

ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Find the *Curtiss-Wright / Systran / Digital Technology DTI-1121* at our website: *Click HERE*

EXAMPLE

The following commands are identical:

```
WMEM   23  19  25
WMEM   "17  "13  "19
```

The following sample from the Diagnostics program illustrates how the preceding commands are interchangeable:

```
Diagnostics>wmem 23 19 25
Diagnostics>rmem 23 25
   location    0017   :    0013
   location    0018   :    0013
   location    0019   :    0013
Diagnostics>wmem  "17  "13  "19

Diagnostics>rmem  "17  "19
   location    0017   :    0013
   location    0018   :    0013
   location    0019   :    0013
```

All valid commands entered at the Diagnostics' prompt may be abbreviated to their smallest unique form.

EXAMPLE:

```
Diagnostics>RESET     Diagnostics>RES
Diagnostics>REPEAT    Diagnostics>REP
Diagnostics>VIEW      Diagnostics>V
```

Diagnostics commands are categorized as follows:

- Utility commands (control the overall operation of the Diagnostics program)
- Test setup and execution commands
- Memory/register access commands

9.3.1 Utility Commands

There are four utility commands: **BASE**, **HELP**, **EXIT** and **QUIT**.

BASE

The **BASE** command structure is shown below:

```
Diagnostics>BASE board memory register priority standard
              size partition
```

The **BASE** command identifies the 112X hardware that is used in the Diagnostics software application. The command requires that the user specify the following items:

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

- Base memory address
- Base register address
- Priority interrupt level
- Standard interrupt level
- On-board RAM size and partition

Before any access operations occur, one of the eight possible board positions must be based. A response is given at the command line prompt to verify that the given input parameters are properly matched with the hardware configuration. If BASEing the board is unsuccessful, none of the **READ/WRITE** commands are executable.

The ranges for **BASE** command parameters are listed in Table 9-1.

Table 9-1 Ranges for BASE Command Parameters

Parameter	Range
Board number	0 - 7 (as desired by user)
Memory-address	0 - 15
Register-address	100 *hex* - 3FFF *hex*
Priority-interrupt	3, 4, 5, 6, 7, 10, 11, 12, 15
Standard-interrupt	3, 4, 5, 6, 7, 10, 11, 12, 15
Size-board	0 - 1 (0 = 3FFF words 1 = 7FFF words)
Partition	applies only if size-board = 0 0 = first partition (0-3FFF) 1 = second partition (4000-7FFF)

HELP

The **HELP** command structure is shown below:

```
Diagnostics>HELP [command name]
```

The **HELP** command displays the proper syntax for all valid commands.

Issuing the **HELP** command with no parameters displays a list of the Diagnostics commands. Specifying a command name as a **HELP** parameter provides help on that particular command.

EXIT

The **EXIT** command structure is shown below:

```
Diagnostics>EXIT
```

The **EXIT** command terminates the program and returns the user to the operating system prompt. This command is identical to the **QUIT** command.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

QUIT

The **QUIT** command structure is shown below:

```
Diagnostics>QUIT
```

The **QUIT** command is identical to the **EXIT** command.

9.3.2 Test Setup And Execution Commands

There are ten test setup and execution commands: **VIEW**, **BOARD**, **RESET**, **REPEAT**, **DETAIL**, **NODETAIL**, **MAXERR**, **TEST**, **RUN** and **PERFORM**.

The **VIEW**, **BOARD**, **DETAIL** and **NODETAIL** commands control the operator messages displayed by the Diagnostics program. The **RUN** command begins test execution, while the remaining commands define the tests to be run and the conditions under which testing will be terminated.

VIEW

The **VIEW** command structure is shown below:

```
Diagnostics>VIEW
```

The **VIEW** command displays information concerning the current status of test setup parameters. This information includes the following:

1. Whether the BASE command was successfully invoked, and if so:
   - board number
   - memory base address
   - register base address
   - priority interrupt
   - standard interrupt
   - board size
   - partition
2. A list of the tests currently enabled
3. The current **MAXERR** parameter value
4. The current **REPEAT** parameter value
5. The current status of detailed error reporting (enabled or disabled)
6. The current status of 112X boards within the system

BOARD

The command **BOARD** structure is shown below:

```
Diagnostics>BOARD    [number]
```

The **BOARD** command allows the user to specify one of eight boards on which to perform operations. The valid range for board number is 0-7. If the command is issued without a number, the current board number is displayed. Any board being

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

used must first be qualified via the **BASE** command. When a board number is specified, that board becomes the current board (if it is correctly based).

RESET

The **RESET** command structure is shown below:

```
Diagnostics>RESET
```

The **RESET** command restores the test setup parameters to their default values, as follows:

- All tests enabled
- Number of iterations (automatic repetitions) = 1
- Maximum number of errors = 1
- Detailed error reporting is disabled

REPEAT

The **REPEAT** command structure is shown below:

```
Diagnostics>REPEAT  (iterations)
```

The **REPEAT** command allows the user to select the maximum number of times the selected tests are to be repeated when the **RUN** command is entered. If the **REPEAT** command is executed without a specified number of iterations, the current value of "REPEAT" is displayed. If a value of '0' is entered, the **RUN** command causes the selected tests to repeat indefinitely. The range of the iterations parameter is 0-65535.

DETAIL

The **DETAIL** command structure is shown below:

```
Diagnostics>DETAIL
```

The **DETAIL** command enables detailed error reporting. When the **DETAIL** command is in effect, each error encountered during test execution is reported separately and includes a description of the the error. Detailed error messages are described in the Error Messages section of this chapter.

NODETAIL

The **NODETAIL** command structure is shown below:

```
Diagnostics>NODETAIL
```

The **NODETAIL** command disables detailed error reporting and displays a summary of the number of errors that occur during each test.

MAXERR

The **MAXERR** command structure is shown below:

```
Diagnostics>MAXERR  [errlimit]
```

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

This **MAXERR** command allows the user to select the maximum number of errors (**errlimit**) that can occur before the **RUN** command terminates execution of the internal tests. If no **errlimit** is specified, the current value of **MAXERR** is displayed. If a value of '0' is entered, the error limit is infinite. The range of the **errlimit** parameter is 0-65535.

TEST

The **TEST** command structure is shown below:

```
Diagnostics>TEST [testnum] [testnum] [testnum] [testnum]
```

Testnum is a number from 0-10. If no **testnum** is entered, all tests are disabled. A **testnum** parameter of zero enables all tests.

Table 9-2 provides is a list of test names and respective test numbers, as defined in the Test section of this chapter:

Table 9-2 Test Names and Numbers

Testnum	Test Enabled
0	All tests
1	RAM Address Test
2	Walking 0's Test
3	Walking 1's test
4	All Bits Test
5	Value AAAA Test
6	Value 5555 Test
7	Value 0000 Test
8	Register Test
9	Interrupt Test
10	Transceiver Built-In Test

RUN

The **RUN** command structure is shown below:

```
Diagnostics>RUN
```

The **RUN** command tells the Diagnostics to execute the enabled tests. The tests are executed in increasing numerical order but not necessarily in the order that parameters were entered into the test command. As the user completes each test, the Diagnostics program displays the name of the test and the number of errors that occurred during its execution. At the conclusion of each pass, the pass count, the number of errors during the pass and the total number of errors that have occurred during the execution of the run command are displayed.

One of the following three conditions terminates the **RUN** command:

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

- The pass count reaches the current value of the **REPEAT** parameter.
- The error count reaches the current value of the **MAXERR** parameter.
- A 'Ctrl-C' is entered at the keyboard.

In all three cases, the program returns to the Diagnostics> prompt. In addition to the displayed information described above, the Diagnostics program displays a detailed description of each error as it occurs, if detailed error reporting is enabled. **RUN** error descriptions are explained in the Error Message section of this chapter.

The **RUN** command cannot be executed unless the board has been based.

PERFORM

The **PERFORM** command structure is shown below:

```
Diagnostics>PERFORM file name
```

The **PERFORM** command executes Diagnostics' commands that are located in a separate user-specified file. This file provides quick execution of a command or group of commands. A "perform" file can contain other **PERFORM** commands. If the named file does not exist, an error message is displayed and the next valid command is executed.

9.3.3 Memory/Register Access Commands

MEMORY ENABLE/DISABLE

The 112X contains a user-accessible, Memory Enable/Disable Switch, located in on-board Register 18, the Master Reset Register.

Table 9-3 summarizes actions that enable and disable the memory.

Table 9-3 Memory Enable/Disable

Action	Result
Set Bit 0 = 1	Enables memory
Set Bit 0 = 0	Disables memory
Turn on the board	Disables memory

During startup and after basing, a reset sequence of commands should be performed before any READs or WRITEs to memory are attempted.

Sequence of Reset Commands

1. RREG 18
2. RREG 01
3. WREG 18 01

The reset sequence performs a master reset to the entire board (by READing Register 18) and enables memory (by writing '1' to Register 18). **READ/WRITE MEMORY** commands now execute successfully.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

This reset sequence is not necessary if memory has already been enabled by some other means. Likewise, the sequence is not required when performing any of the internal diagnostic tests because each test automatically executes the reset sequence.

There are five commands that provide direct access to the 112X memory and registers: **WMEM**, **RMEM**, **WREG**, **RREG**, and **CONTINUE**. For these commands to execute properly, the board must be properly based. Because these commands may alter data bases, exercise commands with caution while other processes are accessing the 112X. In particular, the **RMEM** command is a powerful, non-invasive diagnostic tool which investigates and analyzes problems that can occur when other processes are using the 112X.

WMEM (WRITE MEMORY)

The **WMEM** command structure is shown below:

```
Diagnostics>WMEM  start address data value [end address]
```

The **WMEM** command allows the user to write to Dual Port on-board RAM locations on the 112X hardware. One memory address or a range of addresses is specified along with a particular data value. These memory locations are then filled with the specified data value. If the ending address is omitted, it is equal to the starting address.

The **WMEM** command places the data word specified in the value parameter in consecutive memory locations, beginning with the location specified by the start parameter and ending with the location specified by the end parameter.

EXAMPLE

The following command places the decimal value '72' into the memory address corresponding to the decimal value 45.

```
WMEM 45 72
```



NOTE: If the user enters hexadecimal values, each value must be preceded by a double quote: "1310.

EXAMPLE

The following command clears the 112X memory area from location 1200 *hex* through 12FF *hex*.

```
WMEM "1200 0 "12FF
```

Writing inappropriate values to 112X memory locations while the 112X hardware is running may cause a malfunction, possibly forcing the hardware into a "trap" state. Changing values in memory may also disturb data bases being used by other processes and cause the associated software to malfunction.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

RMEM (READ MEMORY)

The **RMEM** command is shown below:

```
Diagnostics>RMEM start address [end address]
```

The **RMEM** command allows the user to read the Dual Port On-board RAM found on the 112X PC-AT hardware.

The user specifies a relative word location address (start address) found on the hardware and the value at that location is displayed in hexadecimal form. Defining an ending address causes the memory locations between the two addresses to be displayed. If the end address is omitted, it is equal to the start address. The content of each location is displayed in the following format:

```
LOCATION:  address    :  value
```

For example, the command RMEM 41 45 may produce the display shown below. The **RMEM** command has no effect on the operation of the 112X and can be safely used while running other processes on the board.

EXAMPLE

```
Diagnostics>rmem 41 45
   location   0029  :     bada
   location   002a  :     1d67
   location   002b  :     d3e8
   location   002c  :     8b4b
   location   002d  :     badf
```

WREG (WRITE REGISTER)

The **WREG** command structure is shown below:

```
Diagnostics>WREG   register number  data value [register
number]
```

Register number is the decimal address of the register to be written to. The data value parameter contains the decimal value of the word to be written to the register.

The **WREG** command allows the user to write to any of the 112X on-board I/O registers. The user may specify that the command WRITE to just one register or to as many as twenty registers. All of the 112X on-board registers contain read/write capabilities.



NOTE: The function of each register should be known before reading or writing to it.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

RREG (READ REGISTER)

The **RREG** command structure is:

```
Diagnostics>RREG  register number [register number]
```

This **RREG** command allows the user to read any of the 112X on-board registers. The decimal value of just one register or of up to twenty registers can be displayed. All of the registers found on the 112X hardware are READ/WRITE registers, but each register definition must be referenced to correctly interpret values read from and written to the registers.



NOTE: The function of each register should be known before reading or writing to any of these registers.

EXAMPLE

```
Diagnostics>rreg 11 20
   register   11  :   ffff  BIT Start
   register   12  :   ffff  Reset Start
   register   13  :   ffff  RT Timer Reset
   register   14  :   ffff  Monitor Control
   register   15  :   ffff  Reserved
   register   16  :   ffff  Monitor Term Addr 0-15
   register   17  :   ffff  Monitor Term Addr 16-31
   register   18  :   ffff  Master Reset
   register   19  :   ffff  Interrupt Count
   register   20  :   ffff  Interrupt Count Autodecr
Diagnostics>
```

CONTINUE

With the **CONTINUE** command the user can repeat the four **READ/WRITE** commands (**WMEM, RMEM, WREG, RREG**). Enter the **CONTINUE** command before a **READ/WRITE** command. This causes the **READ/WRITE** command to execute continuously or until a 'Ctrl-C' is entered. After 'Ctrl-C', the command terminates and control returns to the Diagnostics command line prompt.



NOTE: This **CONTINUE** command applies only to **READ/WRITE** commands.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

EXAMPLE

```
Diagnostics>continue
Diagnostics>rmem 19
   location    0013   :   93e8
   location    0013   :   93e8
   location    0013   :   93e8
   location    0013   :   93e8
   location    0013   :   93e8
   location    0013   :   93e8
   location    0013   :   93e8
   location    0013   :   93e8
   location    0013   :   93e8
   location    0013   :   93e8
   location    0013   :   93e8
   location    0013   :^C

   location    0013   :   93e8
***** Abnormal Termination Specified *****

Diagnostics>
```

9.4 Operator Messages

Operator messages may be displayed by the Diagnostics software when certain situations are encountered. There are three categories of operator messages:

- Parameter message
- Status message
- Test message

9.4.1 Parameter Messages

Parameter messages appear when a command containing invalid parameter range or syntax is executed. These messages are defined in Table 9-4:

Table 9-4 Definitions of Parameter Messages

Parameter Message	Meaning
Parameter X is out of expected range	Parameters are not in the defined range.
Parameters have not been assigned	Entire parameter list has been discarded because some invalid item exists within the list.
Missing parameters	Parameters are required for the execution of the chosen command.
Register address extends beyond specified range	Register address input to the program is out of range.
Memory address extends beyond specified range	Memory address input to the program is out of range.
Missing data value to be written	A data value that is to be written to registers or memory must be entered.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

9.4.2 Status Messages

Current board status is provided when the Diagnostics program is invoked and when the user accesses boards that are not based or boards other than the current board. The displayed messages are defined in Table 9-5:

Table 9-5 Definitions of Status Messages

Status Message	Meaning
Initial board number is ___	Defines the initial board number, when the user first enters the Diagnostics program.
Boards must be based before access is permitted	Reminds the user that the **BASE** command must be executed before any other commands are executable.
Board X is now/not currently based	Indicates whether execution of the BASE command was successful.
Current board is now/still board X	Indicates the current board.
Boards currently based are ___	Lists the successfully based boards.
Hardware is not currently based	Informs the user that hardware must be based before using the Diagnostics program.

9.4.3 Test Messages

Information on tests the user can run is provided via the messages defined in Table 9-6

Table 9-6 Definitions of Test Messages

Test Message	Meaning
All tests disabled	Indicates the user has disabled all tests.
No tests enabled	Appears when the **RUN** command is executed with no tests enabled.
Invalid test value	Indicates that an invalid test value parameter was entered.
Current MAXERR value is ___	Indicates either the **MAXERR** assigned or default value (maximum number of errors allowed before halting the **RUN** execution command).
Current REPEAT value is ___	Indicates the current value of the **REPEAT** command.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

9.5 Error Messages

Diagnostics reports errors that may be encountered during execution of a particular test. If **DETAIL** is enabled, the error messages are reported in the manner described in this section. If **DETAIL** is disabled, only a running count of the errors is displayed. This section describes the detailed error messages for the four following tests:

- Memory Test
- Register Test
- Interrupt Test
- Built-In Self-Test

9.5.1 Memory Test

TEST 1 - TEST 7 — MEMORY TESTS

Each of the seven memory tests return an error message when a value in a memory location does not correspond to the expected value. The error message structure is illustrated below:

```
Test 1 - Memory Address Test

Location:  0001  Expected:  0001  Value read:  FFFF
Location:  0002  Expected:  0002  Value read:  FFFF
Location:  0003  Expected:  0003  Value read:  FFFF

   Error count:  3     Total errors:  3

Test 5 - Value AAAA Test

Location:  0001  Expected:  AAAA  Value read:  FFFF
Location:  0002  Expected:  AAAA  Value read:  FFFF
Location:  0003  Expected:  AAAA  Value read:  FFFF

   Error count:  3     Total errors:  6
```

9.5.2 Register Test

TEST 8 — REGISTER TEST

The Register Test tests both the internal and external registers as described in the test section. Test 8 reports errors in the following format when detailed error reporting is enabled:

```
Internal Registers Test

Register: 2     Expected: AAAA  Value read: 0404
Register: 4     Expected: AAAA  Value read: 0808
Register: 6     Expected: AAAA  Value read: 5555

External Registers Test

Interrupt packet status word: 0 not updated
Interrupt packet status word: 1 not updated
Interrupt packet status word: 2 not updated
```

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

9.5.3 Interrupt Test

TEST 9 — INTERRUPT TEST

The Interrupt Test displays errors in the following format:

```
Priority interrupt bit not set in status register
Standard interrupt bit not set in status register
Interrupt packet status word not updated
Priority interrupt handler not executing
Standard interrupt handler not executing
Standard interrupt counter register 19 not updated
   Error count: 6     Total errors: 6
```

9.5.4 Transceiver Built-In Test

TEST 10 — TRANSCEIVER BUILT-IN TEST

The Transceiver Built-In Test displays detailed error messages in the following format:

```
Sub-test 1 BUS A transceiver enabled
Register: 5     Expected: F403  Value read: 0A0A

Sub-test 1 BUS A transceiver disabled
Register: 5     Expected: F403  Value read: 0A0A

Sub-test 1 BUS A transceiver enabled
Register: 5     Expected: F413  Value read: 5555

Sub-test 1 BUS A transceiver disabled
Register: 5     Expected: F413  Value read: FE0A

Sub-test 2 BUS B transceiver enabled
Register: 5     Expected: F403  Value read: 0A0A

Sub-test 2 BUS B transceiver disabled
Register: 5     Expected: F403  Value read: 0A0A

Sub-test 2 BUS B transceiver enabled
Register: 5     Expected: F413  Value read: 5555

Sub-test 2 BUS B transceiver disabled
Register: 5     Expected: F413  Value read: FE0A

   Error count: 8    Total errors: 8
```

9.6 Commands

This section provides a summary of valid commands and their formats. Listed here are all of the executable commands for the Diagnostics software. Brackets indicate optional values.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

BASE	board memory register priority standard size partition
BOARD	(0-7)
CONTINUE	
DETAIL	
EXIT	
HELP	
MAXERR	[error limit]
NODETAIL	
PERFORM	filename
QUIT	
REPEAT	[iterations]
RESET	
RMEM	start address [end address]
RREG	register number [register number]
RUN	
TEST	[testnum] [testnum] ... [testnum]
VIEW	
WMEM	start address data value [end address]
WREG	register number data value [register number]

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

This page intentionally left blank

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

INDEX

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

A

Accessing the On-board Memory and Registers ... 8-1
Address/Next Buslist Instruction 3-4
Algorithms 8-14, 8-18

B

BASE 9-4, 9-5, 9-6, 9-7, 9-14
Base Memory Address 2-2
BC Functional Operation 5-7
BC-to-RT Transmit 5-7
Board 9-6
Board Specifications 1-3
Built-in Test 1-2, 3-3, 3-8, 3-15, 3-16, 9-1
Bus Controller Mode 5-1, 5-8, 8-3
Bus Monitor Example 8-32, 8-34

C

Command Block 3-3, 3-4, 3-5, 3-8, 3-9, 3-10, 5-1, 5-3, 5-4, 5-5, 5-6, 5-7, 5-8, 7-1, 7-2, 7-5, 7-6, 8-14
Command Block Linking 5-7
Command Word One 5-5, 7-4
Command Word Two 5-5, 7-4
Commands 5-1, 5-5, 5-6, 5-8, 9-3, 9-4, 9-6, 9-9
Continue 3-10, 5-3, 8-17, 9-12
Control Register (00) 7-5
Control Word ..... 3-10, 5-2, 5-3, 5-5, ... 5-7, 6-3, 6-7, 6-9, 7-6, 8-4
Control/Status Word 7-3
Creating the Interrupt Queue 8-1
Current Buslist Instruction Register 8-4, 8-5

D

Data List Pointer 5-7, 5-8, 6-4, 6-10
Data Pointer 7-4
DETAIL 9-6, 9-7
Direct Coupling 2-6
DTI-112X Board 1-3, 2-1, 2-2
Dynamic Bus Control 3-4, 3-8, 3-9, 3-11, 6-7

E

Error Messages 9-15
Error Messages 9-7
EXIT 9-4, 9-5, 9-6

H

Hardware Switches 2-1
Hardware-Selectable Switches 4-1
Hardware-Selectable Switches 2-1
Head Pointer 5-2
HELP 9-4, 9-5
High Priority Interrupt Enable Register (07) .. 4-1, 8-5
High Priority Interrupt Level 2-5, 2-6

I

Inhibit Terminal Flag Bit 6-7, 6-8
Initializing Data Buffers 8-15
Initializing Data to be Transacted 8-4, 8-12
Initializing the Monitor Command Blocks 8-14
Initiate Self-Test 3-6, 6-7
Input/ Output Register Address 2-3
Installing the DTI-112X Board 2-7
Intermessage Timing 5-1, 5-2
Interrupt Process 4-2
Interrupt Queue ..... 3-7, 3-17, 3-18, 4-1, 4-2, ... 4-3, 7-5, 8-1, 8-2, 8-5, 8-6, 8-12
Interrupt Queue Pointer Register (06) 4-1, 7-5
Interrupt Service Routine 4-2
Interrupt Test 9-1, 9-3, 9-8, 9-16
Interrupts in the Bus Controller Mode 5-8

J

J1 And J2 Connectors 2-7

L

Linking Command Blocks 5-6
Loading Bus Monitor Registers 8-15
Loading RT Registers 8-12

M

MAXERR 9-1, 9-6, 9-7, 9-8, 9-9, 9-14
Memory Access 8-1
Memory Enable/Disable 9-9
Memory Partition 2-4
Memory Test 9-1, 9-15
Memory/Register Access Commands 9-9
Message Status Pointer 6-4, 6-10
Message Status Word 6-5, 6-6
Mode Codes 3-15, 5-8, 6-7, 6-8, 8-11
Mode Commands in BC Mode 5-8
Monitor Terminal ..... 1-2, 3-13, 3-14, ... 3-15, 7-1, 7-2, 7-3, 7-4, 7-5, 7-6
Monitor Terminal Command Block 7-2
Monitor Terminal Command Block Pointers 7-2

N

NODETAIL 9-6, 9-7

O

On-board Dual Port Ram 2-1
On-board Dual Port RAM 1-1
Opening a Disk File 8-15
Operator Messages 9-13
Override Inhibit Terminal Flag Bit 6-7, 6-8
Override Selected Transmitter Shutdown 6-7, 6-8

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

P

Parameter Messages..... 9-13
PERFORM..... 9-6, 9-9
Polling Compare Register.....3-5, 5-4, 8-5
Post-Run Processing 7-6, 8-3, 8-5, 8-6, 8-12, 8-16

Q

QUIT.....9-4, 9-5, 9-6

R

Register 00 — Control..... 3-1
Register 01 — Status 3-3
Register 02 — Current Command Block..... 3-4
Register 03 — Polling Compare..... 3-5
Register 05 — Current Command or Last Valid Command Received 3-6
Register 06 — Interrupt Queue Pointer 3-7
Register 07 — High-Priority Interrupt Enable 3-7
Register 08 — High Priority Interrupt Status/Reset3-9
Register 09 — Standard Interrupt Enable..... 3-10
Register 10 — Remote Terminal Address 3-10
Register 11 — BIT Start..... 3-12
Register 12 — Reset Command 3-12
Register 13 — RT Timer Reset 3-13
Register 14 — Monitor Terminal Control 3-13
Register 15 — Reserved..... 3-14
Register 16 — Monitor Terminal 3-14
Register 19 — Interrupt Counter Read/Clear 3-17
Register 20 — Autodecrement Interrupt Counter 3-18
Register Test..... 9-1, 9-2, 9-8, 9-15
Remote Terminal Address Register..... 3-10, ... 3-11, 6-1, 6-7, 8-12
Remote Terminal Example 1 8-23
Remote Terminal Example 2 8-26
Remote Terminal Example 3 8-29
Remote Terminal Mode.....3-12, 6-1, 8-6
Remote Terminal Structure..... 6-2, 8-6
Remote Terminal Timer Reset Command Register8-12
REPEAT 9-1, 9-4, 9-6, 9-7, 9-9
RESET..... 3-3, 8-1, 9-4, 9-6, 9-7
Reset Remote Terminal 3-3, 3-12, 6-7, 6-8
RESET/CLEAR..... 8-1
RMEM.....9-10, 9-11, 9-12
RREG 9-9, 9-10, 9-12
RT Subaddress Block 6-1
RT(B)-to-RT(A) Transmit..... 5-8
RT-to-BC Transmit..... 5-8
RUN.....9-1, 9-6, 9-7, 9-8, 9-9, 9-14

S

Saving Data to Disk 8-16
Selected Transmitter Shutdown 6-7, 6-8
Software-Programmable Registers 4-1
Standard Interrupt Enable Register (09) ..... 4-1, ...6-3, 6-4, 8-5
Standard Priority Interrupt Level..... 2-5
Standard Priority Interrupt Queue ... 3-7, 4-1, 4-2, 4-3
Status Messages 9-14
Subaddress/Mode Code Response Blocks 8-6
Synchronize 6-7, 6-8, 8-26

T

TEST..... 3-16, 9-1, 9-6, 9-8
Test 1 — RAM Address Test 9-1
Test 10 —Transceiver Built-in Test 9-3
Test 2 — Walking 0's Test..... 9-2
Test 3 — Walking 1's Test..... 9-2
Test 4 — All Bits Test..... 9-2
Test 5 — Value AAAA Test..... 9-2
Test 6 — Value 5555 Test..... 9-2
Test 7 — Value 0000 Test..... 9-2
Test 8 — Register Test 9-2
Test 9 — Interrupt Test..... 9-3
Test Messages..... 9-14
Test Setup and Execution Commands 9-4, 9-6
Transceiver Built-in Test 3-15, 3-16, 9-3, 9-8, 9-16
Transceiver Built-in Test 3-15
transceiver built-in test word register 8-12
Transformer Coupling 2-6, 2-7
Transmit Bit Word.....6-8, 8-11
Transmit Last Command 6-7, 6-8
Transmit Status Word..... 6-7
Transmit Vector Word.....6-7, 6-8
Transmitter Shutdown 6-7, 6-8

U

Utility Commands..... 9-4

V

VIEW.....9-4, 9-6

W

WMEM.....9-4, 9-10, 9-12
Word Register..... 3-6
WREG 9-9, 9-10, 9-11, 9-12

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP