

1. JY-7132 Specifications

1.1 Overview



JY-7132 series modules are multi-function digital output modules, which can provide 64 channels of DO (Sinking/Sourcing/Push-pull Outputs, Bank-Isolated) or 8 channels of counter-based Pulse Output. JY-7132 provides up to 200 kHz output frequency, maximum 50 VDC output switching voltage, with isolation voltage up to 60 VDC (bank to bank). It is an ideal solution for industrial automation, digital control and test applications.

JY-7132 series complies with IEC 61131-2 standard for industrial digital I/O.

Please download the <JYPEDIA>, you can quickly inquire the product prices, the key features and available accessories.

1.2 Main Features

- DO:
 - 64 channels DO, 10~50 VDC
 - Support Sourcing, Sinking and Push-pull tri-state output mode
 - Isolation Voltage up to 60 VDC (bank to bank)
 - Complies with IEC 61131-2 standard
- Counter:
 - High operating voltage counter up to 50V
- Up to 100 MHz internal clock rate
- Counter-based Pulse Output: Single/Finite/Continuous, PWM

1.3 Hardware Specifications

1.3.1 Digital Output

Parameter	Specification
Number of Channels	64
Ground Reference	GND
VDD (Output Supply Voltage)	10~50 VDC
Output Type	Sourcing / Sinking / Push-Pull
Output Voltage	10~50 VDC
Current Limit(One line per port)	Out=High: 640 mA Out=Low: 440 mA
Current Limit(Eight lines per port)	Out=High: 125 mA Out=Low: 125 mA
Isolation Voltage	60 VDC (bank to bank)
Available PFI	PFI_Out<0..63>
Supported Functions	Static Output

Table 1 Digital Output

DO Output Mode

DO Output Mode	DO Value	Output Status
Sourcing	1	High Level (VDD)
	0	High Z
Sinking	1	Low Level (GND)
	0	High Z
Push-Pull	1	High Level (VDD)
	0	Low Level (GND)

Table 2 DO Output Mode

1.3.2 Counter Specifications

Parameter	Specification
Number of Counters	8
Resolution	32 bits
Internal Clock Rate	100 MHz
Counter Output Functions	Single, Finite, Continuous pulse, PWM
Counter Output Frequency	200 kHz
FIFO	16 M Samples
Counter Output Signal	OUT

Table 3 Counter Specifications

1.3.3 External Digital Trigger

Parameter	Specification
Trigger Source	PXI_TRIG<0..7>
Polarity	Rising Edge / Falling Edge
Counter/Timer Functions	Start trigger
Trigger Bus Input Source	PXI_TRIG<0..7>
Trigger Bus Output Destination	PXI_TRIG<0..7>

Table 4 External Digital Trigger

1.3.4 Power Consumption (typical)

Voltage (V)	Current (A)	Power (W)	Total Power (W)
12	0.266	3.192	3.624
3.3	0.131	0.432	

1.3.5 Bus Interface

Parameter	Specification
Bus Interface	PXle standard x4 PXI Express peripheral module Specification V1.0 compliant
Slot Supported	x1 and x4 PXI Express or PXI Express hybrid slots

Table 5 Bus Interface

1.3.6 Physical Size

Parameter	Specification
Dimensions	3U PXIe
Weight	213.6 g

Table 6 Physical Size

1.3.7 Input Protection

Parameter	Specification
Overvoltage Protection for VDD (DO)	60 V
Overvoltage Protection for DO Terminal	VDD+0.3 V

Table 7 Input Protection

1.3.8 Operating Environment

Parameter	Specification
Ambient Temperature Range	0°C ~ 50°C
Relative Humidity Range	20% to 80%, non-condensing

Table 8 Operating Environment

1.3.9 Storage Environment

Parameter	Specification
Ambient Temperature Range	-20°C to 50°C
Relative Humidity Range	10% to 90%, non-condensing

Table 9 Storage Environment

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2. Introduction

This chapter presents the information how to use this manual and quick start if you are already familiar with Microsoft Visual Studio and C# programming language.

2.1 Abbreviations

- DO: Digital Output
- CO: Counter Output
- DAQ: Data Acquisition
- PFI: Programmable Function Interface

2.2 Learn by Example

JYTEK has added Learn by Example in this manual. We provide many sample programs for this device. Please download and install the sample programs for this device. You can download a JYPEDIA excel file from the JYTEK website to find the latest product information and download links.



简仪科技
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Drivers	Update Date	Category	Support Module
JY7132 V1.0.1 Win.rar	2026/7/31	Driver	7132
JY7132 V1.0.1 Linux.tar.gz	2026/7/31	Driver	7132
JY7132 V1.0.0 Python.rar	2026/7/31	Driver	7132
JY7132 V1.0.0 PythonExamples.rar	2026/7/31	Example	7132
JY7132 V1.0.0 Examples.rar	2026/7/31	Example	7132
JY7132 V1.0.0 C++Examples.rar	2026/7/31	Example	7132

Figure 1 JYPEDIA Information

In a Learn by Example section, the experiment is set up as follows. A JY-7132 card is plugged in a desktop computer. The JY-7132 is connected to a DIN-100 terminal block. A signal source is also connected to the terminal block.

The DIN-100 has 4 terminal columns, J1 – J4. In the rest of this manual, the wire connection in each Learn by Example section will be given by the pin numbers only.

Tip: JY-7132 also has the counter output capability. If you do not have a signal source, you can use the outputs of JY-7132 as the signal source. In this case you need first run example program Counter Output-->Winform CO Continue Pulse to generate the output signal.

3. Hardware Specifications

3.1 System Diagram

The system block diagram of JY-7132 series is shown in Figure 2.

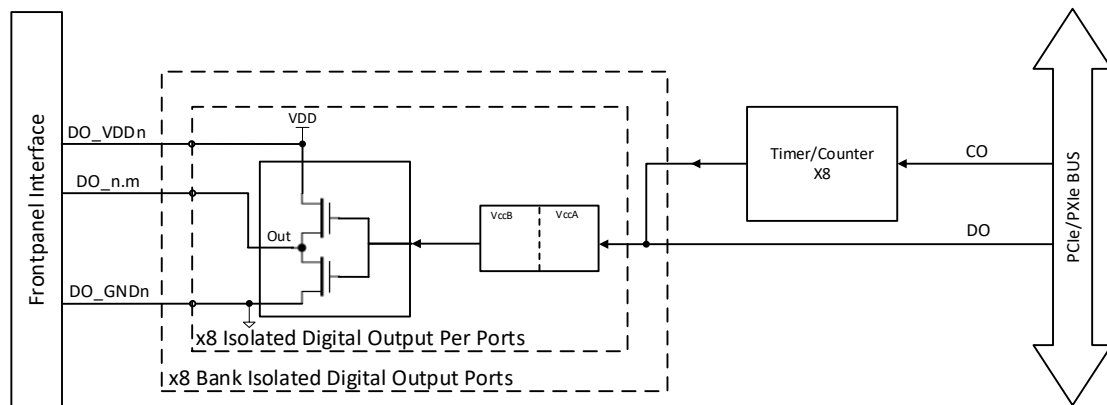


Figure 2 JY-7132 Series System Block Diagram

3.2 Front Panel and Pin Definition



Figure 3 Front Panel

Pin	Signal	Pin	Signal
1	DO_0.0 / PFI_Out_0	51	DO_1.0 / PFI_Out_8
2	DO_0.1 / PFI_Out_1	52	DO_1.1 / PFI_Out_9
3	DO_0.2 / PFI_Out_2	53	DO_1.2 / PFI_Out_10
4	DO_0.3 / PFI_Out_3	54	DO_1.3 / PFI_Out_11
5	DO_0.4 / PFI_Out_4	55	DO_1.4 / PFI_Out_12
6	DO_0.5 / PFI_Out_5	56	DO_1.5 / PFI_Out_13
7	DO_0.6 / PFI_Out_6	57	DO_1.6 / PFI_Out_14
8	DO_0.7 / PFI_Out_7	58	DO_1.7 / PFI_Out_15
9	VDD0	59	VDD1
10	GND0	60	GND1
11	GND0	61	GND1
12	GND0	62	GND1
13	DO_2.0 / PFI_Out_16	63	DO_3.0 / PFI_Out_24
14	DO_2.1 / PFI_Out_17	64	DO_3.1 / PFI_Out_25
15	DO_2.2 / PFI_Out_18	65	DO_3.2 / PFI_Out_26
16	DO_2.3 / PFI_Out_19	66	DO_3.3 / PFI_Out_27
17	DO_2.4 / PFI_Out_20	67	DO_3.4 / PFI_Out_28
18	DO_2.5 / PFI_Out_21	68	DO_3.5 / PFI_Out_29
19	DO_2.6 / PFI_Out_22	69	DO_3.6 / PFI_Out_30
20	DO_2.7 / PFI_Out_23	70	DO_3.7 / PFI_Out_31
21	VDD2	71	VDD3
22	GND2	72	GND3
23	GND2	73	GND3
24	GND2	74	GND3
25	NC	75	NC
26	DO_4.0 / PFI_Out_32	76	DO_5.0 / PFI_Out_40
27	DO_4.1 / PFI_Out_33	77	DO_5.1 / PFI_Out_41
28	DO_4.2 / PFI_Out_34	78	DO_5.2 / PFI_Out_42
29	DO_4.3 / PFI_Out_35	79	DO_5.3 / PFI_Out_43
30	DO_4.4 / PFI_Out_36	80	DO_5.4 / PFI_Out_44
31	DO_4.5 / PFI_Out_37	81	DO_5.5 / PFI_Out_45
32	DO_4.6 / PFI_Out_38	82	DO_5.6 / PFI_Out_46

33	DO_4.7 / PFI_Out_39	83	DO_5.7 / PFI_Out_47
34	VDD4	84	VDD5
35	GND4	85	GND5
36	GND4	86	GND5
37	GND4	87	GND5
38	DO_6.0 / PFI_Out_48	88	DO_7.0 / PFI_Out_56
39	DO_6.1 / PFI_Out_49	89	DO_7.1 / PFI_Out_57
40	DO_6.2 / PFI_Out_50	90	DO_7.2 / PFI_Out_58
41	DO_6.3 / PFI_Out_51	91	DO_7.3 / PFI_Out_59
42	DO_6.4 / PFI_Out_52	92	DO_7.4 / PFI_Out_60
43	DO_6.5 / PFI_Out_53	93	DO_7.5 / PFI_Out_61
44	DO_6.6 / PFI_Out_54	94	DO_7.6 / PFI_Out_62
45	DO_6.7 / PFI_Out_55	95	DO_7.7 / PFI_Out_63
46	VDD6	96	VDD7
47	GND6	97	GND7
48	GND6	98	GND7
49	GND6	99	GND7
50	NC	100	NC

Table 10 Pin Definition

4. Order Information

- PXIe-7132(PN: JY5126669-01)
64-Channel, 50VDC, Sinking/Sourcing/Push-pull Outputs, Bank-Isolated PXIe Multifunction Digital Output Module with 8 Channel Counter/Timer
- Accessories:
 - Cable:
 - ACL-1020100-1 1M 100-pin SCSI twisted pair cable (PN: JY4910923-01)
 - ACL-1020100-2 2M 100-pin SCSI twisted pair cable (PN: JY7155665-01)
 - Terminal Block:
 - DIN-100-1 100-Pin SCSI Terminal block (PN: JY7739162-01)

5. Software

5.1 System Requirements

JY-7132 modules can be used in a Windows or a Linux operating system.

Microsoft Windows: Windows 7 32/64 bit, Windows 10 32/64 bit.

Linux Kernel Versions: There are many Linux versions. It is not possible JYTEK can support and test our devices under all different Linux versions. JYTEK will at the best support the following Linux versions:

Linux Distribution	Kernel Version
Ubuntu 16.04	4.4
Ubuntu 18.04	4.15
Ubuntu 20.04	5.4
CentOS 7	3.10

Table 11 Supported Linux Versions

5.2 System Software

When using the JY-7132 in the Windows environment, you need to install the following software from Microsoft website:

- Microsoft Visual Studio Version 2015 or above,
- .NET Framework version is 4.0 or above.

.NET Framework is coming with Windows 10. For Windows 7, please check .NET Framework version and upgrade to 4.0 or later version.

Given the resources limitation, JYTEK only tested JY-7132 with .NET Framework 4.0 with Microsoft Visual Studio 2015. JYTEK relies on Microsoft to maintain the compatibility for the newer versions.

5.3 C# Programming Language

All JYTEK default programming language is Microsoft C#. This is Microsoft recommended programming language in Microsoft Visual Studio and is particularly suitable for the test and measurement applications.

5.4 JY-7132 Series Hardware Driver

After installing the required application development environment as described above, you need to install the JY-7132 hardware driver.

JYTEK hardware driver has two parts: the shared common driver kernel software (FirmDrive) and the specific hardware driver.

Common Driver Kernel Software (FirmDrive): FirmDrive is the JYTEK's kernel software for all hardware products of JYTEK instruments. You need to install the FirmDrive software before using any other JYTEK hardware products.

Specific Hardware Driver: Each JYTEK hardware has a C# specific hardware driver. This driver provides rich and easy-to-use C# interfaces for users to operate various JY-7132 functions. JYTEK has standardized and consistent driver interfaces for all hardware products.

5.5 Install the SeeSharpTools from JYTEK

To efficiently and effectively use JY-7132 boards, you need to install a set of free C# utilities, SeeSharpTools from JYTEK. The SeeSharpTools offers rich user interface functions you will find convenient for your test & measurement applications.

5.6 Running C# Programs in Linux

Most C# written programs in Windows can be run by MonoDevelop development system in a Linux environment. You would develop your C# applications in Windows using Microsoft Visual Studio. Once it is done and tested, it can be ported to a Linux system quickly with minimum efforts.

6. Operating JY-7132

This chapter provides the operation guides for JY-7132, including Timer and programmable I/O interface, etc.

JYTEK provides extensive examples, on-line help and documentation to assist you to use the JY-7132 module. JYTEK strongly recommends you go through these examples before writing your own application.

6.1 Quick Start

After you have installed the driver software and the SeeSharpTools, you are ready to use Microsoft Visual Studio C# to operate the JY-7132 products.

If you are already familiar with Microsoft Visual Studio C#, the quickest way to use JY-7132 boards is to go through our extensive examples. We provide source code of our examples. In many cases, you can simply modify our examples to meet your requirements.

6.2 Digital Output Operations

The JY-7132 provides 64 channels of digital output.

6.2.1 Digital Output Connection Guide

The JY-7132 device supports 64 channels of digital output. There are three configurations for digital output: Sourcing, Sinking and Push-pull output mode.

DO Output Mode	DO Value	Output Status
Sourcing	1	High Level (VDD)
	0	High Z
Sinking	1	Low Level (GND)
	0	High Z
Push-Pull	1	High Level (VDD)
	0	Low Level (GND)

Figure 4 Digital Output Mode Table

● Sourcing Configuration

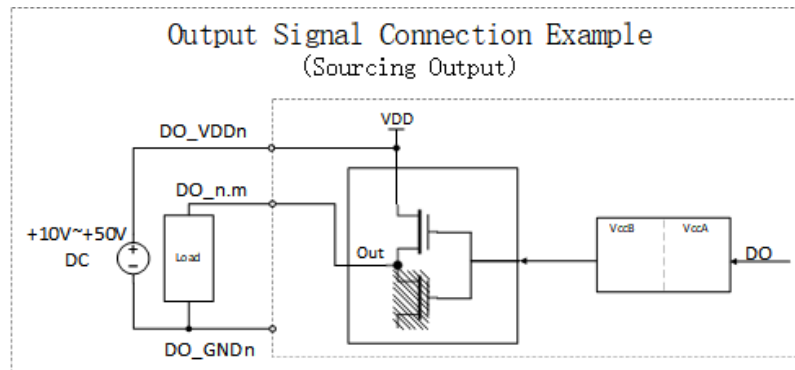


Figure 5 Output Signal Connection Example (Sourcing Output)

- **Load Connection:** Connect the load to the DO_GNDn and DO_n.m terminals, ensuring correct polarity if the load is polarity sensitive.
- **Power Source:** Connect a positive of power source (DC) to the DO_VDDn terminal.
- **Ground Connection:** Connect the negative of the power source (DC) to the ground terminal (DO_GNDn) of the module.
- **Operation:**
Writing a 1 (logic high) to an output line switches on one channel of the module and allows current to pass through the output line.
Writing a 0 (logic low) to an output line switches off one channel of the module and prohibits current from passing through the output line.

● Sinking Configuration

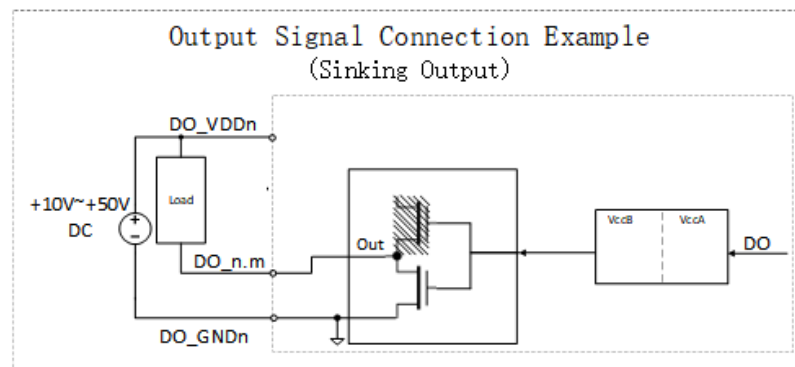


Figure 6 Output Signal Connection Example (Sinking Output)

- **Load Connection:** Connect one end of the load to the DO_n.m terminal and the other end to the DO_VDDn terminal.
- **Power Source:** Connect a power source (VDD) to the DO_VDDn terminal.
- **Common Ground:** Connect the ground of the power source to the common ground terminal (DO_GNDn) of the module.
- **Operation:** Use the module's software to control the output, which will complete the circuit and allow current to flow through the load.

● Push-Pull Configuration

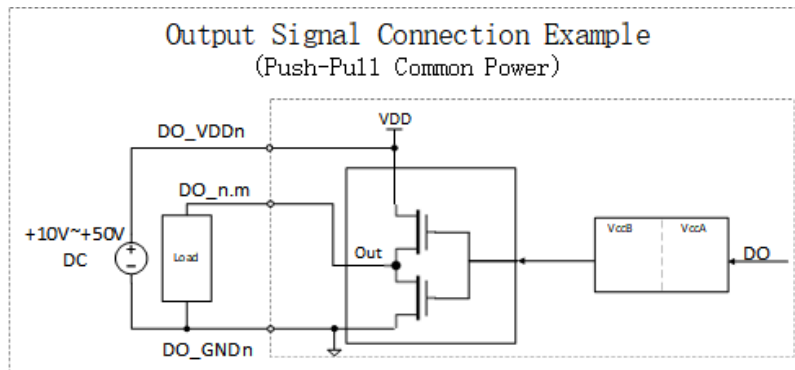


Figure 7 Output Signal Connection Example (Push-Pull Common Power)

- Load Connection: Connect the load to the DO_GNDn and DO_n.m terminals, ensuring correct polarity if the load is polarity sensitive.
- Power Source: Connect a positive of power source (DC) to the DO_VDDn terminal.
- Ground Connection: Connect the negative of the power source (DC) to the ground terminal (DO_GNDn) of the module.

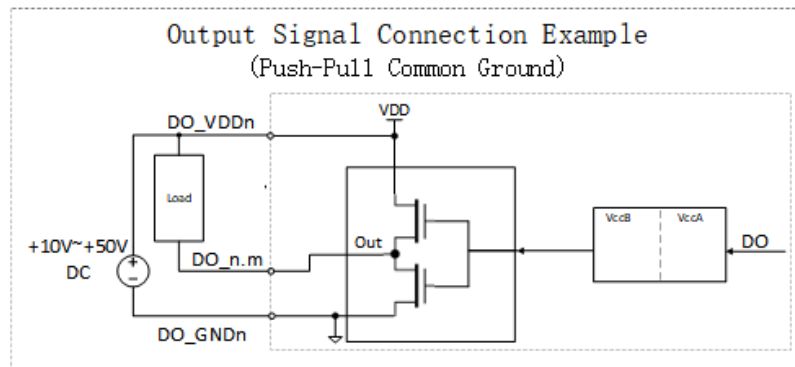


Figure 8 Output Signal Connection Example (Push-Pull Common Ground)

- Load Connection: Connect one end of the load to the DO_n.m terminal and the other end to the DO_VDDn terminal.
- Power Source: Connect a power source (VDD) to the DO_VDDn terminal.
- Common Ground: Connect the ground of the power source to the common ground terminal (DO_GNDn) of the module.

Please ensure all connections are secure and that the module's power is off before making or changing connections to prevent damage. After setup, double-check all connections before turning on the module's power.

●

6.3 Counter Generation Operations

Timing

- Single Mode

JY-7132 can output a single pulse with a specified pulse configuration.

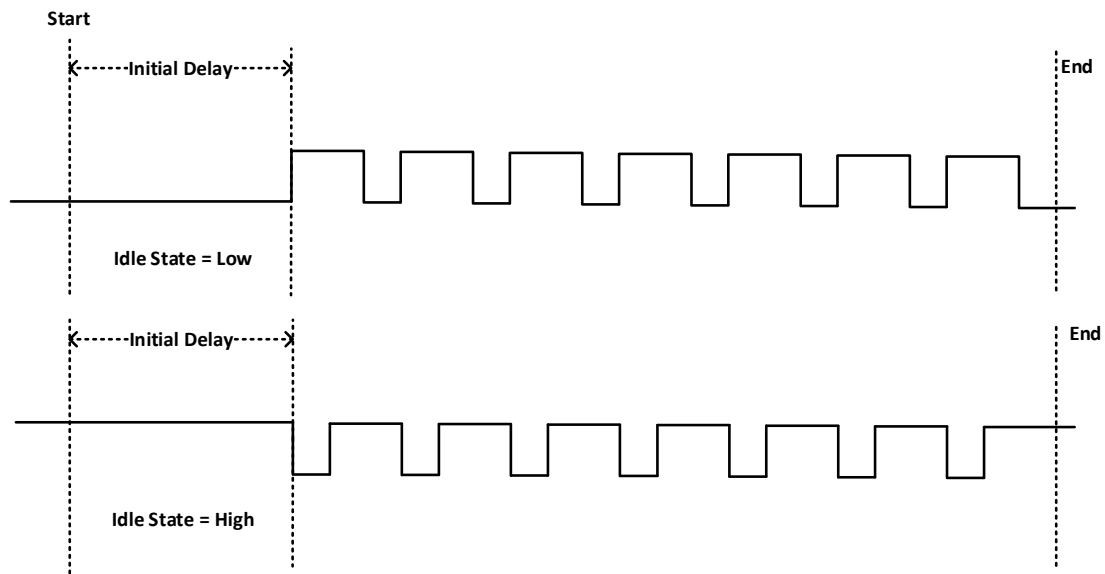


Figure 9 Pulse Output in Single Mode

Timebase

By default, the counter uses the onboard 100MHz timebase to generate pulses. Use the property `JY7132COTask.Timebase` to configure the timebase.

Terminals

To change the terminal of signals instead of using its default value as shown in chapter 3.2, using following properties:

- `JY7132COTask.OutputTerminal` – Signal output terminal.

6.4 Clocks

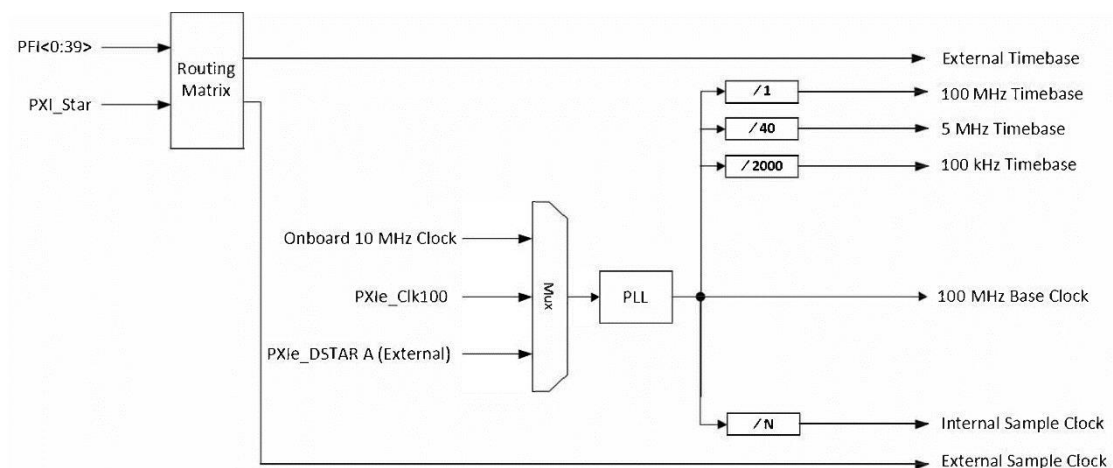


Figure 10 Clocks Diagram

6.4.1 PLL

PLL (Phase Locked Loop) is a phase-locked clock generator that can generate a clock signal of a specified frequency according to the selected reference clock source.

JY-7132 Series boards support the following reference clock sources:

1) Onboard 10MHz Clock

Using the on-board 10MHz (TXCO) as the PLL input source can help improve the PLL output clock performance, including improving clock accuracy, temperature stability, and phase noise.

2) PXIe_CLK100

The PXIe_CLK100 signal is a 100MHz clock provided by the PXIe backplane for every peripheral slot. When using this clock, PXIe-7132 can provide multi-card synchronization.

3) External Reference Clock

An external reference clock is a clock provided by user through terminal PXIe-DSTARA. To use an external reference clock, the user needs to specify its frequency.

By default, onboard 10MHz Clock is selected as the reference clock source. To change the reference clock source, configure the device as follows:

- Set property Task.Device.ReferenceClock.Source to target reference clock source. Task is user defined JY7132COTask.
- If the target clock source is External:
- Set Task.Device.ReferenceClock.External.Terminal to desired terminal.
- Set Task.Device.ReferenceClock.External.Frequency to the frequency of this clock source.
- Call method Device.Commit() to activate the configuration.

Note:

- Clock configuration is not allowed to change while any counter tasks are running.
- Clock configuration is applied to all tasks (including DO, CO).
- The JY-7132 module must be powered off and restarted if the user submits the incorrect clock frequency by using external clock source (PXIe_DSTARA).
-

6.4.2 Timebase

JY-7132 provides four options for timebase source as follows:

- Internal 100MHz – Same signal as the 100 MHz base clock generated by PLL.
- Internal 5MHz – Generated by dividing down the 100 MHz timebase.
- Internal 100kHz – Generated by dividing down the 100 MHz timebase.
- External – Use a signal on a terminal as the timebase.

6.5 Start Trigger

For all counter generation applications, the task starts running when the start trigger happens.

Start trigger has the following types:

Immediately

The task will start immediately after JY7132xxTask.Start() is called.

Software

After calling JY7132xxTask.Start() on the software, the task will not start until a software trigger is received.

Digital

An external digital trigger is generated when the external trigger source terminal detects a rising edge.

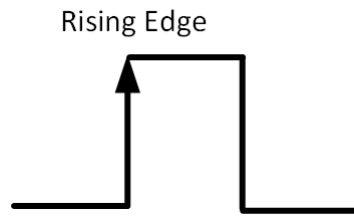


Figure 11 Rising Edge Digital Trigger

7. Using JY-7132 in Other Software

While JYTEK's default application platform is Visual Studio, the programming language is C#, we recognize there are other platforms that are either becoming very popular or have been widely used in the industry.

7.1 C++

JYTEK internally uses our C++ drivers to design the C# drivers. We recommend our customers to use C# drivers because C# platform delivers much better efficiency and performance in most situations. We also provide C++ driver support for customers who need C++ integration.

8. About JYTEK

8.1 JYTEK China

Founded in June, 2016, JYTEK China is a leading Chinese test & measurement company, providing complete software and hardware products for the test and measurement industry.

8.2 JYTEK Hardware Products

According to JYTEK's agreement with our equity partner Adlink Technologies, JYTEK's hardware is manufactured by the state-of-art manufacturing facility located in Shanghai Zhangjiang Hi-Tech Park.

One core technical advantage is JYTEK's pursue for the basic and fundamental technology excellence. JYTEK China has developed a unique PCIe, PXIe, USB hardware driver architecture, FirmDrive, upon which all JYTEK hardware drivers are built.

8.3 JYTEK Software Platform

JYTEK has developed a complete software platform, SeeSharp Platform, for the test and measurement applications. We leverage the open source communities to provide the software tools.

8.4 JYTEK Warranty and Support Services

With our complete software and hardware products, JYTEK is able to provide technical and sales services to a wide range of applications and customers. In most cases, our products are backed by a 1-year warranty.

9. Statement

The hardware and software products described in this manual are provided by JYTEK China, or JYTEK in short.

This manual provides the product review, quick start, some driver interface explanation for JYTEK JY-7132 Series family of multi-function digital output boards. The manual is copyrighted by JYTEK.

No warranty is given as to any implied warranties, express or implied, including any purpose or non-infringement of intellectual property rights, unless such disclaimer is legally invalid. JYTEK is not liable for any direct, indirect, consequential or incidental damages.

While we try to keep this manual up to date, there are factors beyond our control that may affect the accuracy of the manual. Please check the latest manual and product information from our website.

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