

# CAN/ LIN Bus Decoder App

GDS 2000A Series

With DS2-8LA or DS2-16LA Module

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## USER MANUAL

GW INSTEK PART NO.



ISO-9001 CERTIFIED MANUFACTURER

**GW INSTEK**

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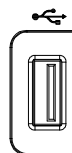
# INSTALL THE SOFTWARE

Step

1. Make sure the optional module “DS2-8LA” or “DS2-16LA” is installed in the GDS-2000A.

2. Make sure firmware version is V1.18 or higher.

3. Insert the USB memory stick with the CAN\_LinBus.gz into the USB port on the front panel.



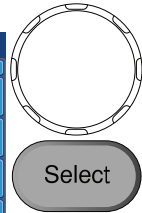
4. Press the *Utility* key.



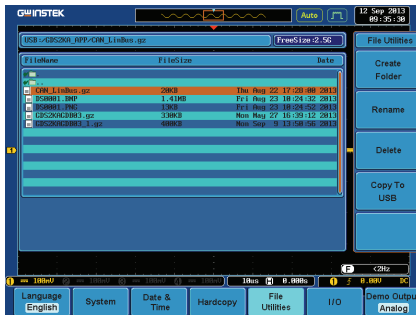
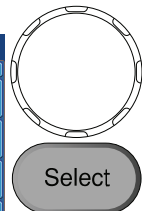
5. Select *File Utilities* from the bottom menu.



- Use the *Variable* knob to select the USB memory stick and then press the *Select* button.



- Use the *Variable* knob to select CAN\_LinBus.gz and then press the *Select* button to select it.



- Press the *Select* button again to start installation.



- The installation is complete when a message showing "Please turn off the oscilloscope and turn on again" is displayed.

# U NINSTALL THE SOFTWARE

Step

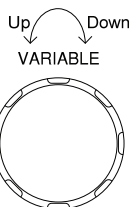
1. Press the *Test* key on the front panel



2. Press the *APP* button from the bottom menu.



3. Use the *Variable* knob to select the CAN Lin Bus APP.



4. Press the *Uninstall* button from the side menu.



5. Press the *Uninstall* button from side menu again to start the uninstallation process.



6. Uninstallation process is complete when a message showing "Please turn off the oscilloscope and turn on again" appears.

# HOW TO USE THE SOFTWARE

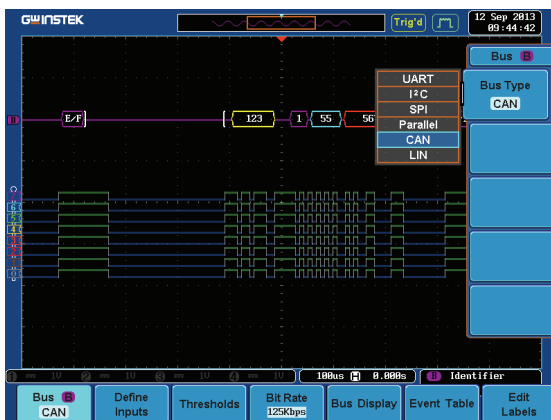
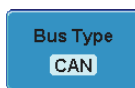
## Select a Bus Decoder Type

Step

1. Press the *B* key on the front panel.



2. Select the *Bus Type* button from the side menu. You can select *CAN* or *LIN* as the bus decoder.





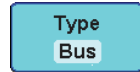
## How to Trigger on the CAN Bus Decoder

Step

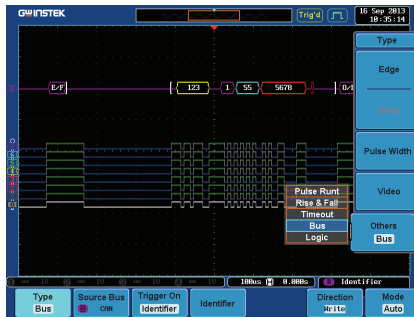
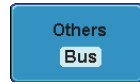
1. Press the *Trigger Menu* key on the front panel.



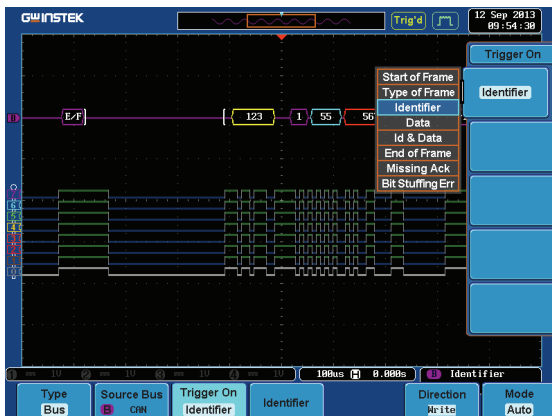
2. Press the *Type* button from the bottom menu.



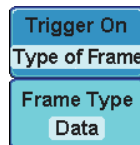
3. Press the *Others* button from the side menu and then select the Bus using the *Variable* knob and *Select* key.



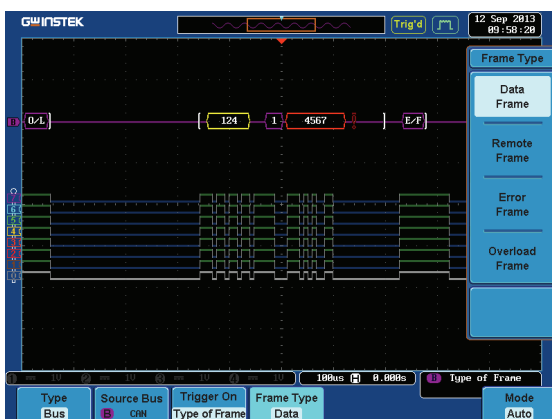
4. Press the *Trigger On* button from the lower menu and then select the desired Trigger ON condition using the *Variable* knob and *Select* key.



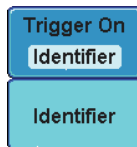
5. If the *Type of Frame* option is selected as the Trigger On condition, press the *Frame Type* button from the lower menu to select the desired frame type.



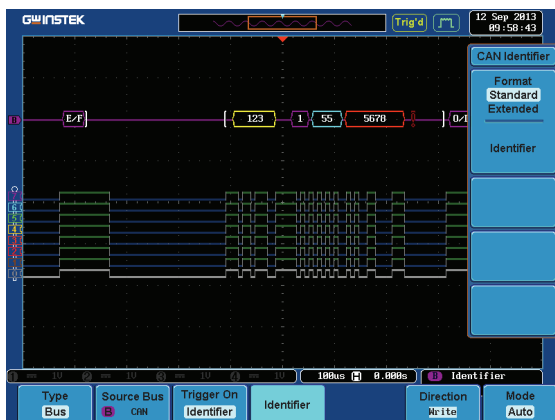
6. Select a frame type from the side menu.



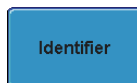
- If the *Identifier* option is selected as the Trigger On condition, press the *Identifier* button from the lower menu.



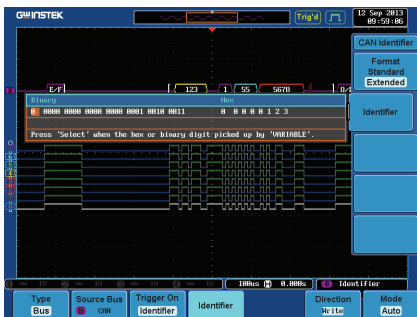
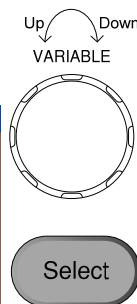
- Select the Format from the side menu.



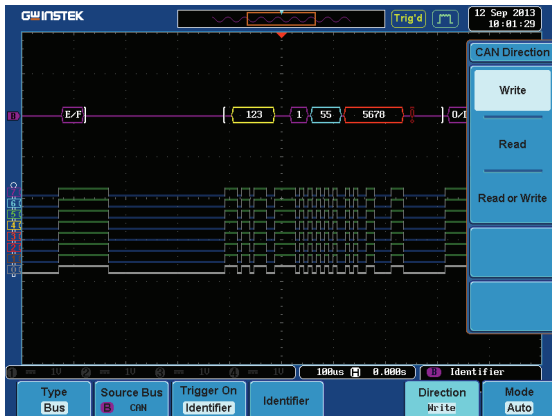
- Press the *Identifier* button from the side menu.



- Enter a binary or hex value with the *Variable* knob and *Select* key.



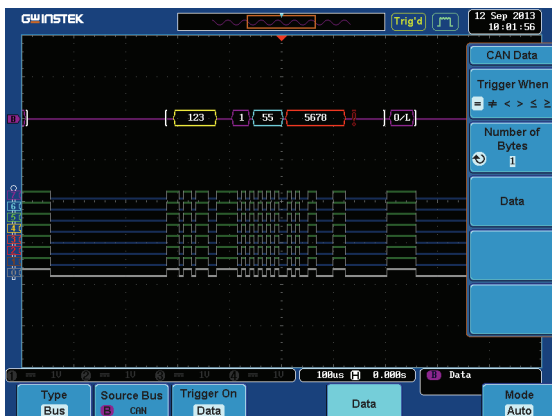
- Press the *Direction* button from the lower menu and select the desired direction.



- If *Data* option is selected as the Trigger On condition, press the *Data* button from the lower menu.



- Select the desired parameters from the side menu.



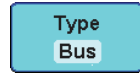
# How to Trigger on the LIN Bus Decoder

Step

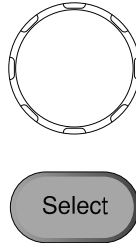
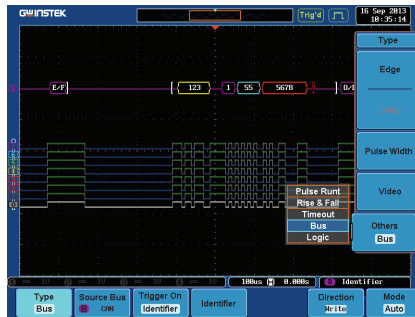
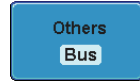
1. Press the *Trigger Menu* key on the front panel.



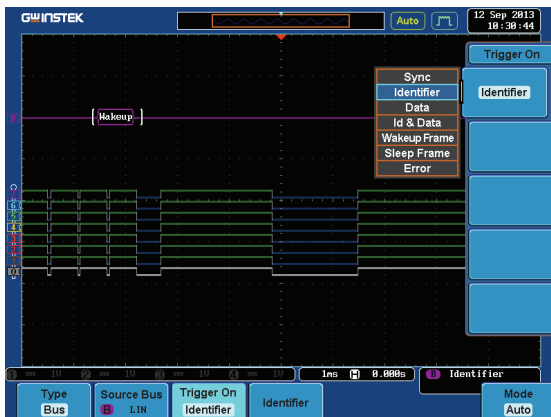
2. Press the *Type* button from the bottom menu.



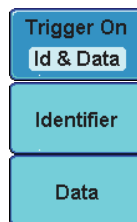
3. Press the *Others* button from the side menu and then select Bus using the *Variable* knob and *Select* key.



4. Press the *Trigger On* button from the lower menu and then select the desired *Trigger ON* condition using the *Variable* knob and *Select* key.



5. If *Identifier*, *Data*, *Identifier* or *Identifier & Data* is selected as the Trigger On condition, press the *Identifier* or *Data* button from the lower menu.



6. Select the desired parameters from the corresponding side menu.

Binary: 10 1101      Hex: 2 D

Press 'Select' when the hex or binary digit picked up by 'VARIABLE'.

**LIN Identifier**

Identifier

12 Sep 2013 10:32:21

Auto

1ms 0.000s Id & Data

Type Bus      Source Bus LIN      Trigger On Id & Data      Identifier      Data      Mode Auto

**LIN Data**

Trigger When  
=> <=> <=> >=>

Number of Bytes  
1

Data

Mode Auto

12 Sep 2013 10:32:27

Auto

1ms 0.000s Id & Data

Type Bus      Source Bus LIN      Trigger On Id & Data      Identifier      Data      Mode Auto

**LIN Data**

Trigger When  
=> <=> <=> >=>

Number of Bytes  
1

Data

Mode Auto

12 Sep 2013 10:32:34

Auto

1ms 0.000s Id & Data

Type Bus      Source Bus LIN      Trigger On Id & Data      Identifier      Data      Mode Auto

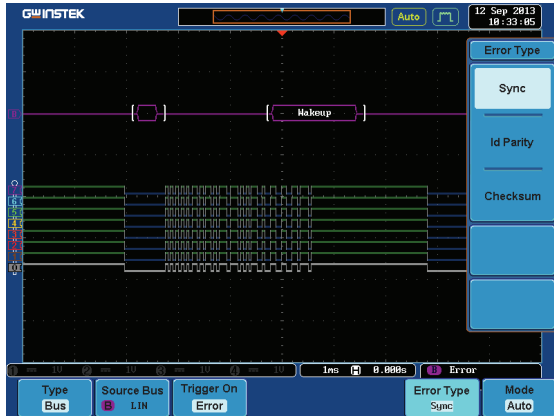
Binary      Hex

Press 'Select' when the hex or binary digit picked up by 'VARIABLE'.  
Press 'Select' again when the specific digit's value assigned.

- 7. If the *Error* option is selected as the Trigger On condition, select the desired parameters from the corresponding side menu.

Trigger On  
Error










Error Type  
Sync








# APPENDIX







## CAN Bus Decode Display Information:

Field	Description
Start of frame	 Start of frame is shown as a white left bracket.
Identifier	 The Identifier field is shown as a yellow box.
DLC (data length control)	 The DLC field is shown as a purple box.
Data	 The Data field is shown as a cyan box.
CRC	 The CRC field is shown as an orange box.
Missing Ack	 Missing Acknowledge is shown as a red exclamation symbol.
End of frame	 End of frame is shown as a white right bracket.
Bit stuffing error	 Bit stuffing error is shown as a red box.
Error frame and Overland	 Error frame and Overland are shown as a purple box.

## LIN Bus Decode Display Information:

Field	Description
Start of frame	 Start of frame is shown as a white left bracket.
Break and Sync	 The Break and Sync fields are shown as a purple box.
Identifier and Parity	 The Identifier and Parity fields are shown a yellow box.

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Data	 The Data field is shown as a cyan box.
Checksum and Wakeup	 The Checksum and Wakeup fields are shown as a purple box.
End of frame	 End of frame is shown as a white right bracket.
Error type	 Error type is shown as a red box.
Sync, Parity, Checksum	 →  When a check sum error happens, the checksum field turns into an Error type field.

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