

Variable ISI
Channel

CLE1040

Software Operation Manual

for

CLE1040-H2K, CLE1040-H2V, CLE1040-S2, CLE1040-A2

for firmware version 1.1

Rev 2.5

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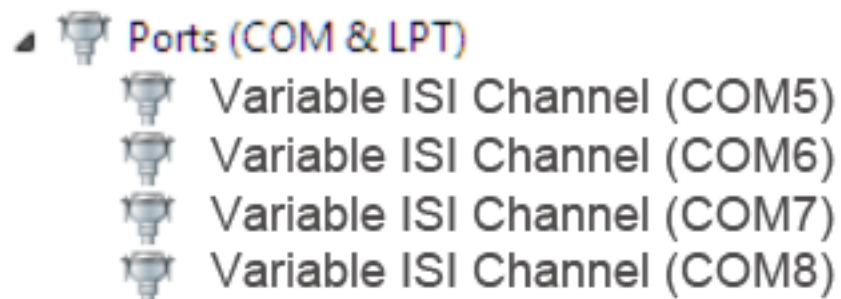
1. General

1-1 System Requirements

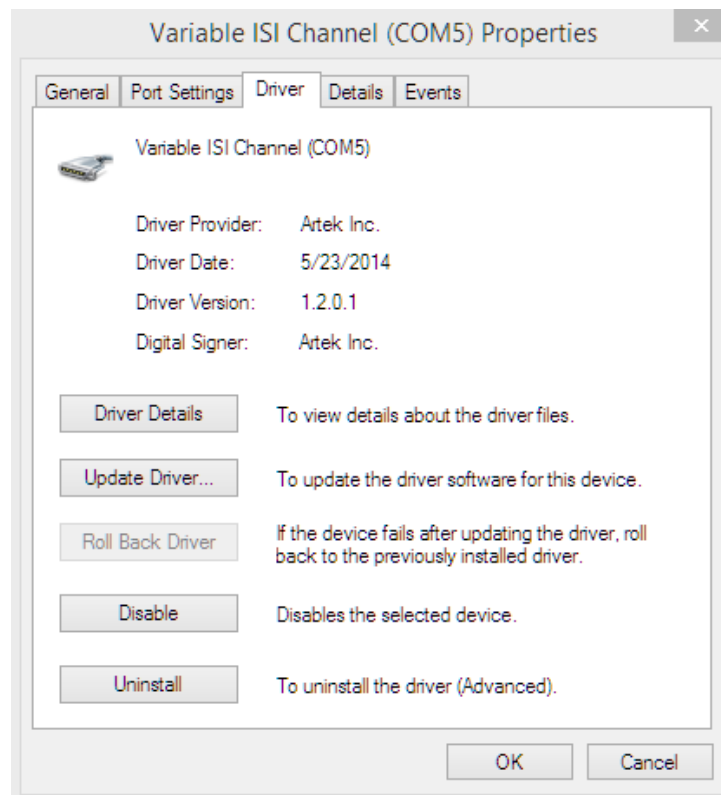
- Microsoft Windows 7 and Windows 8 Operating System
- USB2.0 Interface x1

1-2 Installation

- Install the software before you first connect CLE1040 via USB.
 - Unzip (extract) the software package if you got an zipped file.
 - Run "Setup" from the CD drive or the unzipped folder.
 - Connect CLE1040 with PC via USB and turn it on. Windows will automatically find and installs the driver.
- ❖ The CLE1040 is installed as 4x COM ports. Control is done by sending (or reading) IEEE compatible ANSI text to (and from) the COM ports.
- ❖ When the driver is installed correctly, you will find it at Device Manager, under Ports(COM & LTP) as 4 of "Variable ISI Channel".



- ❖ If the driver does not install correctly, do the followings.
 - Start "Device Manger" from Control Panel of MS-Windows
 - Look for "unknown device" or "CLE1000" or "CLE1040"
 - Select and double click the device, then you will see the following diagram.

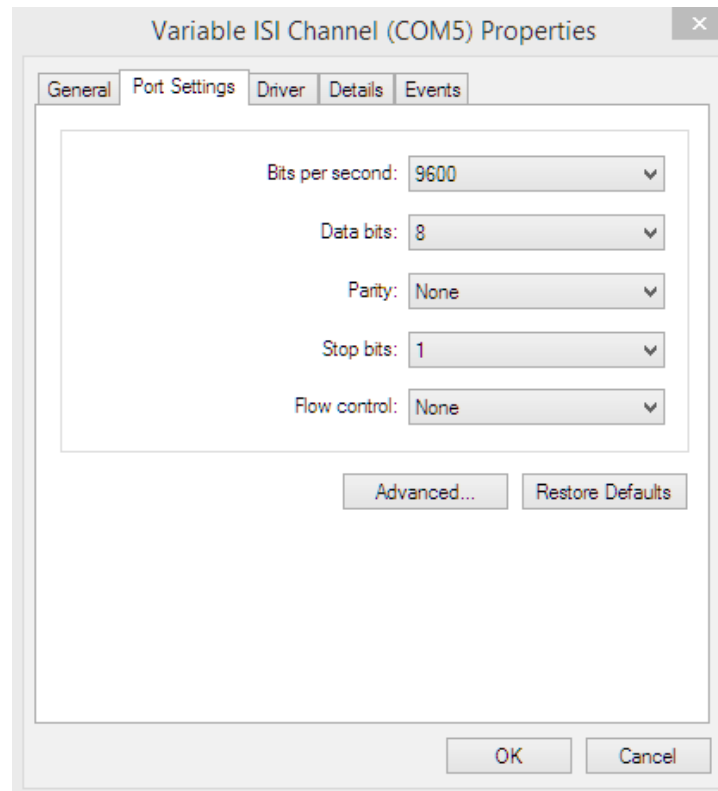


- Update the driver specifying the CD drive or the unzipped folder.
- Do the same procedure for all 4x COM ports.

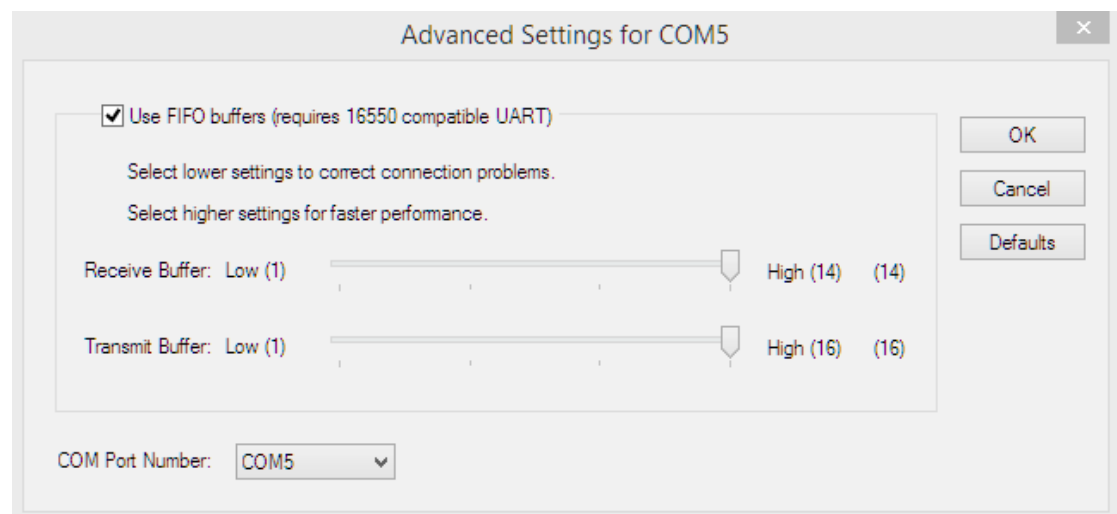
Designating COM Port Number

The COM Port number for CLE1040 is automatically assigned by the system. You can always designate your desired number at property setting of the driver.

- Start Device Manager and double click the "Variable ISI Channel" under Ports(COM & LTP)



- Go to "Port Setting" Tab and click "Advanced".



- Change the COM Port Number.

1-3 Control from Other Operating System

The operation under the operating system rather than MS-Windows 7 and 8 is not guaranteed, however the following information is disclosed for user convenience.

CLE1040 communicates with a remote host via USB interface. USBCDC Class is applied and handled as RS232C serial interface. CLE1040 constructs USB I/F without FTDI part, but it complies the standard USB Communications Device Class. The Communications Device Class is not OS dependent and other operation system such as Linux has drivers comply to it.

2. GUI

2-1 Stat up

Once installed, you can start GUI by clicking the icon, "CLE1040".

2-2 Control



- GUI is to set the amount of insertion loss by the percentage (%) value to the entire dynamic range of CLE1040. Please remember the different model of CLE1040 has different dynamic range.
- Specify the % value in the number box or by the slide bar, by the step of 0.1%.



#	Name	Description
1	Channel Windows	Each channel setting
2	Status	Shows the status of the channel. Green: Running Yellow: Busy Red: Error
3	Setting Value	Shows the percentage in its dynamic range
4	Value Gage	Slide to change the setting value in percentage
5	Value window	Enter the setting value in percentage
6	Preset Window	Enter or select the number for one click setting Right-Click for editing the number.
7	Individual Control check box	Check this box for allowing individual operation. Simultaneous operation is always available with #8 section.
8	Value Window for Simultaneous Operation	Enter value or slide the bar for setting the value in dynamic range for simultaneous operation

3. Commands

3-1 Conformity

With some unique command dedicated for CLE1040, most of the commands are conformity with IEEEStd488-2 and SCPI-1990.

LF(0x0A) is always (and only) required at the end of the command.

3-2 Dedicated Commands

ISI Value

OUTPut:ISI[:LEVEL]

Specifies the ISI (loss) amount in percentage of CLE1040's dynamic range, (0.0% - 100.0%).

Syntax

OUTP:ISI[:LEVEL]<NR2>

OUTP:ISI[:LEVEL]?

Example

OUTP:ISI:LEVEL 50.0

Arguments

<NR2> 0.0 ~ 100.0

Response

<NR2> 0.0 ~ 100.0

ISI Output

OUTPut:ISI:STATe

Sets ISI output On/OFF

Syntax

OUTP:ISI:STAT<NRf>

OUTP:ISI:STAT?

Example

OUTP:ISI:STAT ON

Arguments

<NRf> ON or OFF

Response

<NRf> ON or OFF

3-3 IEEE Std488-2 Command

LF(0x0A) is always (and only) required at the end of the command.

*CLS

Clear Status - Clears up entire status

Syntax

*CLS

*ESE

Event Status Enable – Specifies (or queries) the register bit value of Event Status Enable.

Syntax

*ESE <NR1>

*ESE?

Arguments

<NR1> 0 ~ 255

Response

<NR1> 0 ~ 255

*ESR?

Event Status Register – Queries and clears Standard Event Status Register (SESR).

Syntax

*ESR?

Response

<NR1> 0 ~ 255

*IDN?

ID Query – Queries the device's ID code

Response

(example) ARTEK,CLE1040,000112179,1.00

***OPC**

Operation Complete – Returns “1” when all operations complete and sets OPC bit (bit0) at SESR register.

Syntax

*OPC

*OPC?

Response

1 for *OPC?

***PSC**

Specifies whether it clears the registers for ESER and SRER at system boot.

Syntax

*PSC <NR1>

*PSC?

Arguments

<NR1> 0 Do not clear the register

<NR1> 1 Clears the register

Response

0 or 1

***RST**

Reset – Halts all the process and initiate the device.

Syntax

*RST

***SRE**

Service Request Enable – Specifies (or queries) the register value of Service Request Enable (SRER)

Syntax

*SRE <NR1>

*SRE?

Response

<NR1> 0 ~ 255

***STB?**

Read Status Byte – Queries the Read Status Byte Register. Upon this command, the bit6 of STB becomes MSS.

Syntax

*STB?

Response

<NR1> 0 ~ 255

***TRG**

Triger – This product does not support this function.

***TST?**

Selftest – This product does not support this function.

Syntax

*TST?

Response

<NR1> 0

***WAI**

Wait – Halts the followed command until the current command completes.

Syntax

*WAI

3-4 SCPI Command

LF(0x0A) is always (and only) required at the end of the command.

STATus:OPERation[:EVENT]

Returns and clears the Operation Status Register value.

Syntax

STAT:OPER?

STAT:OPER:EVENT?

Response

0: None

1: No ISI value specified

STATus:OPERation:CONDition

Returns and the Operation Status Register value (will not clear the register).

Syntax

STAT:OPER:COND?

Response

0: None

1: No ISI value specified

STATus:OPERation:ENABle

Sets and reads the value of the Operational Enable Register.

Syntax

STAT:OPER:ENAB <NR1>

STAT:OPER:ENAB?

Arguments

1 : Reflects variation of bit1 to bit 7

0: Invalidates the bit 0 variation

Response

0 or 1

STATus:OPERation:EVENT

Reads and clears the Questionable Status Register.

Syntax

STAT: QUES?

STAT: QUES:EVENT?

Response

0 : no information

bit0 : emergency halt

bit 1: time out

When this bit is 1, a serious hardware error is suspected. The value is cleared once read, however, it will be set to 1 upon certain time period if the error is not resolved.

STATus:QUESTionable:CONDition

Reads Questionable Status Register.

Syntax

STAT: QUES:COND

Response

0 : no information

bit0 : emergency halt

bit 1: time out

STATus:QUESTionable:ENABle

Sets Questionable Status Register.

Syntax

STAT:QUES:ENAB <NR1>

STAT:QUES:ENAB?

Arguments

0 ~ 3: When each bit is 1, it reflects the variation to SBR register bit 3.

Response

0 ~ 3

STATus:PRESet

Initializes the Status register including Operation and Questionable status registers.

Syntax

STAT:PRES

SYSTEM:ERRor[:NEXT]?

Returns the oldest error information and clears the error.

Response

-200,"Execution error"

SYSTEM:REMote

Sets this device REMOTE mode.

Syntax

SYST:REM

SYSTEM:VERSion?

Returns SCPIversion

Response

"1990.0"

3-5 Tips: Initial Status

1) Issue "SYStem:REMOte" command to start remote control

2) Difference between Start-up and *RST

When System Start-up

ISI Value: as the front panel dial specifies

When *RST executed

ISI Value becomes 0

3) No Trigger supported

4) Multiple commands can be received up to 127 letters

1. While executing a certain command, only one command (a set of commands) is accepted for next execution.
2. Commands after that are just ignored without any warnings.
3. When you send a command, make sure you get a response.
4. If no response, repeat it until you get a response.
5. Then, go to the next command.

Command Example

***RST;*OPC?**

Initializes the output setting. Returns 1 once done.

SYST:REM

Sets the system in remote mode.

OUTPUT:ISI:LEVE 80;*OPC?

Sets the ISI value to 80%. Returns 1 once done. Wait for the response and issue the next command. No response is returned when error. When error, make appropriate actions. From experiential data, it will not take more than 3 seconds to change the entire dynamic range (from 0% to 100%). You may process error action when you do not get the response for 5 seconds.

4 ERROR CODE

0	0, "No error"
-100	-100, "Command error"
-103	-103, "Invalid separator"
-108	-108, "Parameter not allowed"
-110	-110, "Command header error"
-113	-113, "Undefined header"
-200	-200, "Execution error"
-201	-201, "Invalid while in local"
-220	-220, "Parameter error"
-222	-222, "Data out of range"
-310	-310, "System error"
-311	-311, "Memory error"
-350	-350, "Queue overflow"
-500	-500, "Power ON"
-800	-800, "Operation complete"

Customer Support

Please contact with our customer support center.

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