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ACL-7120A Series

32-CH DIO & Timer/Counter Cards

Features

- Fully compatible with phased-out ACL-7120 in software and hardware
- 32-CH TTL digital inputs and 32-CH TTL digital outputs
- High output driving capacity
- 3 independent programmable 16-bit down counters
- One 16-bit event counter for interrupt generation (ACL-7120A/6)
- One cascaded 32-bit timer with a 4 MHz timebase
- Clock output: 2 MHz, 1 MHz, 500 kHz, or 250 kHz jumper selectable
- Multiple selections on frequency divider
- Breadboard area for customized circuit
- Internal/external interrupt generation
- Register structure compatible with Advantech's PCL-720

Operating Systems
- Windows 2000/NT/XP/9x
- DOS

Recommended Software
- VB/VC++/BCB/Delphi
- Turbo C/Borland C

Driver Support
- ACLS-LVIEW
- ACLS-DLL/DLL2
- DOS library



Introduction

ADLINK ACL-7120A series are 32-CH TTL compatible Digital Input/Output and timers/counters cards for PC/AT and compatibles. The device has 32 TTL compatible digital inputs, 32 digital outputs, and 3 or 4 channels with a 16-bit timer/counter.The breadboard area is provided for user circuit designs. There are two versions of the ACL-7120A series: ACL-7120A/3 and ACL-7120A/6. In addition to the functionalities of the ACL-7120A/3, the ACL-7120A/6 device supports one 32-bit timer pacer which can generate interrupt periodically, as well as an event counter for external event counting. ADLINK ACL-7120A devices deliver cost-effective features and are ideal for a broad variety of applications.

Specifications

Digital Output
- Number of channels: 32
- Compatibility: 5 V/TTL
- Digital logic levels
  - Output high voltage: 2.4 V minimum
  - Output low voltage: 0.5 V maximum
- Driving capacity:
  - Source current: 15 mA
  - Sink current: 24 mA
- Data transfers: programmed I/O

Digital Input
- Number of channels: 32
- Signal level: TTL compatible
- Digital logic levels
  - Input high voltage: 2-5.25 V
  - Input low voltage: 0-0.8 V
- Loading current: max. 0.2 mA @ 0.4 V
- Data transfers: programmed I/O

Timers/Counters
- General-purpose counter (ACL-7120A/3 and ACL-7120A/6)
  - Number of channels: 3
  - Resolution: 16 bits
  - Compatibility: 5 V/TTL
  - Base clock available: internal 10 kHz, 100 kHz and 1 MHz
- Event counter for interrupt generation (ACL-7120A/6)
  - Number of channels: 1
  - Resolution: 16 bits
  - Compatibility: 5 V/TTL
- Timer for interrupt generation (ACL-7120A/6)
  - Number of channels: 1
  - Resolution: 16 bits
  - Compatibility: 5 V/TTL
  - Base clock available: 4 MHz

General Specifications
- I/O connector: 20-pin ribbon male x 5
- Operating temperature: 0 to 60 °C
- Storage temperature: -20 to 80 °C
- Relative humidity: 5 to 90%, noncondensing
- Bread Area: plated through-hole
  - Hole size: 1.0 mm
  - Pad size: 1.5 mm
- Dimensions (not including connectors) 194 mm x 114 mm

Termination Boards

- **ACLD-9185**
  Termination Board with 16-CH Relay Outputs (Including One 1-meter ACL-10120 Cable)
- **ACLD-9182A**
  Termination Board with 16-CH Isolated Digital Inputs (Including One 1-meter ACL-10120 Cable)
- **ACLD-9178**
  General-Purpose Termination Board with Two 20-pin Ribbon Connectors (Including Two 1-meter ACL-10120 Cables)
- **ACLD-9188**
  General-Purpose Termination Board with Two 20-pin Ribbon Connectors and One 37-pin D-sub Connector (Including Two 1-meter ACL-10120 Cables)

Pin Assignment

CN1: Digital Output (0-15)

DO_0	1	2	DO_1
DO_2	3	4	DO_3
DO_4	5	6	DO_5
DO_6	7	8	DO_7
DO_8	9	10	DO_9
DO_10	11	12	DO_11
DO_12	13	14	DO_13
DO_14	15	16	DO_15
GND	17	18	GND
+5Vout	19	20	+12Vout

CN2: Digital Input (0-15)

DI_0	1	2	DI_1
DI_2	3	4	DI_3
DI_4	5	6	DI_5
DI_6	7	8	DI_7
DI_8	9	10	DI_9
DI_10	11	12	DI_11
DI_12	13	14	DI_13
DI_14	15	16	DI_15
GND	17	18	GND
+5Vout	19	20	STROBE

CN3: Digital Output (16 -31)

DO_16	1	2	DO_17
DO_18	3	4	DO_19
DO_20	5	6	DO_21
DO_22	7	8	DO_23
DO_24	9	10	DO_25
DO_26	11	12	DO_27
DO_28	13	14	DO_29
DO_30	15	16	DO_31
GND	17	18	GND
+5Vout	19	20	+12Vout

CN4: Digital Input (16 -31)

DI_16	1	2	DI_17
DI_18	3	4	DI_19
DI_20	5	6	DI_21
DI_22	7	8	DI_23
DI_24	9	10	DI_25
DI_26	11	12	DI_27
DI_28	13	14	DI_29
DI_30	15	16	DI_31
GND	17	18	GND
+5Vout	19	20	STROBE

CN5: Counter

CLK_2	1	2	CLK_1
OUT_2	3	4	OUT_1
GATE_2	5	6	GATE_1
EVENT	7	8	CLK_0
GATE_3	9	10	OUT_0
GATE_4	11	12	GATE_0
EXTIRQ	13	14	N/C
N/C	15	16	N/C
GND	17	18	GND
+5Vout	19	20	N/C

Ordering Information

- **ACL-7120A/3**
  32-CH Digital I/O & 3-CH Timers/Counters Card
- **ACL-7120A/6**
  32-CH Digital I/O & 5-CH Timers/Counters Card

* All specifications are subject to change without further notice.

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