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 *Tektronix VX4101A* at our website: ***Click HERE***

Reference

Tektronix

VX4101A
Multipaq ™ Instrument

071-0050-00

This document applies to firmware version 2.00 and above.

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

Copyright © Tektronix, Inc. All rights reserved. Licensed software products are owned by Tektronix or its suppliers and are protected by United States copyright laws and international treaty provisions.

Use, duplication, or disclosure by the Government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.227-7013, or subparagraphs (c)(1) and (2) of the Commercial Computer Software – Restricted Rights clause at FAR 52.227-19, as applicable.

Tektronix products are covered by U.S. and foreign patents, issued and pending. Information in this publication supercedes that in all previously published material. Specifications and price change privileges reserved.

Printed in the U.S.A.

Tektronix, Inc., P.O. Box 1000, Wilsonville, OR 97070–1000

TEKTRONIX and TEK are registered trademarks of Tektronix, Inc.

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

Refer to sections in the *VX4101A Multipaq™ Instrument User Manual* for more information.

Setup

Be sure all switches are correctly set (see the *Controls and Indicators* section). Follow Installation guidelines (see the *Installation* section).

The default condition of the VX4101A Module after the completion of the power-on self test is listed in full under the *RST command in the *IEEE 488.2 Common Commands* section.

LEDs

The VX4101A has four LEDs visible on its front panel. These LEDs are labeled as follows:

Power	This LED is On if all six fuses for the six power buses are intact. Any single fuse being blown results in the LED turning OFF.
Fail LED	This LED is normally OFF. During power-on or reset self-test, the LED will be ON for the duration of the test. If the VX4101A detects a failure during normal operation, the LED will come ON and the SYSFAIL line on the backplane will be true.
Message	This LED flickers ON when the VX4101A is being addressed on the VME backplane by its commander
ERR	This LED is normally OFF. However, it may blink on and off to indicate error conditions. The most common reason is a command syntax error has been detected. Other error conditions that will cause the LED to blink are discussed elsewhere in this manual. Sending the “SYSTem:ERRor?” query to the instrument will return the cause of the error. When all errors in the queue have been retrieved, the error LED will return to the OFF state

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

Command Syntax

Command protocol and syntax for the VX4101A Module are described in full in the *Command Syntax* section.

- A command is a string of ASCII characters (255 max.) terminated by a <program message terminator>.
- Commands can be strung together by delimiting the individual commands with a semi-colon (;).
- All characters in a command may be sent in either upper or lower case form.
- Multiple data parameters are separated by a comma (,).
- White space characters exclude the <LF>. White space is allowed anywhere in a command string, except: within a program mnemonic; around a (:) separator; between a mnemonic and a (?); following an (*); within a number; within a list.
- A question mark (?) following a command indicates a response is to be returned. All responses from the module are terminated with the <LF>.

Numeric Value Formats: Fixed or floating-point formats are allowed (with no embedded spaces). All numbers are rounded to the nearest value appropriate for the particular command. If a sign is not specified, the number is assumed to be positive.

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

VX4101A Multipaq™ Instrument Commands

These SCPI commands control overall functions of theVX4101A.

ABORt Subsystem

Commands	ABORt[:COMPlete] ABORt[:IMMediate]

CALibrate Subsystem

Commands	CALibrate:ROSCillator :CLEar :MANual <frequency>

INSTrument Subsystem

Commands	INSTrument:NSELect <instrument id> INSTrument[:SELect] <instrument name>
Queries	INSTrument:CATalog? :FULL? :LONG? INSTrument:COUNt? INSTrument:NSELect? INSTrument[:SELect]?

OUTput Subsystem

Commands	OUTPut:EXTernal:SOURce <ext source> OUTPut:TTLTrg[<N>]:SOURce <trig source>
Queries	OUTPut:EXTernal:SOURce:CATalog? OUTPut:EXTernal:SOURce? OUTPut:TTLTrg[<N>]:SOURce? OUTPut:TTLTrg[<N>]:SOURce:CATalog?

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

SOURce Subsystem

Commands	SOURce:ROSCillator[:SOURce] <source> SOURce:ROSCillator:VALue <frequency>
Queries	SOURce:ROSCillator[:SOURce]? SOURce:ROSCillator:VALue?

SYStem Subsystem

Commands	SYSTem:LANGuage <language> SYSTem:RQUeue :QMODe <qmode> :SNUMber[:SET] <snumber> :SNUMber:STATe <state> SYSTem:TIMeout <timeout in seconds>
Queries	SYSTem:ERRor? SYSTem:LANGuage? SYSTem:OPTions?:DESCription <option code> SYSTem:READy? SYSTem:RQUeue? :QMODe :SNUMber[:SET]? :SNUMber:STATe? SYSTem:SNUMber? SYSTem:TIMeout? SYSTem:VERSion?

TRIGger Subsystem

Commands	TRIGger([:SEQuence1]|:STARt)[:LAYer]:FIRe <command trigger> TRIGger([:SEQuence1]|:STARt)[:LAYer]:TIMer <timer seconds>
Queries	TRIGger([:SEQuence1]|:STARt)[:LAYer]:TIMer?

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

Universal Counter Commands

ARM Subsystem

Commands

```
ARM([:SEQuence1]|:STARt)[:LAYer]
    :DELay <time delay>
    :ECOunt <event delay>
    :IMMediate
    :LEVel <threshold>
    :MODE <mode>
    :SLOPe <slope>
    :SOURce <source>
ARM(:SEQuence2|:STOP)[:LAYer]
    :DELay <time delay>
    :ECOunt <event delay>
    :IMMediate
    :SOURce <source>
```

Queries

```
ARM([:SEQuence1]|:STARt)[:LAYer]
    :DELay?
    :ECOunt?
    :LEVel?
    :MODE?
    :SLOPe?
    :SOURce?
        :CATalog[:ALL]?
          :DELayable?
          :FIXed?
ARM(:SEQuence2|:STOP)[:LAYer]
    :DELay?
    :ECOunt?
    :SOURce?
        :CATalog[:ALL]?
          :DELayable?
          :FIXed?
```


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

CALCulate Subsystem

Commands

CALCulate:LIMit

:ENVelope[:DATA] <threshold1>,<threshold2>
:LOWer[:DATA] <threshold>
:UPPer[:DATA] <threshold>

CALCulate:TRANsform:HISTogram:COUNt <numeric_value>
CALCulate:TRANsform:HISTogram:POINts <numeric_value>
CALCulate:TRANsform:HISTogram:RANGe <min>,<max>
CALCulate:TRANsform:HISTogram:RANGe:AUTO <ON|OFF>

Queries

CALCulate:AVERage?[<count>[,<offset>[,<step_size>]]]
CALCulate:LIMit

:ENVelope
:FCOunt?
:LOWer [DATA]?
:REPort [:DATA]?
:UPPER [DATA]

CALCulate:MEDian?[<count>[,<offset>[,<step_size>]]]
CALCulate:MINimum?[<count>[,<offset>[,<step_size>]]]
CALCulate:MAXimum?[<count>[,<offset>[,<step_size>]]]
CALCulate:SDEViation?[<count>[,<offset>[,<step_size>]]]
CALCulate:TRANsform:HISTogram?

:ABOVe?
:BELow?
:COUNt?
:POINts?
:RANGe?
:RANGe:AUTO?

CALCulate:VARiance?[<count>[,<offset>[,<step_size>]]]

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

CALibrate Subsystem

Commands	CALibrate:ARM[:VALue] <arm input voltage> CALibrate[<channel>] :DELay <cross channel specifications> :HYSTeresis :LFCOmp :LINearity :VALue <input voltage> :ZERO CALibrate:DTI CALibrate3:BIAS CALibrate[1|2|3]:ROSCillator <input frequency>

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

CONFigure Subsystem

Commands	CONFigure[1|2|3]([:SCALar]|:ARRay) :FREQuency[<array size>[,<expected value>[,resolution>]]] :FREQuency:RATio[<array size>[,<expected value>[,resolution>]]] :PERiod[<array size>[,<expected value>[,resolution>]]] CONFigure[1|2]([:SCALar]|:ARRay) :NDUTy cycle|PDUTCycle|DCYCle [<array size>[,<dcycle reference>[,<expected value>[,resolution>]]] :NWIDth|PWIDth [<array size>[,<pwidth reference>[,<expected value>[,resolution>]]] :PHASe [<array size>[,<expected value>[,resolution>]]] :RTIMe|FTIMe|RISE:TIME|FALL:TIME [<array size>[,<low reference>[,<high reference> [,<expected value>[,resolution>]]]]] :TINTerval [<array size>[,<expected value>[,resolution>]]] [:VOLTage] :AC [<array size>[,<expected value>[,resolution>]]] :DC [<array size>[,<expected value>[,resolution>]]] :MINimum [<array size>[,<expected value>[,resolution>]]] :MAXimum [<array size>[,<expected value>[,resolution>]]] :PTPeak [<array size>[,<expected value>[,resolution>]]] CONFigure[1|2|11|12|21|22]([:SCALar]|:ARRay) :TINTerval:DELay:TIME|EVENts[<array size>[,<delay time>|<delay events>[,<expected value>[,resolution>]]]] CONFigure[1|2|10|20]([:SCALar]|:ARRay) :TOTalize ***NOTE:*** *If you specify SCALar in the command, <array size> is not a valid parameter. If ARRay is specified, <array size> is a required parameter.*
Queries	CONFigure?

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

FETCh? Subsystem

Queries	FETCh[:...]?
	:DCYCle?
	:FALL:TIME?
	:FREQuency?
	:FREQuency:RATio?
	:FTIMe?[<count>
	:NDUTycycle?
	:PDUTycycle?
	:NWIDth?
	:PWIDth?
	:PHASe?
	:PERiod?
	:RISE:TIME?
	:RTIMe?
	:TINTerval?
	:TINTerval:DELay?
	FETCh:COUNt?
	FETCh:TOTalize?
	FETCh[:VOLTage][:...]?
	:AC?
	:DC?
	:MINimum?
	:MAXimum?
	:PTPeak?

INITiate Subsystem

Commands	INITiate[:IMMediate]
	INITiate:CONTinuous [ON]|OFF|0|1
Queries	INITiate:CONTinuous?

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

INPut Subsystem

Commands

```
INPut[1|2]
    :ATTenuation <attenuation>|DEFault|MINimum|MAXimum
    :COMParator[1|2]:LEVel
        [:ABSolute] <absolute level>|DEFault|MINimum|MAXimum
        :RELative <relative level>
    :HYSTeresis
        [:ABSolute] <absolute level>|DEFault|MINimum|MAXimum
        :RELative <relative level>
    :SLOPe<slope>
INPut[1|2]:COUPling <coupling>
INPut[1|2]:FILTer[:LPASs]
        :FREQuency<frequency>|DEFault|MINimum|MAXimum
        [:STATe]<filter state>
        :GAIN<gain>|DEFault|MINimum|MAXimum
        :IMPedance<impedance>|DEFault
        :OFFSet
          [:ABSolute]<absolute offset>|DEFault|MINimum|MAXimum
           :RELative<relative offset>
        :SETup<expected ptp>[,<expected offset>]
INPut:SETup:AUTO <auto>
```

Queries

```
INPut[1|2]
    :ATTenuation?[DEFault|MINimum|MAXimum]
    :COMParator[1|2]:LEVel
        :LEVEL
          [:ABSolute]?[DEFault|MINimum|MAXimum]
           :RELative?
    :HYSTeresis
        [:ABSolute]?[DEFault|MINimum|MAXimum]
        :RELative?
        :COUPling?[DEFault]
        :IMPedance?[DEFault]
        :FILTer[:LPASs]
        :FREQuency?[MINimum|MAXimum|DEFault][:STATe]?[DE-
        Fault]
        :GAIN?[DEFault|MINimum|MAXimum]
        :OFFSet[:ABSolute]?[MINimum|MAXimum|DEFault]:RELative?
INPut:SETup:AUTO?[DEFault]
```


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

INSTrument Subsystem

Commands

```
INSTrument
    :ABORt
    :RESet
```

MEASure? Subsystem

Queries

```
MEASure[1|2|3]([:SCALar]|:ARRay)
    :FREQuency? [<array size>[,<expected value>[,resolution>]]]
    :FREQuency:RATio? [<array size>[,<second channel>[,<expected value>[,resolution>]]]]
    :PERiod? [<array size>[,<expected value>[,resolution>]]]
MEASure[1|2]([:SCALar]|:ARRay)
    :NDUTycycle|PDUTycycle|DCYCle? [<array size>[,<reference>[,<expected value>[,resolution>]]]]
    :NWIDth|PWIDth? [<array size>[,<reference>[,<expected value>[,resolution>]]]]
    :PHASe? [<array size>[,<expected value>[,resolution>]]]
    :RTIMe|FTIMe|RISE:TIME|FALL:TIME? [<array size>[,<low reference>[,<high reference> [,<expected value>[,resolution>]]]]]
    :TINTerval? [<array size>[,<expected value>[,resolution>]]]
    [:VOLTage]
        :AC? [<array size>[,<expected value>[,resolution>]]]
        :DC? [<array size>[,<expected value>[,resolution>]]]
        :MINimum? [<array size>[,<expected value>[,resolution>]]]
        :MAXimum? [<array size>[,<expected value>[,resolution>]]]
        :PTPeak? [<array size>[,<expected value>[,resolution>]]]
MEASure[1|2|11|12|21|22]([:SCALar]|:ARRay)
    :TINTerval:DELay:TIME|EVENts? [<array size>[,<delay time>|<delay events>[,<expected value>[,resolution>]]]]
MEASure[1|2|10|20]([:SCALar]|:ARRay)
    :TOTalize?
```

NOTE: *If SCALar is specified, the <array size is not valid. If ARRay is specified, <array size> is a required parameter.*

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

OUTPut Subsystem

Commands	OUTPut:TRIGger:SOURce <channel>,<count>
Queries	OUTPut:TRIGger:SOURce?

READ? Subsystem

Queries	READ?

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

SENSe Subsystem

Commands	SENSE:APERture <time>|DEFault|MINimum|MAXimum SENSe:COUNt <array size>|DEFault|MINimum|MAXimum SENSe:MODe <mode> SENSe:EVENts <# of events> SENSe[1|2|3]:FUNCtion "TOTALize" "FREQuency" "FREQuency:RATio<second channel> "PERiod" SENSe[1,2]:FUNCtion "DCYCle" "FALL:TIME" "FTIMe" "NDUTycycle" "NWIDth" "PDUTycycle" "PHASe" "PWIDth" "RISE:TIME" "RTIMe" "TINTerval" "VOLTage:AC" "VOLTage:DC" "VOLTage:MINimum" "VOLTage:MAXimum" "VOLTage:PTPeak" SENSe[1|2|11|12|21|22]:FUNCtion "TINTerval:DELay:TIME" "TINTerval:DELay:EVENts" SENSe[1|2|10|20]:FUNCtion"TOTalize" SENSe:TINTerval:DELay:EVENts <events>|MINimum|MAXimum|DEFault SENSE:TINTerval:DELay:TIME <time>|DEFault|MINimum|MAXimum
Queries	SENSe:APERture?[DEFault|MINimum|MAXimum] SENSe:COUNt?[DEFault|MINimum|MAXimum] SENSe:EVENts?[DEFault|MINimum|MAXimum] SENSe:MODe?[DEFault] SENSe[1|2|3]:FUNCtion? SENSe:TINTerval:DELay:EVENts?[DEFault]|MINimum]|MAXimum]

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

SOURce Subsystem

Commands	SOURce:COSCillator[:SOURce] <source>
Queries	SOURce:COSCillator[:SOURce]? SOURce:COSCillator:VALue?

STATus Subsystem

Queries	STATus:OPERation:CONDition?

TEST Subsystem

Queries	TEST:ALL?

UNIT Subsystem

Commands	UNIT:ANGLeDEGree|RADian[,MINimum|CENTer|AUTo]
Queries	UNIT:ANGLe?

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

Digital Input Commands

CALibration Subsystem

Commands	CALibration:VALue <cal value>

CONFigure Subsystem

Commands	CONFigure[:SCALar] :DIGLobal [:NORMal] <voltage_threshold> :INVerted <voltage_threshold> :DIPort [:NORMal] <voltage_threshold>,<numeric_port_list> :INVerted <voltage_threshold>,<numeric_port_list> :DIBit [:NORMal] <voltage_threshold>,<channel_bit_list> :INVerted <voltage_threshold>,<channel_bit_list> CONFigure[:ARRay] :DIGLobal [:NORMal] <repetitions>,<voltage_threshold> :INVerted <repetitions>,<voltage_threshold> :DIPort [:NORMal] <repetitions>,<voltage_threshold>,numeric_port_list> :INVerted <repetitions>,<voltage_threshold>,numeric_port_list> :DIBit [:NORMal] <repetitions>,<voltage_threshold>,<channel_bit_list> :INVerted <repetitions>,<voltage_threshold>,channel_bit_list>
Queries	CONFigure?

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

FETch? Subsystem

Queries	FETCh?[<count>[<offset>[,<step_size>]]] FETCh:COUNt?

FORMat Subsystem

Commands	FORMat[:DATA] <format>
Queries	FORMat[:DATA]?

INITiate Subsystem

Commands	INITiate:[IMMediate] <control>

INSTrument Subsystem

Commands	INSTrument:ABORt[IMMediate] INSTrument:RESet

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

MEASure? Subsystem

Queries	MEASure[:SCALar] :DIGLobal [:NORMal]? <voltage_threshold> :INVerted? <voltage_threshold> :DIPort [:NORMal]? <voltage_threshold>,<numeric_port_list> :INVerted? <voltage_threshold>,<numeric_port_list> :DIBit [:NORMal]? <voltage_threshold>,<numeric_port_list> :INVerted? <voltage_threshold>,<numeric_port_list> MEASure[:ARRay] :DIGLobal [:NORMal]? <repetitions>,<voltage_threshold> :INVerted? <repetitions>,<voltage_threshold> :DIPort [:NORMal]? <repetitions>,<voltage_threshold>,<numeric_port_list> :INVerted? <repetitions>,<voltage_threshold>,<numeric_port_list> :DIBit [:NORMal]? <repetitions>,<voltage_threshold>,<channel_bit_list> :INVerted? <repetitions>,<voltage_threshold>,<channel_bit_list>

READ? Subsystem

Queries	READ?

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

SENSe Subsystem

Commands	SENSe:ARRay <array size> SENSe:MODE <mode> SENSe:PSELect :DIBit [:NORMal] <ENABle|DISable>,<channel_bit_list>|<numerical_bit_mask> :INVerted <ENABle|DISable>,<channel_bit_list>|<numerical_bit_mask> :DIGLobal [:NORMal] <ENABle|DISable> :INVerted <ENABle|DISable> :DIPort [:NORMal] <ENABle|DISable>,<port list> :INVerted <ENABle|DISable>,<port list> SENSe:SRATe <sample rate> SENSe:THReshold <voltage_threshold>
Queries	SENSe:ARRay? SENSe:MODE? SENSe:PSELect? SENSe:SRATe? SENSe:THReshold?

STATus Subsystem

Queries	STATus:OPERation:CONDition?

TEST Subsystem

Queries	TEST:ALL?

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

TRIGger Subsystem

Commands	TRIGger:MASK <mask> TRIGger:MATCh <pattern> TRIGger([:SEQuence1]|:STARt)[:LAYer]:DELay <time delay> TRIGger([:SEQuence1]|:STARt)[:LAYer]:ECOunt <event delay> TRIGger([:SEQuence1]|:STARt)[:LAYer]:HANDshake:POLarity :REQuestNORMal|INVerted <polarity> :STRobeNORMal|INVerted <polarity> TRIGger([:SEQuence1]|:STARt)[:LAYer]:IMMediate TRIGger([:SEQuence1]|:STARt)[:LAYer]:MODE <mode> TRIGger([:SEQuence1]|:STARt)[:LAYer]:SOURce <source>
Queries	TRIGger:MASK? TRIGger:MATCh? TRIGger([:SEQuence1]|:STARt)[:LAYer]:DELay? TRIGger([:SEQuence1]|:STARt)[:LAYer]:ECOunt? TRIGger([:SEQuence1]|:STARt)[:LAYer]:HANDshake:POLarity :REQuest? :STRobe? TRIGger([:SEQuence1]|:STARt)[:LAYer]:MODE? TRIGger([:SEQuence1]|:STARt)[:LAYer]:SOURce? TRIGger([:SEQuence1]|:STARt)[:LAYer]:SOURce:CATAlog[ALL]? TRIGger([:SEQuence1]|:STARt)[:LAYer]:SOURce:CATalog:DELayable? TRIGger([:SEQuence1]|:STARt)[:LAYer]:SOURce:CATalog:FIXed?

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

Digital Output Commands

FORMat Subsystem

Commands	FORMat[:DATA]<format>
Queries	FORMat [:DATA]?

INITiate Subsystem

Commands	INITiate :CONTinuous <control> [:IMMediate]
Queries	INITiate:CONTinuous?

INSTrument Subsystem

Commands	INSTrument:ABORt ([IMMediate]|:COMPlete INSTrument:RESet

OUTPut Subsystem

Commands	OUTPut:LEVel <voltage level> OUTPut:TRIGger:SOURce <source>
Queries	OUTPut:LEVel? OUTPut:TRIGger:SOURce?

STATus? Subsystem

Queries	STATus:OPERation:CONDition?

TEST Subsystem

Queries	TEST:ALL?

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

TRACe Subsystem

Commands	TRACe:CLEar TRACe[:DATA]<indices>{,<ascii hex_data>} TRACe|DATA[:DATA] <index>,{,ascii_hex_data, indefinite_binary_data} TRACe:POINts <number_of_points> TRACe:RFRequency <frequency> TRACe:RPERiod <repeat_period> TRACe:SRATe <sample_rate>
Queries	TRACe[:DATA]? <numeric_list> TRACe:INDice? TRACe:POINts? TRACe:RFRequency? TRACe:RPERiod? TRACe:SRATe?

TRIGger Subsystem

Commands	TRIGger([:SEQuence1]|:STARt)[:LAYer]:DELay <time delay> TRIGger([:SEQuence1]|:STARt)[:LAYer]:ECOunt <event delay> TRIGger([:SEQuence1]|:STARt)[:LAYer]:HANDshake:POLarity :REQuest <polarity> :STRobe <polarity> TRIGger([:SEQuence1]|:STARt)[:LAYer]:IMMediate TRIGger([:SEQuence1]|:STARt)[:LAYer]:MODE <mode> TRIGger([:SEQuence1]|:STARt)[:LAYer]:SOURce <source>
Queries	TRIGger([:SEQuence1]|:STARt)[:LAYer]:DELay? TRIGger([:SEQuence1]|:STARt)[:LAYer]:ECOunt? TRIGger([:SEQuence1]|:STARt)[:LAYer]:HANDshake:POLarity :REQuest? :STRobe? TRIGger([:SEQuence1]|:STARt)[:LAYer]:MODE? TRIGger([:SEQuence1]|:STARt)[:LAYer]:SOURce? TRIGger([:SEQuence1]|:STARt)[:LAYer]:SOURce:CATAlog[ALL]? TRIGger([:SEQuence1]|:STARt)[:LAYer]:SOURce:CATalog:DELayable? TRIGger([:SEQuence1]|:STARt)[:LAYer]:SOURce:CATalog:FIXed?

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

Digital to Analog Converter (DAC) Commands

CALibrate Subsystem

Commands	CALibrate[<channel>]:OUTput <channel > CALibrate[<channel>]:VALue <channel><DVM reading> CALibrate[<channel>]:SAVE

FORMat Subsystem

Commands	FORMat[:DATA] <format>
Queries	FORMat[:DATA]?

INITiate Subsystem

Commands	INITiate :CONTinuous[0|OFF|1|ON] [:IMMediate]
Queries	INITiate:CONTinuous?

INSTrument Subsystem

Commands	INSTrument:ABORt ([:IMMediate]|COMPlete) INSTrument:RESet

OUTPut Subsystem

Commands	OUTPut:TRIGger:SOURce <trigger source>
Queries	OUTPut:TRIGger:SOURce?

STATus? Subsystem

Queries	STATus:OPERation:CONDition?

TEST Subsystem

Queries	TEST:ALL?

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

TRACe Subsystem

Commands	TRACe:Clear TRACe|DATA[:DATA] <Channel>,<index>{,ASCII Trace Voltages|BINary Indefinite Block TRACe Voltages>} <Channel>,<Numeric List of Indices>{,<ASCII Trace Voltages>} TRACe:POINts<Trace Buffer Points> TRACe:RFRequency<repeat frequency|OFF> TRACe:RPERiod<repeat period|OFF> TRACe:SRATe<sample_rate>
Queries	TRACE|DATA[:DATA]?<Channel Select>|<Numeric List of Indices> TRACe:INDice? TRACe:POINts? TRACe:RFRequency? TRACe:RPERiod? TRACe:SRATe?

TRIGger Subsystem

Commands	TRIGger:COUNt <count> TRIGger([:SEQuence1]|:STARt)[:LAYer]:DELay <time delay> TRIGger([:SEQuence1]|:STARt)[:LAYer]:ECOunt <event delay> TRIGger([:SEQuence1]|:STARt)[:LAYer]:HANDshake:POLarity :REQuest <polarity> :STRobe <polarity> TRIGger([:SEQuence1]|:STARt)[:LAYer]:IMMediate TRIGger([:SEQuence1]|:STARt)[:LAYer]:MODE <mode> TRIGger([:SEQuence1]|:STARt)[:LAYer]:SOURce <source>
Queries	TRIGger:COUNt? TRIGger([:SEQuence1]|:STARt)[:LAYer]:DELay? TRIGger([:SEQuence1]|:STARt)[:LAYer]:ECOunt? TRIGger([:SEQuence1]|:STARt)[:LAYer]:HANDshake:POLarity :REQuest? :STRobe? TRIGger([:SEQuence1]|:STARt)[:LAYer]:MODE? TRIGger([:SEQuence1]|:STARt)[:LAYer]:SOURce? TRIGger([:SEQuence1]|:STARt)[:LAYer]:SOURce:CATAlog[ALL]? TRIGger([:SEQuence1]|:STARt)[:LAYer]:SOURce:CATalog:DELayable? TRIGger([:SEQuence1]|:STARt)[:LAYer]:SOURce:CATalog:FIXed?

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

VXI:FDC Subsystem

Commands	VXI[:SERVant]:FDC:CLOSe[<channel number>] VXI[:SERVant]:FDC:OPEN <channel mode>[,<channel number>] VXI[:SERVant]:FDC:SEL <channel number> VXI[:SERVant]:FDC:BUFFer <buffer length>,[,<channel number>]
Queries	VXI[:SERVant]:FDC? VXI[:SERVant]:FDC:CONFiguration?[<channel number>] VXI[:SERVant]:FDC:SEL? VXI[:SERVant]:FDC:BUFFer?[<channel number>]

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

Digital Multimeter (DMM) Commands

CALCulate Subsystem

Commands

CALCulate:LIMit
:ENVelope[:DATA] <threshold1>,<threshold2>
:LOWer[:DATA] <threshold>
:REPort[:DATA]
:UPPer[:DATA] <threshold>

CALCulate:TRANsform:HISTogram:COUNt <numeric_value>
CALCulate:TRANsform:HISTogram:POINts <numeric_value>
CALCulate:TRANsform:HISTogram:RANGe <min>.<max>
CALCulate:TRANsform:HISTogram:RANGe:AUTO <ON|OFF>

Queries

CALCulate:AVERage? [<count>[,<offset>[,<step_size>]]]
CALCulate:LIMit:ENVelope[:DATA]
CALCulate:LIMit:FCOunt?
CALCulate:LIMit:LOWer[:DATA]?
CALCulate:LIMit:REPort[:DATA]?
CALCulate:LIMit:UPPer[:DATA]?
CALCulate:MEDian?[<count>[,<offset>[,<step_size>]]]
CALCulate:MINimum?[<count>[,<offset>[,<step_size>]]]
CALCulate:MAXimum?[<count>[,<offset>[,<step_size>]]]
CALCulate:SDEViation?[<count>[,<offset>[,<step_size>]]]
CALCulate:TRANsform:HISTogram?
:ABOVe?
:BELow?
:COUNt?
:POINts?
:RANGe?
:RANGe:AUTO?

CALCulate:VARiance?[<count>[,<offset>[,<step_size>]]]

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

CALibrate Subsystem

Commands	CALibrate:LFRequency <line frequency> CALibrate:VALue <frequency> CALibrate:ZERO:AUTO <auto>
Queries	CALibrate:LFREquency? CALibrate:ZERO:AUTO?

CONFigure Subsystem

Commands	CONFigure([:SCALar]|:ARRay)[:...] [:VOLTage] :AC [<array size>[,<Expected Value>[,<Resolution>]]] :ACDC [<array size>[,<Expected Value>[,<Resolution>]]] :DC [<array size>[,<Expected Value>[,<Resolution>]]] :CURRent [:DC][<array size>[,<Expected Value>[,<Resolution>]]] :RESistance [<array size>[,<Expected Value>[,<Resolution>]]] :FRESistance [<array size>[,<Expected Value>[,<Resolution>]]]
Queries	CONFigure?

FETCh? Subsystem

Queries	FETCh? [<Count>[,<Offset>[,<Step Size>]]] FETCh:COUNt?

INITiate Subsystem

Commands	INITiate[:IMMediate] INITiate:CONTinuous [<Boolean>]
Queries	INITiate:CONTinuous?

INPut Subsystem

Commands	INPut:IMPedance <Impedance>
Queries	INPut:IMPedance?

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

INSTrument Subsystem

Commands	INSTrument:ABORt INSTrument:RESet

MEASure? Subsystem

Queries	MEASure([:SCALar]|:ARRay) [:VOLTage] :AC? [<Array Size>[,<Expected Value>[,<Resolution>]]] :ACDC? [<Array Size>[,<Expected Value>[,<Resolution>]]] [:DC]? [<Array Size>[,<Expected Value>[,<Resolution>]]] :CURRent[:DC]? [<Array Size>[,<Expected Value>[,<Resolution>]]] :RESistance? [<Array Size>[,<Expected Value>[,<Resolution>]]] :FRESistance? [<Array Size>[,<Expected Value>[,<Resolution>]]] ***NOTE:*** *If SCALar is specified, the <array size is not valid. If ARRay is specified, <array size> is a required parameter.*

READ? Subsystem

Queries	READ?

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

SENSe Subsystem

Commands

SENSe:BANDwidth:DETector <expected frequency>|DEFault|MINimum|MAXimum

SENSe:FUNCtion <Measurement Function>

SENSe:VOLTage

- [:DC]
- :AC
- :ACDC
  - :RANGe[:UPPer] <Input Voltage Range>
  - :AUTO <auto>
  - :APERture <Aperture Value>
  - :RPSecond <Readings/Second>
  - :NPLCycles <Number of Power Line Cycles>
  - :RESolution <Expected Resolution>
  - :COUNt <Array Size>

SENSe:CURRent[:DC]

- :RANGe[:UPPer] <Input Current Range>
- :AUTO <auto>
- :APERture <Aperture Value>
- :RPSecond <Readings/Second>
- :NPLCycles <Number of Power Line Cycles>
- :RESolution <Expected Resolution>
- :COUNt <Array Size>

SENSe:[RESistance|:FRESistance]

- :RANGe[:UPPer] <Input Resistance Range>
- :AUTO <Boolean|ONCE>
- :APERture <Aperture Value>
- :RPSecond <Readings/Second>
- :NPLCycles <Number of Power Line Cycles>
- :RESolution <Expected Resolution>
- :COUNt <Array Size>

Queries

SENSe[...]?
SENSe:BANDwidth:DETector?

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

STATus? Subsystem

Commands	STATUS:OPERation:CONDition?

TEST Subsystem

Commands	TEST:ALL?

STATus? Subsystem

Commands	STATUS:OPERation:CONDition?

TRIGger Subsystem

Commands	TRIGger([:SEQuence1]|:STARt)[:LAYer]:DELay <time delay> TRIGger([:SEQuence1]|:STARt)[:LAYer]:ECOunt <event delay> TRIGger([:SEQuence1]|:STARt)[:LAYer]:HANDshake:POLarity :REQuest NORMal|INVerted <polarity> :STRobe NORMal|INVerted <polarity> TRIGger([:SEQuence1]|:STARt)[:LAYer]:IMMediate TRIGger([:SEQuence1]|:STARt)[:LAYer]:MODE <mode> TRIGger([:SEQuence1]|:STARt)[:LAYer]:SOURce <source>
Queries	TRIGger([:SEQuence1]|:STARt)[:LAYer]:DELay? TRIGger([:SEQuence1]|:STARt)[:LAYer]:ECOunt? TRIGger([:SEQuence1]|:STARt)[:LAYer]:HANDshake:POLarity :REQuest? :STRobe? TRIGger([:SEQuence1]|:STARt)[:LAYer]:MODE? TRIGger([:SEQuence1]|:STARt)[:LAYer]:SOURce? TRIGger([:SEQuence1]|:STARt)[:LAYer]:SOURce:CATAlog[ALL]? TRIGger([:SEQuence1]|:STARt)[:LAYer]:SOURce:CATalog:DELayable? TRIGger([:SEQuence1]|:STARt)[:LAYer]:SOURce:CATalog:FIXed?

VXI:FDC Subsystem

Commands	VXI[:SERVant]:FDC:SEL <channel number> VXI[:SERVant]:FDC:CLOSe [<channel number>] VXI[:SERVant]:FDC:OPEN <channel mode>[,<channel number>]
Queries	VXI[:SERVant]:FDC:SEL? <channel number>

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

Relay Driver Commands

ROUTe Subsystem

Commands	[ROUTe:]CLOSe <channel list>
	[ROUTe:]OPEN <channel list>
Queries	[ROUTe]:CLOSe:STATe?

STATus Subsystem

Queries	STATus:OPERation:CONDition?

SurePath™ Commands

INITiate Subsystem

Commands	INITiate
	:CONTinuous [0|OFF|1|ON]
	[:IMMediate]
Queries	INITiate:CONTinuous?

INSTrument Subsystem

Commands	INSTrument:ABORt
	INSTrument:RESet

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

ROUTe Subsystem

Commands	[ROUTe:]CLOSe <channel list> :DWELl :MODE <mode>,<module_name>,<section_list> [ROUTe:]CONFiqure <configuration>,<module_name>,<section_list> :DISJoin <module name> :JOIN <module_name>,<section_list> [ROUTe:]MODule :DELete[:NAME] <module_name> :DELete:ALL [:DEFine] <module_name>,<nrf> [ROUTe:]OPEN :ALL[module_name] :DWELl <channel_list> [ROUTe:]PFAil <action_at_powefail> [ROUTe:]SCAN <channel_list> :RATE <scan_rate>,<module_name>
Queries	[ROUTe:]CLOSe? <channel_list> [ROUTe:]ID? [ROUTe:]MODule[:DEFine]?<module_name [ROUTe:]OPEN? <channel_list> [ROUTe:MODule:CATalog? [ROUTe:MODule:CATalog:SUPPorted?

STATus Subsystem

Queries	STATus:OPERation:CONDition?

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

TRIGger Subsystem

Commands	TRIGger([:SEQuence]|:STARt)[:LAYer] :DELay <delay in seconds> :COUNt <count> :ECOunt <triggers to count> :IMMediate :SOURce <source>
Queries	TRIGger([:SEQuence1]|:STARt)[:LAYer] :COUNt? :DELay? :ECOunt? :MODE? :SOURce? :CATalog[:ALL]? :CATalog:DELayable? :CATalog:FIXed?

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

IEEE 488.2 Commands

These commands are described in full in the *IEEE 488.2 Common Commands* section.

*CAL?	Calibration Query; returns the state of the calibration routine.
*CLS	Clear Status; This commands clears the Event Status Register (ESR) and any pending Service Requests (SRQs).
*ESE <mask>	Event Status Enable (ESE) command; defines the mask for event status reporting.
*ESE?	Event Status Enable (ESE) query; returns the value of the Event Status Enable register.
*ESR?	Event Status Register (ESR) query; returns the value of the Event Status Register.
*IDN?	Identification Query; Returns a four field response.
*OPC	Operation Complete command; controls setting the OPC bit in the ESR.
*OPC?	Operation Complete query; puts a 1 in the output queue when all pending operations have been completed.
*RST	Reset; Resets the module to its power on state.
*SRE	Service Request Enable (SRE) register; defines the mask for generating VXI Request True interrupts.
*SRE?	Service Request Enable (SRE) query; returns the value of the Service Request Enable register.
*STB?	Status Byte (SB) query; returns the value of the status byte register.
*TST	Execute self test.
*TST?	Returns a summary of the self test results.
*WAI	Wait to Continue; suspends command processing until all pending operations have been completed.

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

STATus and Event Commands

The VX4101A Status commands provide status information on all instruments.

Commands	STATus:PRESet STATus:OPERation :ENABle :NTRansition :PTRansition STATus:QUEue :ENABle <numeric list> STATus:QUEStionable :ENABle :NTRansition
Queries	STATus:PRESet STATus:OPERation :PTRansition STATus:QUEue :ENABle? [:NEXT]? STATus:QUEStionable [:EVENt]? :CONDition? :ENABle? :NTRansition? :PTRansition?

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