC68HC705J1A
AN1241/D	Interfacing the MC68HC705J1A to 9356/ 9366 EEPROMs
AN1256/D	Interfacing the HC05 MCU to a Multichannel Digital-to-Analog Converter using the MC68HC705C8A and the MC68HC705J1A
AN1257/D	Using the M68HC05 Family On-Chip Voltage Regulator
AN1259/D	System Design and Layout Techniques for Noise Reduction in MCU-Based Systems
AN1262/D	Simple Real-Time Kernels for M68HC05 Microcontrollers
AN1263/D	Designing for Electromagnetic Compatibility with Single-Chip Microcontrollers
AN1274/D	HC08 SCI Operation with Various Input Clocks
AN1283/D	Transporting M68HC11 Code to M68HC16 Devices
AN1284/D	Transporting M68HC11 Code to M68HC12 Devices
AN1286/D	MC68HC05C0 Bus Structure Design
AN1287/D	MC68HC708LN56 LCD Utilities
AN1288/D	Programming the MC68HC(8)05K3's Personality EEPROM on the MMDS and MMEVS
AN1292/D	Adding a Voice User Interface to M68HC05 Applications
AN1305/D	An Evaluation System for Direct Interface of the MPX5100 Pressure Sensor with a Microprocessor
AN1311/D	Software for an 8-bit Microcontroller Based Brushed DC Motor Drive
AN1315/D	An Evaluation System Interfacing the MPX2000 Series Pressure Sensors to a Microprocessor
AN1316/D	Frequency Output Conversion for MPX2000 Series Pressure Sensors
AN1322/D	Applying Semiconductor Sensors to Bar Graph Pressure Gauges
AN1326/D	Barometric Pressure Measurement Using Semiconductor Pressure Sensors
AN1518/D	Using a Pulse Width Modulated Output with Semiconductor Pressure Sensors
AN1536/D	Digital Boat Speedometers
AN1551/D	Low-Pressure Sensing with the MPX2010 Pressure Sensor
AN1571/D	Digital Blood Pressure Meter
AN1584/D	"Very Low Pressure" Smart Sensing Solution with Serial Communications Interface
AN1585/D	High-Performance, Dynamically-Compensated Smart Sensor System
AN1586/D	Designing a Homemade Digital Output for Analog Voltage Output Sensors
*AN1606/D	ITC132 High Voltage Micro to Motor Interface
*AN1607/D	ITC122 Low Voltage Micro to Motor Interface

Microprocessors: 8-bit MPU/MCU continued

*AN1611/D	Impact and Tilt Measurement Using Accelerometer
*AN1612/D	Shock and Mute Pager Applications Using Accelerometer
*AN1702/D	Brushless DC Motor Control Using the MC68HC705MC4
*AN1708/D	Single-Slope Analog-to-Digital (A/D) Conversion
*AN1711/D	DMA08 Systems Compatibilities
*AN1712/D	"Get Your Motor Running" with the MC68HC708MP16
AN-HK-10/H	MC68HC05L9 Microcomputer Applications Demo Board
AN-HK-12/H	MC68HC05F6 Tone Pulse Dialer
AN-HK-13A/H	MC68HC05L10 Handheld Equipment Applications
AN-HK-15/H	MC68HC05L11 Hand-Writing Applications
AN-HK-17/H	MC68HC05F2 DTMF Output Low Voltage Active Filter
ANE405/D	Bi-Directional Data Transfer Between MC68HC11 and MC6805L3 Using SPI
ANE416/D	MC68HC05B4 Radio Synthesizer
ANE425/D	Use of the MC68HC68T1 RTC with M6805 Microprocessors
AR103/D	Compilation and Pascal on the New Microprocessors
DC410/D	Fuzzy Logic – A New Approach to Embedded Control Solutions
EB166/D	System Design Considerations: Converting from the MC68HC805B6 to the MC68HC705B16 Microcontroller
EB180/D	Differences between the MC68HC705B16 and the MC68HC705B16N
EB410/D	PASM05 to INTROL M68HC05 Assembler Conversion
EB412/D	Using Fuzzy Logic in Practical Applications
EB413/D	Resetting MCUs
EB415/D	Extend SPI Addressing with the MC74HC595
EB416/D	Modular Target Cables for Motorola Development Systems
EB419/D	ROMed HC11E32 and HC11PH8 Including Buffalo Monitor and PCbug11 Talker
EB421/D	The Motorola MCAN Module
EB422/D	Enhanced M68HC11 Bootstrap Mode
M68HC11EVB/AN1	EVB Application Note: Special Test Mode Operation
M68HC16PN01/D	Transporting M68HC11 Code to M68HC16 Devices

Additional information relevant to 8-bit MPU/MCU may be found in the following Motorola documents:

ADCRM/AD	Analog-to-Digital Converter Reference Manual
BR266/D	M68HC11EVM Evaluation Module
BR278/D	M68HC11EVB Evaluation Board
BR291/D	M68705EVM Evaluation Module
BR348/D	Technical Training: Course Reference Guide & Schedule – July-December 1996
BR478/D	MC68L11 Family Extended Voltage Microcontrollers
BR479/D	M68HC11 Microcontroller – EEPROM
BR706/D	M68HC11F1EVM Evaluation Module
BR736/D	M68HC11EVBU Universal Evaluation Board
BR748/D	M68HC711D3PGMR Programmer Board
BR1111/D	M68HC705J2/P9PGMR Programmer Board
BR1112/D	M68HC05 & M68HC08 Family Customer Specified Integrated Circuit (CSIC) Microcontroller Unit (MCU) Literature
BR1113/D	M68HC705B5PGMR Programmer Board
BR1116/D	Advanced Microcontroller Division Literature Guide
BR1137/D	The Motorola Explorer's Guide to the World of Embedded Control Solutions
BR1138/D	68HC08 – No Compromise
BR1161/D	Infinite Solutions – Motorola's CSIC Family of Microcontrollers: The 68HC05 and 68HC08
BR1168/D	The M68HC11 Family of 8-Bit Microcontrollers
BR1170/D	Hardware Development Tools
BR1179/D	Motorola CSIC Microcontrollers – Extraordinary Flexibility
BR1182/D	Motorola Modular Evaluation Systems (MMEVS)
BR1183/D	Motorola Modular Development Systems (MMDS)
BR1184/D	Emulation Modules (EM)
BR1185/D	Target Cable Accessories
BR1186/D	68HC705 Parallel Programmers (PGMR) and 68HC708 Universal Serial Programmer (SPGMR08)

BR1187/D	Motorola CAN – The Total Solution for CAN Microcontrollers
BR1190/D	In-Circuit Simulators (ICS)
BR1465/D	8-bit Microcontrollers for Multiplex Wiring
BR1484/D	Energy-Efficient Semiconductor Solutions for the Appliance Industry
* BR1704/D	68HC08: High Performance, 8-bit Microcontrollers with CAN, J1850 and Flash Memory Options
BR3006/D	Wireless Communications Resource Guide
CMRQS/D	CSIC Microcontrollers: Reliability and Quality Monitor Report – Quarter 3, 1996
CPU08RM/AD	M68HC08 Central Processor Unit Reference Manual
DMA08RM/AD	DMA08 Direct Memory Access Reference Manual
* HC05C0GRS/D	68HC05C0 Specification (General Release)
* HC05C9AGRS/D	MC68HC05C9A, MC68HCL05C9A, MC68HSC05C9A General Release Specification
* HC05RC18GRS/D	68HC05RC9/68HC05RC18 General Release Specification
* HC705MC4GRS/D	MC68HC705MC4 General Release Specification
HC711D3PGMR/AD1	M68HC711D3PGMR Programmer Board User's Manual
LP2/D	Portable Power: The Competitive Edge of the 68HC11 – Low Power Design Guidebook
MRQS/D	Advanced Microcontroller Division: Reliability and Quality Monitor Report – Quarter 4, 1995
M68EM05C0UM/D	M68EM05C0 Emulation Module User's Module
M68HC05AG/AD	M68HC05 Applications Guide
M68HC08RG/AD	HC08 Family Reference Guide
M68HC11EVB/D1	M68HC11EVB Evaluation Board User's Manual
M68HC11EVBU/AD2	M68HC11EVBU Universal Evaluation Board User's Manual
M68HC11EVM/AD8	M68HC11EVM Evaluation Module User's Manual
M68HC11RM/AD	M68HC11 Reference Manual
M68PCBUG11/D2	M68HC11 PCbug11 User's Manual
M68PRM/D	M6800 Programming Reference Manual
M6805UM/AD3	M6805 HMOS / M146805 CMOS Family User's Manual (1991)
M6809PM/AD	MC6809-MC6809E Microprocessor Programming Manual (1981)
MC68HC05CxRG/AD	MC68HC05Cx HCMOS Single-Chip Microcontrollers Programming Reference Guide
MC68HC11A8RG/AD	MC68HC11A8 Programming Reference Guide
MC68HC11C0RG/AD	MC68HC11C0 Programming Reference Guide
MC68HC11D3RG/AD	MC68HC11D3/MC68HC711D3 Programming Reference Guide
MC68HC11ERG/AD	MC68HC11E Programming Reference Guide
MC68HC11F1RG/AD	MC68HC11F1 Programming Reference Guide
MC68HC11K4RG/AD	MC68HC11K4/MC68HC711K4 Programming Reference Guide
MC68HC11KA4RG/AD	MC68HC11KA4/MC68HC711KA4 Programming Reference Guide
MC68HC11L6RG/AD	MC68HCL6/MC68HC711L6 Programming Reference Guide
MC68HC11MRG/AD	M68HC11 M Series Programming Reference Guide
MC68HC11NRG/AD	MC68HC11N Series Programming Reference Guide
MCCIRM/AD	Multichannel Communication Interface Reference Manual
MCUASM/D	MCUasm Assembly Language Development Toolset
MCUDEVTLDIR/D	Motorola Microcontroller Development Tools Directory
SG165/D	Motorola CSIC Microcontrollers Update
SG166/D	Advanced Microcontroller Division Update
SG173/D	CSIC Microcontrollers: Modular Development Tools
SG174/D	NESSIE: New Emulation & Software Solutions In Europe
* SG180/D	Microcontroller Technologies Group: Development Tools Selector Guide
SG419/D	EMU: European Microcontroller Update
TIM08RM/AD	TIM08 Timer Interface Module Reference Manual

16-bit MPU/MCU

AN461/D	An Introduction to the HC16 for HC11 Users
AN476/D	CPU16 and the Configurable Timer Module (CTM) in Engine Control
AN810/D	Dual 16-Bit Ports for the MC68000 Using Two MC6821s
AN854/D	The MC68230 Parallel Interface/Timer Provides an Effective Printer Interface
AN897/D	MC68008 Minimum Configuration System
AN899/D	A Terminal Interface, Printer Interface and Background Printer for an MC68000-Based System Using the MC68681 DUART

Microprocessors: 16-bit MPU/MCU continued

AN975/D	The Interrupt Controlling Capabilities of the MC68901 and the MC68230
AN1008/D	MC68824 Token Bus Controller to MC68010 Interface
AN1050/D	Designing for Electromagnetic Compatibility (EMC) with HCMOS Microcontrollers
AN1091/D	Low Skew Clock Drivers and their System Design Considerations
AN1123/D	MCS3201 Floppy Disk Controller in MC68000 System
AN1213/D	16-bit DSP Servo Control with the MC68HC16Z1
AN1220/D	Optical Character Recognition Using Fuzzy Logic
AN1230/D	A Background Debugging Mode Driver Package for Modular Microcontrollers
AN1233/D	Using M68HC16 Digital Signal Processing to Build an Audio Frequency Analyzer
AN1249/D	Brushed DC Motor Control Using the MC68HC16Z1
AN1254/D	Using the MC68HC16Z1 for Audio Tone Generation
AN1259/D	System Design and Layout Techniques for Noise Reduction in MCU-Based Systems
AN1263/D	Designing for Electromagnetic Compatibility with Single-Chip Microcontrollers
AN1280/D	Using and Extending D–Bug 12 Routines
AN1283/D	Transporting M68HC11 Code to M68HC16 Devices
AN1284/D	Transporting M68HC11 Code to M68HC12 Devices
AN1295/D	Demonstration Model of fuzzyTECH Implementation on M68HC12
AR233/D	Software Links Maths Chip to M68000 Family µPs
AR235/D	MC68000 Microprogrammed Architecture
AR362/D	Whipping Up Real-Time Designs – Programming Motorola's TPU
DCE406/D	Interface for MC68000 to DSP56001 Host Port
M68HC16PN01/D	Transporting M68HC11 Code to M68HC16 Devices
TPUPN04/D	Table Stepper Motor TPU Function (TSM)
TPUPN05/D	Multichannel PWM TPU Function (MCPWM)
TPUPN06/D	Programmable Time Accumulator TPU Function (PTA)
TPUPN07/D	Asynchronous Serial Interface TPU Function (UART)
TPUPN08/D	New Input Capture/Input Transition Counter TPU Function (NITC)
TPUPN09/D	Multiphase Motor Commutation TPU Function (COMM)
TPUPN10/D	Hall Effect Decode TPU Function (HALLD)
TPUPN11/D	Period/Pulse Width Accumulator TPU Function (PPWA)
TPUPN12/D	Output Compare TPU Function (OC)
TPUPN13/D	Stepper Motor TPU Function (SM)
TPUPN14/D	Position-Synchronised Pulse Generator (PSP)
TPUPN15A/D	Period Measurement with Additional Transition Detection TPU Function (PMA)
TPUPN15B/D	Period Measurement with Missing Transition Detection TPU Function (PMM)
TPUPN17/D	Pulse Width Modulation TPU Function (PWM)
TPUPN18/D	Discrete Input/Output TPU Function (DIO)
TPUPN19/D	Synchronized Pulse-Width Modulation (SPWM)
TPUPN20/D	Quadrature Decode TPU Function (QDEC)

Additional information relevant to 16-bit MPU/MCU may be found in the following Motorola documents:

BR231/D	High Performance Embedded Systems Technical Literature
BR348/D	Technical Training: Course Reference Guide & Schedule – July-December 1996
BR1116/D	Advanced Microcontroller Division Literature Guide
BR1133/D	HIPPO: High-Performance Internal Product Portfolio Overview
BR1137/D	The Motorola Explorer's Guide to the World of Embedded Control Solutions
BR1169/D	The M68HC16 and M68300 Families of Modular Microcontrollers
BR1170/D	Hardware Development Tools

BR1187/D	Motorola CAN – The Total Solution for CAN Microcontrollers
BR1194/D	M68HC16 Family
BR3006/D	Wireless Communications Resource Guide
CPU16RM/AD	M68HC16 Family Reference Manual
MRQS/D	Advanced Microcontroller Division: Reliability and Quality Monitor Report – Quarter 4, 1995
M6809PM/AD	MC6809-MC6809E Microprocessor Programming Manual (1981)
M68000UM/AD	M68000 8-/16-/32-bit Microprocessors User's Manual, Ninth Edition
MC68HC16Y1UM/AD	MC68HC16Y1 User's Manual
MC68HC16Z2UM/AD	MC68HC16Z2 User's Manual
MCUASM/D	MCUasm Assembly Language Development Toolset
MCUDEVTLDIR/D	Motorola Microcontroller Development Tools Directory
SCIMRM/AD	Single-Chip Integration Module Reference Manual
SG166/D	Advanced Microcontroller Division Update
SG174/D	NESSIE: New Emulation & Software Solutions In Europe
* SG180/D	Microcontroller Technologies Group: Development Tools Selector Guide
SG419/D	EMU: European Microcontroller Update
SIMRM/AD	System Integration Module Reference Manual
68HC12DEVTL/D	1996 Microcontroller Development Tools Directory Supplement

32-bit MPU/MCU

AN447/D	An MC88100/MC88200 20/25/33MHz System DRAM Design
AN447A/D	Appendix to AN447/D
AN449/D	An MC68340 to M88000 MBUS Bus Translator
AN455/D	Using the Table Interpolation Features of the CPU32
AN457/D	Providing a Real-time Clock for the MC68302
AN468/D	MC68F333 Flash EEPROM Programming Utilities – 'PROG' and 'BULK'
AN473/D	A Minimum Evaluation System for the MC68331 and MC68332
AN474/D	ADS302 Monitor for ISDN Development
AN1008/D	MC68824 Token Bus Controller to MC68010 Interface
AN1012/D	A Discussion of Interrupts for the MC68000
AN1015/D	MC68020 Minimum System Configuration
AN1051/D	Transmission Line Effects in PCB Applications
AN1061/D	Reflecting on Transmission Line Effects
AN1062/D	Using the QSPI for Analog Data Acquisition
AN1063/D	DRAM Controller for the MC68340
AN1091/D	Low Skew Clock Drivers and their System Design Considerations
AN1125/D	DRAM Interface to the MC88200 M Bus
AN1127/D	High Speed DRAM Design for the 40MHz MC68EC030
AN1128/D	MC68EC030 40MHz Minimal System
AN1200/D	Configuring the M68300 Family Time Processing Unit (TPU)
AN1214/D	MC88110 64-bit External Bus Interface to 16-bit EPROM
AN1217/D	Interfacing to the MC88110
AN1220/D	Optical Character Recognition Using Fuzzy Logic
AN1230/D	A Background Debugging Mode Driver Package for Modular Microcontrollers
AN1236/D	Timing Performance of TPU I/O Hardware
AN1255/D	MC68F333 Flash EEPROM Programming Utilities
AN1259/D	System Design and Layout Techniques for Noise Reduction in MCU-Based Systems
AN1263/D	Designing for Electromagnetic Compatibility with Single-Chip Microcontrollers
AN1264/D	JTAG Flash Memory Programmer
AN1310/D	Using the MC68332 Microcontroller for AC Induction Motor Control
ANE426/D	An MC68030 32-bit High Performance Minimum System
AR217/D	The Motorola MC68020
AR270/D	Designing a Cache for a Fast Processor
AR350/D	Adapt Non-ISDN Terminals to ISDN Data Rates
AR362/D	Whipping Up Real-Time Designs – Programming Motorola's TPU
DC407/D	Interfacing MC68020 and MC68030 to DSP56001 Host Port
DC408/D	MC88110 Single Stepping Code Example

Microprocessors: 32-bit MPU/MCU continued

DC411/D	An MC68302-based Fax Machine
DC413/D	Multiple QUICC Interfacing
DC414/D	An 8-bit EPROM Interface for an MC68EC040/MC68360 System
DCE402/D	MC68030 25MHz Benchmarking Board
DCE403/D	Interfacing 25MHz MC68030 to a 20MHz MC68882
EB116/D	Chip-Select Generation for a 33.33MHz MC68030 Microprocessor and a 33.33MHz MC68882 Floating-Point Coprocessor
EB117/D	MC88100 P-Bus Flexibility Using PCE
EB162/D	Programming Tips (MC88110)
EB163/D	Running the MC88110 in Lockstep
EB164/D	Interrupt Latency in the MC88110
EB165/D	Hardware Implications of xmem as a st followed by a ld
EB414/D	Low Power Write Enable Generation for M68300 Family Microprocessors
EB417/D	Swapping ROM and RAM Mapping on the MC68307
TPUPN00/D	Using the TPU Function Library and TPU Emulation Mode
TPUPN01/D	Queued Output Match TPU Function (QOM)
TPUPN02/D	Fast Quadrature Decode TPU Function (FQD)
TPUPN03/D	Frequency Measurement TPU Function (FQM)
TPUPN04/D	Table Stepper Motor TPU Function (TSM)
TPUPN05/D	Multichannel PWM TPU Function (MCPWM)
TPUPN06/D	Programmable Time Accumulator TPU Function (PTA)
TPUPN07/D	Asynchronous Serial Interface TPU Function (UART)
TPUPN08/D	New Input Capture/Input Transition Counter TPU Function (NITC)
TPUPN09/D	Multiphase Motor Commutation TPU Function (COMM)
TPUPN10/D	Hall Effect Decode TPU Function (HALLD)
TPUPN11/D	Period/Pulse Width Accumulator TPU Function (PPWA)
TPUPN12/D	Output Compare TPU Function (OC)
TPUPN13/D	Stepper Motor TPU Function (SM)
TPUPN14/D	Position-Synchronised Pulse Generator (PSP)
TPUPN15A/D	Period Measurement with Additional Transition Detection TPU Function (PMA)
TPUPN15B/D	Period Measurement with Missing Transition Detection TPU Function (PMM)
TPUPN17/D	Pulse Width Modulation TPU Function (PWM)
TPUPN18/D	Discrete Input/Output TPU Function (DIO)
TPUPN19/D	Synchronized Pulse-Width Modulation (SPWM)
TPUPN20/D	Quadrature Decode TPU Function (QDEC)

Additional information relevant to 32-bit MPU/MCU may be found in the following Motorola documents:

BR231/D	High Performance Embedded Systems Technical Literature
BR348/D	Technical Training: Course Reference Guide & Schedule – July-December 1996
BR463/D	The M68300 Microcontroller Family
BR484/D	68302
BR583/D	HYPERmodule Family Product Overview
BR729/D	High Performance Embedded Systems: 68K and ColdFire Source
BR733/D	MC68040 Fact Sheet
BR742/D	M68000 Family Surface-Mount Packaging Update
BR753/D	M68340EVS Product Brief
BR1100/D	Semiconductor Products Sector, Microprocessor and Memory Technologies Group: Reliability and Quality Report
BR1109/D	68EC0x0 Microprocessor High Performance MPUs for Cost-Conscious Embedded Control
BR1114/D	The 68300 Family Integrated Microprocessors and Microcontrollers
BR1115/D	68000 Family of Microprocessors
BR1116/D	Advanced Microcontroller Division Literature Guide
BR1118/D	Motorola's 68LC040 Microprocessor
BR1119/D	Motorola's 68EC040 Microprocessor
BR1131/D	Leadership 2000: Motorola's 68000 Family Through the '90s and Beyond
BR1133/D	HIPPO: High-Performance Internal Product Portfolio Overview
BR1137/D	The Motorola Explorer's Guide to the World of Embedded Control Solutions

BR1153/D	The 68060 Family
BR1159/D	Motorola's Chisholm LBP Board
BR1169/D	The M68HC16 and M68300 Families of Modular Microcontrollers
BR1170/D	Hardware Development Tools
BR1187/D	Motorola CAN – The Total Solution for CAN Microcontrollers
BR1332/D	Logic Integrated Circuits Division: New Product Calendar
BR1427/D	PC Brochure
BR3006/D	Wireless Communications Resource Guide
BR3020/D	ISDN Solutions Kit
COLDFIREFAM/D	ColdFire: Variable-Length RISC Processors
CPU32RM/AD	CPU32 Central Processor Unit Reference Manual
CTMRM/D	Configurable Timer Module Reference Manual
EMBSOLUTIONS/D	Optimum Solutions for Advanced Products
EMDVPOC/D	Embedded Developer Pocket Guide
GPTRM/AD	Modular Microcontroller Family General Purpose Timer Reference Manual
MRQS/D	Advanced Microcontroller Division: Reliability and Quality Monitor Report – Quarter 4, 1995
M68CPU32BUG/D	CPU32BUG Debug Monitor User's Manual
M68000PM/AD	M68000 Family Programmer's Reference Manual
M68020UM/AD	MC68020/MC68EC020 Microprocessors User's Manual
M68040UM/AD	MC68040, MC68040V, MC68LC040, MC68EC040, MC68EC040V Microprocessors User's Manual
M68060UM/AD	MC68060, MC68LC060, MC68EC060 Microprocessors User's Manual
M68332EVKEM/AD1	M68332EVK Evaluation Kit Exercise Manual
MC68EC030UM/AD	MC68EC030 32-bit Embedded Controller User's Manual
MC68EN302RM/AD	MC68EN302 Integrated Multiprotocol Processor with Ethernet Reference Manual (Supplement to MC68302UM/AD)
MC68F333UM/AD	MC68F333 User's Manual
MC68LC302RM/AD	MC68LC302 Low Power Integrated Multiprotocol Processor Reference Manual
MC68MH360RM/AD	MC68MH360 QUICC32 Quad Integrated Multichannel Controller Reference Manual
MC68PM302RM/AD	Integrated Multiprotocol Processor with PCMCIA Interface Reference Manual
* MC68SC302UM/AD	MC68SC302 Passive ISDN Protocol Engine User's Manual
MC68030UM/AD	MC68030 Enhanced 32-bit MPU User's Manual, third edition
MC68302UM/AD	MC68302 Integrated Multiprotocol Processor User's Manual
MC68306UM/AD	MC68306 Integrated EC000 Processor User's Manual
MC68307UM/AD	MC68307 Integrated Multiple-Bus Processor User's Manual
MC68322UM/AD	Bandit: MC68322 Integrated Printer Processor User's Manual
MC68328UM/AD	MC68328 (Dragonball) Integrated Processor User's Manual
MC68330UM/AD	MC68330 Integrated CPU32 Processor Users Manual
MC68331UM/AD	MC68331 User's Manual
MC68332UM/AD	MC68332 User's Manual
MC68340UM/AD	MC68340 Integrated Processor User's Manual
MC68341UM/AD	MC68341 Integrated Processor User's Manual
MC68349UM/AD	MC68349 High Performance Integrated Processor User's Manual
MC68356UM/AD	MC68356 Signal Processing Communications Engine User's Manual
MC68840UM/AD	MC68840 Integrated Fiber Distributed Data Interface User's Manual
MC88100UM/AD	MC88100 RISC Microprocessor User's Manual
MC88110/410DH/AD	MC88110/MC88410 Designer's Handbook
MC88110UM/AD	MC88110 Second Generation RISC Microprocessor User's Manual
MC88410UM/AD	MC88410 Secondary Cache Controller User's Manual
MCF5102UM/AD	MCF5102 ColdFire User's Manual
MCF5200PRM/AD	ColdFire Programmer's Reference Manual
MCF5202UM/AD	ColdFire MCF5202 User's Manual
MCUDEVTLDIR/D	Motorola Microcontroller Development Tools Directory
QADCRM/AD	Queued Analog-to Digital Converter Reference Manual
QSMRM/AD	Queued Serial Module Reference Manual
SCIMRM/AD	Single-Chip Integration Module Reference Manual
SG166/D	Advanced Microcontroller Division Update
SG167/D	High Performance Embedded Systems Fact Sheet
SG171/D	Fast Static RAM Division Product Update
SG174/D	NESSIE: New Emulation & Software Solutions In Europe
* SG180/D	Microcontroller Technologies Group: Development Tools Selector Guide
SG365/D	Timing Solutions Selector Guide
SG419/D	EMU: European Microcontroller Update
SG423/D	TIGER: The Integrated Guide to European RAMs
SIMRM/AD	System Integration Module Reference Manual
TPURM/AD	M68300 Family Time Processor Unit Reference Manual

8-bit Peripherals

AN864A/D	Interfacing Multiplexed Bus Peripherals with Non-Multiplexed MPUs
AN894A/D	User Considerations for MC146818 Real Time Clock Applications
AN1552/D	MPX7100AP: The Sensor at the Heart of Solid-State Altimeter Applications
ANE425/D	Use of the MC68HC68T1 RTC with M6805 Microprocessors

Additional information relevant to 8-bit Peripherals may be found in the following Motorola documents:

BR1116/D	Advanced Microcontroller Division Literature Guide
SG96/D	Analog/Interface Integrated Circuits Selector Guide & Cross Reference
SG166/D	Advanced Microcontroller Division Update

16/32-bit Peripherals

AN457/D	Providing a Real-time Clock for the MC68302
AN854/D	The MC68230 Parallel Interface/Timer Provides an Effective Printer Interface
AN896A/D	Serial I/O, Timer and Interface Capabilities of the MC68901 Multi-Function Peripheral
AN899/D	A Terminal Interface, Printer Interface and Background Printer for an MC68000-Based System Using the MC68681 DUART
AN947/D	MC68881 Floating-Point Coprocessor as a Peripheral in an M68000 System
AN975/D	The Interrupt Controlling Capabilities of the MC68901 and the MC68230
AN1013/D	MC68606 to Intel iAPX80186 Interface
AN1014/D	MC68606 to MC68020 Interface
ANE426/D	An MC68030 32-bit High Performance Minimum System
DC409/D	FDDI Chip Set Interface to an 80486 System
DC414/D	An 8-bit EPROM Interface for an MC68EC040/MC68360 System

Additional information relevant to 16/32-bit Peripherals may be found in the following Motorola documents:

BR231/D	High Performance Embedded Systems Technical Literature
BR348/D	Technical Training: Course Reference Guide & Schedule – July-December 1996
BR488/D	68306 68307 68322
BR489/D	68360 Quad Integrated Communications Controller (QUICC)
BR742/D	M68000 Family Surface-Mount Packaging Update
BR1104/D	Motorola's FDDI Chip Set
BR1332/D	Logic Integrated Circuits Division: New Product Calendar
MC68HC901UM/AD	MC68HC901 Multi-Function Peripheral User's Manual
MC68360UM/AD	MC68360 Quad Integrated Communications Controller User's Manual
MC68488UM/AD	MC68488 General Purpose Interface Adapter User's Manual
MC68605UM/AD	MC68605 X.25 Protocol Controller User's Manual
MC68606UM/AD	MC68606 Multi-Link LAPD Protocol Controller User's Manual
MC68824UM/AD	MC68824 Token Bus Products User's Manual
MC68836UM/AD	MC68836 FDDI User's Manual
MC68837UM/AD	MC68837 FDDI User's Manual
MC68838UM/AD	MC68838 FDDI User's Manual
MC68847UM/AD	MC68847 Quad ELM FDDI User's Manual
MC68851UM/AD	MC68851 Paged Memory Management Unit User's Manual, second edition
MC68881UM/AD	MC68881/MC68882 Floating-Point Coprocessor User's Manual, second edition
MC88200UM/AD	MC88200 Cache/Memory Management Unit User's Manual
SG96/D	Analog/Interface Integrated Circuits Selector Guide & Cross Reference
SG167/D	High Performance Embedded Systems Fact Sheet
SG419/D	EMU: European Microcontroller Update

PowerPC

AN486/D	Low Cost MPC601 EVM
AN1265/D	Configuring the MPC2604GA Integrated L2 Cache with the MPC106
AN1267/D	PowerPC 603 Hardware Interrupt Latency in Embedded Applications
AN1269/D	PowerPC Microprocessor Clock Modes
AN1271/D	PowerPC 60x Microprocessor to AD1848 CODEC Interface
AN1272/D	Spreadsheet Estimation of CPU-DRAM Subsystem Power Consumption
AN1281/D	MPC505 Interrupts

*AN1282/D	Board Strategies for Ensuring Optimum Frequency Synthesizer Performance
AN1291/D	Avoiding Multiprocessing Paradoxes with the PowerPC 604 Microprocessor
AN1294/D	Multiprocessor Systems and the PowerPC 603e Microprocessor
*AN1564/D	Interfacing to the PowerPC with a Motorola Programmable Array
AN4000/D	Visual Debug for MPC60x
AR359/D	The Making of the PowerPC
AR360/D	PowerPC 620 Soars
DC415/D	Interfacing MPC60x to MC68360
EB418/D	PowerPC 601, PowerPC 603 and PowerPC 604 Common Bus

Additional information relevant to PowerPC may be found in the following Motorola documents:

BBENDFACT/D	PowerPC 603/PowerPC 604 Microprocessor Evaluation System – "Big Bend"
BR348/D	Technical Training: Course Reference Guide & Schedule – July-December 1996
BR1133/D	HIPPO: High-Performance Internal Product Portfolio Overview
BR1140/D	PowerPC 603 Microprocessors
BR1147/D	PowerPC Microprocessor Software by Motorola
BR1154/D	MPC500 Family: RISC PowerPC Microcontrollers
BR1155/D	MPC500 Family: Software Development Tools
BR1165/D	MPC500 Family: RTEK Real-Time Embedded Kernel
BR1166/D	MPC500 Family: Evaluation Board
BR1180/D	Motorola Fast SRAM: Level 2 Cache Modules
BR1427/D	PC Brochure
BR1701/D	Fast Static RAMS and The Cache Memory Market
EMBDPPCFAM/D	PowerPC Microprocessors: Enhanced RISC Performance for Embedded Applications
EMDVPOC/D	Embedded Developer Pocket Guide
MCUDEVTLDIR/D	Motorola Microcontroller Development Tools Directory
*MPCBUSIF/AD	PowerPC Microprocessor Family: the Bus Interface for 32-bit Microprocessors
MPCFPE/AD	PowerPC Microprocessor Family: The Programming Environments
MPCPRG/D	PowerPC Microprocessor Family: The Programmer's Reference Guide
MPCPRGREF/D	PowerPC Microprocessor Family: The Programmer's Pocket Reference Guide
MPCTOOLBK/AD	PowerPC Tools - Development Tools for PowerPC Microprocessors
MPC105UM/AD	PowerPC PCI Bridge/Memory Controller User's Manual
MPC601UM/AD	PowerPC 601 - RISC Microprocessor User's Manual
MPC602UM/AD	PowerPC 602 RISC Microprocessor User's Manual
MPC603eUM/AD	PowerPC 603e RISC Microprocessor User's Manual
MPC604UM/AD	PowerPC 604 RISC Microprocessor User's Manual
MPC821UM/AD	MPC821 PowerPC Portable Systems Microprocessor User's Manual
MPC860UM/AD	MPC860 PowerQUICC User's Manual
PPCSIM603/D	PowerPC Microarchitectural Timing Simulator (MATSim)
PPCSWINSERT/D	Software Vendors Supporting Native-Mode Applications on PowerPC Microprocessors
PPCTOOLSFACT/D	PowerPC Development Tools
PPCUPDATE/D	PowerPC Microprocessor Update
PPC620/D	PowerPC 620 Microprocessors
PPC620FACT/D	PowerPC 620 Microprocessor Fact Sheet
RCPURM/AD	MPC500 Family: RCPU Reference Manual
SG166/D	Advanced Microcontroller Division Update
SG171/D	Fast Static RAM Division Product Update
SG175/D	RISC Microprocessor Division: The PowerPC Microprocessor Family
*SG180/D	Microcontroller Technologies Group: Development Tools Selector Guide
SG422/D	PowerPC Microprocessors Product Overview
SG423/D	TIGER: The Integrated Guide to European RAMs
SIURM/AD	MPC500 Family: System Integration Unit Reference Manual

Motor & Lighting Control

see also Thyristors

AN475/D	Single Wire MI Bus Controlling Stepper Motors
AN733/D	A ROM-Digital Approach to PWM-Type Speed Control of AC Motors
AN861/D	Power Transistor Safe Operating Area: Special Considerations for Motor Drives
AN876/D	Using Power MOSFETs in Stepping Motor Control
AN938/D	Mounting Techniques for PowerMacro Transistor

Motor & Lighting Control continued

AN1045/D	Series Triacs in AC High Voltage Switching Circuits
AN1046/D	Three Piece Solution for Brushless Motor Controller Design
AN1048/D	RC Snubber Networks for Thyristor Power Control and Transient Suppression
AN1049/D	The Electronic Control of Fluorescent Lamps
AN1078/D	New Components Simplify Brush DC Motor Drives
AN1090/D	Understanding and Predicting Power MOSFET Switching Behavior
AN1101/D	One-Horsepower Off-Line Brushless Permanent Magnet Motor Drive
AN1120/D	Basic Servo Loop Motor Control Using the MC68HC05B6 MCU
AN1249/D	Brushed DC Motor Control Using the MC68HC16Z1
AN1300/D	Interfacing Microcomputers to Fractional Horsepower Motors
AN1301/D	Interfacing Analog Inputs to Fractional Horsepower Motors
AN1307/D	A Simple Pressure Regulator Using Semiconductor Pressure Transducers
AN1310/D	Using the MC68332 Microcontroller for AC Induction Motor Control
AN1311/D	Software for an 8-bit Microcontroller Based Brushed DC Motor Drive
AN1317/D	High-Current DC Motor Drive Uses Low On-Resistance Surface Mount MOSFETs
AN1319/D	Design Considerations for a Low Voltage N-Channel H-Bridge Motor Drive
AN1321/D	Brushless DC Motor Drive Incorporates Small Outline Integrated Circuit Packaged MOSFETs
AN1511/D	Applications of the MOC2A40 and MOC2A60 Series POWER OPTO Isolators
AN1515/D	Optically Isolated Phase Controlling Circuit Solution
AN1516/D	Liquid Level Control Using a Motorola Pressure Sensor
AN1524/D	AC Motor Drive Using Integrated Power Stage
AN1541/D	Introduction to Insulated Gate Bipolar Transistors
AN1543/D	Electronic Lamp Ballast Design
AN1546/D	High Voltage, High Side Driver for Electronic Lamp Ballast Applications
AN1576/D	Reduce Compact Fluorescent Cost with Motorola's PowerLux IGBT
*AN1577/D	Motorola's D2 Series Transistors for Fluorescent Converters
*AN1606/D	ITC132 High Voltage Micro to Motor Interface
*AN1607/D	ITC122 Low Voltage Micro to Motor Interface
*AN1702/D	Brushless DC Motor Control Using the MC68HC705MC4
*AN1712/D	"Get Your Motor Running" with the MC68HC708MP16
AR160/D	Lossless Current Sensing with SENSEFETs Enhances Motor Drive
AR180/D	Electronic Ballasts
AR181/D	Bipolar Transistors Excel in Off-Line Resonant Converters
AR301/D	Solid-State Devices Ease Task of Designing Brushless DC Motors
AR341/D	Power MOSFET 1HP Brushless DC Motor Drive Withstands Commutation Stresses
AR609/D	Trouble Shooting Halogen Electronic Transformaers
*AR617/D	Next Generation Power MOSFETs Slash On-Resistance, Manufacturing Cost
*AR618/D	Three Large Markets Drive for Low Power
ARE402/D	The Electronic Control of Fluorescent Tubes
EB123/D	A Simple Brush Type DC Motor Controller
EB128/D	Simple, Low-Cost Motor Controller
EB141/D	Boost MOSFETs Drive Current in Solid State AC Relay
EB142/D	The MOSFET Turn-Off Device – A New Circuit Building Block
EB206/D	Solving Noise Problems in High Power, High Frequency Control IC Driven Power Stages
EB207/D	High Current Buffer for Control ICs
EB407/D	Basic Halogen Converter
TPUPN04/D	Table Stepper Motor TPU Function (TSM)

TPUPN09/D	Multiphase Motor Commutation TPU Function (COMM)
TPUPN10/D	Hall Effect Decode TPU Function (HALLD)
TPUPN13/D	Stepper Motor TPU Function (SM)
TPUPN17/D	Pulse Width Modulation TPU Function (PWM)
TPUPN19/D	Synchronized Pulse-Width Modulation (SPWM)
TPUPN20/D	Quadrature Decode TPU Function (QDEC)

Additional information relevant to Motor & Lighting Control may be found in the following Motorola documents:

BR470/D	Motorola Discretes – The Complete Solution
BR477/D	Smart Mover – Stepper Motors with Integrated Serial Bus Controller
BR480/D	Electronic Lamp Ballasts
BR1193/D	Introducing the DSP56800 Family
BR1422/D	Power Opto Isolators
BR1480/D	Silicon Solutions for Off Line Motor Drives
BR1484/D	Energy-Efficient Semiconductor Solutions for the Appliance Industry
BR3016/D	Motorola GaAs Rectifiers
CALCPSTG/D	Communications, Power and Signal Technologies Group: New Product Calendar and Key Focus Products
DL111/D	Bipolar Power Transistor Data
DL128/D	Analog/Interface Integrated Circuits (vol. 1 and 2)
* DSP56800WP1/D	Novel Digital Signal Processing Architecture with Microcontroller Features
* HC705MC4GRS/D	MC68HC705MC4 General Release Specification
PPDNEWS/D	Power Scene – Fall 1995
SG96/D	Analog/Interface Integrated Circuits Selector Guide & Cross Reference
SG266/D	Bipolar Power Transistors Product Update
SG375/D	Silicon Solutions for Motion Control
SG425/D	Lamp Ballast Selector Guide
SG426/D	DINO: Discrete Innovation News Overview – Quarter 3, 1994

Mounting Techniques & Surface Mount

AN936/D	Mounting Techniques, Lead Forming and Testing of Motorola's MPX Series Pressure Transducers
AN938/D	Mounting Techniques for PowerMacro Transistor
AN978/D	Application of the Motorola VDE Approved Optocouplers
AN1022/D	Mechanical and Thermal Considerations in Using RF Linear Hybrid Amplifiers
AN1040/D	Mounting Considerations for Power Semiconductors
AN1041/D	Mounting Procedures for Very High Power RF Transistors
AN1051/D	Transmission Line Effects in PCB Applications
AN1061/D	Reflecting on Transmission Line Effects
AN1231/D	Plastic Ball Grid Array (PBGA)
AN1232/D	Thermal Performance of Plastic Ball Grid Array (PBGA) Packages for Next Generation FSRAM Devices
AN1260/D	Storage and Handling of Drypacked Surface Mounted Devices (SMD)
AN1534/D	Design Considerations of Plastic Ball Grid Arrays for CMOS Gate Arrays
*AN1617/D	Mounting Recommendations for Copper Tungsten Flanged Transistors
AR145/D	DPAK: The Power Package for Surface Mount Applications
AR302/D	Thermal Management of Surface Mount Power Devices
AR323/D	Managing Heat Dissipation in DPAK Surface-Mount Power Packages
AR523/D	An Overview of Surface Mount Technology (SMT) for Power Supply Applications
*AR617/D	Next Generation Power MOSFETs Slash On-Resistance, Manufacturing Cost
EB107/D	Mounting Considerations for Motorola RF Power Modules
EB109/D	Low Cost UHF Device Gives Broadband Performance at 3.0 Watts Output

Additional information relevant to Mounting Techniques & Surface Mount may be found in the following Motorola documents:

BR470/D	Motorola Discretes – The Complete Solution
BR742/D	M68000 Family Surface-Mount Packaging Update
BR1150/D	7 x 17 PBGA Sample Preview
BR1176/D	Motorola & Ball Grid Array Technology
BR1437/D	Multichip Module Solutions
BR1464/D	TVS/Zener: Want to Outsmart Your Competition?

Mounting Techniques & Surface Mount continued

CR100/D	Communications, Power and Signal Technologies Group: Through-Hole to Surface Mount Cross Reference
CR102/D	Leadless-34 to SOD-123 Cross Reference
DL111/D	Bipolar Power Transistor Data
DL126/D	Small-Signal Transistors, FETs and Diodes Device Data
PPDNEWS/D	Power Scene – Fall 1995
SG265/D	Power MOSFETs Product Update
SG266/D	Bipolar Power Transistors Product Update
SG273/D	Optoelectronic Operations
SG275/D	Small-Signal Operations: Surface Mount Packages
SG370/D	Discrete & RF ICs Surface Mount Selector Guide
SG371/D	DPAK Surface Mount Selector Guide
SG426/D	DINO: Discrete Innovation News Overview – Quarter 3, 1994

Multimedia

AN492/D	A Video Display Board for CD-i Development
AN1254/D	Using the MC68HC16Z1 for Audio Tone Generation
AN1271/D	PowerPC 60x Microprocessor to AD1848 CODEC Interface
EB411/D	A Digital Video Prototyping System

Additional information relevant to Multimedia may be found in the following Motorola documents:

BR1171/D	Motorola Multimedia Communications
BR1192/D	Introducing the DSP56300 Family
BR1305/D	Analog Integrated Circuits: New Product Calendar
* BR1712/D	CopperGold ADSL Silicon Solutions
DL158/D	Multimedia Device Data
* DSP56302UM/AD	DSP56302 User's Manual
* DSP56303UM/AD	DSP56303 User's Manual
* DSP56800WP1/D	Novel Digital Signal Processing Architecture with Microcontroller Features

Networking

AN445/D	Software Model for the Implementation of I.430 ISDN Physical Layer on the MC145474/5 S/T Bus Transceiver
AN464/D	Software Driver Routines for the Motorola MC68HC05 CAN Module
AN970/D	Hardware and Software Interface for the MC68605 X.25 Protocol Controller
AN1007/D	MC68824 Token Bus Controller to iAPX80186 Interface
AN1008/D	MC68824 Token Bus Controller to MC68010 Interface
AN1013/D	MC68606 to Intel iAPX80186 Interface
AN1014/D	MC68606 to MC68020 Interface
AN1054/D	ISDN System Development Using MC145490EVK/MC145491EVK Development Kits
AN1208/D	Parallel I/O Interface to the Neuron Chip
AN1211/D	Interfacing DACs and ADCs to the Neuron IC
AN1216/D	Setback Thermostat Design Using the Neuron® IC
AN1224/D	Example Software Routines for the Message Data Link Controller Module on the MC68HC705V8
AN1225/D	Fuzzy Logic and the Neuron Chip
AR333/D	RF Modems Simplified
AR350/D	Adapt Non-ISDN Terminals to ISDN Data Rates
DC004/D	Avoiding Transmit Underruns in a TBC-Based System
EB146/D	Neuron Chip Quadrature Input Function Interface
EB147/D	LonWorks Installation Overview
EB148/D	Enhanced Media Access Control with Echelon's LonTalk Protocol
EB149/D	Optimizing LonTalk Response Time
EB151/D	Scanning a Keypad with the Neuron Chip
EB152/D	How to Use SNVTs in LonWorks Applications
EB153/D	Driving a Seven Segment Display with the Neuron Chip
EB155/D	Analog to Digital Conversion with the Neuron Chip
EB157/D	Creating Applications with the LonBuilder Multi-Function I/O Kit
EB161/D	LonTalk Protocol
EB406/D	Getting Started with the FDDI ADS Board

Additional information relevant to Networking may be found in the following Motorola documents:

BR480/D	Electronic Lamp Ballasts

BR1104/D	Motorola's FDDI Chip Set
BR1107/D	LonWorks™ Applications Primer
BR1130/D	Coming Through Loud and Clear
BR1134/D	LonWorks Technology: the Smart Choice for Intelligent Distributed Control
BR1137/D	The Motorola Explorer's Guide to the World of Embedded Control Solutions
BR1139/D	LonWorks Support Tools – Advance Information
BR1187/D	Motorola CAN – The Total Solution for CAN Microcontrollers
BR1188/D	LonWorks Networks for Industrial and Process Control
BR1305/D	Analog Integrated Circuits: New Product Calendar
* BR1712/D	CopperGold ADSL Silicon Solutions
BR3020/D	ISDN Solutions Kit
DL122/D	MECL Data
DL136/D	Communications Device Data
DL159/D	LonWorks Technology Device Data
LONUG/AD	LonBuilder User's Guide
MC68EN302RM/AD	MC68EN302 Integrated Multiprotocol Processor with Ethernet Reference Manual (Supplement to MC68302UM/AD)
MC68LC302RM/AD	MC68LC302 Low Power Integrated Multiprotocol Processor Reference Manual
MC68MH360RM/AD	MC68MH360 QUICC32 Quad Integrated Multichannel Controller Reference Manual
MC68PM302RM/AD	Integrated Multiprotocol Processor with PCMCIA Interface Reference Manual
MC68302UM/AD	MC68302 Integrated Multiprotocol Processor User's Manual
MC68360UM/AD	MC68360 Quad Integrated Communications Controller User's Manual
MC68606UM/AD	MC68606 Multi-Link LAPD Protocol Controller User's Manual
MC68824UM/AD	MC68824 Token Bus Products User's Manual
MC68836UM/AD	MC68836 FDDI User's Manual
MC68837UM/AD	MC68837 FDDI User's Manual
MC68838UM/AD	MC68838 FDDI User's Manual
MC68839UM/AD	MC68839 FDDI System Interface User's Manual
MC68840UM/AD	MC68840 Integrated Fiber Distributed Data Interface User's Manual
MC68847UM/AD	MC68847 Quad ELM FDDI User's Manual
MC92500UM/D	ATM Cell Processor Design Reference Manual
MPC860UM/AD	MPC860 PowerQUICC User's Manual
SG169/D	Mixed-Signal Solutions from Wireline IC Division
SG424/D	EAGLES: European Analog Guide for Leading & Emerging Systems

Optoelectronics

AN463/D	68HC05K0 Infra-Red Remote Control
AN978/D	Application of the Motorola VDE Approved Optocouplers
AN1126/D	Evaluation Systems for Remote Control Devices on an Infrared Link
AN1238/D	HC05 MCU LED Drive Techniques Using the MC68HC705J1A
AN1515/D	Optically Isolated Phase Controlling Circuit Solution
AN1572/D	Applying the Optobus I Multichannel Optical Data Link to High-Performance Communication Systems: SCI, Fibre Channel, and ATM
AR517/D	High Resolution Position Sensor for Motion Control System
AR600/D	Parallel Optical Links Move Data at 3 GBits/s
EB406/D	Getting Started with the FDDI ADS Board

Additional information relevant to Optoelectronics may be found in the following Motorola documents:

BR470/D	Motorola Discretes – The Complete Solution
BR1201/D	Global Optoisolators
BR1421/D	Solutions to your Custom Sensing Needs
BR1422/D	Power Opto Isolators
BR1459/D	OPTOBUS Technical Information
BR1480/D	Silicon Solutions for Off Line Motor Drives
BR1484/D	Energy-Efficient Semiconductor Solutions for the Appliance Industry
CALCPSTG/D	Communications, Power and Signal Technologies Group: New Product Calendar and Key Focus Products
CR104/D	General Instrument-to-Motorola Optoelectronics Cross Reference
DL118/D	Optoelectronics Device Data
MC68837UM/AD	MC68837 FDDI User's Manual
MC68847UM/AD	MC68847 Quad ELM FDDI User's Manual
SG167/D	High Performance Embedded Systems Fact Sheet
SG273/D	Optoelectronic Operations

Phase-Locked Loop

AN535/D	Phase-Locked Loop Design Fundamentals
AN827/D	The Technique of Direct Programming by Using a Two-Modulus Prescaler

Phase-Locked Loop continued

AN1207/D	The MC145170 in Basic HF and VHF Oscillators
AN1253/D	An Improved PLL Design Method Without ω_n and ζ
AN1277/D	Offset Reference PLLs for Fine Resolution or Fast Hopping
*AN1282/D	Board Strategies for Ensuring Optimum Frequency Synthesizer Performance
AN1410/D	Configuring and Applying the MC54/74HC4046A Phase-Locked Loop
AN1509/D	ASIC Clock Distribution using a Phase-Locked Loop (PLL)
AR254/D	Phase-Locked Loop Design Articles

Additional information relevant to Phase-Locked Loop may be found in the following Motorola documents:

BR475/D	Advanced Logic Functions
BR1332/D	Logic Integrated Circuits Division: New Product Calendar
BR3006/D	Wireless Communications Resource Guide
DL122/D	MECL Data
SG96/D	Analog/Interface Integrated Circuits Selector Guide & Cross Reference
SG169/D	Mixed-Signal Solutions from Wireline IC Division

Power

Power Supplies & Voltage Regulators

AN004E/D	Semiconductor Consideration for DC Power Supply Voltage Protector Circuits
AN222A/D	The ABCs of DC to AC Inverters
AN479/D	Universal Input Voltage Range Power Supply for High Resolution Monitors with Multi-Sync Capability
AN587/D	Analysis and Design of the Op Amp Current Source
AN703/D	Designing Digitally-Controlled Power Supplies
AN719/D	A New Approach to Switching Regulators
AN875/D	Power Transistor Safe Operating Area: Special Considerations for Switching Power Supplies
AN915/D	Characterizing Collector-to-Emitter and Drain-to-Source Diodes for Switchmode Applications
AN920/D	Theory and Applications of the MC34063 and μA78S40 Switching Regulator Control Circuits
AN929/D	Insuring Reliable Performance from Power MOSFETs
AN951/D	Drive Optimization for 1.0kV Off-Line Converter Transistors
AN976/D	A New High Performance Current Mode Controller Teams Up with Current Sensing Power MOSFETS
AN1080/D	External-Sync Power Supply with Universal Input Voltage Range for Monitors
AN1090/D	Understanding and Predicting Power MOSFET Switching Behavior
AN1108/D	Design Considerations for a Two Transistor, Current Mode Forward Converter
AN1202/D	Battery Back-Up of Self-Refreshing Dynamic Random Access Memory
AN1257/D	Using the M68HC05 Family On-Chip Voltage Regulator
AN1314/D	Automatic Line Voltage Selector
AN1320/D	300 Watt, 100kHz Converter Utilizes Economical Bipolar Planar Power Transistors
AN1327/D	Very Wide Input Voltage Range, Off-line Flyback Switching Power Supply
AN1520/D	HDTMOS Power MOSFETs Excel in Synchronous Rectifier Applications
AN1542/D	Active Inrush Current Limiting Using MOSFETs
AN1547/D	A DC to DC Converter for Notebook Computers Using HDTMOS and Synchronous Rectification
AR181/D	Bipolar Transistors Excel in Off-Line Resonant Converters
AR326/D	High-Voltage MOSFETs Simplify Flyback Design
AR340/D	The Low Forward Voltage Schottky
AR514/D	Build Ultra-Low Dropout Regulator
AR523/D	An Overview of Surface Mount Technology (SMT) for Power Supply Applications
AR564/D	Dual 180V GaAs Schottky Diode Rectifies 10A/leg
AR607/D	Modular DC-DC Converter Sends Power Density Soaring

*AR617/D	Next Generation Power MOSFETs Slash On-Resistance, Manufacturing Cost
*AR619/D	Op Amp Supply Squeezed Down to 1V Rail-to-Rail
EB85A/D	Full-Bridge Switching Power Supplies
EB124/D	MOSFETs Compete with Bipolars in Flyback Power Supplies
EB126/D	Ultra-Rapid Nickel-Cadmium Battery Charger
EB142/D	The MOSFET Turn-Off Device – A New Circuit Building Block
EB206/D	Solving Noise Problems in High Power, High Frequency Control IC Driven Power Stages
EB207/D	High Current Buffer for Control ICs
EB208/D	Design Check List for MPIC21XX Control ICs

Additional information relevant to Power Supplies & Voltage Regulators may be found in the following Motorola documents:

BR470/D	Motorola Discretes – The Complete Solution
BR1305/D	Analog Integrated Circuits: New Product Calendar
BR1480/D	Silicon Solutions for Off Line Motor Drives
BR3003/D	Planet Earth is "On" – GreenLine
BR3006/D	Wireless Communications Resource Guide
BR3016/D	Motorola GaAs Rectifiers
DL111/D	Bipolar Power Transistor Data
DL128/D	Analog/Interface Integrated Circuits (vol. 1 and 2)
DL151/D	Rectifier Device Data
PPDNEWS/D	Power Scene – Fall 1995
SG96/D	Analog/Interface Integrated Circuits Selector Guide & Cross Reference
SG274/D	Zener Operations
SG378/D	Linear Voltage Regulators
SG424/D	EAGLES: European Analog Guide for Leading & Emerging Systems
SG426/D	DINO: Discrete Innovation News Overview – Quarter 3, 1994

Power Device Characteristics

AN450/D	IC Design: A Statistical Approach to Electromigration
AN790/D	Thermal Rating of RF Power Transistors
AN860/D	Power MOSFETs versus Bipolar Transistors
AN861/D	Power Transistor Safe Operating Area: Special Considerations for Motor Drives
AN873/D	Understanding Power Transistor Dynamic Behaviour: dv/dt Effects on Switching RBSOA
AN875/D	Power Transistor Safe Operating Area: Special Considerations for Switching Power Supplies
AN913/D	Designing with TMOS Power MOSFETs
AN924/D	Measurement of Zener Voltage to Thermal Equilibrium with Pulsed Test Current
AN930/D	High Voltage, High Current, Non-Destructive FBSOA Testing
AN952/D	Ultrafast Recovery Rectifiers Extend Power Transistor SOA
AN1043/D	Spice Model for TMOS Power MOSFETs
AN1048/D	RC Snubber Networks for Thyristor Power Control and Transient Suppression
AN1076/D	Speeding up Horizontal Outputs
AN1083/D	Basic Thermal Management of Power Semiconductors
AN1090/D	Understanding and Predicting Power MOSFET Switching Behavior
AN1102/D	Interfacing Power MOSFETs to Logic Devices
AN1526/D	RF Power Device Impedances: Practical Considerations
AN1541/D	Introduction to Insulated Gate Bipolar Transistors
AR120/D	Speeding Up the Very High Voltage Transistor
AR179/D	RF Power Transistors Catapult into High-Power Systems
AR340/D	The Low Forward Voltage Schottky
AR345/D	Switches for High-Definition Displays
AR346/D	RF Power FETs: Their Characteristics and Applications
AR608/D	New Float-Zone Process Ups Switching Rate of IGBTs and Also Cuts Their Fabrication Cost
EB125/D	Testing Power MOSFET Gate Charge
EB131/D	Curve Tracer Measurement Techniques for Power MOSFETs
EB200/D	An Evaluation Board for the MOC2A40 Series and MOC2A60 Series – Optically Isolated Zero Voltage Turn-On Triacs
EB201/D	High Cell Density MOSFETs

Power Device Characteristics continued

Additional information relevant to Power Device Characteristics may be found in the following Motorola documents:

BR470/D	Motorola Discretes – The Complete Solution
BR923/D	Communications, Power & Signal Technologies Group – Reliability Audit Report
CALCPSTG/D	Communications, Power and Signal Technologies Group: New Product Calendar and Key Focus Products
CR100/D	Communications, Power and Signal Technologies Group: Through-Hole to Surface Mount Cross Reference
CR103/D	Transient Voltage Suppressors, General Instruments Cross Reference
DL110/D	RF Device Data
DL111/D	Bipolar Power Transistor Data
DL135/D	TMOS Power MOSFET Transistor Data
DL150/D	TVS/Zener Device Data
DL151/D	Rectifier Device Data
HB214/D	Rectifier Applications Handbook
SG134/D	VARO to Motorola Rectifier Cross Reference
SG140/D	SCANSWITCH Selector Guide
SG265/D	Power MOSFETs Product Update
SG266/D	Bipolar Power Transistors Product Update
SG267/D	Rectifier Product Update
SG274/D	Zener Operations
SG371/D	DPAK Surface Mount Selector Guide

Protection & Thermal Considerations

AN569/D	Transient Thermal Resistance — General Data and its Use
AN843/D	A Review of Transients and Their Means of Suppression
AN1083/D	Basic Thermal Management of Power Semiconductors
AN1408/D	Power Dissipation for Active SCSI Terminators
AN1511/D	Applications of the MOC2A40 and MOC2A60 Series POWER OPTO Isolators
AN1570/D	Basic Semiconductor Thermal Measurement
AR323/D	Managing Heat Dissipation in DPAK Surface-Mount Power Packages
AR450/D	Characterizing Overvoltage Transient Suppressors
AR510/D	VSWR Protection of Solid State RF Power Transistors
AR563/D	Active SCSI Terminators Confront Critics and Gain Acceptance
AR564/D	Dual 180V GaAs Schottky Diode Rectifies 10A/leg

Additional information relevant to Protection & Thermal Considerations may be found in the following Motorola documents:

DL150/D	TVS/Zener Device Data
DL151/D	Rectifier Device Data
HB214/D	Rectifier Applications Handbook
SG267/D	Rectifier Product Update
SG274/D	Zener Operations
SG370/D	Discrete & RF ICs Surface Mount Selector Guide
SG426/D	DINO: Discrete Innovation News Overview – Quarter 3, 1994

Pressure and Acceleration Sensors

AN840/D	Temperature Compensation Methods for the Motorola X-ducer Pressure Sensor Element
AN919/D	Using the Motorola X-ducer Pressure Sensor Data Sheet
AN922/D	Temperature Compensation, Calibration and Applications of Motorola's X-ducer Pressure Sensor
AN935/D	Compensating for Nonlinearity in the MPX10 Series Pressure Transducer
AN936/D	Mounting Techniques, Lead Forming and Testing of Motorola's MPX Series Pressure Transducers
AN962/D	MPX Pressure Sensors Used for Switch Applications
AN1082/D	Simple Design for a 4-20mA Transmitter Interface Using a Motorola Pressure Sensor
AN1097/D	Calibration-Free Pressure Sensor System
AN1100/D	Analog to Digital Converter Resolution Extension Using a Motorola Pressure Sensor
AN1105/D	A Digital Pressure Gauge Using the Motorola MPX700 Series Differential Pressure Sensor

AN1302/D	Motorola Pressure Sensors – Recommended Housing for Very Low Absolute Pressure Measurements
AN1304/D	Integrated Sensor Simplifies Bar Graph Pressure Gauge
AN1305/D	An Evaluation System for Direct Interface of the MPX5100 Pressure Sensor with a Microprocessor
AN1307/D	A Simple Pressure Regulator Using Semiconductor Pressure Transducers
AN1309/D	Compensated Sensor Bar Graph Pressure Gauge
AN1315/D	An Evaluation System Interfacing the MPX2000 Series Pressure Sensors to a Microprocessor
AN1316/D	Frequency Output Conversion for MPX2000 Series Pressure Sensors
AN1318/D	Interfacing Semiconductor Pressure Sensors to Microcomputers
AN1322/D	Applying Semiconductor Sensors to Bar Graph Pressure Gauges
AN1324/D	A Simple Sensor Interface Amplifier
AN1325/D	Amplifiers for Semiconductor Pressure Sensors
AN1326/D	Barometric Pressure Measurement Using Semiconductor Pressure Sensors
AN1513/D	Mounting Techniques and Plumbing Options of Motorola's MPX Series Pressure Sensors
AN1516/D	Liquid Level Control Using a Motorola Pressure Sensor
AN1517/D	Pressure Switch Design with Semiconductor Pressure Sensors
AN1518/D	Using a Pulse Width Modulated Output with Semiconductor Pressure Sensors
AN1536/D	Digital Boat Speedometers
AN1551/D	Low-Pressure Sensing with the MPX2010 Pressure Sensor
AN1552/D	MPX7100AP: The Sensor at the Heart of Solid-State Altimeter Applications
AN1556/D	Designing Sensor Performance Specifications for MCU-based Systems
AN1557/D	A Cookbook Approach to Designing a Differential-Signal Amplifier for Sensor Applications
AN1559/D	Application Considerations for a Switched Capacitor Accelerometer
AN1571/D	Digital Blood Pressure Meter
AN1573/D	Understanding Pressure and Pressure Measurement
*AN1583/D	Motorola's Next Generation Piston Fit Pressure Sensor Packages
AN1584/D	"Very Low Pressure" Smart Sensing Solution with Serial Communications Interface
AN1585/D	High-Performance, Dynamically-Compensated Smart Sensor System
AN1586/D	Designing a Homemade Digital Output for Analog Voltage Output Sensors
*AN1611/D	Impact and Tilt Measurement Using Accelerometer
*AN1612/D	Shock and Mute Pager Applications Using Accelerometer
*AN4004/D	±2g Acceleration Sensing Module Based on a ±40g Integrated Accelerometer
AR501S/D	Reliability Issues for Silicon Pressure Sensors
AR502S/D	The Design of a Monolithic Signal Conditioned Pressure Sensor
AR560/D	Simple Pressure Switches Comprise Transducers, Comparators and Op Amps

Additional information relevant to Pressure and Acceleration Sensors may be found in the following Motorola documents:

BR470/D	Motorola Discretes – The Complete Solution
BR923/D	Communications, Power & Signal Technologies Group – Reliability Audit Report
BR1477/D	Sensor Products Division: Competitive Product Cross Reference
*BR1490/D	MGS1100 Carbon Monoxide Chemical Sensor Qualification Report
BR3005/D	Intelligent Sensor Solutions
BR3009/D	Senseon Intelligent Sensor Solutions
BR3012/D	Next Generation Packaging for SENSEON Pressure Sensors
BR3015/D	The SENSEON Family of Advanced Acceleration Sensors
BR3019/D	The SENSEON Chemical Sensor Family
DL200/D	Pressure Sensor Device Data
HB218/D	Senseon: Pressure Sensor Distributor Handbook
SG162/D	Sensor Products Division

Quality and Reliability

AN790/D	Thermal Rating of RF Power Transistors

Quality and Reliability continued

AN1022/D	Mechanical and Thermal Considerations in Using RF Linear Hybrid Amplifiers
AN1025/D	Reliability Considerations in Design and Use of RF Integrated Circuits
AN1040/D	Mounting Considerations for Power Semiconductors
AN1041/D	Mounting Procedures for Very High Power RF Transistors
*AN1709/D	Motorola Fast Static RAM Known Good Die Manufacturing Process
AR501S/D	Reliability Issues for Silicon Pressure Sensors

Additional information relevant to Quality and Reliability may be found in the following Motorola documents:

BR518/D	Reliability & Quality Handbook
BR923/D	Communications, Power & Signal Technologies Group – Reliability Audit Report
BR1100/D	Semiconductor Products Sector, Microprocessor and Memory Technologies Group: Reliability and Quality Report
BR1202/D	Motorola Quality System Review Guidelines
BR1427/D	PC Brochure
CMRQS/D	CSIC Microcontrollers: Reliability and Quality Monitor Report – Quarter 3, 1996
MRQS/D	Advanced Microcontroller Division: Reliability and Quality Monitor Report – Quarter 4, 1995

Radio Applications

AN460/D	An RDS Decoder Using the MC68HC05E0
AN495/D	RDS Decoding for an HC11-Controlled Radio
AN531/D	MC1596 Balanced Modulator
AN756/D	Crystal Switching Methods for MC12060/ MC12061 Oscillators
AN878/D	VHF MOS Power Applications
AN923/D	800MHz Test Fixture Design
AN980/D	VHF Narrowband FM Receiver Design Using the MC3362 and the MC3363 Dual Conversion Receivers
AN1037/D	Solid State Power Amplifier, 300W FM, 88-108MHz
AN1122/D	Running the MC44802A PLL Circuit
AN1207/D	The MC145170 in Basic HF and VHF Oscillators
AN1231/D	Plastic Ball Grid Array (PBGA)
AN1539/D	An IF Communication Circuit Tutorial
AN-HK-02/H	Low Power FM Transmitter System MC2831A
AN-HK-07/H	A High Performance Manual-Tuned Receiver for Automotive Application Using Motorola ICs MC13021, MC13020 and MC13041
ANE416/D	MC68HC05B4 Radio Synthesizer
AR511/D	Biasing Solid State Amplifiers to Linear Operation
EB27A/D	Get 300 Watts PEP Linear Across 2 to 30MHz from this Push-Pull Amplifier
EB59/D	Predict Frequency Accuracy for MC12060 and MC12061 Crystal Oscillator Circuits

Additional information relevant to Radio Applications may be found in the following Motorola documents:

BR470/D	Motorola Discretes – The Complete Solution
BR1305/D	Analog Integrated Circuits: New Product Calendar
BR1334/D	HIPERCOMM: High Performance Frequency Control Products
BR1467/D	Extend Your Scope in Wireless Systems – The New Hipercomm Generation
BR3006/D	Wireless Communications Resource Guide
DL136/D	Communications Device Data
SG46/D	RF Products Selector Guide
SG96/D	Analog/Interface Integrated Circuits Selector Guide & Cross Reference
SG169/D	Mixed-Signal Solutions from Wireline IC Division
SG381/D	RF Monolithic Integrated Circuits
SG417/D	Semiconductor Products for Wireless Communications

RF

AN535/D	Phase-Locked Loop Design Fundamentals
AN593/D	Broadband Linear Power Amplifiers Using Push-Pull Transistors
AN721/D	Impedance Matching Networks Applied to RF Power Transistors
AN749/D	Broadband Transformers and Broadband Combining Techniques for RF

AN779/D	Low-Distortion 1.6 to 30MHz SSB Driver Designs
AN790/D	Thermal Rating of RF Power Transistors
AN791/D	A Simplified Approach to VHF Power Amplifier Design
AN847/D	Tuning Diode Design Techniques
AN878/D	VHF MOS Power Applications
AN955/D	A Cost Effective VHF Amplifier for Land Mobile Radios
AN1022/D	Mechanical and Thermal Considerations in Using RF Linear Hybrid Amplifiers
AN1027/D	Reliability/Performance Aspects of CATV Amplifier Design
AN1028/D	35/50 Watt Broadband (160-240MHz) Push-Pull TV Amplifier Band III
AN1029/D	TV Transposers Band IV and V Po = 0.5W/1.0W
AN1030/D	1W/2W Broadband TV Amplifier Band IV and V
AN1032/D	How Load VSWR Affects Non-Linear Circuits
AN1033/D	Match Impedances in Microwave Amplifiers
AN1034/D	Three Balun Designs for Push-Pull Amplifiers
AN1039/D	470-860 MHz Broadband Amplifier 5W
AN1041/D	Mounting Procedures for Very High Power RF Transistors
AN1103/D	Using the CR3424 for High Resolution CRT Applications
AN1106/D	Considerations in Using the MHW801 and MHW851 Series RF Power Modules
AN1107/D	Understanding RF Data Sheet Parameters
AN1526/D	RF Power Device Impedances: Practical Considerations
AN1539/D	An IF Communication Circuit Tutorial
*AN1617/D	Mounting Recommendations for Copper Tungsten Flanged Transistors
AR141/D	Applying Power MOSFETs in Class D/E RF Power Amplifier Design
AR164/D	Good RF Construction Practices and Techniques
AR176/D	New MOSFETs Simplify High Power RF Amplifier Design
AR179/D	RF Power Transistors Catapult into High-Power Systems
AR305/D	Building Push-Pull, Multioctave, VHF Power Amplifiers
AR333/D	RF Modems Simplified
AR347/D	A Compact 1kW 2-50MHz Solid-State Linear Amplifier
AR510/D	VSWR Protection of Solid State RF Power Transistors
AR597/D	GaAs RF ICs Target 2.4GHz Frequency Band
AR606/D	PCS and RF Components
*AR612/D	Plastic Packages Hold Power RF MOSFETs
EB27A/D	Get 300 Watts PEP Linear Across 2 to 30MHz from this Push-Pull Amplifier
EB59/D	Predict Frequency Accuracy for MC12060 and MC12061 Crystal Oscillator Circuits
EB77/D	A 60 Watt 225-400MHz Amplifier – 2N6439
EB89/D	A 1 Watt, 2.3GHz Amplifier
EB90/D	Low-Cost VHF Amplifier Has Broadband Performance
EB93/D	60 Watt VHF Amplifier Uses Splitting/ Combining Techniques
EB104/D	Get 600 Watts RF from Four Power FETs
EB107/D	Mounting Considerations for Motorola RF Power Modules
EB109/D	Low Cost UHF Device Gives Broadband Performance at 3.0 Watts Output

Additional information relevant to RF may be found in the following Motorola documents:

BR470/D	Motorola Discretes – The Complete Solution
BR475/D	Advanced Logic Functions
BR923/D	Communications, Power & Signal Technologies Group – Reliability Audit Report
BR1305/D	Analog Integrated Circuits: New Product Calendar
BR1332/D	Logic Integrated Circuits Division: New Product Calendar
BR1334/D	HIPERCOMM: High Performance Frequency Control Products
BR1429/D	Wideband Linear Amplifiers – CATV, CRT Drivers, General Purpose
BR1443/D	Communications – State-of-the-Art is Never Stationary
BR1444/D	Communications – 1994 Motorola Resource Guide
BR1467/D	Extend Your Scope in Wireless Systems – The New Hipercomm Generation

RF continued

BR3006/D	Wireless Communications Resource Guide
CALCPSTG/D	Communications, Power and Signal Technologies Group: New Product Calendar and Key Focus Products
DL110/D	RF Device Data
DL126/D	Small-Signal Transistors, FETs and Diodes Device Data
DL128/D	Analog/Interface Integrated Circuits (vol. 1 and 2)
HB215/D	RF Application Reports
SG46/D	RF Products Selector Guide
SG96/D	Analog/Interface Integrated Circuits Selector Guide & Cross Reference
SG275/D	Small-Signal Operations: Surface Mount Packages
SG370/D	Discrete & RF ICs Surface Mount Selector Guide
SG381/D	RF Monolithic Integrated Circuits
* SG384/D	Motorola RF LDMOS Product Family
SG417/D	Semiconductor Products for Wireless Communications

Small Signal Transistors & Diodes

AN462/D	FET Current Regulators – Circuits and Diodes
AN1538/D	Water Level Control for Wells Using Small Surface Mount Devices

Additional information relevant to Small Signal Transistors & Diodes may be found in the following Motorola documents:

BR470/D	Motorola Discretes – The Complete Solution
BR923/D	Communications, Power & Signal Technologies Group – Reliability Audit Report
CALCPSTG/D	Communications, Power and Signal Technologies Group: New Product Calendar and Key Focus Products
CR100/D	Communications, Power and Signal Technologies Group: Through-Hole to Surface Mount Cross Reference
DL126/D	Small-Signal Transistors, FETs and Diodes Device Data
SG274/D	Zener Operations
SG275/D	Small-Signal Operations: Surface Mount Packages
SG370/D	Discrete & RF ICs Surface Mount Selector Guide
SG426/D	DINO: Discrete Innovation News Overview – Quarter 3, 1994

Smart Card/Conditional Access

see also Microprocessors: 8-bit MPU/MCU

Information relevant to Smart Card/Conditional Access may be found in the following Motorola documents:

BR491/D	Smartcard Microcontroller Family: Setting the Standards
BR492/D	ISO Modules: Supplied by Motorola
BR1469/D	Growing to Meet Your Needs

Software & Programming

AN427/D	MC68HC11 EEPROM Error Correction Algorithms in C
AN431/D	Temperature Measurement and Display Using the MC68HC05B4 and the MC14489
AN434/D	Serial Bootstrap for the RAM and EEPROM1 of the MC68HC05B6
AN441/D	MC68HC05E0 EPROM Emulator
AN455/D	Using the Table Interpolation Features of the CPU32
AN456/D	Using PCbug11 as a Diagnostic Aid for Expanded Mode M68HC11 Systems
AN458/D	A Self-Test Approach for the MC68HC11A/E
AN459/D	A Monitor for the MC68HC05E0
AN468/D	MC68F333 Flash EEPROM Programming Utilities – 'PROG' and 'BULK'
AN472/D	Software SCI with Receive Buffer for the MC68HC11
AN478/D	HC05 to HC11 Code Conversion
AN499/D	Let the MC68HC705 Program Itself
AN974/D	MC68HC11 Floating-Point Package
AN1010/D	MC68HC11 EEPROM Programming from a Personal Computer
AN1011/D	MC146805G2 to MC68HC05C4 Conversion
AN1015/D	MC68020 Minimum System Configuration
AN1055/D	M6805 16-bit Support Macros
AN1060/D	MC68HC11 Bootstrap Mode
AN1064/D	Use of Stack Simplifies M68HC11 Programming
AN1200/D	Configuring the M68300 Family Time Processing Unit (TPU)

AN1208/D Parallel I/O Interface to the Neuron Chip
AN1215/D PID Routines for MC68HC11K4 and MC68HC11N4 Microcontrollers
AN1218/D HC05 to HC08 Optimization
AN1219/D M68HC08 Integer Math Routines
AN1220/D Optical Character Recognition Using Fuzzy Logic
AN1224/D Example Software Routines for the Message Data Link Controller Module on the MC68HC705V8
AN1230/D A Background Debugging Mode Driver Package for Modular Microcontrollers
AN1255/D MC68F333 Flash EEPROM Programming Utilities
AN1262/D Simple Real-Time Kernels for M68HC05 Microcontrollers
AN1263/D Designing for Electromagnetic Compatibility with Single-Chip Microcontrollers
AN1264/D JTAG Flash Memory Programmer
AN1280/D Using and Extending D–Bug 12 Routines
AN1283/D Transporting M68HC11 Code to M68HC16 Devices
AN1284/D Transporting M68HC11 Code to M68HC12 Devices
AN1287/D MC68HC708LN56 LCD Utilities
AN1291/D Avoiding Multiprocessing Paradoxes with the PowerPC 604 Microprocessor
*AN1711/D DMA08 Systems Compatibilities
ANE425/D Use of the MC68HC68T1 RTC with M6805 Microprocessors
AR103/D Compilation and Pascal on the New Microprocessors
AR362/D Whipping Up Real-Time Designs – Programming Motorola's TPU
DC408/D MC88110 Single Stepping Code Example
DC410/D Fuzzy Logic – A New Approach to Embedded Control Solutions
EB166/D System Design Considerations: Converting from the MC68HC805B6 to the MC68HC705B16 Microcontroller
EB410/D PASM05 to INTROL M68HC05 Assembler Conversion
EB412/D Using Fuzzy Logic in Practical Applications
EB419/D ROMed HC11E32 and HC11PH8 Including Buffalo Monitor and PCbug11 Talker
EB422/D Enhanced M68HC11 Bootstrap Mode
M68HC16PN01/D Transporting M68HC11 Code to M68HC16 Devices
TPUPN00/D Using the TPU Function Library and TPU Emulation Mode
TPUPN02/D Fast Quadrature Decode TPU Function (FQD)
TPUPN03/D Frequency Measurement TPU Function (FQM)
TPUPN04/D Table Stepper Motor TPU Function (TSM)
TPUPN05/D Multichannel PWM TPU Function (MCPWM)
TPUPN06/D Programmable Time Accumulator TPU Function (PTA)
TPUPN07/D Asynchronous Serial Interface TPU Function (UART)
TPUPN08/D New Input Capture/Input Transition Counter TPU Function (NITC)
TPUPN09/D Multiphase Motor Commutation TPU Function (COMM)
TPUPN10/D Hall Effect Decode TPU Function (HALLD)
TPUPN11/D Period/Pulse Width Accumulator TPU Function (PPWA)
TPUPN12/D Output Compare TPU Function (OC)
TPUPN13/D Stepper Motor TPU Function (SM)
TPUPN14/D Position-Synchronised Pulse Generator (PSP)
TPUPN15A/D Period Measurement with Additional Transition Detection TPU Function (PMA)
TPUPN15B/D Period Measurement with Missing Transition Detection TPU Function (PMM)
TPUPN17/D Pulse Width Modulation TPU Function (PWM)
TPUPN18/D Discrete Input/Output TPU Function (DIO)
TPUPN19/D Synchronized Pulse-Width Modulation (SPWM)
TPUPN20/D Quadrature Decode TPU Function (QDEC)

Software & Programming continued

Additional information relevant to Software & Programming may be found in the following Motorola documents:

BR729/D	High Performance Embedded Systems: 68K and ColdFire Source
BR748/D	M68HC711D3PGMR Programmer Board
BR1111/D	M68HC705J2/P9PGMR Programmer Board
BR1113/D	M68HC705B5PGMR Programmer Board
BR1116/D	Advanced Microcontroller Division Literature Guide
BR1126/D	DSP96KCCx: DSP96002 C Cross Compiler Software Summary
BR1147/D	PowerPC Microprocessor Software by Motorola
BR1155/D	MPC500 Family: Software Development Tools
BR1165/D	MPC500 Family: RTEK Real-Time Embedded Kernel
* BR1714/D	RTEK Real-Time Kernel for Motorola Microcontrollers
EMDVPOC/D	Embedded Developer Pocket Guide
HC711D3PGMR/AD1	M68HC711D3PGMR Programmer Board User's Manual
LP2/D	Portable Power: The Competitive Edge of the 68HC11 – Low Power Design Guidebook
M68CPU32BUG/D	CPU32BUG Debug Monitor User's Manual
M68HC08RG/AD	HC08 Family Reference Guide
M68PCBUG11/D2	M68HC11 PCbug11 User's Manual
M6809PM/AD	MC6809-MC6809E Microprocessor Programming Manual (1981)
M68000PM/AD	M68000 Family Programmer's Reference Manual
M68000UM/AD	M68000 8-/16-/32-bit Microprocessors User's Manual, Ninth Edition
M68332EVKEM/AD1	M68332EVK Evaluation Kit Exercise Manual
MC68HC11A8RG/AD	MC68HC11A8 Programming Reference Guide
MC68HC11C0RG/AD	MC68HC11C0 Programming Reference Guide
MC68HC11D3RG/AD	MC68HC11D3/MC68HC711D3 Programming Reference Guide
MC68HC11ERG/AD	MC68HC11E Programming Reference Guide
MC68HC11F1RG/AD	MC68HC11F1 Programming Reference Guide
MC68HC11K4RG/AD	MC68HC11K4/MC68HC711K4 Programming Reference Guide
MC68HC11KA4RG/AD	MC68HC11KA4/MC68HC711KA4 Programming Reference Guide
MC68HC11L6RG/AD	MC68HCL6/MC68HC711L6 Programming Reference Guide
MC68HC11MRG/AD	M68HC11 M Series Programming Reference Guide
MC68HC11NRG/AD	MC68HC11N Series Programming Reference Guide
MC68851UM/AD	MC68851 Paged Memory Management Unit User's Manual, second edition
MCUASM/D	MCUasm Assembly Language Development Toolset
MCUDEVTLDIR/D	Motorola Microcontroller Development Tools Directory
MPCFPE/AD	PowerPC Microprocessor Family: The Programming Environments
MPCPRG/D	PowerPC Microprocessor Family: The Programmer's Reference Guide
PPCTOOLSFACT/D	PowerPC Development Tools
RCPURM/AD	MPC500 Family: RCPU Reference Manual
SG146/D	Digital Signal Processors Update
SG166/D	Advanced Microcontroller Division Update
SG167/D	High Performance Embedded Systems Fact Sheet
* SG180/D	Microcontroller Technologies Group: Development Tools Selector Guide
SIURM/AD	MPC500 Family: System Integration Unit Reference Manual
TPURM/AD	M68300 Family Time Processor Unit Reference Manual
68HC12DEVTL/D	1996 Microcontroller Development Tools Directory Supplement

Telecommunications

see also Interfacing

AN457/D	Providing a Real-time Clock for the MC68302
AN474/D	ADS302 Monitor for ISDN Development
AN488/D	Telephone Handset with DTMF using the 68HC05F4
AN943/D	UDLT Evaluation Board
AN948/D	Data Multiplexing Using the Universal Digital Loop Transceiver and the Data Set Interface
AN949/D	A Voice/Data Modem Using the MC145422/26, MC145428 and MC14403
AN957/D	Interfacing the Speakerphone to the MC34010/11/13 Speech Networks
AN958/D	Transmit Gain Adjustments for the MC34014 Speech Network
AN959/D	A Speakerphone with Receive Idle Mode
AN960/D	Equalization of DTMF Signals Using the MC34014

AN968/D	A Digital Voice/Data Telephone Set
AN970/D	Hardware and Software Interface for the MC68605 X.25 Protocol Controller
AN1002/D	A Handsfree Featurephone Design Using the MC34114 Speech Network and the MC34018 Speakerphone ICs
AN1003/D	Featurephone Design, with Tone Ringer and Dialer, using the MC34118 Speakerphone IC
AN1004/D	A Handsfree Featurephone Design using MC34114 Speech Network and MC34118 Speakerphone ICs
AN1006/D	Linearize the Volume Control of the MC34118 Speakerphone
AN1054/D	ISDN System Development Using MC145490EVK/MC145491EVK Development Kits
AN1077/D	Adding Digital Volume Control to Speakerphone Circuits
AN1207/D	The MC145170 in Basic HF and VHF Oscillators
AN1231/D	Plastic Ball Grid Array (PBGA)
AN1241/D	Interfacing the MC68HC705J1A to 9356/ 9366 EEPROMs
AN1254/D	Using the MC68HC16Z1 for Audio Tone Generation
AN1274/D	HC08 SCI Operation with Various Input Clocks
AN1544/D	Design of Continuously Variable Slope Delta Modulation Communication Systems
AN1572/D	Applying the Optobus I Multichannel Optical Data Link to High-Performance Communication Systems: SCI, Fibre Channel, and ATM
*AN1574/D	A Group Listening-In Application for the MC33215
*AN1603/D	Providing a POTS Phone in an ISDN or Similar Environment
*AN1612/D	Shock and Mute Pager Applications Using Accelerometer
AN-HK-01/H	300 Baud Smart Modem with Intelligent MCU Controller
AN-HK-08/H	A Medium Scale PABX
AN-HK-12/H	MC68HC05F6 Tone Pulse Dialer
AN-HK-17/H	MC68HC05F2 DTMF Output Low Voltage Active Filter
APR1/D	Digital Sine-Wave Synthesis Using the DSP56001/DSP56002
APR9/D	Full-Duplex 32 kbit/s CCITT ADPCM Speech Coding on the Motorola DSP56001
APR12/D	Twin CODEC Expansion Board for the DSP56000 Application Development System
APR14/D	Conference Bridging in the Digital Telecomms Environment Using the Motorola DSP56000
AR606/D	PCS and RF Components
*AR619/D	Op Amp Supply Squeezed Down to 1V Rail-to-Rail
DC411/D	An MC68302-based Fax Machine
DC413/D	Multiple QUICC Interfacing
EB77/D	A 60 Watt 225-400MHz Amplifier – 2N6439
EB89/D	A 1 Watt, 2.3GHz Amplifier
TPUPN07/D	Asynchronous Serial Interface TPU Function (UART)

Additional information relevant to Telecommunications may be found in the following Motorola documents:

BR348/D	Technical Training: Course Reference Guide & Schedule – July-December 1996
BR470/D	Motorola Discretes – The Complete Solution
BR475/D	Advanced Logic Functions
BR484/D	68302
BR488/D	68306 68307 68322
BR489/D	68360 Quad Integrated Communications Controller (QUICC)
BR1116/D	Advanced Microcontroller Division Literature Guide
BR1130/D	Coming Through Loud and Clear
BR1133/D	HIPPO: High-Performance Internal Product Portfolio Overview
BR1137/D	The Motorola Explorer's Guide to the World of Embedded Control Solutions
BR1192/D	Introducing the DSP56300 Family
BR1193/D	Introducing the DSP56800 Family
BR1195/D	VeComp: Vector Communications Processors – Technology Overview
BR1196/D	CODEC. Plug In. WorldWide.
BR1305/D	Analog Integrated Circuits: New Product Calendar
BR1332/D	Logic Integrated Circuits Division: New Product Calendar
BR1334/D	HIPERCOMM: High Performance Frequency Control Products
BR1443/D	Communications – State-of-the-Art is Never Stationary
BR1444/D	Communications – 1994 Motorola Resource Guide

Telecommunications continued

BR1459/D	OPTOBUS Technical Information
BR1467/D	Extend Your Scope in Wireless Systems – The New Hipercomm Generation
BR1702/D	Fast Static RAMS and The Communications Market
* BR1712/D	CopperGold ADSL Silicon Solutions
BR3006/D	Wireless Communications Resource Guide
BR3020/D	ISDN Solutions Kit
CALCPSTG/D	Communications, Power and Signal Technologies Group: New Product Calendar and Key Focus Products
CR100/D	Communications, Power and Signal Technologies Group: Through-Hole to Surface Mount Cross Reference
DL128/D	Analog/Interface Integrated Circuits (vol. 1 and 2)
DL136/D	Communications Device Data
* DSP56302UM/AD	DSP56302 User's Manual
* DSP56303UM/AD	DSP56303 User's Manual
* DSP56800WP1/D	Novel Digital Signal Processing Architecture with Microcontroller Features
MC68EN302RM/AD	MC68EN302 Integrated Multiprotocol Processor with Ethernet Reference Manual (Supplement to MC68302UM/AD)
MC68LC302RM/AD	MC68LC302 Low Power Integrated Multiprotocol Processor Reference Manual
MC68MH360RM/AD	MC68MH360 QUICC32 Quad Integrated Multichannel Controller Reference Manual
MC68PM302RM/AD	Integrated Multiprotocol Processor with PCMCIA Interface Reference Manual
* MC68SC302UM/AD	MC68SC302 Passive ISDN Protocol Engine User's Manual
MC68302UM/AD	MC68302 Integrated Multiprotocol Processor User's Manual
MC68307UM/AD	MC68307 Integrated Multiple-Bus Processor User's Manual
MC68356UM/AD	MC68356 Signal Processing Communications Engine User's Manual
MC68360UM/AD	MC68360 Quad Integrated Communications Controller User's Manual
MC68605UM/AD	MC68605 X.25 Protocol Controller User's Manual
MPC821UM/AD	MPC821 PowerPC Portable Systems Microprocessor User's Manual
MPC860UM/AD	MPC860 PowerQUICC User's Manual
SG46/D	RF Products Selector Guide
SG96/D	Analog/Interface Integrated Circuits Selector Guide & Cross Reference
SG167/D	High Performance Embedded Systems Fact Sheet
SG169/D	Mixed-Signal Solutions from Wireline IC Division
SG171/D	Fast Static RAM Division Product Update
SG381/D	RF Monolithic Integrated Circuits
SG417/D	Semiconductor Products for Wireless Communications
SG424/D	EAGLES: European Analog Guide for Leading & Emerging Systems
SG426/D	DINO: Discrete Innovation News Overview – Quarter 3, 1994

Thyristors and Triacs

AN849/D	Guide to Thyristor Applications
AN964/D	Trigger Design Ideas for DIAC Replacements
AN1045/D	Series Triacs in AC High Voltage Switching Circuits
AN1048/D	RC Snubber Networks for Thyristor Power Control and Transient Suppression
AN1314/D	Automatic Line Voltage Selector
AN1511/D	Applications of the MOC2A40 and MOC2A60 Series POWER OPTO Isolators
AN1515/D	Optically Isolated Phase Controlling Circuit Solution
AN1516/D	Liquid Level Control Using a Motorola Pressure Sensor
AN1538/D	Water Level Control for Wells Using Small Surface Mount Devices
EB30/D	Sensitive Gate SCRs – Don't Forget the Gate-Cathode Resistor
EB126/D	Ultra-Rapid Nickel-Cadmium Battery Charger

Additional information relevant to Thyristors and Triacs may be found in the following Motorola documents:

BR923/D	Communications, Power & Signal Technologies Group – Reliability Audit Report
BR1422/D	Power Opto Isolators
BR1484/D	Energy-Efficient Semiconductor Solutions for the Appliance Industry
CR101/D	Tag to Motorola Thyristor Cross Reference
DL137/D	Thyristor Device Data
HB214/D	Rectifier Applications Handbook
SG268/D	Thyristor Product Update
SG371/D	DPAK Surface Mount Selector Guide
SG426/D	DINO: Discrete Innovation News Overview - Quarter 3, 1994

TV and Video

AN433/D	TV On-Screen Display Using the MC68HC05T1
AN448/D	"FLOF" Teletext using M6805 Microcontrollers
AN463/D	68HC05K0 Infra-Red Remote Control
AN479/D	Universal Input Voltage Range Power Supply for High Resolution Monitors with Multi-Sync Capability
AN492/D	A Video Display Board for CD-i Development
AN545A/D	Television Video IF Amplifier Using Integrated Circuits
AN829/D	Application of the MC1374 TV Modulator
AN921/D	Horizontal APC/AFC Loops
AN1019/D	Decoding Using the TDA3330, with Emphasis on Cable In/Cable Out Operation
AN1020/D	A High-Performance Video Amplifier for High Resolution CRT Applications
AN1021/D	A Hybrid Video Amplifier for High Resolution CRT Applications
AN1025/D	Reliability Considerations in Design and Use of RF Integrated Circuits
AN1027/D	Reliability/Performance Aspects of CATV Amplifier Design
AN1028/D	35/50 Watt Broadband (160-240MHz) Push-Pull TV Amplifier Band III
AN1029/D	TV Transposers Band IV and V Po = 0.5W/1.0W
AN1030/D	1W/2W Broadband TV Amplifier Band IV and V
AN1039/D	470-860 MHz Broadband Amplifier 5W
AN1044/D	The MC1378 — A Monolithic Composite Video Synchronizer
AN1047/D	Electrical Characteristics of the CR2424 and CR2425 CRT Driver Hybrid Amplifiers
AN1076/D	Speeding up Horizontal Outputs
AN1080/D	External-Sync Power Supply with Universal Input Voltage Range for Monitors
AN1103/D	Using the CR3424 for High Resolution CRT Applications
AN1122/D	Running the MC44802A PLL Circuit
AN1235/D	A Set Top Closed-Caption Decoder
AN1241/D	Interfacing the MC68HC705J1A to 9356/ 9366 EEPROMs
AN1548/D	Guidelines for Debugging the MC44011 Video Decoder
AR333/D	RF Modems Simplified
AR345/D	Switches for High-Definition Displays
EB411/D	A Digital Video Prototyping System

Additional information relevant to TV and Video may be found in the following Motorola documents:

BR470/D	Motorola Discretes – The Complete Solution
BR1130/D	Coming Through Loud and Clear
BR1305/D	Analog Integrated Circuits: New Product Calendar
BR1429/D	Wideband Linear Amplifiers – CATV, CRT Drivers, General Purpose
BR1459/D	OPTOBUS Technical Information
DL111/D	Bipolar Power Transistor Data
DL151/D	Rectifier Device Data
DL158/D	Multimedia Device Data
* DSP56800WP1/D	Novel Digital Signal Processing Architecture with Microcontroller Features
* HC05RC18GRS/D	68HC05RC9/68HC05RC18 General Release Specification
SG46/D	RF Products Selector Guide
SG96/D	Analog/Interface Integrated Circuits Selector Guide & Cross Reference
SG140/D	SCANSWITCH Selector Guide
SG169/D	Mixed-Signal Solutions from Wireline IC Division
SG267/D	Rectifier Product Update
SG424/D	EAGLES: European Analog Guide for Leading & Emerging Systems

Unijunction

AN294/D	Unijunction Transistor Timers and Oscillators

All Products and Application Areas

BR101/D	Technical Literature and Information Catalog
BR380/D	SPS Bar Code Label Specifications
BR474/D	European Bar Code Specifications
BR481/D	Setting New Standards for Quality and Technical Excellence in Everything We Do
BR518/D	Reliability & Quality Handbook
BR925/D	Six Sigma Roadmap

All Products and Application Areas continued

BR1202/D	Motorola Quality System Review Guidelines
BR1306/D	CATS – Customer Analysis Tracking System
BR1410/D	MAP – Metric Awareness Program
BR1416/D	University Support
BR1437/D	Multichip Module Solutions
BR1460/D	Combinational Technologies
BR1469/D	Growing to Meet Your Needs
BR3021/D	IMAGINE Semiconductor Solutions
SG73/D	Master Selection Guide
SG379/D	North America Sales and Distribution Price List

Applications Documents Alphanumeric List

AN004E/D	Semiconductor Consideration for DC Power Supply Voltage Protector Circuits
AN211A/D	Field Effect Transistors in Theory and Practice
AN220/D	FETs in Chopper and Analog Switching Circuits
AN222A/D	The ABCs of DC to AC Inverters
AN294/D	Unijunction Transistor Timers and Oscillators
AN427/D	MC68HC11 EEPROM Error Correction Algorithms in C
AN428/D	Automotive Direction Indicator with Short Circuit Detection Using the UAA1041
AN431/D	Temperature Measurement and Display Using the MC68HC05B4 and the MC14489
AN432/D	128K byte Addressing with the M68HC11
AN433/D	TV On-Screen Display Using the MC68HC05T1
AN434/D	Serial Bootstrap for the RAM and EEPROM1 of the MC68HC05B6
AN441/D	MC68HC05E0 EPROM Emulator
AN442/D	Driving LCDs with M6805 Microprocessors
AN445/D	Software Model for the Implementation of I.430 ISDN Physical Layer on the MC145474/5 S/T Bus Transceiver
AN447/D	An MC88100/MC88200 20/25/33MHz System DRAM Design
AN447A/D	Appendix to AN447/D
AN448/D	"FLOF" Teletext using M6805 Microcontrollers
AN449/D	An MC68340 to M88000 MBUS Bus Translator
AN450/D	IC Design: A Statistical Approach to Electromigration
AN452/D	Using the MC68HC11K4 Memory Mapping Logic
AN455/D	Using the Table Interpolation Features of the CPU32
AN456/D	Using PCbug11 as a Diagnostic Aid for Expanded Mode M68HC11 Systems
AN457/D	Providing a Real-time Clock for the MC68302
AN458/D	A Self-Test Approach for the MC68HC11A/E
AN459/D	A Monitor for the MC68HC05E0
AN460/D	An RDS Decoder Using the MC68HC05E0
AN461/D	An Introduction to the HC16 for HC11 Users
AN462/D	FET Current Regulators – Circuits and Diodes
AN463/D	68HC05K0 Infra-Red Remote Control
AN464/D	Software Driver Routines for the Motorola MC68HC05 CAN Module
AN465/D	Secure Remote Control using the 68HC05K1 and the 68HC05P3
AN468/D	MC68F333 Flash EEPROM Programming Utilities – 'PROG' and 'BULK'
AN472/D	Software SCI with Receive Buffer for the MC68HC11
AN473/D	A Minimum Evaluation System for the MC68331 and MC68332
AN474/D	ADS302 Monitor for ISDN Development
AN475/D	Single Wire MI Bus Controlling Stepper Motors
AN476/D	CPU16 and the Configurable Timer Module (CTM) in Engine Control
AN477/D	Simple A/D for MCUs without Built-In A/D Converters

AN478/D	HC05 to HC11 Code Conversion
AN479/D	Universal Input Voltage Range Power Supply for High Resolution Monitors with Multi-Sync Capability
AN480/D	Dual DSP56002 Master Slave Communications
AN485/D	High-Power Audio Amplifiers with Short-Circuit Protection
AN486/D	Low Cost MPC601 EVM
AN488/D	Telephone Handset with DTMF using the 68HC05F4
AN492/D	A Video Display Board for CD-i Development
AN495/D	RDS Decoding for an HC11-Controlled Radio
AN499/D	Let the MC68HC705 Program Itself
AN531/D	MC1596 Balanced Modulator
AN535/D	Phase-Locked Loop Design Fundamentals
AN545A/D	Television Video IF Amplifier Using Integrated Circuits
AN556/D	Interconnection Techniques for Motorola's MECL 10,000 Series Emitter Coupled Logic
AN559/D	A Single Ramp Analog-to-Digital Converter
AN569/D	Transient Thermal Resistance — General Data and its Use
AN581/D	An MSI 500MHz Frequency Counter Using MECL and MTTL
AN587/D	Analysis and Design of the Op Amp Current Source
AN593/D	Broadband Linear Power Amplifiers Using Push-Pull Transistors
AN701/D	Understanding MECL 10 000 DC and AC Data Sheet Specifications
AN702/D	High Speed Digital-to-Analog and Analog-to-Digital Techniques
AN703/D	Designing Digitally-Controlled Power Supplies
AN708A/D	Line Driver and Receiver Considerations
AN719/D	A New Approach to Switching Regulators
AN720/D	Interfacing with MECL 10,000 Integrated Circuits
AN721/D	Impedance Matching Networks Applied to RF Power Transistors
AN726/D	Bussing with MECL 10 000 Integrated Circuits
AN733/D	A ROM-Digital Approach to PWM-Type Speed Control of AC Motors
AN749/D	Broadband Transformers and Broadband Combining Techniques for RF
AN753/D	Scanning Logic for RF Scanner-Receivers Using CMOS Integrated Circuits
AN756/D	Crystal Switching Methods for MC12060/ MC12061 Oscillators
AN759/D	A CMOS Keyboard Data Entry System for Bus Oriented Memory Systems
AN779/D	Low-Distortion 1.6 to 30MHz SSB Driver Designs
AN781A/D	Revised Data-Interface Standards
AN782/D	Interfacing and Controlling Digital Temperature Data Using the MC6800
AN790/D	Thermal Rating of RF Power Transistors
AN791/D	A Simplified Approach to VHF Power Amplifier Design
AN810/D	Dual 16-Bit Ports for the MC68000 Using Two MC6821s
AN827/D	The Technique of Direct Programming by Using a Two-Modulus Prescaler
AN829/D	Application of the MC1374 TV Modulator
AN840/D	Temperature Compensation Methods for the Motorola X-ducer Pressure Sensor Element
AN843/D	A Review of Transients and Their Means of Suppression
AN846/D	Basic Concepts of Fiber Optics and Fiber Optic Communications
AN847/D	Tuning Diode Design Techniques
AN849/D	Guide to Thyristor Applications
AN854/D	The MC68230 Parallel Interface/Timer Provides an Effective Printer Interface
AN860/D	Power MOSFETs versus Bipolar Transistors
AN861/D	Power Transistor Safe Operating Area: Special Considerations for Motor Drives
AN864A/D	Interfacing Multiplexed Bus Peripherals with Non-Multiplexed MPUs
AN873/D	Understanding Power Transistor Dynamic Behaviour: dv/dt Effects on Switching RBSOA
AN875/D	Power Transistor Safe Operating Area: Special Considerations for Switching Power Supplies

AN876/D Using Power MOSFETs in Stepping Motor Control

AN878/D VHF MOS Power Applications

AN894A/D User Considerations for MC146818 Real Time Clock Applications

AN896A/D Serial I/O, Timer and Interface Capabilities of the MC68901 Multi-Function Peripheral

AN897/D MC68008 Minimum Configuration System

AN899/D A Terminal Interface, Printer Interface and Background Printer for an MC68000-Based System Using the MC68681 DUART

AN905/D A Transparent DMA Using an MC6809E MPU and an MC6844 DMAC

AN906A/D Self-Programming the MC68701 and the MC68701U4

AN913/D Designing with TMOS Power MOSFETs

AN915/D Characterizing Collector-to-Emitter and Drain-to-Source Diodes for Switchmode Applications

AN917/D Reading and Writing in Floppy Disc Systems Using Motorola Integrated Circuits

AN918/D Paralleling Power MOSFETs in Switching Applications

AN919/D Using the Motorola X-ducer Pressure Sensor Data Sheet

AN920/D Theory and Applications of the MC34063 and μA78S40 Switching Regulator Control Circuits

AN921/D Horizontal APC/AFC Loops

AN922/D Temperature Compensation, Calibration and Applications of Motorola's X-ducer Pressure Sensor

AN923/D 800MHz Test Fixture Design

AN924/D Measurement of Zener Voltage to Thermal Equilibrium with Pulsed Test Current

AN926/D Techniques for Improving the Settling Time of a DAC and Op-Amp Combination

AN929/D Insuring Reliable Performance from Power MOSFETs

AN930/D High Voltage, High Current, Non-Destructive FBSOA Testing

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DC004/D	Avoiding Transmit Underruns in a TBC-Based System
DC407/D	Interfacing MC68020 and MC68030 to DSP56001 Host Port
DC408/D	MC88110 Single Stepping Code Example
DC409/D	FDDI Chip Set Interface to an 80486 System
DC410/D	Fuzzy Logic – A New Approach to Embedded Control Solutions
DC411/D	An MC68302-based Fax Machine
DC413/D	Multiple QUICC Interfacing
DC414/D	An 8-bit EPROM Interface for an MC68EC040/MC68360 System
DC415/D	Interfacing MPC60x to MC68360
DCE402/D	MC68030 25MHz Benchmarking Board
DCE403/D	Interfacing 25MHz MC68030 to a 20MHz MC68882
DCE406/D	Interface for MC68000 to DSP56001 Host Port
EB20/D	Multiplier/OP Amp Circuit Detects True RMS
EB27A/D	Get 300 Watts PEP Linear Across 2 to 30MHz from this Push-Pull Amplifier
EB30/D	Sensitive Gate SCRs – Don't Forget the Gate-Cathode Resistor
EB48/D	A Time Base and Control Logic Subsystem for High-Frequency, High-Resolution Counters
EB51/D	Successive Approximation BCD A/D Converter
EB59/D	Predict Frequency Accuracy for MC12060 and MC12061 Crystal Oscillator Circuits
EB77/D	A 60 Watt 225-400MHz Amplifier – 2N6439
EB85A/D	Full-Bridge Switching Power Supplies
EB89/D	A 1 Watt, 2.3GHz Amplifier
EB90/D	Low-Cost VHF Amplifier Has Broadband Performance

EB93/D 60 Watt VHF Amplifier Uses Splitting/ Combining Techniques

EB104/D Get 600 Watts RF from Four Power FETs

EB107/D Mounting Considerations for Motorola RF Power Modules

EB109/D Low Cost UHF Device Gives Broadband Performance at 3.0 Watts Output

EB116/D Chip-Select Generation for a 33.33MHz MC68030 Microprocessor and a 33.33MHz MC68882 Floating-Point Coprocessor

EB117/D MC88100 P-Bus Flexibility Using PCE

EB123/D A Simple Brush Type DC Motor Controller

EB124/D MOSFETs Compete with Bipolars in Flyback Power Supplies

EB125/D Testing Power MOSFET Gate Charge

EB126/D Ultra-Rapid Nickel-Cadmium Battery Charger

EB128/D Simple, Low-Cost Motor Controller

EB131/D Curve Tracer Measurement Techniques for Power MOSFETs

EB141/D Boost MOSFETs Drive Current in Solid State AC Relay

EB142/D The MOSFET Turn-Off Device – A New Circuit Building Block

EB146/D Neuron Chip Quadrature Input Function Interface

EB147/D LonWorks Installation Overview

EB148/D Enhanced Media Access Control with Echelon's LonTalk Protocol

EB149/D Optimizing LonTalk Response Time

EB151/D Scanning a Keypad with the Neuron Chip

EB152/D How to Use SNVTs in LonWorks Applications

EB153/D Driving a Seven Segment Display with the Neuron Chip

EB155/D Analog to Digital Conversion with the Neuron Chip

EB157/D Creating Applications with the LonBuilder Multi-Function I/O Kit

EB161/D LonTalk Protocol

EB162/D Programming Tips (MC88110)

EB163/D Running the MC88110 in Lockstep

EB164/D Interrupt Latency in the MC88110

EB165/D Hardware Implications of xmem as a st followed by a ld

EB166/D System Design Considerations: Converting from the MC68HC805B6 to the MC68HC705B16 Microcontroller

EB180/D Differences between the MC68HC705B16 and the MC68HC705B16N

EB200/D An Evaluation Board for the MOC2A40 Series and MOC2A60 Series – Optically Isolated Zero Voltage Turn-On Triacs

EB201/D High Cell Density MOSFETs

EB206/D Solving Noise Problems in High Power, High Frequency Control IC Driven Power Stages

EB207/D High Current Buffer for Control ICs

EB208/D Design Check List for MPIC21XX Control ICs

EB406/D Getting Started with the FDDI ADS Board

EB407/D Basic Halogen Converter

EB410/D PASM05 to INTROL M68HC05 Assembler Conversion

EB411/D A Digital Video Prototyping System

EB412/D Using Fuzzy Logic in Practical Applications

EB413/D Resetting MCUs

EB414/D Low Power Write Enable Generation for M68300 Family Microprocessors

EB415/D Extend SPI Addressing with the MC74HC595

EB416/D Modular Target Cables for Motorola Development Systems

EB417/D Swapping ROM and RAM Mapping on the MC68307

EB418/D PowerPC 601, PowerPC 603 and PowerPC 604 Common Bus

EB419/D ROMed HC11E32 and HC11PH8 Including Buffalo Monitor and PCbug11 Talker

EB420/D Converting DSP56001-Based Designs to the DSP56002

EB421/D The Motorola MCAN Module

EB422/D Enhanced M68HC11 Bootstrap Mode

M68HC11EVB/AN1 EVB Application Note: Special Test Mode Operation

M68HC16PN01/D Transporting M68HC11 Code to M68HC16 Devices

TPUPN00/D Using the TPU Function Library and TPU Emulation Mode

TPUPN01/D	Queued Output Match TPU Function (QOM)
TPUPN02/D	Fast Quadrature Decode TPU Function (FQD)
TPUPN03/D	Frequency Measurement TPU Function (FQM)
TPUPN04/D	Table Stepper Motor TPU Function (TSM)
TPUPN05/D	Multichannel PWM TPU Function (MCPWM)
TPUPN06/D	Programmable Time Accumulator TPU Function (PTA)
TPUPN07/D	Asynchronous Serial Interface TPU Function (UART)
TPUPN08/D	New Input Capture/Input Transition Counter TPU Function (NITC)
TPUPN09/D	Multiphase Motor Commutation TPU Function (COMM)
TPUPN10/D	Hall Effect Decode TPU Function (HALLD)
TPUPN11/D	Period/Pulse Width Accumulator TPU Function (PPWA)
TPUPN12/D	Output Compare TPU Function (OC)
TPUPN13/D	Stepper Motor TPU Function (SM)
TPUPN14/D	Position-Synchronised Pulse Generator (PSP)
TPUPN15A/D	Period Measurement with Additional Transition Detection TPU Function (PMA)
TPUPN15B/D	Period Measurement with Missing Transition Detection TPU Function (PMM)
TPUPN17/D	Pulse Width Modulation TPU Function (PWM)
TPUPN18/D	Discrete Input/Output TPU Function (DIO)
TPUPN19/D	Synchronized Pulse-Width Modulation (SPWM)
TPUPN20/D	Quadrature Decode TPU Function (QDEC)

Data Books

Timing Solutions

Rev 6

With frequencies approaching 50MHz in today's RISC and CISC microprocessor systems, precise clock signals are required to maintain a synchronous system. This data book presents Motorola's range of low skew clock drivers, together with a discussion of design considerations to help achieve the best performance.

Order by: BR1333/D

HIPERCOMM: High Performance Frequency Control Products

Rev 4

A compilation of data sheets on a selection of Motorola's high performance Prescalers, VCOs, Phase Frequency Detectors and Frequency Synthesizers. Includes a numerical device listing, case information and a list of literature on Logic products.

Order by: BR1334/D

LCX Data Low-Voltage CMOS Logic

Rev 3

Motorola's 3V LCX family features 5V-tolerant inputs and outputs to enable an easy transition to 3V systems or to mixed 3V/5V systems. Low power, low switching noise and fast switching speeds make the family perfect for low power portable applications as well as for high end advanced workstation applications. This data book includes overall specifications for the family, general applications information, a discussion of design considerations, and individual datasheets for all the devices in the family. A Functional Selector Guide includes devices from the LVQ and HC families, as well as the LCX devices.

Order by: BR1339/D

RF Device Data

Rev 7

Provides data sheet information on Motorola's extensive range of RF products. Products are categorised into three main sections – Discrete Transistors, Monolithic Integrated Circuits and Amplifiers – and a comprehensive Selector Guide lists the devices under a variety of application, frequency band and package classifications. Case dimensions and a competitor cross reference are included – the cross reference lists functionally similar products under a 'closest replacement' heading in order to accommodate the unique products that now exist as a result of new technologies and packaging concepts.

Order by: DL110/D

Bipolar Power Transistor Data

Rev 7

Motorola produces more than 700 off-the-shelf power transistors covering a very wide range of applications; currents range from 0.1 to 80A, voltages from 25 to 1800V, and power dissipations from 5 to 250W. Their electrical, thermal and mechanical characteristics are presented here in the form of data sheets, with a competitor Cross Reference and a Selector Guide.

Order by: DL111/D

Optoelectronics Device Data

Rev 5

In the optoelectronics field, Motorola has concentrated on infra red GaAs and GaAlAs emitters, silicon detectors, high-technology optocouplers/isolators, and an innovative approach to fibre optics. This data book contains up-to-date information on the complete product line. A Selector Guide and industry Cross Reference follow a general

Introduction and quality/reliability data. Data sheets are grouped in sections covering Discrete Emitters/Detectors, Fibre Optic Components, Optoisolators/Optocouplers, Slotted Optical Switches and Opto Chips. Includes 82 pages of application notes.

Order by: DL118/D

FAST and LS TTL Data

Rev 5

Low Power Schottky (LSTTL) has become the industry-standard logic in recent years, replacing the original 7400 TTL with lower power and higher operating speeds. In addition to producing the standard LS TTL circuits, Motorola also offers the FAST™ Schottky TTL family. Complete specifications for both LS and FAST families are provided here in data sheet form; functional Selector Guides provide an overview of current and planned devices. Includes a comparison of the principal characteristics of the two families.

Order by: DL121/D

MECL Data

Rev 6

Presents full technical data for Motorola's monolithic Emitter Coupled Logic families, including MECL 10H, MECL 10K and MECL III, plus Phase-Locked Loop products. MECL offers very high speeds – with propagation delays down to 1.0ns – for use in computer systems, high-performance ATE and process control systems, signal processors and navigation systems. The families also offer other advantages which combine to reduce package count and simplify system design. This book includes a technical introduction to MECL and a detailed discussion of system design considerations.

Order by: DL122/D

Small-Signal Transistors, FETs and Diodes Device Data

Rev 5

Presents technical information for the several families that make up Motorola's small-signal semiconductor product range, including bipolars, FETs and diodes. Complete device specifications and typical performance curves are given on individual data sheets, which are grouped by families and by their metal can and plastic/surface mount packages. A Selector Guide provides a quick comparison of performance characteristics. Additional sections describe package outline drawings and tape-and-reel specifications, and clarify the Hi-Rel processing and testing procedures.

Order by: DL126/D

Analog/Interface Integrated Circuits (vol. 1 and 2)

Rev 6

Presents detailed technical information in the form of data sheets on Motorola's broad range of linear and interface ICs. Products are divided into 10 sections, including Amplifiers and Comparators, Power Supply Circuits, Motor Control, Voltage References, Data Conversion, Interface Circuits, Communications, Consumer and Automotive. Each section includes its own comprehensive Selector Guide, while an industry Cross Reference lists over 3,000 products with their Motorola Direct or Similar Replacements. Full mechanical data is provided, plus a listing of device availability for surface mount.

Order by: DL128/D

High Speed CMOS Data

Rev 6

For many years, CMOS devices have been used in applications where low power consumption, wide power supply range and high noise immunity are the important factors. For higher speed applications, designers were forced to sacrifice the CMOS benefits and choose families such as LSTTL. Motorola's High Speed CMOS family is fast enough for such applications, while retaining the CMOS features. The HSCMOS Data Book includes a Selector Guide by function, a discussion of design and handling considerations, and full electrical and performance data in the form of data sheets.

Order by: DL129/D

CMOS Logic Data

Rev 3

Presents technical data for Motorola's broad line of Metal-Gate CMOS logic ICs. Complete specifications are provided in the form of data sheets. In addition, a Product Selector Guide and a Handling and Design Guidelines chapter are included for further information. Includes data on all the logic circuits from the MC14000 series; non-logic devices in this series are covered in the CMOS Application-Specific Standard ICs data book, reference DL130/D.

Order by: DL131/D

TMOS Power MOSFET Transistor Data

Rev 6

Power MOSFETs offer unique characteristics and capabilities that are not available with bipolar power transistors. They have high switching speeds, simpler gate drive requirements, reduced need for snubber circuits, and low ON-voltages. This book provides a comprehensive Selector Guide by package, and full data on all Motorola's TMOS™ Power MOSFETs in the form of data sheets. It contains more than 200 pages of theory and applications information in 15 chapters, including Gate Drive Requirements, Parallelling and Characterization, plus a number of specific designs.

Order by: DL135/D

Communications Device Data

Rev 4, 1Q96

Motorola offers a broad range of semiconductor communications products for a wide variety of applications. This book contains specifications on these parts as well as information on evaluation kits, a selection of application notes and product literature, a glossary of related terms, handling and design guidelines, and reliability and quality information. Functional and technical selection guides are also included to help select the appropriate parts.

Order by: DL136/D

Thyristor Device Data

Rev 6

Thyristors are useful across a broad range of control applications. Compared to a mechanical switch a thyristor has a long service life and fast switching times; its regenerative action and low ON-resistance allow it to be used to control AC loads as well as for simple switching tasks. Thyristor Device Data presents data sheet information – plus a comprehensive Selector Guide and industry Cross Reference – on Motorola's thyristor families, including SCRs, Triacs, GTOs and trigger devices. It includes 220 pages of theory and applications information.

Order by: DL137/D

FACT Data

Rev 3

FACT™ uses a sub 2 micron silicon gate CMOS process to attain speeds similar to Advanced Low Power Schottky, while retaining the ultra low power and high noise immunity of CMOS logic. It also offers superior line driving characteristics and excellent ESD and latchup immunity. This data book describes Motorola's product line with device specifications and a Selector Guide, plus design considerations and comparisons with previous technologies.

Order by: DL138/D

High Performance ECL Data – ECLinPS and ECLinPS Lite

Rev 4

This data book contains device specifications in the form of data sheets for Motorola's ECLinPS advanced Emitter Coupled Logic family. ECLinPS (ECL in picoseconds) was developed in response to demand for an even higher performance logic family of standard logic functions, especially for the computer, ATE, instrumentation and communications industries. ECLinPS offers a maximum single gate delay of 500ps including package delay, and a flip-flop toggle frequency up to 800MHz. Each function is available with either MECL 10KH or 100K compatibility.

Order by: DL140/D

TVS/Zener Device Data

Rev 1

Presents technical data for Motorola's broad line of Transient Voltage Suppressors (TVS) and Zener Diodes. Complete specifications are given in the form of data sheets, with separate sections for surface mount devices. A comprehensive Selector Guide and Industry Cross Reference are included to assist the choice of devices for specific applications, showing Motorola direct replacement and similar replacement parts. The comprehensive Technical Information section has been edited and updated from the popular Motorola Zener Diode Manual, and includes four Application Notes/Article Reprints.

Order by: DL150/D

Rectifier Device Data

Rev 2

Motorola is the world's leading supplier of rectifiers – including switching power supply types – and offers the biggest stock range of zener diodes. In this book, a 12-page industry Cross Reference is followed by a comprehensive Selector Guide showing Application Specific devices,

plus Schottky, Ultrafast, Fast and general purpose products, and automotive transient suppressors. Detailed electrical and mechanical information is provided in the form of data sheets for all devices.

Order by: DL151/D

Dynamic RAMs & Memory Modules

Rev 2

Motorola has developed a broad range of reliable Dynamic RAMs and Memory Modules for virtually any data processing system application. Complete specifications for the individual circuits are provided here in the form of data sheets. A selector guide and a cross reference are included to simplify the task of choosing the best combination of circuits for optimum system architecture. Includes 70 pages of application note reprints.

Order by: DL155/D

Fast Static RAM – Component and Module Data

Rev 3

Motorola offers a broad range of Fast SRAMs for virtually any digital data processing application. This book contains complete specifications for individual FSRAM circuits in data sheet form, together with an introduction to Motorola's quality and reliability programme, and an applications section. The book is divided into BiCMOS, CMOS, Application Specific and Module products, and includes a comprehensive selector guide, an industry cross reference, and 84 pages of applications information.

Order by: DL156/D

Multimedia Device Data

1Q95

Motorola offers a broad range of semiconductor multimedia products for a wide variety of applications. This new book contains specifications on these parts as well as information on evaluation kits, a selection of application notes, a glossary of related terms, handling and design guidelines, and reliability and quality information. Functional and technical selection guides are also included to help select appropriate parts.

Order by: DL158/D

LonWorks Technology Device Data

Rev 3

Through the LONWORKS program, Motorola offers the MC143120 and MC143150 NEURON chips. These are sophisticated VLSI devices that make it possible to implement low-cost local operating network applications. This book combines specifications for these parts with a large selection of applications literature. Other sections include a Technology/Licensing Overview, a summary of the Neuron Chip Family hardware resources, Communications and Subsystems, I/O Interfaces, Programming Model, the LonTalk Protocol, and details of the data structures.

Order by: DL159/D

Pressure Sensor Device Data

Rev 2

Provides basic information on Motorola's pressure sensors, with application ideas and data sheets on this broad product line. Includes an introduction to the principle of operation, a separate data sheet section for the recently introduced Signal Conditioned and High Impedance products, data sheets on all the other devices in the family, Quality and Reliability data, 178 pages of applications information, plus package outlines and handling recommendations.

Order by: DL200/D

MPA: Motorola Programmable Array Data

Rev 1

Provides an introduction and full product description for Motorola's MPA1000 FPGA family plus the companion MCP17128 128K Serial EPROM. Includes timing data, pinouts and packaging information, electrical charactaristics, details of the JTAG Boundary Scan test system, quality and reliability data, a discussion of software support and tools, and three application notes.

Order by: DL201/D

Advanced High-Speed CMOS Data

Motorola's VHC Advanced High-Speed CMOS logic family is designed for operation on 2V to 5.5V supplies. When operating at supply voltages less than 5V the devices feature 5V-tolerant inputs to aid 3V-5V mixed system designs, and with speeds more than 60% faster than HCMOS, VHC is the perfect family for new, low-cost, low-power designs.

Excellent noise performance also makes VHC a good replacement for FACT logic, without sacrificing speed. This data book contains full data sheets on the first 18 devices to be released.

Order by: DL203/D

Senseon: Pressure Sensor Distributor Handbook

Intended to introduce Motorola's pressure sensors to product distributors, this handbook is a guide to the basic what, where, how and why of SENSEON Pressure Sensors. It is comprehensive yet lighthearted, and requires minimal technical background in order to grasp the basic concepts.

Order by: HB218/D

Selector Guides and Application Literature

Reliability & Quality Handbook

Rev 6

This handbook reviews the reliability and quality aspects of the semiconductor products supplied by Motorola worldwide. It is a compilation of both long and short term reliability test results, plus quality data from all of Motorola's semiconductor operations including ASICs, Discretes, MOS Memories, MPU/MCU, Logic and Analogue products. The summaries are the result of many tests and evaluations performed throughout Motorola's design and manufacturing locations.

Order by: BR518/D

High Performance Embedded Systems: 68K and ColdFire Source

Rev 4

Lists vendors of hardware and software products supporting the M68000 MPU family. This latest edition includes hardware and software development tools as well as operating systems. Products are grouped into language-specific products; software development tools that are not language-specific; operating systems; and hardware-related development tools such as evaluation boards, educational boards and in-circuit emulators.

Order by: BR729/D

Packaging Manual for ASIC Arrays

Rev 2

This manual is intended to be used as a supplement to previously published design manuals and data sheets for Motorola's ASICs. It includes a summary of packages available for commercial arrays; detailed mechanical data on each package; reliability and handling information; and thermal performance data for the 62A, HDC, MCA2 and MCA3 series.

Order by: BR916/D

Communications, Power & Signal Technologies Group – Reliability Audit Report

Rev 24

This report provides product reliability information concerning key technologies, test procedures and product characteristics for Motorola's broad range of discrete devices, a range that includes optoelectronics, pressure sensors and RF modules in addition to the more conventional discrete products. Includes 'The Navigator' to help locate information on specific devices.

Order by: BR923/D

THIS BOOK IS NO LONGER PUBLISHED IN PRINTED FORM BUT IS AVAILABLE ON MOTOROLA'S WEB SITE

Semiconductor Products Sector, Microprocessor and Memory Technologies Group: Reliability and Quality Report

Rev 23, 4Q96

Motorola's Quality System maintains 'continuous product improvement' goals in all phases of the operation. Statistical Process Control (SPC), quality control sampling, reliability audit and accelerated stress testing techniques monitor the performance of all products. This report provides data on trends and the current levels of quality and reliability for Motorola's portfolio of memory devices. It includes an

overview of reliability and quality philosophy, and short sections on reliability data analysis and process control techniques.

Order by: BR1100/D

The Motorola Explorer's Guide to the World of Embedded Control Solutions

The Explorer's Guide provides a comprehensive overview of Motorola's embedded control solutions under the headings of Consumer Electronics, Office Automation, Communications, Instrumentation & Control and Automotive. Loose-leaf sheets summarise the devices in the M68HC05 and '08 MCU families; the M68HC11 MCU family; the M68000 and M68300 MPU families; the PowerPC and M88000 RISC MPUs; Motorola's Data Communications products; Neuron chips for LonWorks networking; and the DSP56000, DSP56100 and DSP96000 DSP families. A product/application cross reference is provided in the form of a poster-sized selector guide.

Order by: BR1137/D

68HC08 – No Compromise

Rev 2

This color brochure provides information on options, features and development support for the 68HC08; a modular, 8-bit microcontroller, which is an evolutionary extension of Motorola's world-leading 68HC05 architecture.

Order by: BR1138/D

Motorola Quality System Review Guidelines

Rev 4

Motorola's Quality System Review (QSR) is a means by which the company evaluates the continuing health of the Quality System in each of its major business units and suppliers. It defines a vision of how Motorola's business should be conducted, sets a common goal of perfection, and provides an awareness of Quality System requirements across the whole organisation. The QSR Guidelines are provided to train the reviewers, aid the understanding of each review question and assist in the scoring process. They may also be of interest to Motorola's quality conscious customers.

Order by: BR1202/D

Analog Integrated Circuits: New Product Calendar

April 1997

Summarizes new analog ICs that are becoming available for Power Control, Automotive, Consumer, Communications and Computer applications, with Sampling and Introduction dates.

Order by: BR1305/D

CATS – Customer Analysis Tracking System

An introduction to Motorola's Customer Analysis Tracking System, developed to ensure that customers' queries and concerns are routed rapidly to the responsible area – worldwide – and to provide a timely response.

Order by: BR1306/D

MPA: Motorola Programmable Arrays – Products Update

Rev 3

An overview of the MPA1000 family of reprogrammable SRAM-based devices, which range from 3,500 to over 22,000 gates. Provides a summary of the product range, the MPA Design System, the Design System kits and software, and the design software flow.

Order by: BR1341/D

SCSI Terminators

A collection of complete data sheets on Motorola's broad line of SCSI Terminators, plus power dissipation information (AN1408) and case outlines.

Order by: BR1486/D

IMAGINE Semiconductor Solutions

Winter 96/97

This highly informative periodical is available to all semiconductor users on a free subscription basis. Concise, informative articles discuss significant new product capabilities as well as newly introduced services and literature. In short, it represents an overview of the latest and most important events at Motorola that influence the

efficient implementation and most cost-effective use of semiconductor devices. For your free IMAGINE subscription, contact your Motorola sales representative or authorized distributor.

Order by: BR3021/D

Communications, Power and Signal Technologies Group: New Product Calendar and Key Focus Products

Rev 11

This calendar presents new products recently introduced by the Communications, Power and Signal Technologies Group, which includes RF Products, Power Products (bipolar power transistors, rectifiers, TMOS power MOSFETs and thyristors), Optoelectronics and Signal Products (small-signal transistors and diodes, transient voltage suppressors, zener diodes and opto devices), Hybrid Power Modules, and Sensor Products (pressure, acceleration and chemical sensors).

Order by: CALCPSTG/D

CSIC Microcontrollers: Reliability and Quality Monitor Report – Quarter 3, 1996

Rev 9

Motorola's CSIC Microcontroller Reliability and Quality Monitor Program is designed to generate an ongoing database of reliability and quality performance data on the 6805 and 68HC05 family of microcontrollers. The main purpose of the program is to identify any negative trends so that corrective action can be taken. Tests are conducted on sample groups representing a matrix of processing and packaging technologies across major product categories. This document is a summary of data for the third quarter of 1996.

Order by: CMRQS/D

Communications, Power and Signal Technologies Group: Through-Hole to Surface Mount Cross Reference

This cross reference lists recommended surface mount replacement parts for through-hole devices manufactured by Motorola's Communications, Power and Signal Technologies Group (CPSTG). In each case the tables show the replacement part number and its package number. Illustrated outline dimensions for the SMT packages are also included.

Order by: CR100/D

Tag to Motorola Thyristor Cross Reference

A cross reference between Tag thyristors and the Motorola nearest replacement parts.

Order by: CR101/D

Leadless-34 to SOD-123 Cross Reference

A cross reference between Leadless-34 devices and their SOD-123 replacements.

Order by: CR102/D

Transient Voltage Suppressors, General Instruments Cross Reference

Rev 1

A set of cross reference lists between General Instruments' (formerly GSI) Transient Voltage Suppressors and the current Motorola equivalent. Split by product series.

Order by: CR103/D

General Instrument-to-Motorola Optoelectronics Cross Reference

A cross reference from General Instruments' optoisolators, emitters, detectors and slotted optical switches to the current Motorola equivalent. Includes an indication of whether the Motorola part is an exact replacement, has a minor electrical difference, minor mechanical difference, or is not available.

Order by: CR104/D

Low Voltage MOSFET Cross Reference

A cross reference listing from industry part numbers to Motorola's MiniMOS SO-8 Power MOSFETs, SOT-23 and TSOP-6 MOSFETs, and Micro8 MOSFETs.

Order by: CR108/D

DSP News

Rev 8, 1Q97

Quarterly newsletter issued by Motorola's Digital Signal Processing Division to inform the digital signal processing community about Motorola's DSP products.

Order by: DSPNEWSL/D

Novel Digital Signal Processing Architecture with Microcontroller Features

Traditional digital signal processors are designed to execute signal processing algorithms as efficiently as possible. This has led to some serious compromises between developing a good DSP architecture and a good microprocessor architecture. This paper presents Motorola's new 16-bit architecture, used in the DSP56800 family, which is designed to maintain the performance of the DSP while adding microcontroller functionality. Target applications are those demanding low costs with moderate performance, such as wireline and wireless modems, digital wireless messaging, digital answering machines and featurephones, servo and AC motor control, and digital cameras.

Order by: DSP56800WP1/D

Embedded Developer Pocket Guide

Rev 3

This Pocket Guide contains a listing of virtually all Third Party Embedded Developers supporting Motorola's 68K, ColdFire and PowerPC embedded processors through the High Performance Embedded System Division's (HPESD) Developer Program. This program comprises more than 50 third party developers, and makes available the broadest possible portfolio of development tools to enable Motorola's customers to deliver innovative, world-class products. Each page of this Guide provides an overview of the developer, with contact details and a listing of development tools and supported MCUs.

Order by: EMDVPOC/D

MECL System Design Handbook

Rev 1

Engineers look increasingly at ECL families such as MECL III, MECL 10K and MECL 10KH to meet demands for higher performance systems. Designing with MECL is no more difficult than designing with slower logic, but an understanding of factors affecting system performance is essential for optimum design – MECL features such as transmission line driving, complementary outputs, wired-OR and versatile functions contribute as much as short propagation delays and high toggle rates. This book provides complete information about MECL operation, to allow design rules for specific systems to be established.

Order by: HB205/D

Rectifier Applications Handbook

This handbook provides a theoretical and physical background to a broad range of rectifier applications and problems. Topics include Power Rectifier Physics, Basic Properties of Semiconductors, the SPICE Diode Model, Diode Specifications and Ratings, Single-Phase and Polyphase Rectifier Circuits, Rectifier Filter Systems, Voltage Multiplier Circuits, Transient Protection of Rectifier Diodes, Reliability Considerations, Cooling Principles, Printed Circuit Board Assembly Considerations, and Heatsink Mounting Considerations.

Order by: HB214/D

RF Application Reports

A collection of 92 of Motorola's Application Notes, Article Reprints and Engineering Bulletins concerned with RF products. Topics include RF Power MOSFETs, RF Power Bipolar, RF Integrated Circuits and RF Linear Amplifiers.

Order by: HB215/D

Advanced Microcontroller Division: Reliability and Quality Monitor Report – Quarter 4, 1995

Rev 11

Motorola's MOS Microprocessor Reliability and Quality Monitor Program is designed to generate an ongoing database of reliability and quality performance data for a range of microprocessor products. The main purpose of the program is to identify any negative trends so that corrective action can be taken. Tests are conducted on sample groups representing a matrix of processing and packaging technologies across major product categories. This document is a summary of data for the fourth quarter, 1995.

Order by: MRQS/D

RF Products Selector Guide

Rev 15

This publication presents RF products of Motorola Phoenix, Motorola Toulouse (France), and Motorola Hong Kong. The RF products are categorized by Power FETs, Power Bipolar, Small Signal Bipolar, Integrated Circuits, and Low and High Power Amplifiers. Includes a list of relevant applications literature, case outlines, and an industry cross reference information with an indication of devices not recommended for new designs.

Order by: SG46/D

Master Selection Guide

Rev 15

The Master Selection Guide lists all of Motorola's semiconductor products – the broadest product line in the industry. It provides the engineer with a means of first-order selection of devices for specific applications. Sections include ASICs; Microcomputer Components; TTL, ECL, CMOS and Special Logic; Linear/Interface Circuits; Discrete and Military Products; the presentation is appropriate to the product families, but generally follows the standard Selector Guide and Cross Reference format. In addition, a Device Index, Subject Cross Reference and comprehensive Contents section allow the efficient location of specific products.

Order by: SG73/D

THIS BOOK IS NO LONGER PUBLISHED IN PRINTED FORM BUT IS AVAILABLE ON MOTOROLA'S WEB SITE

Analog/Interface Integrated Circuits Selector Guide & Cross Reference

Rev 9

The selector guide summarizes over 1500 Motorola Standard Analog ICs. The technical summaries list key specs and/or block diagrams for over 650 device types in a variety of packages. The information is organized into easy-to-identify chapters.

Order by: SG96/D

VARO to Motorola Rectifier Cross Reference

Lists direct and similar Motorola replacements for VARO rectifiers.

Order by: SG134/D

SCANSWITCH Selector Guide

Rev 1

Motorola's SCANSWITCH family offers simple answers to horizontal deflection, video amplification and power supply problems for designers of high resolution and ultra-high resolution CRT monitors. This selector guide introduces the SCANSWITCH devices available for each major circuit block.

Order by: SG140/D

Digital Signal Processors Update

Rev 20

This selector guide describes Motorola's architecturally-compatible Digital Signal Processing Chips, including 16- and 24-bit fixed point and 32-bit floating point families, peripheral chips, and development tools.

Order by: SG146/D

Sensor Products Division

Rev 22, 3Q97

This quarterly publication details the pressure and acceleration sensors and evaluation tools available from the Sensors Products Division.

Order by: SG162/D

Motorola CSIC Microcontrollers Update

Rev 24, 2Q97

This selector guide provides a concise overview of the large and still fast-growing M68HC05 Family of MCUs, plus the higher performance M68HC08 Family.

Order by: SG165/D

Advanced Microcontroller Division Update

Rev 12, 4Q96

This selector guide overviews the MPC500 family, the 32-bit M68300 Family, the 16-bit M68HC16 Family, and the 8-bit M68HC11 and M6801 Families of MCUs, as well as associated evaluation and development products.

Order by: SG166/D

High Performance Embedded Systems Fact Sheet

Rev 21

This selector guide overviews the M68000 Family of MPUs and Integrated Processors, plus associated hardware and software development tools. Sections include High-Performance Standalone CPUs, General-Purpose Integrated Processors, Data Communications Integrated Processors, Data Communication Development Tools, 68K Support Devices, Hardware Evaluation Tools and Software Tools.

Order by: SG167/D

Mixed-Signal Solutions from Wireline IC Division

Rev 21, 2Q97

This selector guide covers new products, recent changes to existing products, and products worthy of special consideration in the broad product portfolio from the MOS Digital-Analog Integrated Circuits Division. Sections include PLL Frequency Synthesizers, A/D and D/A Converters, Operational Amplifiers, Smoke Detectors, Display Drivers, Remote Control Functions, ISDN, Voice Coding, Interfacing, Modem Functions, Multimedia, LonWorks and Development Tools.

Order by: SG169/D

Fast Static RAM Division Product Update

Rev 19, 2Q97

This selector guide provides an overview of Motorola's fast-growing FSRAM product line. Included are synchronous, asynchronous and FSRAM modules.

Order by: SG171/D

Dynamic Memory Update

Rev 14, 2Q97

This selector guide provides an overview of Motorola's DRAM products. Included are 1M, 4M, 16M and 32M components, as well as a wide range of DRAM modules. It highlights Focused New Products and indicates Phase-Out devices.

Order by: SG172/D

CSIC Microcontrollers: Modular Development Tools

Rev 11, 1Q97

This selector guide overviews Motorola's family of modular development tools that are available for designing, debugging and evaluating Motorola 68HC(7)05 microcontrollers in a target system. Both high performance and economical solutions are available.

Order by: SG173/D

NESSIE: New Emulation & Software Solutions In Europe

Rev 3

This selector guide lists Motorola's CSIC and AMCU development tools and provides a summary of the development tool strategies for the two families. Includes a listing of third party contacts for both hardware and software.

Order by: SG174/D

RISC Microprocessor Division: The PowerPC Microprocessor Family

Rev 4, 3Q96

This selector guide lists the devices in Motorola's growing PowerPC Microprocessor family, with package illustrations and part number breakdown.

Order by: SG175/D

Microcontroller Technologies Group: Development Tools Selector Guide

This guide makes it easy for Motorola's customers, application engineers and salespeople to choose tried and tested microcontroller development environments that

precisely match the specific requirements of particular projects, from a broad line of software and development systems. It lists integrated systems under high-performance and lower-cost categories, plus individual software packages with a wide range of functionality. An appendix lists optional applications and development tools from third party suppliers. Solutions are available for MCUs in the M68HC05/08, M68HC11, M68HC12, M68HC16, M68300, and MPC500 families.

Order by: SG180/D

Power MOSFETs Product Update

Rev 15, 3Q97

This quarterly publication details the latest products available in a wide range of packages from the TMOS Power Products Operation.

Order by: SG265/D

Bipolar Power Transistors Product Update

Rev 15, 3Q97

This quarterly selector guide details the latest products available from the Bipolar Power Products Operation, including Plastic TO-225AA, TO-220AB, isolated TO-220, metal TO-204AA, surface mount products, plus switchmode, lamp ballast and CRT deflection devices.

Order by: SG266/D

Rectifier Product Update

Rev 14, 3Q97

This quarterly selector guide details the broad range of devices available from the Rectifier Products Operation. Product categories include Schottky and Ultrafast Rectifiers in surface mount, axial, TO-220, TO-218, and TO-247 packages, plus Powertap II and Fast Recovery Rectifiers.

Order by: SG267/D

Thyristor Product Update

Rev 13, 3Q97

This quarterly selector guide details the high performance SCRs, Triacs and Surge Suppressors available from Motorola's Power Products Division.

Order by: SG268/D

Optoelectronic Operations

Rev 13, 3Q97

This quarterly selector guide details the DIP, surface mount and Power Opto products available from the Optoelectronic and Signal Products Division.

Order by: SG273/D

Zener Operations

Rev 13, 3Q97

This quarterly publication details the Transient Voltage Suppressors and surface mount zeners available from the Optoelectronic and Signal Products Division.

Order by: SG274/D

Small-Signal Operations: Surface Mount Packages

Rev 12, 3Q97

This quarterly publication details the wide range of small-signal surface mount devices available from the Optoelectronic and Signal Products Division.

Order by: SG275/D

Timing Solutions Selector Guide

Rev 4

This selector guide summarises Motorola's range of Low Skew Clock Drivers, and includes a cross reference between the devices and Motorola and other microprocessors.

Order by: SG365/D

High-Performance Gate Arrays

Rev 1

Contains highlights of high speed bipolar (ECL & ETL) and CMOS (1-micron and sub-micron) gate arrays in densities ranging from 800 to over 300,000 gates. The Customer Defined Array™ concept which mixes gate array and standard cell architectures on the same chip is described. An overview of advanced packaging includes multichip modules, tapes, automated bonding and molded carrier ring technology. The Open Architecture CAD System™

design automation software Rev 2.0 is described and a comprehensive listing of ASIC literature is included.

Order by: SG367/D

Discrete & RF ICs Surface Mount Selector Guide

Rev 3

Surface Mount Technology offers the opportunity to continue to advance the state-of-the-art designs that cannot be accomplished with insertion technology. SMT packages allow device performance closer to the optimum, and their lower profile allows more boards in a given amount of space. The technology is cost effective, giving the manufacturers the opportunity to provide smaller units, or to offer increased functions with the same size product. This selector guide provides outline details of Motorola's broad range of surface mount discretes, with thermal data, tape and reel specifications, package outlines and an industry cross reference.

Order by: SG370/D

DPAK Surface Mount Selector Guide

A quick reference list of Motorola's TMOS Power MOSFETs, Schottky rectifiers, ULTRAFAST rectifiers, thyristors and bipolar power transistors available in the DPAK surface mount package. Includes package outline and footprint details.

Order by: SG371/D

Silicon Solutions for Motion Control

Rev 1

Motorola provides state-of-the-art devices for all areas of motor control systems. This selector guide lists the power products, including efficient discrete IGBTs, hybrid power modules and high voltage MOS gate drivers.

Order by: SG375/D

Linear Voltage Regulators

A quick reference selector guide to Motorola's fixed and adjustable linear voltage regulators, showing principal characteristics as an aid to device selection.

Order by: SG378/D

North America Sales and Distribution Price List

Rev 5, 5 April 1997

This guide lists North American suggested resale prices for Motorola commercial components and development systems. A Quick Reference lists new devices, deleted devices and lifetime buy products. Includes Motorola Sales Offices, standard policies and disclaimers, and software licenses.

Order by: SG379/D

RF Monolithic Integrated Circuits

Rev 2

Motorola's RF integrated circuit portfolio offers a broad line of devices for the frequency bands at 900MHz, 1.9GHz and 2.4GHz. For each band, the portfolio includes a complete RF front-end solution, broadband buffer amplifiers and a linear quadrature modulator. This document is a selector guide to the devices available, with key parameters.

Order by: SG381/D

Motorola RF LDMOS Product Family

Rev 2

Motorola's LDMOS (Laterally Diffused Metal Oxide Silicon) process is fast becoming the technology of choice in new communications products, making high power, high frequency RF amplifier designs simpler and more cost effective. This selector guide summarizes the devices available in the areas of RF High Power Transistors, Discrete Transmitter Devices for battery applications, RF Amplifier Modules, and RF Monolithic ICs.

Order by: SG384/D

Low Voltage MOSFET Selector Guide

A selector guide listing Motorola's low voltage MiniMOS and EZFET MOSFETs in the SO-8 package, plus Micro8, SOT-23, DPAK, D2PAK and SOT-23 products.

Order by: SG385/D

Semiconductor Products for Wireless Communications

Motorola provides a number of unique, state-of-the-art silicon solutions for wireless communications, with particular emphasis on the new digital systems. This document lists a sample of devices from the vast portfolio of products for DECT, GSM, PCN, CT2 and Wireless LAN applications.

Order by: SG417/D

EMU: European Microcontroller Update

Rev 4

Provides timely information and a summary of the features of Motorola's CSIC MCU and AMCU families, together with European training courses, literature lists, voltage/speed/temperature options, development tools and package options.

Order by: SG419/D

PowerPC Microprocessors Product Overview

Rev 1

An overview of PowerPC history, long term strategy, architecture, products, operating systems, evaluation systems and development tools.

Order by: SG422/D

TIGER: The Integrated Guide to European RAMs

Rev 3, 2H95

This selector guide is a reference to Motorola's European memory portfolio, including new product information, roadmaps and application notes.

Order by: SG423/D

EAGLES: European Analog Guide for Leading & Emerging Systems

Rev 1, 1H95

This document is a guide to Motorola's key competencies in Bipolar, MOS and BiCMOS technologies. It is focused on the main application areas of Automotive, Consumer, Telecom and Multimedia.

Order by: SG424/D

Lamp Ballast Selector Guide

Rev 1

Continuing research and development of discrete products has led to a family of MOSFET and Bipolar transistors dedicated to the fast growing market of electronic lamp ballasts. The tables in this guide are designed to aid the quick selection of the best devices for specific applications. Includes selector guides by package type/technology, illustrated package dimensions and an industry cross reference.

Order by: SG425/D

DINO: Discrete Innovation News Overview – Quarter 3, 1994

Rev 1

Power transistors, thyristors and rectifiers are the link between the heart of a system and the outside world. This selector guide provides outline details of new Bipolar and MOSFET products, technologies and developments, as an aid to the selection of new design-in devices.

Order by: SG426/D

1996 Microcontroller Development Tools Directory Supplement

An illustrated guide to Motorola and third party design and development support for the M68HC12 Family. Sections include hardware emulators, evaluation boards and programmers; and software assemblers, compilers, debuggers, integrated development environments, real-time operating systems and simulators.

Order by: 68HC12DEVTL/D

User's Manuals

Analog-to-Digital Converter Reference Manual

This manual describes the capabilities, operation and functions of the analogue-to-digital converter (ADC) module incorporated in many of the MCUs in Motorola's modular microcontroller family. The module is a unipolar, successive-approximation converter with eight modes of operation and and selectable 8 or 10-bit resolution. Monotonicity is guaranteed for both 8 and 10-bit conversions. The manual includes a functional overview, an explanation of ADC control through the Intermodule Bus (IMB), and descriptions of the analogue and digital subsystems.

Order by: ADCRM/AD

M68HC08 Central Processor Unit Reference Manual

Rev 1

The CPU08 is the central processing unit of the M68HC08 Family of MCUs. It is fully object code compatible with the M68HC05, offering increased performance with no loss of software investment. It also appeals to users of other MCU architectures who need its speed, low power consumption and processing capabilities. This manual provides an overview of the CPU08 and its architecture, describes its interrupts, reset procedures and addressing modes, and gives detailed Instruction Set information in an instruction-per-page format.

Order by: CPU08RM/AD

M68HC16 Family Reference Manual

Rev 2

The CPU16 is a high speed 16-bit processor module that allows modular microcontrollers to provide an upgrade path for M68HC11 users while maintaining compatibility with existing systems. Its architecture is a superset of the M68HC11 architecture. This manual describes register organisation, memory management, bus interfacing, addressing modes and instruction set. Instructions are also described on an instruction-per-page basis in alphanumeric order. Additional sections cover instruction timing, exception processing, on-chip development support and digital signal processing (DSP) capabilities.

Order by: CPU16RM/AD

CPU32 Central Processor Unit Reference Manual

Rev 1

This Reference Manual describes the capabilities, operation and programming of the CPU32 processor module integrated in some members of the M68300 Family of embedded controllers. It is written for systems designers, and systems and applications programmers. The manual provides a full description of the instruction set, with clock cycle timing – instructions are based on the MC68000, with support for many MC68020 extensions plus new instructions for controller applications. It also describes the architecture, addressing modes, data organisation, exception processing and on-chip development support.

Order by: CPU32RM/AD

Configurable Timer Module Reference Manual

The Configurable Timer Module (CTM) is one of the modules used in Motorola's microcontroller family. Modules are connected together by the InterModule Bus (IMB), but the CTM is unusual in that it is in itself modular. This manual introduces the CTM, and details the operation of its internal bus with the IMB, its interrupt functions, and the Counter Prescaler, Free-Running Counter, Modulus Counter, Single Action, Double Action and Pulse Width Modulation

submodules. There is a section on electrical specifications and timing information, and appendices provide a register summary and an example of a typical implementation.

Order by: CTMRM/D

DMA08 Direct Memory Access Reference Manual

Direct Memory Access (DMA) is usually associated with larger computer systems, where it allows blocks of data to be moved around the system with mininal processor intervention. DMA is the first example of co-processing associated with Motorola's modular HC08 family. This reference manual introduces version A of the DMA08, the DMA module of the HC08 family. Version B of the module has some differences, and is discussed in an appendix. Sections include an Overview, Module Description, Transfer Operation, Register Description and Application Examples.

Order by: DMA08RM/AD

DSP Source Guide, 1997 Edition

Provides a reference source for all of Motorola's DSP families, plus Motorola and third party hardware and software support. Summarizes the DSP families and related components, and lists third party Applications Hardware, Development Hardware, Development Software and Training & Consulting, with details provided on one page per product.

Order by: DSPSOURCGUIDE/D

DSP56000 Digital Signal Processor Family Manual

Rev 1

Motorola's DSP56000 Family of 24-bit general purpose Digital Signal Processors features a modular chip layout based round a standard central processing module. This manual describes this module in detail and provides practical information for designers. After an introduction to digital signal processing, sections include DSP56000 Central Architecture Overview, Data Arithmetic Logic Unit, Address Generation Unit, Program Control Unit, Instruction Set Description, Processing States, External Memory Port, PLL Clock Oscillator and On Chip Emulator. A 338 page alphabetic appendix describes each instruction in detail. (Specific details of the DSP56000/1 devices are given in DSP56000UM/AD.)

Order by: DSP56KFAMUM/AD

DSP56L811 Evaluation Module User's Manual

Describes the basic structure and operation of the DSP56L811 Evaluation Module (DSP56L811EVM), and details the additional equipment required to use it, the specifications of the key components, the software provided – including demonstration code, self-test code and software required to develop and debug sophisticated applications – plus detailed schematic diagrams and a parts list. Includes both a Quick Start guide and detailed information about key components.

Order by: DSP56L811EMUM/AD

DSP56L811 User's Manual

Thee DSP56L811 is a member of the DSP56800 family of core-based DSPs. This general purpose DSP combines processing power with configuration flexibility, making it a cost-effective solution for both signal processing and control applications. It uses an MPU-style, general purpose 16-bit DSP core plus program and data memories. This manual describes the DSP56L811, its memory, operating modes and peripheral modules, and should be read in conjunction with DSP56800FAM/AD, the DSP56800 Family Manual, which describes the CPU, programming models and instruction set details.

Order by: DSP56L811UM/AD

DSP56000/DSP56001 Digital Signal Processor User's Manual

Rev 2

Digital Signal Processing is the arithmetic processing of real-time signals sampled and digitised at regular intervals. Motorola's DSP56000 and DSP56001 programmable CMOS DSPs are optimized to execute algorithms in as few operations as possible while maintaining a high degree of accuracy. The architecture is designed to maximise throughput in data-intensive applications. This book provides full functional and programming information, including instruction set details arranged in mnemonic order, allowing the user to design DSP-based systems and to code DSP and data manipulation algorithms.

Order by: DSP56000UM/AD

DSP56002 Digital Signal Processor User's Manual

Rev 1

This manual describes the memory, operating modes and peripheral modules of the DSP56002 24-bit Digital Signal Processor (it should be read in conjunction with the DSP56K CPU Manual or Family Manual, which both provide detailed information about the CPU, programming models and instruction set). It includes signal descriptions, memory modules and operating modes, the external memory port, the Port B general purpose I/O and host port, and the multi-function Port C which is used mainly for serial communications. Appendices contain programming sheets to simplify programming the DSP56002 registers, and a listing of the on-chip bootstrap program.

Order by: DSP56002UM/AD

DSP56003/005 Digital Signal Processor User's Manual

The DSP56003 and DSP56005 are general purpose Digital Signal Processors designed for embedded control applications such as disk drive controllers. They have the same core processor and peripherals as the DSP56002 on which they are based, but have two additional peripherals (Pulse Width Modulator and Watchdog Timer) and extra memory. This manual describes the two DSPs, their memory, operating modes and peripherals. Separate chapters describe the External Memory Interface, Host Interface, SCI, SSI, Timer and Event Counter, PWM modules and Watchdog Timer. Appendices provide bootstrap code and data ROM listings, programming sheets and a summary of the differences between the two devices.

Order by: DSP56003UM/AD

DSP56004 Digital Signal Processor User's Manual

Rev 2

This manual describes the memory, operating modes and peripheral modules of the DSP56004 24-bit Digital Signal Processor (it should be read in conjunction with the DSP56K CPU Manual or Family Manual, which both provide detailed information about the CPU, programming models and instruction set). It includes signal descriptions, the external memory interface, the serial host interface, serial audio interface, and general purpose I/O. Appendices contain a listing of the on-chip bootstrap program, application examples, and programming sheets to simplify programming the DSP56004 registers.

Order by: DSP56004UM/AD

DSP56009 User's Manual

The DSP56009 is a high performance audio DSP based on the DSP56000 core architecture, and implemented in the same scalable architecture as the DSP56002 and other 24-bit DSP56000 family modular products. As a result of its processing power and large memory it supports a variety of digital audio decompression functions such as Dolby AC-3 Surround, MPEG1 Layer 2 and Digital Theater Systems (DTS). This manual describes the DSP56009 in detail, including its memory, operating modes, external memory and audio interfaces, and peripheral modules.

Order by: DSP56009UM/AD

DSP56100 Digital Signal Processor Family Manual

The DSP56100 Family Manual describes the components that are common to all the DSP56100 family members. After an overview of the CPU architecture it provides detailed information on the Data ALU, Address Generation Unit, Program Control Unit and on-chip PLL. There are descriptions of the five processing states, bus operation, OnCE on-chip emulation, application development tools and the Dr. Bub DSP Bulletin Board. The manual includes an overview of the instruction set plus detailed information on each instruction, arranged alphabetically as one instruction per page.

Order by: DSP56100FM/AD

DSP56156 Digital Signal Processor User's Manual

Rev 1

The DSP56156 is a Digital Signal Processor optimised for medium to low bit rate speech encoding, but suitable for many other types of application. It is based on the DSP5616 core processor which is described in full in the DSP5616 Core Manual. This manual gives a brief overview of the core, with detailed descriptions of the peripherals that are specific to the DSP56156, including the I/O and Host interfaces, on-chip Σ-Δ Codec, 16-bit Timer and Event

Counter, Synchronous Serial Interface and on-chip Frequency Synthesizer. Includes an appendix of programming sheets as an aid to programming the registers.

Order by: DSP56156UM/AD

DSP56166 Digital Signal Processor User's Manual

The DSP56166 is a Digital Signal Processor in Motorola's DSP56100 Family, optimised for applications such as medium to low bit rate speech encoding. This manual should be read in conjunction with the DSP56100 Family Manual; it provides a brief overview of the core processor, plus a detailed description of the memory and peripherals that are specific to the DSP56166. The I/O and Host Interfaces, On-Chip Σ-Δ Codec, 16-bit Timer and Reduced Serial Synchronous Interface are described in detail. Includes an appendix of programming sheets intended to simplify programming the DSP56166 registers.

Order by: DSP56166UM/AD

DSP56300 24-Bit Digital Signal Processor Family Manual

Rev 1

The new DSP56300 core in Motorola's family of programmable CMOS Digital Signal Processors is capable of executing an instruction every clock cycle, so yielding a twofold performance increase compared to the 56000 core while maintaining object code compatibility with it. It consists of an Expansion Port and DRAM Controller, Data ALU, Address Generation Unit, Instruction Cache Controller, Program Control Unit, DMA Controller, PLL Clock Oscillator, On-Chip Emulator and the Peripheral and Memory Expansion Bus. This manual provides full user information on all these items, plus an alphanumeric page-per-instruction description of the instruction set and timing information.

Order by: DSP56300FM/AD

DSP56301 24-Bit Digital Signal Processor User's Manual

Rev 1

The DSP56301 is a member of Motorola's 56300 family of programmable CMOS Digital Signal Processors. Devices in this family are based on the DSP56300 core – capable of executing an instruction every clock cycle – with additional on-chip modules chosen from a library of pre-designed elements. The DSP56301 includes X and Y data RAM, an Instruction Cache and Program RAM, Triple Timer, Host Interface, ESSI Interface and SCI Interface modules. This manual describes these modules, and provides pin descriptions and memory maps.

Order by: DSP56301UM/AD

DSP56302 User's Manual

The DSP56302 is a member of Motorola's DSP56300 family of programmable CMOS DSPs. It uses the DSP56300 core – a high performance, single-clock-cycle-per-instruction engine providing up to twice the performance of the popular DSP56000 family while retaining code compatibility. A rich instruction set and low power dissipation enables a new generation of wireless, telecoms and multimedia products. This manual describes its memory, operating modes and peripheral modules, including the General Purpose I/O capability, Host Interface (HI08), Enhanced Synchronous Serial Interface, Timer Module, On-Chip Emulation (OnCE) and JTAG Port.

Order by: DSP56302UM/AD

DSP56303 User's Manual

The DSP56303 is a member of Motorola's DSP56300 family of programmable CMOS DSPs. It uses the DSP56300 core – a high performance, single-clock-cycle-per-instruction engine providing up to twice the performance of the popular DSP56000 family while retaining code compatibility. A rich instruction set and low power dissipation enables a new generation of wireless, telecoms and multimedia products. This manual describes its memory, operating modes and peripheral modules, including the General Purpose I/O capability, Host Interface (HI08), Enhanced Synchronous Serial Interface, Timer Module, On-Chip Emulation (OnCE) and JTAG Port.

Order by: DSP56303UM/AD

DSP56603 Evaluation Module User's Manual

Describes the basic structure and operation of the DSP56603 Evaluation Module (DSP56603EVM), and details the additional equipment required to use it, the specifications of the key components, the software provided – including demonstration code, self-test code and software required to develop and debug sophisticated applications – plus schematic diagrams and a parts list. A substantial appendix

provides a detailed description of Assembler Directives and Structure Control Statements. Intended for users with experience of DSP development tools.

Order by: DSP56603EMUM/AD

DSP56800 Family Manual

Thee DSP56800 Family is based on the DSP56800 16-bit DSP core, to which a range of standard peripherals can be added to create specific devices. This manual describes the core in detail, and will help the user to understand the operation and instruction set of the DSP56800 Family, and to write code for DSP algorithms, general control tasks, communication routines and data manipulation algorithms. It is intended to be used with the appropriate DSP56800 Family member's User's Manual which will explain the specific features of the device. Also includes instruction timing data and instruction-per-page details of each instruction, plus sources of additional technical support.

Order by: DSP56800FM/AD

DSP96002 IEEE Floating-Point Dual-Port Processor User's Manual

Rev 2

This manual describes the first member of Motorola's family of dual-port IEEE floating-point CMOS Digital Signal Processors. Topic covered include signal descriptions, bus operation, chip and software architectures, data organisation, addressing modes, the instruction set, expansion ports and I/O peripherals, exception processing, operating modes, memory maps and the OnCE™ on-chip emulator. Full details of each instruction are provided one-per-page in alphabetic order of mnemonic; appendices provide 204 pages of standard benchmarks and describe the handling of IEEE floating-point arithmetic by the DSP96002.

Order by: DSP96002UM/AD

8 Mbit MobileFLASH User's Manual

Rev 1

Motorola's 8 Mbit MobileFLASH memory family is dedicated to the rapidly growing application areas of low-voltage portable systems. This manual describes the functionality of the M29F800 standard device and the M28F800 BGO (background operation) device. Both are based on the DiNOR (divided bit NOR) flash memory technology and therefore share many similar features. However the manual also points out the differences between the BGO and the standard device, especially in the area of background program and erase.

Order by: FLASHMEMUM/AD

Modular Microcontroller Family General Purpose Timer Reference Manual

The General Purpose Timer is one of the modules used within Motorola's family of modular microcontrollers. It is a simple but flexible 11-channel timer for use in systems where a moderate level of CPU control is required, and it communicates with other modules through the Intermodule Bus. This manual describes the operation and use of all sections of the module, including Compare/Capture Unit, Pulse Accumulator, Prescaler, PWM Unit, Interrupts and General Purpose I/O. It includes a section of applications information, plus electrical, timing and direct signal descriptions.

Order by: GPTRM/AD

H4C Series Design Reference Guide

Rev 1

The H4C series of high-performance sub-micron CMOS gate arrays offers configurations up to 318,000 gates, 0.7µ effective gate length, support for clock frequencies up to 60MHz and power dissipation of only 3µW/gate/MHz. This guide provides a full product description, discusses design considerations and the Open Architecture CAD System (OACS), and gives details of packages and array floor plans. Separate sections specify Macro Library Composites and Special Funtions in the form of data sheets, with a selector guide style index. There is a summary of DC Electrical Characteristics and a Glossary of Terms.

Order by: H4CDM/D

H4CPlus Series Design Reference Guide

Rev 2

The H4CPlus series arrays feature 3.3V, 5V and mixed voltage capability, high-speed interfaces, and an analogue PLL for chip-to-chip clock skew management. Gate length has been reduced to 0.65µm Leff to provide improved 5V performance and competitive performance at 3.3V. This guide provides a full product description, discusses design considerations and the Open Architecture CAD System (OACS), and gives details of packages and array floor plans. It includes a section specifying Macro Library

Composites, with a quick reference guide. There is a summary of DC Electrical Characteristics and a Glossary of Terms.

Order by: H4CPDM/D

H4EPlus Series Design Reference Guide

Rev 1

Motorola's H4EPlus series arrays offer a fully featured 3.3V, 5V and mixed voltage capability, combined with increased core density that provides over 50% more gates than previous H4 arrays using the same die size. It offers a wide range of mixed voltage I/Os, high speed interfaces and analog PLLs for clock skew management. The gate length of 0.65µm nominal Leff gives competitive performance at 3.3V. This guide provides a product description, discusses design considerations and the Open Architecture CAD System (OACS), and gives details of packages and array floor plans. A quick reference guide lists the elements making up the H4EPlus library.

Order by: H4EPDM/D

68HC05C0 Specification (General Release)

Rev 1.2

The 8-bit MC68HC05C0 microcomputer is suitable for applications which require an external address and data bus. It provides a mode select for either a muxed or non-muxed bus, and a clock stretching capability for slower peripherals. On-chip modules include an oscillator, CPU, RAM, serial and parallel I/O, multi-function timer, 16-bit timer and a low-voltage reset. This specification presents the technical details.

Order by: HC05C0GRS/D

MC68HC05C9A, MC68HCL05C9A, MC68HSC05C9A General Release Specification

Rev 4.0

The MC68HC05C9A HCOMS microcomputer is a member of the M68HC05 family. It includes 15,936 bytes of user ROM, 352 bytes of RAM, a serial communications interface, a serial peripheral interface and a 16-bit capture compare times. Eight mask options are available to select external interrupt capability (including an internal pullup) on each of the port B pins. This specification presents the technical details of the device. Appendices detail the differences in the low power MC68HCL05C9A and high speed MC68HSC05C9A versions.

Order by: HC05C9AGRS/D

MC68HC05E5 General Release Specification

Rev 1

The 8-bit MC68HC05E5 is a low-cost addition to the M68HC05 Family. The HC05 CPU core has been enhanced with a 15-stage multifunction timer and a programmable PLL. The MCU includes has two 8-bit I/O ports and one 4-bit I/O port, and its 8kbyte of memory includes 384 bytes of RAM and 5120 bytes of user ROM. This specification presents the technical details.

Order by: HC05E5GRS/D

68HC05RC9/68HC05RC18 General Release Specification

Rev 1

The MC68HC05RC18 MCU is a low-cost, general purpose member of the M68HC05 family that is designed for remote control applications. On-chip peripherals include a Carrier Modulator Transmitter (CMT). There are 20 I/O lines (eight having keyscan logic and pullups) and a low-power reset pin. This specification provides full technical details.

Order by: HC05RC18GRS/D

MC68HC705MC4 General Release Specification

Rev 2.0

The MC68HC705MC4 MCU is a low cost member of the M68HC05 Family that is intended for use in industrial motor control and power supply applications. Features include a 2-channel, 8-bit, high speed PWM module, with a commutation multiplexer for brushless permanent magnet motor control; a 6-input, 8-bit A/D controller; and a serial communications interface. This specification provides the technical details.

Order by: HC705MC4GRS/D

M68HC711D3PGMR Programmer Board User's Manual

An operating handbook for the M68HC711D3PGMR Programmer Board, including hardware preparation and installation instructions, operating instructions, and full hardware description with circuit diagram and parts layout. The Programmer Board provides a cost-effective means of programming MC68HC711D3 devices; an RS-232C compatible personal computer such as an IBM PC™ or Apple Macintosh™ is used to download user assembled code.

Order by: HC711D3PGMR/AD1

HDC Series Design Reference Guide

Rev 2

Provides complete design information for Motorola's 1 micron drawn gate length, triple layer metal, high density CMOS array series. Includes a discussion of design considerations; a 'selector guide' list of available macros, memory blocks and other functions; pin orders and lists; timing and electrical considerations; packages and array floorplans; quality data; and full data sheet information for each function.

Order by: HDCDM/D

LonBuilder User's Guide

This User's Guide teaches developers how to use the LonBuilder Developer's Workbench to develop and test LonWorks applications. It is intended for both hardware and software developers having some programming or basic digital hardware knowledge. It presents a comprehensive overview of the Developer's Workbench and the application development cycle, and explains the use of all the LonBuilder features. Chapters describe how to create, debug and install nodes, and how to monitor and test a development network. Appendices describe the menus, keyboard shortcuts, a sample memory map and the LonBuilder utility programs.

Order by: LONUG/AD

Portable Power: The Competitive Edge of the 68HC11 – Low Power Design Guidebook

MCUs are now optimised for low power operation, operate at lower voltages, and include on-board power management. Battery design has also improved significantly. However good design of firmware and external hardware is at least as important in the quest for extended operating time. After summarising the emerging developments in battery design, this user friendly guide discusses the process for successful low power hardware and firmware design, with emphasis on the need for a continuing energy audit at every stage. Includes a list of low voltage peripherals, and M68HC11 current consumption charts which have not previously been published.

Order by: LP2/D

M5C Series Design Reference Guide

The M5C Series arrays feature performance-optimized 3.3V and mixed voltage I/O capability, high speed interfaces, and analog PLLs for chip-to-chip skew management. Their ultra low and mixed-voltage capability allows the M5C arrays to be customized to suit system power and performance needs. All arrays have three power rails for 3.3V, 5V or reduced swing output buffers, or a mix of system voltage levels. In addition, the core may be powered by 3.3V, 2.5V or 1.8V. This guide provides design information for the M5C series, including full details of the macro library.

Order by: M5CDM/D

CPU32BUG Debug Monitor User's Manual

Rev 1

The M68CPU32BUG Debug Monitor allows users to evaluate and dubug systems based on the M6833xBCC 'Business Card Computer'. This manual gives an introduction and general description of the software, lists and describes the command set with examples of the use of each command, and describes the Assembler/Disassembler. Separate chapters are devoted to the TRAP #15 handler, which allows system calls from user programs, and to the Diagnostic Firmware Package. Appendices cover the Motorola S-Record format, the self-test error messages, and customisation of CPU32Bug to the user's particular situation.

Order by: M68CPU32BUG/D

M68EM05C0 Emulation Module User's Module

The M68EM05C0 Emulation Module provides the MMDS05 and the MMEVS05/08 development systems with the capability to emulate target systems based on the M68EM05C0 MCUs. This hardware user's manual explains connection, configuration and operation information specific to the module.

Order by: M68EM05C0UM/D

M68HC05 Applications Guide

Rev 2

Assumes no knowledge of microcontrollers and no MCU applications experience. Provides a basic but thorough introduction to the features and operation of microcontrollers, followed by a chapter describing the architecture, addressing modes, instruction set, communications and timer of the MC68HC705C8. The final section traces the development of the hardware and software for a practical application (a home thermostat project) with circuit diagram and full software listing. Full M68HC05 instruction set details are given in an appendix, and the book ends with 50 review questions based on the guide.

Order by: M68HC05AG/AD

HC08 Family Reference Guide

Rev 1

A convenient pocket-sized guide providing quick access to essential M68HC08 information such as the Instruction Set, full details of instructions that have been added to the M68HC05 set, Address Mode descriptions, Programming Model, Interrupt Stacking Order and an Opcode Map.

Order by: M68HC08RG/AD

M68HC11EVB Evaluation Board User's Manual

The M68HC11EVB Evaluation Board is a low cost tool for debugging and evaluating M68HC11-based target systems. This manual provides a description of – and user instructions for – the EVB, including general information, hardware preparation and installation instructions, a description of the BUFFALO monitor program, operating instructions, and a hardware description containing signal descriptions and circuit diagrams. Appendices give an S-Record specification and a listing of the BUFFALO program.

Order by: M68HC11EVB/D1

M68HC11EVBU Universal Evaluation Board User's Manual

The EVBU is a low cost tool for debugging and evaluation of MC68HC11A8, E9, 711E9, 811A8 and 811E2 microcomputers. It operates under control of the BUFFALO monitor program. User code can be assembled using the line assembler in the BUFFALO program, or assembled code can be downloaded from a host computer as Motorola S-records. This manual provides general information on the EVBU, details of hardware preparation, installation instructions, a description of the monitor program, operating instructions and support information.

Order by: M68HC11EVBU/AD2

M68HC11EVM Evaluation Module User's Manual

The manual provides a product overview, details of hardware preparation, installation and operating instructions, and a functional description of the M68HC11EVM Evaluation Module. It also includes comprehensive support information in the form of connector signal descriptions, a parts list with location diagram, and full schematic diagrams. An appendix gives Motorola S-Record information.

Order by: M68HC11EVM/AD8

M68HC11 Reference Manual

Rev 3

A valuable aid in the development of M68HC11 applications. Detailed descriptions of all internal subsystems have been developed and checked against Motorola internal design documentation, making it perhaps the most comprehensive reference manual available for the M68HC11 family; it complements the data sheet but does not replace it. Practical applications demonstrate the operation of each subsystem; they are treated as complete systems, including hardware/software interactions and trade-offs. Discusses interfacing techniques to prevent component damage, and efficient use of the instruction set.

Order by: M68HC11RM/AD

M68HC11 PCbug11 User's Manual

PCbug11 is a software package for easy access to M68HC11 MCUs. It allows a user to program any member of the M68HC11 family and examine the behaviour of internal peripherals. Users may also run their own programs on the MCU – breakpoint and trace processing are available. This spiral-bound manual explains how to install and run PCbug11, and how to correct common problems. PCbug11 is distributed free of charge by Motorola, and is available either from the bulletin board in Texas, USA, or from selected Motorola Distributors and sales offices; it is not available from literature distribution centres.

Order by: M68PCBUG11/D2

M6800 Programming Reference Manual

Motorola's M6800 development tools are designed to simplify the development of systems based on the M6800 family of MCUs and peripherals. This manual – first published in 1976 – provides descriptions of the M6800 Program-visible Registers, Interrupts and Stack Operations, Addressing Modes, and Instruction Set.

Order by: M68PRM/D

M6805 HMOS / M146805 CMOS Family User's Manual (1991)

Provides users with concise information on Motorola's M6805 HMOS and M146805 CMOS microcomputer families. Thorough descriptions and instructions are given, beginning with a general description and introduction to the families, and including details of the hardware and software features illustrated with many 'standard' applications. More advanced applications are covered by reprinted application notes. The manual concludes with detailed definitions of each instruction, arranged in alphanumeric order, with a cycle-by-cycle operation summary.

Order by: M6805UM/AD3

MC6809-MC6809E Microprocessor Programming Manual (1981)

The MC6809 and MC6809E are greatly enhanced, upward-compatible and faster extensions of the MC6800 MPU. This Programming Manual provides details of the additional features, the addressing modes and programming considerations, assuming some familiarity with the MC6800. Detailed information about each instruction is given in an instruction-per-page format, arranged in alphabetical order of mnemonic. The commands and code of the ASSIST09 Monitor Program are also included.

Order by: M6809PM/AD

M68000 Family Programmer's Reference Manual

Rev 1

Contains detailed information, in an instruction-per-page format, on each of the instructions used by the MPUs and coprocessors in the M68000 family. Includes MPUs from the MC68000 to the MC68040, the MC68851 PMMU, the MC68881 and MC68882 Floating-Point Coprocessors, and the CPU32 processor core used in the M68300 family. The manual is divided into Integer Instructions, Floating-Point Instructions, Supervisor (Privileged) Instructions, and CPU32 Instructions and Addressing Modes. A Format Summary lists all the instructions in binary format, and a processor/instruction cross reference is included.

Order by: M68000PM/AD

M68000 8-/16-/32-bit Microprocessors User's Manual, Ninth Edition

Rev 8

Provides hardware details and programming information for the MC68000, MC68008, MC68010 and MC68HC000 microprocessors. The MC68008 has an 8-bit data bus and smaller addressing range; the MC68010 introduced virtual memory to the family and has a few different instructions; the MC68HC000 uses about 10% of the power of the MC68000; otherwise the devices are very similar. The manual fully describes their electrical and operating characteristics, noting any differences. Includes detailed information about each instruction, arranged in alphabetical order of mnemonic.

Order by: M68000UM/AD

MC68020/MC68EC020 Microprocessors User's Manual

The MC68020 was the first full 32-bit implementation of Motorola's M68000 family. It is joined by the MC68EC020, an economical version designed for embedded controller (EC) applications. This User's Manual describes the capabilities, operation and programming of the two devices,

highlighting differences where applicable. An introduction provides an overview of the devices and their instruction sets. Other sections include Processing States, Signal Description, On-Chip Cache, Bus Operation, Exception Processing, Coprocessor Interface, Instruction Timing, Applications Information, and electrical and mechanical data.

Order by: M68020UM/AD

MC68040, MC68040V, MC68LC040, MC68EC040, MC68EC040V Microprocessors User's Manual

Rev 1

The MC68040, MC68040V, MC68LC040, MC68EC040 and MC68EC040V are third-generation, 32-bit MPUs in the M68000 family. They use multiple concurrent execution units and a highly integrated architecture to achieve very high performance. This manual describes the capabilities, operation and programming of the five devices. Sections include Integer Unit, Memory Management, On-Chip Caches, Signal Description, IEEE 1149.1 Test Access Port (JTAG), Bus Operation, Exception Processing, Floating-Point Unit and Instruction Timing.

Order by: M68040UM/AD

MC68060, MC68LC060, MC68EC060 Microprocessors User's Manual

Rev 1

The MC68060, MC68LC060 and MC68EC060 are the first processors in the M68060 product line. All offer superscalar integer performance of more than 100 MIPS at 66MHz while maintaining compatibility with the rest of the M68000 Family. This manual describes their capabilities, operation and programming. Sections include a general introduction, Signal Description, Integer Uhit, Memory Management, the Caches, Floating Point Unit, Bus Operation, Exception Processing, JTAG and Debug Pipe Control Modes, Instruction Timing, Applications, and Electrical and Thermal Characteristics.

Order by: M68060UM/AD

M68332EVK Evaluation Kit Exercise Manual

A practical introduction to the MC68332 32-bit MCU, with emphasis on the Time Processor Unit (TPU). Exercises are based on the use of the M68332EVK Evaluation Kit with a terminal (or personal computer with terminal emulator). The manual provides information on power and terminal connections; a sample program for debugger experimentation; and application programs such as PWM signal generation, match rate sampling and event counting.

Order by: M68332EVKEM/AD1

MC68EC030 32-bit Embedded Controller User's Manual

The MC68EC030 is a 32-bit embedded controller in Motorola's M68000 family. It combines a CPU core and instruction and data caches with an enhanced bus controller that supports synchronous and asynchronous bus cycles and burst data transfers. This manual describes its capabilities, operation and programming. Sections include Data Organisation and Addressing, Instruction Set, Processing States, Signal Description, On-Chip Caches, Bus Operation, Exception Processing, Access Control Unit, Coprocessor Interface, Instruction Timing, Applications Information, Electrical Specifications and Mechanical Data.

Order by: MC68EC030UM/AD

MC68EN302 Integrated Multiprotocol Processor with Ethernet Reference Manual (Supplement to MC68302UM/AD)

The MC68EN302 is a multiprotocol integrated communications controller based on the MC68302. It adds an Ethernet controller which is independent of the three on-chip serial channels, plus a DRAM control and a JTAG interface. This manual describes aspects of the programming, capabilities, registers and operation of the MC68EN302 where they differ from the MC68302. Separate chapters describe the Module Bus Controller, DRAM Control Module (DCM), Ethernet Controller and JTAG Test Access Port.

Order by: MC68EN302RM/AD

MC68F333 User's Manual

The MC68F333 is a highly integrated 32-bit microcontroller which includes a Single Chip Integration Module, an 8-channel 10-bit ADC, a Time Processor Unit, a 512-byte Standby RAM, 3.5 Kbyte RAM with TPU emulation, and two flash EEPROM modules. This user's manual describes all the modules in detail, and includes electrical and timing information. Address maps and register diagrams are summarised in an appendix for convenience.

Order by: MC68F333UM/AD

MC68HC05Cx HCMOS Single-Chip Microcontrollers Programming Reference Guide

Rev 1

A convenient pocket-sized guide providing quick access to essential MC68HC05C-series information such as Block Diagrams, Memory Maps, the Programming Model, Registers and Control Bits, Instructions, Addressing Modes, Execution Times and Pin Assignments.

Order by: MC68HC05CxRG/AD

MC68HC11A8 Programming Reference Guide

Rev 1

A convenient pocket-sized guide providing quick access to essential MC68HC11A8 information such as the Programming Model, Crystal Dependent Timing, Interrupt Vectors, Memory Map, Opcode Maps, Instructions, Addressing Modes, Execution Times, Registers and Control Bits, and Pin Assignments.

Order by: MC68HC11A8RG/AD

MC68HC11C0 Programming Reference Guide

A convenient pocket-sized guide providing quick access to essential MC68HC11C0 information such as a Block Diagram, the Programming Model, Crystal Dependent Timing, Interrupt Vectors, Memory Map, Opcode Maps, Instructions, Addressing Modes, Execution Times, Registers and Control Bits, and Pin Assignment.

Order by: MC68HC11C0RG/AD

MC68HC11D3/MC68HC711D3 Programming Reference Guide

A convenient pocket-sized guide providing quick access to essential MC68HC11D3 and MC68HC711D3 information such as the Programming Model, Crystal Dependent Timing, Interrupt Vectors, Memory Map, Opcode Maps, Instructions, Addressing Modes, Execution Times, Registers and Control Bits, and Pin Assignment.

Order by: MC68HC11D3RG/AD

MC68HC11E Programming Reference Guide

A convenient pocket-sized guide providing quick access to essential information for the MC68HC11E series of MCUs, including the Programming Model, Crystal Dependent Timing, Interrupt Vectors, Memory Map, Opcode Maps, Instructions, Addressing Modes, Execution Times, Registers and Control Bits, and Pin Assignments. The guide covers the MC68HC11E0, 'E1, 'E8, 'E9 and 'E20, the MC68HC711E9 and 'E20, the MC68S711E9 and the MC68HC811E2.

Order by: MC68HC11ERG/AD

MC68HC11F1 Programming Reference Guide

Rev 2

A convenient pocket-sized guide providing quick access to essential MC68HC11F1 information such as the Programming Model, Crystal Dependent Timing, Interrupt Vectors, Memory Map, Opcode Maps, Instructions, Addressing Modes, Execution Times, Registers and Control Bits, and Pin Assignments.

Order by: MC68HC11F1RG/AD

MC68HC11K4/MC68HC711K4 Programming Reference Guide

A convenient pocket-sized guide providing quick access to essential information on the MC68HC11K4 MCU, and on the MC68HC711K4 EPROM version. It includes the Programming Model, Crystal Dependent Timing, Interrupt Vectors, Memory Map, Opcode Maps, Instructions, Addressing Modes, Execution Times, Registers and Control Bits, and Pin Assignments.

Order by: MC68HC11K4RG/AD

MC68HC11KA4/MC68HC711KA4 Programming Reference Guide

A convenient pocket-sized guide providing quick access to essential information on the MC68HC11KA4, the reduced pinout version of the MC68HC11K4 MCU, and on the MC68HC711KA4 EPROM version. It includes the Programming Model, Crystal Dependent Timing, Interrupt

Vectors, Memory Map, Opcode Maps, Instructions, Addressing Modes, Execution Times, Registers and Control Bits, and Pin Assignments.

Order by: MC68HC11KA4RG/AD

MC68HCL6/MC68HC711L6 Programming Reference Guide

A convenient pocket-sized guide providing quick access to essential MC68HC11L6 and MC68HC711L6 information such as the Programming Model, Crystal Dependent Timing, Interrupt Vectors, Memory Map, Opcode Maps, Instructions, Addressing Modes, Execution Times, Registers and Control Bits, and Pin Assignment.

Order by: MC68HC11L6RG/AD

M68HC11 M Series Programming Reference Guide

A convenient pocket-sized guide providing quick access to essential programming information for Motorola's M68HC11 M-series MCUs, including the Programming Model, Crystal Dependent Timing, Interrupt Vectors, Memory Map, Opcode Maps, Instruction Set, Addressing Modes, Execution Times, Special Operations, Registers and Control Bits, and Pin Assignments.

Order by: MC68HC11MRG/AD

MC68HC11N Series Programming Reference Guide

A convenient pocket-sized guide providing quick access to essential M68HC11 N-series information such as the Programming Model, Interrupt Data, Memory Map, Opcode Maps, Instruction Set, Addressing Modes and Timing Information, Registers and Control Data.

Order by: MC68HC11NRG/AD

MC68HC16Y1 User's Manual

The MC68HC16Y1 is a high-speed 16-bit MCU in the M68HC16 family. It incorporates a true 16-bit CPU, single-chip integration module (SCIM), an 8/10-bit ADC, multi-channel communication interface (MCCI), general purpose timer (GPT), a 2 kByte standby RAM module with TPU emulation capability (TPURAM) and a 48K masked ROM. These modules are interconnected by an intermodule bus (IMB). This manual includes comprehensive information on all these modules, with timing diagrams and an instruction set summary. Appendices cover electrical and mechanical characteristics, a comprehensive register summary and development support.

Order by: MC68HC16Y1UM/AD

MC68HC16Z2 User's Manual

The MC68HC16Z2 is a high speed 16-bit MCU in the M68HC16 Family that is upwardly compatible with M68HC11 devices. To enable the rapid development of new devices for specific applications, M68HC16 controllers are built from standard modules interfacing through a common bus – the MC68HC16Z2 includes a true 16-bit CPU (CPU16), System Integration Module, 8/10-bit ADC, Queued Serial Module, General Purpose Timer, 2048-byte Standby RAM and an 8 Kbyte Masked ROM Module, all connected through the Intermodule Bus. This manual describes the operation of each module, with timing diagrams and a summary of registers.

Order by: MC68HC16Z2UM/AD

MC68HC901 Multi-Function Peripheral User's Manual

The MC68HC901 Multi-Function Peripheral (MFP) is a member of the M68000 Family, and interfaces directly to the MC68000 through the asynchronous bus structure. Both vectored and polled interupt schemes are supported, with the MFP providing unique vector number generation for each of 16 interrupt sources. Handshake lines are provided to allow DMA Controller interfacing. This User's Manual describes the operation of the MFP, including signal description, bus operation, interrupt structure, I/O port, timers, USART, and electrical and mechanical characteristics.

Order by: MC68HC901UM/AD

MC68LC302 Low Power Integrated Multiprotocol Processor Reference Manual

The MC68LC302 is a low power version of the MC68302 Integrated Multiprotocol Processor (IMP). In simple terms it is the same device, but minus the third Serial Communications Controller (SCC3), and with a new static 68000 core, new timer and low power modes. It is packaged in a low profile package for reduced board space and makes it suitable for use in applications such as PCMCIA. This manual describes all the differences between the

MC68LC302 and the MC68302, full details of which are contained in the MC68302 User's Manual, reference MC68302UM/AD.

Order by: MC68LC302RM/AD

MC68MH360 QUICC32 Quad Integrated Multichannel Controller Reference Manual

The QUICC32 is pin compatible with the QUICC, and they can be used in identical applications with some small but significant changes made to the QUICC32. The electrical characteristics and mechanical data of the MC68MH360 are identical to those of the MC68360. This manual describes the operation of the QUICC Multichannel Controller (QMC) protocol, located in CPM ROM space.

Order by: MC68MH360RM/AD

Integrated Multiprotocol Processor with PCMCIA Interface Reference Manual

The MC68PM302 is a derivative of the MC68302 Integrated Multiprotocol Processor (IMP). It can operate in two modes – in one mode it functions as an enhanced MC68302 with a new static 68000 core, new timer and low power modes, and additional parallel I/O pins; in the second mode it offers the same enhanced capability, but with PCMCIA and 16550 UART functionality instead of the additional I/O pins. It is packaged in a low profile package suitable for use in Type II PCMCIA cards. This manual describes all the differences between the MC68PM302 and the MC68302, full details of which are contained in the MC68302 User's Manual, reference MC68302UM/AD.

Order by: MC68PM302RM/AD

MC68SC302 Passive ISDN Protocol Engine User's Manual

The MC68SC302 Passive ISDN Protocol Engine (PIPE) is an ISA 'Plug and Play'/PC card ISDN communication controller optimized for ISDN passive cards. It has been developed from the popular MC68302 Integrated Multiprotocol Processor and features glueless connection to Motorola's MC145572 and MC145574 transceivers. The three serial communication channels have been optimized to support two 64kbit per second B-channels and one 16kbit per second D-channel. This manual describes the programming, capabilities, registers and operation of the MC68SC302, including the Interrupts and Timer, Communications Processor, 'Plug and Play' Interface and PCMCIA Interface.

Order by: MC68SC302UM/AD

MC68030 Enhanced 32-bit MPU User's Manual, third edition

Rev 2

The MC68030 is a second-generation 32-bit MPU in Motorola's M68000 family. It combines a CPU core, instruction and data caches, bus controller and memory management unit in a single VLSI device. This manual describes its capabilities, operation and programming. Sections include Data Organisation and Addressing, Instruction Set, Processing States, Signal Description, On-Chip Caches, Bus Operation, Exception Processing, Memory Management Unit, Coprocessor Interface, Instruction Timing, Applications Information, Electrical Specifications and Mechanical Data.

ISBN 0 13 566969 3

Order by: MC68030UM/AD

MC68302 Integrated Multiprotocol Processor User's Manual

Rev 3

The MC68302 IMP is a VLSI device incorporating the main building blocks needed to design a wide variety of powerful communications controllers. It may be configured to support 5 different protocols, any 3 operating simultaneously. This manual describes its architecture; the MC68000 processor core on which it is based; the System Integration Block which provides basic timing and interfacing functions required by virtually every application; the Communications Processor which includes 3 independent serial channels with 6 DMA controllers; plus Signal Descriptions and Electrical Characteristics.

Order by: MC68302UM/AD

MC68306 Integrated EC000 Processor User's Manual

The MC68306 is an integrated processor containing an MC68EC000 processor and elements required in many MC68000 and MC68EC000-based systems, reducing design time especially in systems using serial interfaces and Dynamic RAM. This user's manual introduces the core and the on-chip peripherals, describes the signals and

68000 bus operation, provides detailed information about the core and Serial Module, and discusses the IEEE 1149.1 Test Access Port.

Order by: MC68306UM/AD

MC68307 Integrated Multiple-Bus Processor User's Manual

The MC68307 is an integrated processor combining a static EC000 core with multiple interchip interfaces. It is optimised for applications such as digital cordless telephones, portable measuring equipment and point of sale terminals. This manual provides detailed information for designers. Contents include an introduction summarising the main features of the device; Signal Description; Bus Operation; EC000 Core Processor; System Integration Module; Dual Timer Module; M-Bus Interface Module; Serial Module; IEEE 1149.1 Test Access Port; and Applications Information.

Order by: MC68307UM/AD

Bandit: MC68322 Integrated Printer Processor User's Manual

Rev 1

The MC68322 is a high-performance integrated printer processor combining an MC68000 compatible core processor, a RISC graphics processor, a print engine video controller and system integration features on a single chip. Specialised display list banding techniques performed by the graphics processor allow system memory requirements to be reduced significantly. This manual includes sections on the Core; Bus Operation; Interrupts; System Integration Module; DRAM Controller; DMA, Parallel Port and Print Engine Interfaces; RISC Graphics Processor; Graphic Operations and Orders; and electrical and mechanical information.

Order by: MC68322UM/AD

MC68328 (Dragonball) Integrated Processor User's Manual

As the consumer market for portable devices expands, system requirements become more demanding. Fewer components, smaller board space, lower power consumption and lower system cost are major criteria. Motorola has introduced the MC68328 DragonBall integrated portable system processor to address these needs. It provides key features for portable systems, such as a real-time clock, LCD oscillator, pulse-width modulator, timers, SPI and the SIM28 system integration module. This User's Manual describes the capability, operation and programming of the MC68328.

Order by: MC68328UM/AD

MC68330 Integrated CPU32 Processor Users Manual

The MC68330 is a 32-bit integrated processor linking high-performance data manipulation capability with circuits typically required in embedded controller applications. It combines the CPU32 core processor and the SIM40 system integration module. This User's Manual describes the programming, capabilities, registers and operation of the MC68330. Sections provide signal descriptions, full details of bus operation, and explain the use of the CPU32 and SIM40. The Guide also covers use of the IEEE 1149.1 Test Access Port, and gives applications guidelines.

Order by: MC68330UM/AD

MC68331 User's Manual

The MC68331 is a 32-bit integrated microcontroller in the M68300 Family, combining high-performance data manipulation capabilities with powerful peripheral subsystems. This manual includes sections describing the input and output signals; the submodules of the System Integration Module (SIM); timing, exception processing and arbitration for the external bus; the Queued Serial Module (QSM); and overviews of the MC68020-based CPU32 processor, the General Purpose Timer (GPT) and available emulation systems. It includes electrical and mechanical data.

Order by: MC68331UM/AD

MC68332 User's Manual

Rev 1

The MC68332 is a 32-bit integrated microcontroller in the M68300 Family, combining high-performance data manipulation capabilities with powerful peripheral subsystems. This manual includes sections describing the input and output signals; timing, exception processing and arbitration for the external bus; the submodules of the System Integration Module (SIM); the Queued Serial Module; operation of the 2K Standby RAM; plus overviews of the MC68020-based CPU32 processor, the Time Processor Unit (TPU) and available emulation systems. It includes electrical and mechanical data.

Order by: MC68332UM/AD

MC68340 Integrated Processor User's Manual

Rev 1

The MC68340 is a 32-bit integrated processor in the M68300 Family, combining high-performance data manipulation capabilities with powerful peripheral subsystems. This manual includes sections describing the input and output signals; timing, exceptions and arbitration for the external bus; the submodules of the System Integration Module (SIM); the MC68020-based CPU32 processor; the high-performance DMA Controller module; the serial communications module; the twin timer modules; and the IEEE 1149.1-standard test port. It includes applications guidelines and electrical and mechanical data.

Order by: MC68340UM/AD

MC68341 Integrated Processor User's Manual

The MC68341 is a member of Motorola's M68300 family of integrated processors which is designed specifically for Compact Disc Interactive (CD-I) systems. In addition to the comprehensive features of the MC68340, the System Integration Module (SIM) of the MC68341 includes a real time clock module, plus an M68000 bus interface to simplify the use of existing peripherals. The device has been CD-I qualified. This user's manual provides a full functional description of all the modules making up the MC68341.

Order by: MC68341UM/AD

MC68349 High Performance Integrated Processor User's Manual

The MC68349 'Dragon 1' is a high performance member of the M68300 integrated processor family, and is designed to be used as the central processor in personal intelligent communicators and similar products that require a balance of performance, integration, cost and power consumption. This manual provides detailed information on Bus Operation, the System Integration Module, the CPU030 processor, DMA Controller, the Serial Module and the Test Access Port.

Order by: MC68349UM/AD

MC68356 Signal Processing Communications Engine User's Manual

The MC68356 is the first commercially available monolithic device to include a general purpose digital signal processor, a CISC microprocessor and a RISC microprocessor on a single chip. The features of its multiprotocol communications processor are a subset of the MC68302, the DSP is DSP56002-based, and its PCMCIA slave interface emulates the UART16550. This manual describes its architecture and external signals, and includes sections on Clock Generation and Low Power Control; the 68000 Core, Memory Map and SIB; the Communications Processor; the PCMCIA Controller; DSP Ports and Memory; and the IEEE 1149.1 Test Access Port.

Order by: MC68356UM/AD

MC68360 Quad Integrated Communications Controller User's Manual

Rev 1

The MC68360 Quad Integrated Communication Controller (QUICC) is a development of the MC68302, but with higher performance, increased flexibility and major extensions to capability. It incorporates four Serial Communications Controllers (SCC), two serial Management Controllers (SMC) and a Serial Peripheral Interface (SPI). This manual provides full details concerning the use and operation of the QUICC, including signal descriptions, memory map, bus operation, an overview of the CPU32+, System Integration Module (SIM60), Communication Processor Module (CPM), Test Access Port and electrical characteristics. Includes a section discussing practical applications.

Order by: MC68360UM/AD

MC68488 General Purpose Interface Adapter User's Manual

The IEEE-488 General Purpose Interface Bus (GPIB) has greatly simplified the configuration of automatic test equipment, control systems and scientific data recording using instruments from different manufacturers. The MC68488 is a single-chip implementation of the GPIB protocol. This manual describes the IEEE-488 Standard and discusses the MC68488. It is intended for the prospective user as well as the experienced instrumentation designer, and can be used as a tutorial presentation, a detailed user's manual or a reference guide.

Order by: MC68488UM/AD

MC68605 X.25 Protocol Controller User's Manual

The MC68605 X.25 Protocol Controller (XPC) is an intelligent HCMOS communications protocol controller that implements the 1984 CCITT X.25 Recommendation, data link access procedure (LAPB). This manual provides full user information including operating modes, a description of the internal registers and the shared memory structures that provide communication with the host processor, details of the command set and the external signals, and the operation of the bus. Timing and state diagrams are given on foldout sheets for ease of reference.

Order by: MC68605UM/AD

MC68606 Multi-Link LAPD Protocol Controller User's Manual

The link-access procedure (LAPD) is the proposed protocol for use at the link layer of ISDN configurations, for both signalling and data transfer. The MC68606 MLAPD simplifies interfacing a microprocessor to a packet network by providing sequencing, error control, flow control and multiplexing services. An on-chip DMA controller transfers data packets to and from memory with minimal CPU assistance. The User's Manual provides full details of memory structures, commands, LAPD operation and electrical specifications.

Order by: MC68606UM/AD

MC68824 Token Bus Products User's Manual

Rev 1

The MC68824 Token Bus Controller (TBC) was the first single-chip device to implement the IEEE 802.4 Media Access Control (MAC) sublayer of the Manufacturing Automation Protocol (MAP). It operates as an intelligent peripheral that relieves its host microprocessor of the frame formatting and token management functions, using on-chip DMA to transfer data frames to and from memory. This manual is a detailed functional and electrical description of the device, including programming information and an overview of IEEE 802.4.

Order by: MC68824UM/AD

MC68836 FDDI User's Manual

The Fiber Distributed Data Interface is a Local Area Network (LAN) under the auspices of ANSI. It supports a 100mBits/sec token ring with up to 1000 stations. The MC68836 FDDI Clock Generator implements the lower portion of the physical layer functions of the standard including Clock Recovery, Data Recovery, NRZI Conversions and 5-bit parallel-to-serial/serial-to-parallel conversions. This User's Manual describes its operation, signals, timing and applications.

Order by: MC68836UM/AD

MC68837 FDDI User's Manual

The Fiber Distributed Data Interface is a Local Area Network (LAN) under the auspices of ANSI. It supports a 100mBits/sec token ring with up to 1000 stations. The MC68837 Elasticity Buffer and Link Management (ELM) chip implements the physical layer (PHY) functions of the standard including data framing, elasticity buffer, encoding, decoding, smoothing, line state detection and repeat filter. It also contains a number of station management functions. This User's Manual describes its operation, registers, signals and timing.

Order by: MC68837UM/AD

MC68838 FDDI User's Manual

The Fiber Distributed Data Interface (FDDI) is a 125Mbit/sec, fibre-optic based token ring designed to accommodate rings up to 1000 stations, with 2km between stations and 200km total ring length. The ANSI standard for FDDI networks defines a number of protocols including the data link Media Access Control (MAC) layer. Motorola's MC68838 chip implements this protocol. This manual provides an overview and functional description of the device, with details of the 36 control/status registers, signal descriptions, bus and MAC-PHY operation, and transmit and receive data path operation.

Order by: MC68838UM/AD

MC68839 FDDI System Interface User's Manual

The Fiber Distributed Data Interface is a Local Area Network (LAN) under the auspices of ANSI. It supports a 100mBits/sec token ring with up to 1000 stations. Motorola's FDDI chipset consists of an FDDI Clock Generator, an Elasticity and Link Management physical layer circuit, a Media Access

Control circuit, and an FDDI System Interface (FSI). This manual describes the FSI. Sections include Functional Block Description; Registers; Signal Descriptions; Commands and Indications; Functional Operation; Initialisation, Programming and Examples; Port Operation; Boundary Scan Details; Electrical Specifications and Mechanical Data. System performance requirements are discussed in an appendix.

Order by: MC68839UM/AD

MC68840 Integrated Fiber Distributed Data Interface User's Manual

FDDI is a fibre-optic-based, token ring local area network standard developed to accommodate rings of up to 1000 stations and a total ring length of 200km, operating at speeds up to 100Mbps. This ANSI standard specifies the Media Access Control (MAC) layer, the Physical (PHY) layer, the Physical Medium Dependent function and the Station Management function. The MC68840 implements the MAC and PHY layers. This manual provides an overview of the device, plus full descriptions of the functional blocks, registers, ports, external signals and test operations. Includes two practical examples to illustrate the design process.

Order by: MC68840UM/AD

MC68847 Quad ELM FDDI User's Manual

The MC68847 Quad ELM implements four MC68837 ELM (Elasticity Buffer and Link Management) devices on a single chip, providing a low cost solution for concentrator applications. Each implements the physical layer (PHY) functions of the FDDI standard including data framing, elasticity buffer, encoding, decoding, smoothing, line state detection and repeat filter. This User's Manual describes its operation, registers, signals and timing.

Order by: MC68847UM/AD

MC68851 Paged Memory Management Unit User's Manual, second edition

Rev 2

The MC68851 is a high-performance PMMU designed to operate as a coprocessor to the MC68020 32-bit microprocessor. It performs very fast logical-to-physical address translations, and provides a comprehensive access control and protection mechanism with extensive support for paged virtual memory systems. This manual fully describes its functional and electrical characteristics, with extensive timing diagrams and detailed descriptions of each instruction. Includes a discussion of hardware and software considerations for designers.

ISBN 0 13 566993 6

Order by: MC68851UM/AD

MC68881/MC68882 Floating-Point Coprocessor User's Manual, second edition

Rev 2

The MC68881 and MC68882 are intended to be used as coprocessors to the MC68020 and MC68030 MPUs, and this manual assumes such a connection. It is divided into two main parts, the first providing a detailed description of the programmer's model and of each instruction, the second describing the hardware interface to the main processor, with bus cycle timing and register addressing information. The devices fully implement the ANSI-IEEE 754-1985 standard for Binary Floating-Point Arithmetic, and are implemented in VLSI technology to provide the highest possible functionality with small physical size.

ISBN 0 13 567009 8

Order by: MC68881UM/AD

MC88100 RISC Microprocessor User's Manual

Rev 1

The MC88100 is the first processor in the M88000 family of Reduced Instruction Set Computing (RISC) MPUs; it uses only simple instructions with extremely fast execution times to achieve very high efficiency and throughput. This manual provides an overview of its features and architecture; details of the programming model, addressing modes and instruction set; and descriptions of bus operation, exception processing and instruction timing. Electrical and mechanical data and signal descriptions are included. Applications information includes discussion of a minimum system configuration.

ISBN 0 13 567090 X

Order by: MC88100UM/AD

MC88110/MC88410 Designer's Handbook

This handbook is a loose-leaf collection of applications information and other technical data intended for designers using the MC88110 RISC MPU and the MC88410 Secondary Cache Controller; it supports the User's Manuals and Technical Summaries for these devices. Documents include

an Overview of the M88100 Family; Engineering Bulletins (EB162/D, EB163/D, EB164/D and EB165/D); Application Notes and Article Reprints; Data Sheets on the MC88110, MC88410 and support devices; and the MC88110 Programmer's Reference Guide.

Order by: MC88110/410DH/AD

MC88110 Second Generation RISC Microprocessor User's Manual

The MC88110 is the second implementation of Motorola's 88000 family of Reduced Instruction Set Computing (RISC) microprocessors. This user's manual provides an overview of the device, and describes the programming model, addressing modes and instruction set, floating point and graphics unit, instruction and data caches, exception processing, memory management and instruction timing. Full details of each instruction are included, one per page, and a Hardware Design chapter gives a functional description of all hardware operations within the device.

Order by: MC88110UM/AD

MC88200 Cache/Memory Management Unit User's Manual

Rev 1

The MC88200 CMMU is a high-performance, HCMOS VLSI device combining demand-paged virtual memory with 16K bytes of on-chip cache memory. It is specifically designed to operate with the MC88100 RISC processor. Separate chapters provide full details of the memory management functions and cache operation, and are followed by descriptions of the signals, bus operation, timing and registers. 48 pages of applications information discuss the use of multiple MC88200s, memory bus connections, and power and ground considerations. Contains electrical characteristics and mechanical data.

Order by: MC88200UM/AD

MC88410 Secondary Cache Controller User's Manual

The MC88410 is a highly integrated secondary cache controller in the M88110 family that reduces both memory latency and system bus use, while extending multiprocessing capabilities to achieve a higher level of system performance. This User's Manual gives an overview of the MC88110/MC88410 system and the benefits of using the secondary cache, describes the MC88410 operation and its signals in detail, and provides functional descriptions of the processor and system bus interfaces. It includes a chapter on diagnostics and JTAG.

Order by: MC88410UM/AD

MC92005 SBus Slave Interface Controller User's Manual

The MC92005 SBus Slave Interface Controller (SLIC) presents a complete 32-bit slave interface to the SBus. It meets all timing, loading and drive requirements of Sun Microsystems' SBus Specification B.0 without the need for any additional devices. It also provides a versatile private bus interface (PBus) that can be connected directly to peripheral or memory chips and to the SBus Configuration PROM required of all SBus slaves. This manual describes the capabilities, operation and functions of the MC92005.

Order by: MC92005UM/D

ATM Cell Processor Design Reference Manual

Each switching system in an Asynchronous Transfer Mode (ATM) network handles multiple physical links, and transfers each arriving ATM cell between its source and destination links using prearranged routing. ATM standards divide the tasks on either side of the switch into PHY-layer (physical layer) tasks and ATM-layer tasks. The MC92500 is a cell processing device which provides ATM-layer cell processing and routing functions between a PHY-layer device and an ATM switch fabric. This reference manual provides design information for the MC92500, including a Functional Description; Register, External Memory and Signal Descriptions, Data Structures, Ingress and Egress Data Path Operation, System Operation, Support for Operations and Maintenance, interface descriptions and more.

Order by: MC92500UM/D

Multichannel Communication Interface Reference Manual

This manual describes the capabilities, operation and functions of the Multichannel Communication Interface (MCCI), an integral module in Motorola's family of modular microcontrollers. The MCCI contains a Serial Peripheral Interface (SPI) and two Serial Communication Interfaces

(SCI). Sections include an Overview of the module, Signal Descriptions, Configuration and Control Registers, and separate chapters describing the SCI and SPI submodules.

Order by: MCCIRM/AD

MCF5102 ColdFire User's Manual

Rev 1

ColdFire is a microprocessor architecture optimized for embedded processing. It combines the architectural simplicity of 32-bit fixed length RISC with a memory-saving variable length instruction set – its higher code density requires less program memory than for fixed length systems and allows the use of lower cost memory for given performance. The MCF5102 if the first chip in the family, and includes the capability to execute existing 68000 code to provide an upgrade bridge. This User's Manual describes the capabilities, operation and programming of the MCF5102. Instruction timing is provided, but full details of the instruction set are given in the M68000 Family Programmer's Reference Manual, M68000PM/AD.

Order by: MCF5102UM/AD

ColdFire Programmer's Reference Manual

This manual contains information about the software instructions used by the ColdFire 5200 microprocessors. It includes sections on the addressing capabilities, exception processing, timing, and on the instructions themselves in both summary and alphanumeric page-per-instruction format.

Order by: MCF5200PRM/AD

ColdFire MCF5202 User's Manual

ColdFire is a revolutionary microprocessor architecture that is optimized for embedded processing applications, bringing new levels of price and performance to cost-sensitive high-volume products. Based on the concept of variable-length RISC technology, ColdFire combines the architectural simplicity of conventional 32-bit RISC with a memory-saving, variable length instruction set. This manual describes the programming, capabilities and operation of the MCF5202 processor. Topics include signal descriptions, details of the core and cache, bus operations, debug support, JTAG specification, and an overview of the issues involved in porting embedded development tools from M68000 architecture.

Order by: MCF5202UM/AD

Motorola Microcontroller Development Tools Directory

Rev 3

A directory of hardware and software development tools – from Motorola and from third party vendors – for the M68HC05, M68HC08, M68HC11, M68HC16, M68300 and MPC500 microcontroller families. Includes a cross reference listing products under Adapters, Emulators, Evaluation Boards, Logic Analyzers, Programmers, Other Hardware Tools, Assemblers, Compilers, Debuggers, Integrated Development Environments, Real-Time Operating Systems, Simulators and Other Software Tools.

Order by: MCUDEVTLDIR/D

PowerPC Microprocessor Family: the Bus Interface for 32-bit Microprocessors

Rev 6

The main purpose of this manual is to provide a detailed functional description of the 60x bus interface, the communication channel for the first generation of PowerPC microprocessors, as implemented on the PowerPC 601, 603 and 604 microprocessors. It is intended to help system and chip set developers by being a central reference source for the interface presented by these processors, describing both the basic signals that are common to all the processors and the signals that are not common but which can maximize the performance of a system implementation.

Order by: MPCBUSIF/AD

PowerPC Microprocessor Family: The Programming Environments

Rev 1

The main purpose of this manual is to help programmers provide software that is compatible across the PowerPC family. It provides a general description of features that are common to all the processors, and indicates those that are optional or may be implemented differently. An understanding of operating systems, MPU system design and the basic principles of RISC processing is assumed. Chapters include an overview; Register Set; Operand Conventions; Addressing Modes and Instruction Set Summary; Cache Model and Memory Coherency; Exceptions; Memory Management; Instruction Set Details.

Order by: MPCFPE/AD

PowerPC Microprocessor Family: The Programmer's Reference Guide

The main purpose of this guide is to provide a concise method for system developers and application programmers to implement software that is compatible across the PowerPC family of processors and other devices. A Register Summary gives a brief overview of the PowerPC register set, including a programming model and quick reference guide for 32-bit and 64-bit registers. The Memory Control Model outlines the page table entry and segment table entry. Exception Vectors is a quick reference for exception types and the conditions that cause them. And PowerPC Instruction Set gives detailed information on the entire instruction set.

Order by: MPCPRG/D

PowerPC Microprocessor Family: The Programmer's Pocket Reference Guide

A convenient pocket-sized guide providing an overview of the PowerPC registers, instructions and exceptions for 32-bit implementations. Headings include Programming Model; Memory Management Registers; Encodings for the Branch Options Field; MSR Bit Settings; Floating Point Exception Mode Bits; State of MSR at Power Up; BAT Registers and Area Lengths; Segment Register Bit Definitions and Instructions; PTE Bit Definitions; Exceptions and Conditions; and the PowerPC Instruction Set.

Order by: MPCPRGREF/D

PowerPC Tools - Development Tools for PowerPC Microprocessors

Rev 3

A listing of PowerPC development tools and supporting products from Motorola, IBM and a broad range of third-party suppliers. Headings include Silicon Solutions, Software Generation and Debug Tools, System Development and Integration Tools, Operating Systems and User Interfaces, Board-Level Products, Manufacturing Support, and Training and Support. Two pages are devoted to each product, and the information provided generally includes a description and feature list; details of host systems, technical support and availability; and contact addresses.

Order by: MPCTOOLBK/AD

PowerPC PCI Bridge/Memory Controller User's Manual

The MPC105 PCI bridge/memory controller provides a PowerPC reference platform-compliant bridge between the PowerPC microprocessor family and the peripheral component interconnect (PCI) bus. PCI support allows system designers to rapidly design systems using peripherals already designed for PCI and the other standard interfaces available in the personal computer hardware environment.

Order by: MPC105UM/AD

PowerPC 601 – RISC Microprocessor User's Manual

Rev 1

The MPC601 microprocessor is the first in the PowerPC family. It provides a reliable foundation for developing products compatible with subsequent processors. This manual is intended for system developers and applications programmers planning to develop products for the MPC601 and for PowerPC processors in general. It assumes an understanding of operating systems, MPU system design and the principles of RISC processing. Its main purpose is to define the functionality of the MPC601; however the MPC601 provides a bridge between the POWER architecture and the PowerPC architecture, and a secondary objective of the manual is to describe the differences.

Order by: MPC601UM/AD

PowerPC 602 RISC Microprocessor User's Manual

The MPC602 microprocessor is a low-cost, low-power implementation of the PowerPC family which implements the 32-bit portion of the PowerPC architecture – floating-point operations involving 32-bit or 64-bit data types in single precision format are supported, but floating-point operations involving 64-bit data types in double precision format are trapped for emulation in software. This manual provides information on using the MPC602 for system developers and applications programmers. It assumes an understanding of operating systems, MPU system design and the principles of RISC processing.

Order by: MPC602UM/AD

PowerPC 603e RISC Microprocessor User's Manual

The MPC603e is built on the low power, low cost and high performance attributes of the MPC603, while providing enhanced capabilities through higher clock speed, greater system clock flexibility, increases in cache size and set-associativity. Although this manual is concerned with the 603e, all the information applies to both devices except where noted in an appendix. It includes detailed chapters on the Programming Model, Instruction and Data Cache Operation, Exception Processing, Memory Management, Instruction Timing, Signal Descriptions, System Interface Operation, and Power Management. Appendices include an instruction set listing and details of 603 differences.

Order by: MPC603eUM/AD

PowerPC 604 RISC Microprocessor User's Manual

This manual is intended for system hardware and software developers, and application programmers developing products for the MPC604. It assumes an understanding of operating systems, MPU system design, basic principles of RISC architecture and details of the Power PC architecture. Chapters include an overview of the features and functions of the PowerPC architecture; the Programming Model; Cache and Bus Interface Unit; Exception Processing; Memory Management; Instruction Timing; Signal Descriptions; System Interface Operation; Performance Monitor Diagnostic Tool; Instruction Set; and Invalid Instruction Forms.

Order by: MPC604UM/AD

MPC821 PowerPC Portable Systems Microprocessor User's Manual

The MPC821 PowerPC Portable Systems Microprocessor is a versatile one-chip integrated microprocessor and peripheral device that can be used in a variety of controller applications. It is a PowerPC derivative of the MC68360 QUICC, and is intended particularly for use in high performance and portable communications systems where lower power consumption is essential. This comprehensive manual describes the operation of the MPC821, with particular emphasis on the I/O functions and the Communication Processor Module.

Order by: MPC821UM/AD

MPC860 PowerQUICC User's Manual

The MPC860 PowerPC Quad Integrated Communications Controller (PowerQUICC) is a versatile, one-chip integrated microprocessor and peripheral device that can be used in a variety of controller applications. It is a PowerPC derivative of the MC68360, and is intended particularly for use in both communications and networking systems. This comprehensive manual describes the operation of the MPC860, with particular emphasis on the I/O functions and the Communication Processor Module. An appendix discusses the movement of applications from the MC68360 QUICC environment to the MPC860 PowerQUICC environment.

Order by: MPC860UM/AD

Queued Analog-to Digital Converter Reference Manual

The Queued Analog-to-Digital Converter (QADC) is a 10-bit, unipolar, successive approximation converter module. It supports 16 analog channels with internal multiplexing or 44 channels in the expanded, externally multiplexed mode. This manual provides information on the operation and use of the module, including Signal Descriptions, Configuration and Control, External Multiplexing, Pin Connection Considerations, Analog Subsystem, Digital Control, Interrupts, and examples of Queue Priority schemes.

Order by: QADCRM/AD

Queued Serial Module Reference Manual

The Queued Serial Module (QSM) is an integral module in Motorola's family of embedded microcontrollers. Its two sub-modules provide the MCU with two independent serial interfaces: the Queued Serial Peripheral Interface (QSPI) is a full-duplex, synchronous serial interface designed for communication with peripherals and other MCUs; the Serial Communications Interface (SCI) is a full-duplex UART. This Manual describes the capabilities, operation and functions of the QSM, including details of registers, operational flow diagrams and signal descriptions.

Order by: QSMRM/AD

MPC500 Family: RCPU Reference Manual

The RCPU is a single-issue, 32-bit implementation of the PowerPC architecture, used in the MPC500 family of microcontrollers. This manual describes the RCPU for system software and hardware developers intending to develop products for RCPU-based systems. Topics include

an overview of the architecture and features; Registers; Operand Conventions; Addressing Modes and Instruction Set Summary; Instruction Cache; Exceptions; Instruction Timing; Development Support; and full descriptions of individual instructions.

Order by: RCPURM/AD

Single-Chip Integration Module Reference Manual

The Single-Chip Integration Module (SCIM) forms part of many of Motorola's 16 and 32-bit modular MCUs. It supplies a clock signal to the other modules, provides system protection features, manages the external bus, and provides on-chip chip-select signals and I/O ports. This manual describes all these functions and gives details of system reset and initialisation. Some MCUs necessarily contain a reduced pin-count version of the SCIM, and these variants are discussed. Separate appendices provide details of electrical and timing characteristics, and a summary of registers.

Order by: SCIMRM/AD

System Integration Module Reference Manual

This manual describes the capabilities, operation and functions of the System Integration Module (SIM), an integral module in many of Motorola's 16 and 32-bit modular microcontrollers. The SIM supplies a clock to the rest of the MCU; provides system protection features, on-chip Chip Select signals and I/O ports; and manages the external bus. This manual highlights CPU differences that affect the SIM; describes the protection features, clock generation, external bus interface, interrupt system, chip selects and reset procedures; and provides electrical and timing characteristics and register descriptions.

Order by: SIMRM/AD

MPC500 Family: System Integration Unit Reference Manual

The System Interface Unit (SIU) and Peripheral Control Unit (PCU) of the MPC500 Family processors are implemented as two separate on-chip units, working together to provide system support and interfaces between external and on-chip memory and peripherals. They handle system protection, clocks, interrupt support, reset control, test support, chip selects and interfaces to external and internal buses. This reference manual defines the functionality of the units, and is intended for software and hardware developers working with MPC500 family systems.

Order by: SIURM/AD

TIM08 Timer Interface Module Reference Manual

The Timer Interface Module is one of the modules in Motorola's M68HC08 family of microcontrollers. This manual describes the 4-channel implementation – the module can also be implemented with 2, 6 or 8 channels. It provides an overview of the timer features, signal descriptions, and detailed information on the prescaler, 16-bit modulo counter, capture compare unit, interrupt generation, and the handling of the different HC08 operating modes. Includes a chapter of applications information, and an appendix containing electrical specifications, memory map and register descriptions.

Order by: TIM08RM/AD

M68300 Family Time Processor Unit Reference Manual

Rev 3

The TPU is an integrated module within the 32-bit M68300 Family. It is a special-purpose MCU performing a variety of both simple and complex timing tasks – including input capture, output compare, PWM, stepper motor control, and many others – to minimise CPU overhead. This Manual gives a practical overview of the module's features; a description of the content and use of the three types of register that configure the TPU and its 16 channels; a detailed explanation of the operation of each time function; and a detailed guide to the TPU architecture. Appendices include algorithm state descriptions and microinstruction formats.

Order by: TPURM/AD

Technical Data Services

Scattering Parameter Library

Rev 1

Contains Scattering Parameter (S-Parameter) files for most of Motorola's RF linear transistors. The files are presented in Touchstone™ format suitable for use with computer aided design (CAD) programs that operate on IBM compatible computers. The program comes in a 5.25" floppy disk. Over 600 files are contained in the disk representing transistors operating at specific bias conditions.

Order by: DK105/D

Scattering Parameter Plotting Utility

Rev 1

An IBM compatible computer disk (5.25" floppy) that permits the user to view S-Parameter files on a VGA monitor. Two port S-parameters are displayed on a Smith® Chart as a function of frequency. One can also view stability circles, f_t vs frequency and G_{MAX} vs frequency as well as convert S-Parameters to H-, Y- or Z-Parameters.

Order by: DK106/D

Impedance Matching Program

This 5.25" IBM compatible disk contains a specialized form of CAD specifically developed for RF power amplifier circuit design. Its data base contains input and output impedances for most of Motorola's RF power transistors and allows the user to match these impedances manually by means of a variety of matching elements. The impedances and the results of the matching elements are displayed on a Smith® Chart plot that allows the user to see graphically what effects are created by his/her choice of matching components

Order by: DK107/D

Master Selection Guide

Rev 15

For the design engineer, the Motorola Master Selection Guide is perhaps the most important single document for the identification and preliminary selection of components for circuit and system designs. Within its pages is a complete listing and description of Motorola semiconductor devices currently in general use, and those recommended for new designs. It serves two purposes:

1. It lists all standard products in the vast Motorola semiconductor inventory for rapid identification.
2. It divides this total product offering into a variety of major product categories, with sufficient technical information to permit an intelligent first-order evaluation as to the most suitable devices for a specific application.

Order by: SG73/D

THIS BOOK IS NO LONGER PUBLISHED IN PRINTED FORM BUT IS AVAILABLE ON MOTOROLA'S WEB SITE

SEMIVID

Basic Semiconductor Videos

Brand New Video Training Program: "Motorola and the Semiconductor Universe. This is a four part video program covering basic electronics and semiconductors for non-technical people. It is designed for Motorolans who are in support, administrative, and sales roles who are not EEs, but are involved in the daily business of serving SPS customers. It will also be ideal for our authorized distributors and direct customer buyers who would like to know more about the products they are purchasing. The series was produced by sales and marketing training department.

The program is designed to answer the following questions:

- Why are we in business – what is the benefit to the customer

- What do we make, and how do we make them
- How do our products work
- How are our products used by the customer, and where do they use them
- What do our products do to provide specific customer solutions in their products

The program uses many "real-life examples and analogies. It graphically shows, through video animation and live footage, how electrons and the products we build to control them affect our everyday lives. The program includes supportive written material and is designed in a four part series:

Part 1: "The Fundamentals"

Part 2: "Discretes"

Part 3: "Integrated Circuits"

Part 4: "Microprocessors and Microcontrollers", including Memories

Order by: SEMIVID/D

Dr. BuB

DSP Electronic Bulletin Board

Dr. BuB, Motorola's 24-hour digital signal processor bulletin board, has just improved his act. Sporting all new hardware and software, the new system promises to bring new features and better service to a community of DSP users that has grown astronomically in the last few years. The new system not only has a lot of new routines available for download for the DSP96002, the DSP56116, as well as the DSP56000/1, but also new features that should make the BBS more interesting and more useful.

Callers are encouraged to register for their own personal accounts which are available for immediate use – no waiting for verification. Registered users can download files, send e-mail to the sysop or other user, and can join lively discussions about digital signal processing, Motorola DSP products, and other topics. Motorola's DSP hotline has a direct connection to the new Dr. BuB, and expert applications engineers log on every day to monitor and participate in the discussion.

Callers who wish to log-in as guests, just as they did with the old system, can still do so. The guest can navigate through the menus, read a variety of useful postings and messages, and leave e-mail with the sysop upon logging out. Guests who discover information or features that they need but don't have access to, are free to log-in again and open an account which will give them immediate access to additional information.

To log-in the new system:

- Dial (512) 891-DSP1 (891-3771) for 2400, 1200, or 300 baud modems. For the 1200 baud V.22 European standard, dial (512) 891-3772. Set the character format to 8 data, no parity.
- After the connection has been established, first-time users can either log-in as "guest" or can open a new account by selecting "new".

Now simply follow the prompts. Help is available at most levels but if you have questions, leave mail to the sysop.

Freeware Line

Microcontroller Electronic Bulletin Board

Freeware is your direct line to the latest information and software for Motorola's microcontroller families. With a PC and a modem, you can access a wealth of information, including:

- Support software for EVMs, PCs and Macintosh™ Computers
  - Cross Assemblers
  - Small C Compiler for 68HC11
  - EVM and EVB Monitor/Debugger Object Code
- Development software for MCUs
  - Floating Point Routines
  - Fast Fourier Transform Routines
  - 16-Bit Math Packages
  - Utility Programs
  - User Group Library Routines and User-Donated Programs
  - Kermit File Transfer Program
  - Terminal Emulation Program
- Masked ROM information
- MCU literature listings
- Updates/Erratas to existing literature
- Press releases and updates concerning new and phase-out products
- Contests, promotions, and seminars
- Electronic mail service

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Technical Data Services

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MOTOROLA

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