

# MAX

2008 4, 370640H-0129

Measurement & Automation Explorer (MAX)



LabVIEW Real-Time MAX  
. LabVIEW Real-Time  
Time 2 .

*La*

National Instruments [National Instruments](#) .

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[Adobe](#)

[Incorporated](#) .

[National Instruments](#)

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:

- *LabVIEW* (LabVIEW **>>LabVIEW** *LabVIEW*  
. Real-Time .)
- *LabVIEW Real-Time*
- LabVIEW Real-Time , , , Discussion Forums  
<http://ni.com/support/labview/real-time> .
- *NI-CAN*

## FAQ

National Instruments [ni.com](http://ni.com) [LabVIEW Real-Time FAQ](#)

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<http://ni.com/support> .

# LabVIEW Real-Time

LabVIEW Real-Time .  
[LabVIEW Real-Time](#) .

1. LabVIEW Real-Time

2. \_\_\_\_\_

3. \_\_\_\_

4. I/O

5. \_\_\_\_\_

LabVIEW Real-Time .

# LabVIEW Real-Time

LabVIEW Real-Time

1. **LabVIEW Real-Time** RT LabVIEW Real-Time . RT LabVIEW Real-Time , LabVIEW Real-Time . , LabVIEW Real-Time DIP BIOS . [LabVIEW Real-Time](#) .

, LabVIEW Real-Time

[PXI](#) [F](#)

. LabVIEW Real-Time , RT

[PC USB](#) , [PXI](#)

[PC](#) RT



Windows XP/2000 .  
Windows Vista ,

[PC USB](#) .

2.

( [+]) RT . IP  
0.0.0.0 . , <F5>

. IP IP  
. IP ,

IP . .



. ,  
0.0.0.0 IP .

DHCP , **IP** . DHCP

. LabVIEW Real-Time .

, LabVIEW Real-Time DHCP IP

, LabVIEW Real-Time .

IP , IP ( 169.254.x.x)

. LabVIEW Real-Time 0.0.0.0

IP , **IP** .  
. IP .

. DNS

0.0.0.0

3.

LabVIEW Real-Time IP

RT LabVIEW Real-Time

LabVIEW Real-Time :

a. RT .

b. / LabVIEW Real-  
Time . LabVIEW Real-  
Time . ,



PC LabVIEW Real-Time  
, Real-Time .  
LabVIEW Real-Time

>> (Windows Vista ,  
**National Instruments**

>> )  
LabVIEW Real-Time

c.

LabVIEW Real-Time -

LabVIEW VI

d. **I/O**

LabVIEW Real-Time National Instruments I/O

. I/O

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LabVIEW Real-Time .

# LabVIEW Real-Time

LabVIEW Real-Time .

1.

2.

MAX .

MAX

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IP 0.0.0.0 . IP .  
MAX .

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IP

IP . IP

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MAX

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LabVIEW  
Real-Time OS

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PC USB ,  
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LabVIEW Real-  
Time  
LabVIEW Real-Time .

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OS

OS



RT . RT  
. RT  
MAX .

LabVIEW Real-Time .



# LabVIEW Real-Time

LabVIEW Real-Time .

## LabVIEW Real-Time .

	RT . .
IP	IP . IP IP .
	LabVIEW RT . CPU .
	RT . RT . RT . MAX .
	RT LabVIEW LabVIEW Real-Time . RT . . MAX . RT .

RT LabVIEW Real-Time RT .  
LabVIEW Real-Time , USB , DIP  
BIOS . LabVIEW Real-Time  
. , USB  
                   PC USB .

# RT



- ,
- Windows XP/2000 .  
Windows Vista , PC USB .

MAX >>RT .  
, MAX . :

PC USB

PXI

PXI

PXI

PC

PC

PC

IP

PXI PC .  
Windows OS LabVIEW Real-Time .

BIOS PC PXI . BIOS  
Windows . BIOS

, BIOS .  
. RT PXI MAX ,

:

- RT PXI PC .

- RT PXI , BIOS . PXI

**CMOS Setup** **Halt On** **All, But Keyboard** . **Star**  
**Halt On** . BIOS PXI



# PC USB

PC USB LabVIEW Real-Time USB PC



- USB



PC PXI PC USB :

1. PC Windows **>>National Instruments>>Measureme Automation Explorer MAX .**

2. USB USB .



PC USB USB .  
USB .

3. **>>RT >> PC USB**

4. PC USB .

5. .

6. PC USB USB . .



**USB**

7. USB .

PC USB , PC USB .

PC .



USB USB BIOS .  
USB .

PC USB :

1. . NI Real-Time .  
NI Real-Time ,

2. .

3. .  
IP , , , DNS . , IP  
IP . IP 0.0.0.0 , .
4. .
5. **LabVIEW Real-Time** .  
LabVIEW Real-Time ,  
LabVIEW Real-Time . , LabVIEW  
Real-Time .
6. .  
NI Real-Time .  
IP IP .  
IP  
.

# PXI

PXI C: .  
OS . LabVIEW Real-Time LabVIEW  
Real-Time . OS .

PXI Windows LabVIEW Real-Time LabVIEW Real-Time  
PXI . LabVIEW Real-Time PXI  
PXI LabVIEW Real-Time .



Windows XP/2000 .  
Windows Vista , PC USB .



## PXI

PC PXI PXI :

1. PC . . .
2. PC Windows **>>National Instruments>>Measureme  
Automation Explorer MAX .**
3. **>>RT** **>>PXI**
4. **PXI** . . .  
.
5. .
6. *LabVIEW RT PXI*

# PXI

PXI . . .



PXI  
FAT32 .

# PXI

PXI PXI LabVIEW Real-Time . PXI Windows OS  
, LabVIEW Real-Time PXI .



Windows XP/2000 .  
Windows Vista ,

PC USB .

## PXI

PC PXI :

1. PC . . .
2. PC Windows **>>National Instruments>>Measureme  
Automation Explorer MAX .**
3. **>>RT . >>PXI**
4. **PXI . . .**
5. .
6. *LabVIEW RT PXI*

## **PXI**

PXI LabVIEW Real-Time .  
. LabVIEW-Time . PXI  
LabVIEW Real-Time . PC  
PXI .

# PXI

PXI .

MAX .



Windows XP/2000 .  
Windows Vista ,

PC USB .

## PXI

PC PXI :

1. PC . . .
2. PC Windows **>>National Instruments>>Measureme  
Automation Explorer MAX .**
3. **>>RT >>PXI**
4. **PXI . . .**
5. .
6. *LabVIEW RT PXI*

# PXI

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1. PXI .

2. .

3. RT .

MAX RT . PXI

PXI .



# PC

PC C: .

OS . LabVIEW Real-Time

LabVIEW Real-Time . OS .

PC Windows LabVIEW Real-Time LabVIEW Real-Time

PC . LabVIEW Real-Time PC

PC LabVIEW Real-Time

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Windows XP/2000 .

Windows Vista ,

PC USB .

# PC

PC PXI PC :

1. PC . . .
2. PC Windows **>>National Instruments>>Measureme  
Automation Explorer MAX .**
3. **>>RT** **>> PC**
4. **PC** . . .
5. .
6. *LabVIEW RT PC*

**PC**

PC . PC

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PC  
FAT32 .

# PC

PC PC LabVIEW Real-Time . Windows  
OS , PC LabVIEW Real-Time



Windows XP/2000 .  
Windows Vista ,

PC USB .

# PC

PC PXI :

1. PC . . .
2. PC Windows **>>National Instruments>>Measureme**  
**Automation Explorer MAX .**
3. **>>RT** **>> PC**
4. **PC** . . .
5. .
6. *LabVIEW RT PC*

## PC

Windows PC LabVIEW Real-Time .  
PC . PC LabVIEW-Time .  
PC LabVIEW Real-Time . PC  
PC .

# PC

PC PC . PC

PC . MAX .



Windows XP/2000 .  
Windows Vista ,

PC USB .

**PC**

PC PXI :

- 1. PC . . .
- 2. PC Windows **>>National Instruments>>Measureme**  
**Automation Explorer MAX .**
- 3. **>>RT** **>> PC**
- 4. **PC** . . .
- 5. .
- 6. *LabVIEW RT PC*

PC . PC



# PC

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1. .

2. .

3. RT .

MAX RT . PC

PC .

## LabVIEW Real-Time



Windows XP/2000 .  
Windows Vista ,

PC USB .

PC PXI :

1. PC . . .
2. PC Windows **>>National Instruments>>Measureme  
Automation Explorer MAX .**
3. **>>RT . >>**
4. . . .
5. .
6. *LabVIEW RT*

RT :

1. RT .

2. .

3. RT .

# IP

IP PXI PC IP 0.0.0.0 .



Windows XP/2000 .  
Windows Vista ,

PC USB .

PC PXI IP :



## IP

RT IP :

1. RT IP .
2. IP .
3. RT .

LabVIEW RT MAX IP .

IP LabVIEW Real-Time .



Windows XP/2000 .  
Windows Vista ,

PC USB .



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1. PC . . .
2. PC Windows                      **>>National Instruments>>Measureme**  
**Automation Explorer MAX .**
3.        **>>RT**                      .        **>>**
4.        .                      . .
5.        .
6.                                      *LabVIEW RT*

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1. RT .

2. RT .

3. RT .

4. RT .

MAX RT .

CAT-5 ()



IP CAT-5 ()

DHCP . DHCP :

1. Windows , OS :

- Windows Vista , >> >>
- Windows XP , >>
- Windows 2000 , >> >>

2.

3. (TCP/IP) . Windows Vista 4  
(TCP/IPv4) .

4. IP . IP .

DHCP IP , MAX

LabVIEW Real-Time

LabVIEW Real-Time , IP

IP

IP .

# MAX

Measurement & Automation (MAX)

. MAX .

. MAX MAX

>> (F5)



IP .  
, IP .  
. MAX . ( DNS  
. IP

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\_\_\_\_\_ .

IP

IP .

RT :

1. MAX

2. IP 169.254.x.x) 0.0.0.0

3.



IP , DHCP IP .  
DHCP IP  
. , DHCP DNS  
DNS . DHCP  
DHCP .

DHCP , DHCP  
. DHCP :  
• .  
• .  
• myhost myhost\_dynip123 ,  
.

DHCP .  
IP DNS . ( nslookup



FieldPoint DHCP LabVIEW Real-Time 7.0  
. FieldPoint DNS LabVIEW Real-  
Time 7.1 .

4.

IP IP .  
IP . IP

IP .

**IP** . DNS  
0.0.0.0 .

5. PXI IP , IP  
IP .

6. .

7. .

8. . TCP/IP .

**DNS**

**IP**  
IP .

**IP**

IP

IP

IP

TCP/IP

# IP

CAT-5 ()  
IP . IP  
FieldPoint FP-160x RT IP  
IP . IP  
. IP IP .  
DHCP DHCP IP . DHCP  
IP . IP  
. DHCP , . IP  
IP  
DHCP . LabVIEW Real-Time  
. IP RT , LabVIEW Real-Time  
DHCP IP . , LabVIEW  
Real-Time RT IP ( 169.254.x.x) .  
IP . LabVIEW Real-Time  
0.0.0.0 IP .  
DHCP , IP . IP  
. DHCP IP , LabVIEW Real-Time  
MAX IP . IP DHCP  
IP .



# IP

IP ,

IP

- **IP** — . IP 13 4 . 0  
255 . 10 . IP  
224.102.13.24 10 .
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. 255.255.255.0 .
- — IP .
- **DNS** —DNS IP IP .

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MAX .

IP

# IP

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IP . 255.255.0.0 IP 255.  
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IP 1 254 .  
; .) IP 0 255 .  
255.255.255.0 .  
DNS 0.0.0.0 .  
ipconfig .  
ipconfig , ipconfig <Enter> .  
ipconfig /all /all ipconfig  
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```

# TCP/IP

TCP/IP TCP/IP LabVIEW Real-Time .

IP TCP/IP  
LabVIEW Real-Time . ,

TCP/IP , LabVIEW Real-Time DHCP IP

. IP , LabVIEW Real-Time IP

(169.254.x.x) . . IP

, LabVIEW Real-Time .

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0.0.0.0 .



DHCP TCP/IP

RT .



RT . RT

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- (MAC) — (MAC) .

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- — , TCP/IP . TCP/IP (DHCP ) . ,

EtherCAT .

- IP — , IP .

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TCP/IP , .

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TCP/IP , .

- — TCP/IP ( ) ,

TCP/IP .



/ :

**10** 10 Mbps .

**100** 100 Mbps .

1,000 Mbps, 1 1 (Gbps) .

RT . RT

RT . RT



RT .

- — TCP/IP ( ) ,  
 . DDP , .  
 DDP , .  
**TCP/IP** .

RT :

RT OS . OS

RT OS . , OS

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**IP ()**

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MAX IP . IP

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LabVIEW Real-Time .

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4 :

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- RAM .

IP LabVIEW Real-Time .

RT LabVIEW Real-Time .

RT .

RT Windows OS , LabVIEW Real-Time .

LabVIEW Real-Time LabVIEW Real-Time

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LabVIEW Real-Time :

1. RT .

2. / LabVIEW Real-Time . RT , LabVIEW Real-Time

3. [LabVIEW Real-Time](#) , , .



# LabVIEW Real-Time

LabVIEW Real-Time :

1. LabVIEW Real-Time , :

a. RT .

b. / LabVIEW Real-Time .

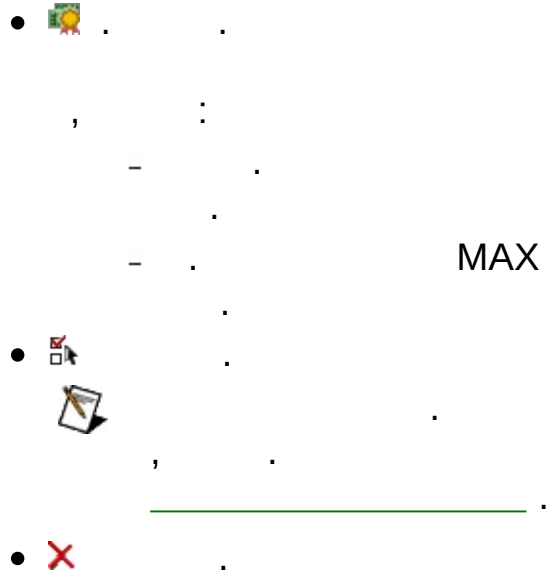
LabVIEW Re:

2. .RT , \_\_\_\_\_ .RT

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# LabVIEW Real-Time :

1. :



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**BIOS**

**BIOS** Real-Time BIOS . Real-Time  
BIOS .

# LabVIEW Real-Time :

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 MAX 3.0.x .
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- **BIOS** Real-Time BIOS  
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- PXI-814X ,  
LabVIEW Real-Time  
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LabVIEW Real-Time  
VISA/PXI

LabVIEW RT : LabVIEW Real-Time

LabVIEW 8.0

LabVIEW 7.

x

**Tools>>RT Target O**

MAX

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1.

2.

3.

MAX

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- 1. .
- 2. .
- 3. ,





# Windows

Windows MAX :

- **1 (SP1) Microsoft Windows XP** Microsoft Windows XP (ICF) , ICF LabVIEW Real-Time .

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1. >> >>
2. .
3. .
- 4.

- **2 (SP2) Microsoft Windows XP**  
**Microsoft Windows Vista**  
Windows LabVIEW Real-Time ,  
MAX .  
MAX LabVIEW Real-Time .

Windows XP SP1 MAX ICF NI KnowledgeBase  
[2WTAMTPK](#) . Microsoft Windows XP SP2 NI  
ni.com/info [winxpsp2](#) . Microsoft Windows Vista NI  
[ni.com/vista](#) .



ICF Windows

LabVIEW Real-Time NI ,  
National Instruments Real-Time .

MAX NI >> .

MAX NI <F1> .



Traditional NI-DAQ (Legacy)  
DAQ (Legacy) .

Traditional NI-

# Traditional NI-DAQ(Legacy)

LabVIEW Real-Time , National Instruments PXI Traditional NI-DAQ (Legacy) .

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1. RT PXI . \_\_\_\_\_ .
2. C:\ni-rt\system\niconfig.daq . Traditional NI-DAQ(Legacy) . \_\_\_\_\_ .
3. .
4. DAQ . SCXI DAQ PXI (PXI-1010 8, PXI-1011 4) .
  - a. MAX >>Traditional NI-DAQ (Legacy) Configuration>>Remote DAQ Configuration . IP OK .
  - b. Remote DAQ Configuration , Traditional NI-DAQ (Legacy) . DAQ .
  - c. DAQ RDA DAQ . LabVIEW Real-Time VI . E DAQ self-diagnostic VI .
5. Traditional NI-DAQ (Legacy) SCXI Remote DAQ Configuration . MAX >>Traditional NI DAQ (Legacy) Configuration>>Remote DAQ Configuration . IP OK .
  - a. Remote DAQ Configuration SCXI Chassis Add .
  - b. SCXI Chassis Next .
  - c. Next .
  - d. Chassis ID Chassis Address . ID PXI-1010 DIP . PXI-1011 dip .
  - e. Control SCXI with Internal Bus .  
C:\ni-rt\system RT pxisys.ini  
DAQ  
SCXI . Finish .
  - f. niconfig.daq .

SCXI , [RT SCXI](#) . SCXI  
ni.com/support [SCXI Troubleshooting Resource](#) .

6. SCXI RT :
  - a. 4 RDA DAQ SCXI .
  - b. .

# RDA Traditional NI-DAQ(Legacy)

RDA Traditional NI-DAQ (Legacy) :

1. **>>Traditional NI-DAQ (Legacy) Devices**  
**Add Device .**
2. **Remote Device** **Next .**
3. Select Remote Computer Remote Computer Name/IP  
Address IP . **Browse**  
**Next .**  

4. Remote Configuration . **Next .**
5. .
6. **Finish .**  
 RT NI-DAQ  
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7. .  
.
8. RT .  
Measurement & Automation Explorer Help for Traditional NI-DAQ  
*Creating Virtual Channels . MAX* **>>**  
**>>Traditional NI-DAQ** .