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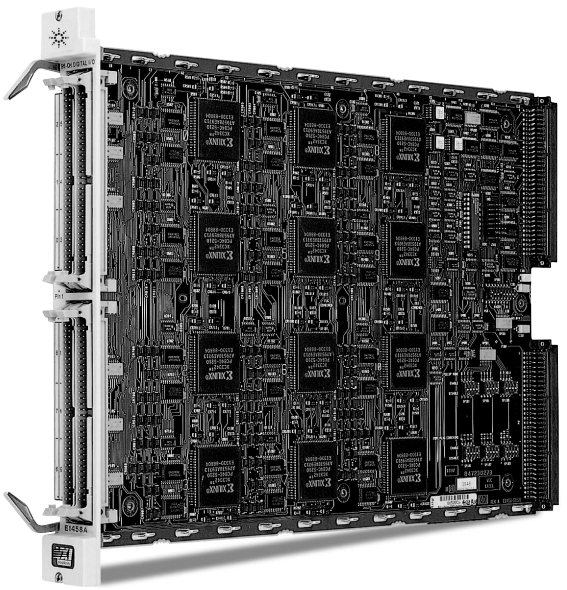
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Find the *Keysight / Agilent E1458A* at our website: ***Click HERE***

Agilent E1458A
96-Channel Digital I/O

Data Sheet

- **1-Slot, C-size, register based**
- **Twelve 8-bit input or output data ports for acquisition**
- **Wide variety of output data types**
- **Data port readback on a per-port basis**
- **Control of interface driver tri-state capability**
- **Block mode transfer to/from memory**



Agilent E1458A

Description

The Agilent Technologies E1458A 96-Channel Digital Input/Output module is a **C-size, 1-slot, register-based VXI module** that offers twelve 8-bit bi-directional data ports. It provides block memory transfers and six GPIO handshake protocols (none, leading edge, trailing edge, pulse, partial, and strobe) for a wide range of applications.

Functionally similar to the E1330B, the E1458A is intended for digital I/O control applications such as digital subassembly test or data acquisition and control. Each of the 12 identical ports consists of eight data lines and six handshake/control lines.

Each 8-bit port is individually configured for positive/negative true logic and read/write or tri-state condition. The E1458A is arranged into three banks of four ports each. Ports can be combined within a bank, allowing data transmission using bytes, words (16-bit), or long words (32-bit). Data transmission can be from a single port (8 bits) or from multiple ports up to all 12 ports.

Refer to the Agilent Technologies Website for instrument driver availability and downloading instructions, as well as for recent product updates, if applicable.

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Handshake and Control Lines

Three handshake and control lines for each port can be controlled with SCPI programming. These lines provide the following functions:
FLAG: Data handshaking line input to the digital I/O module
CTL: Data handshaking line output by the digital I/O module
I/O: Input/output status line

Each port has three additional control lines available for custom handshaking and interrupt functions: **PIR** (peripheral interrupt), /**RES** (peripheral reset), and **STS** (status). Control of these three lines is done through register-based programming.

Cables

The E1458A ships with four 2-meter cables. For ordering each additional 2-meter cable, order Agilent part number E1458-61601. An Opto 22 component cable may be ordered separately as Option 022.

SCPI

The E1458A SCPI command set is a superset of the E1330B, allowing existing SCPI application programs to run on the E1458A. The E1458A SCPI command set supports additional queries to read back port data and control values, plus new E1458A capabilities, including monitoring of actual output port data. The E1458A driver is supported on all C-SCPI/I-SCPI platforms and also as a downloadable driver for the Agilent E1406A command modules.

Product Specifications

General	
Number of channels:	96
Channel type:	Input or Output
Output or input type:	TTL
Memory:	none
Max. pattern rate:	n/a
32-bit block transfer:	325 Kb/s
Test synchronization:	Software triggers, hardware handshaking
Logic Levels:	TTL compatible, 5 V maximum
Data Lines	
Output characteristics:	
I_{out} (High):	–5.2 mA @ Vout = 2.5 V (pull-up enabled)
I_{out} (Low):	48 mA @ Vout = 0.5 V
Input characteristics:	
I_{in} (High):	<2.5 mA @ Vin = 2.5 V
I_{in} (Low):	<–3.2 mA @ Vin = 0.4 V
I_{in} (Low):	>2.0 V (5.0 V maximum)
V_{in} (Low):	<0.8 V
Handshake Lines	
Output characteristics:	
I_{out} (High):	250 µA @ Vout (high): 5 V
I_{out} (Low):	40 mA @ Vout (low): 0.7 V
I_{out} (Low):	16 mA @ Vout (low): 0.4 V
Input characteristics:	
V_{in} (High):	>2.0 V
V_{in} (Low):	<0.8 V
I_{in} (Low):	<1.75 mA
Block Mode Transfers	
8-bit wide:	@ 90 KB/s
32-bit wide:	@ 325 KB/s

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General Specifications

VXI Characteristics

VXI device type:	Register based
Size:	C
Slots:	1
Connectors:	P1/2
Shared memory:	No
VXI buses:	No

Instrument Drivers - See the Agilent Technologies Website (http://www.agilent.com/find/inst_drivers) for driver availability and downloading.

Command module firmware:	Downloadable
Command module firmware rev:	A.06
I-SCPI Win 3.1:	Yes
I-SCPI Series 700:	Yes
C-SCPI LynxOS:	Yes
C-SCPI Series 700:	Yes
Panel Drivers:	Yes
VXI*plug&play* Win Framework:	Yes
VXI*plug&play* Win 95/NT Framework:	Yes
VXI*plug&play* HP-UX Framework:	No

Module Current

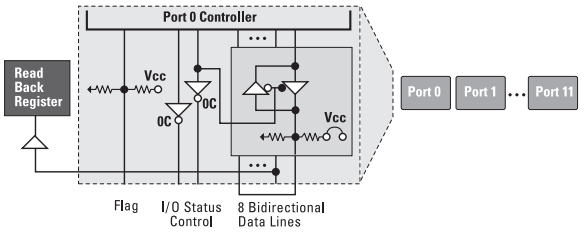
	I_{PM}	I_{DM}
+5 V:	1.2	0.1
+12 V:	0	0
–12 V:	0	0
+24 V:	0	0
–24 V:	0	0
–5.2 V	0	0
–2 V:	0	0

Cooling/Slot

Watts/slot:	2.50
ΔP mm H_2O:	0.04
Air Flow liter/s:	0.21

Ordering Information

Description	Product No.
96-Channel Digital Input/Output	E1458A
Opto 22 Components Cable	E1458A 022
Service Manual	E1458A 0B3
3 Yr. Retn. to Agilent to 1 Yr. OnSite Warr.	E1458A W01
Additional 2-Meter Cable	E1458-61601



Agilent E1458A Block Diagram

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