3.4.15.3 :BUS<n>:LIN:STANdard

Syntax

:BUS<*n*>**:LIN:STANdard** <*value*>

:BUS<*n*>**:LIN:STANdard?**

Description

Sets or queries the version of LIN bus.

Parameter

Name	Type	Range	Default
<n>	Discrete	{1|2|3|4}	-
<value>	Discrete	{V1X|V2X|MIXed}	MIXed

Remarks

N/A

Return Format

The query returns V1X, V2X, or MIX.

Example

```
:BUS1:LIN:STANdard V2X                  /*Sets the LIN bus version to
V2X.*/
:BUS1:LIN:STANdard?                     /*The query returns V2X.*/
```

3.5 :BODeplot Commands

The **:BODeplot** commands are used to execute the bode-related settings and operations.

Bode plot is a way of graphically displaying the frequency response of a system. Through the analysis on the system's gain and phase margins, you can determine the stability of the system.

With the built-in signal generator module, the oscilloscope generates the sweep signal of a specified frequency range and outputs to the switch power supply circuit under test. Then, the oscilloscope draws a Bode plot displaying the variation of phase and gain with different frequencies.

NOTE

The commands are only available for DHO914S and DHO924S.

3.5.1 :BODeplot:ENABle

Syntax

:BODeplot:ENABle <*bool*>

:BODeplot:ENABle?

Description

Sets or queries the on/off status of the bode plot.

Parameter

Name	Type	Range	Default
<bool>	Bool	{{1|ON}|{0|OFF}}	0|OFF

Remarks

N/A

Return Format

The query returns 1 or 0.

Examples

```
:BODeplot:ENABle ON /*Enables the bode plot.*/
:BODeplot:ENABle? /*The query returns 1.*/
```

3.5.2 :BODeplot:RUNStop

Syntax

:BODeplot:RUNStop <*bool*>

:BODeplot:RUNStop?

Description

Sets or queries the run/stops status of the bode plot.

Parameter

Name	Type	Range	Default
<bool>	Bool	{{1|ON}|{0|OFF}}	0|OFF

Remarks

N/A

Return Format

The query returns 1 or 0.

Example

```
:BODeplot:RUNStop ON /*Starts the bode plot drawing.*/
:BODeplot:RUNStop? /*The query returns 1.*/
```

3.5.3 :BODeplot:SWEeptype

Syntax

:BODeplot:SWEeptype <*type*>

:BODeplot:SWEeptype?

Description

Sets or queries the sweep type of the bode plot.

Parameter

Name	Type	Range	Default
<type>	Discrete	{LOG|LINE}	LOG

Remarks

- **LOG:** logarithmic sweep, indicating that the frequency of the swept sine wave varies logarithmically with the time.
- **LINE:** linear sweep, indicating that the frequency of the swept sine wave varies linearly with the time.

Return Format

The query returns LOG or LINE.

Example

```
:BODeplot:SWEeptype LINE    /*Sets the sweep type of the bode plot
to Linear.*/
:BODeplot:SWEeptype?      /*The query returns LINE.*/
```

3.5.4 :BODeplot:REF:IN

Syntax

:BODeplot:REF:IN <*source*>

:BODeplot:REF:IN?

Description

Sets or queries the input source of the bode plot.

Parameter

Name	Type	Range	Default
<source>	Discrete	{CHANnel1|CHANnel2|CHANnel3|CHANnel4}	CHANnel1

Remarks

N/A

Return Format

The query returns CHANnel1, CHANnel2, CHANnel3, or CHANnel4.

Example

```
:BODeplot:REF:IN CHANnel1 /*Sets the input source of the bode plot
to CH1.*/
:BODeplot:REF:IN? /*The query returns CHANnel1.*/
```

3.5.5 :BODeplot:REF:OUT

Syntax

:BODeplot:REF:OUT <*source*>

:BODeplot:REF:OUT?

Description

Sets or queries the output source of the bode plot.

Parameter

Name	Type	Range	Default
<source>	Discrete	{CHANnel1|CHANnel2|CHANnel3|CHANnel4}	CHANnel1

Remarks

N/A

Return Format

The query returns CHANnel1, CHANnel2, CHANnel3, or CHANnel4.

Example

```
:BODeplot:REF:OUT CHANnel1 /*Sets the output source of the bode
plot to CH1.*/
:BODeplot:REF:OUT? /*The query returns CHANnel1.*/
```

3.5.6 :BODeplot:STARt

Syntax

:BODeplot:STARt <*freq*>

:BODeplot:STARt?

Description

Sets or queries the start frequency of the sweep signal for the Bode plot function. The default unit is Hz.

Parameter

Name	Type	Range	Default
<freq>	Real	10 Hz to 24.99 MHz	10 Hz

Remarks

The "Start Frequency" must be smaller than the "Stop Frequency". You can use *:BODeplot:STOP* to set or query the stop frequency of the sweep signal.

Return Format

The query returns the start frequency in scientific notation. The unit is Hz.

Example

```
:BODeplot:STARt 100    /*Sets the start frequency to 100 Hz.*/
:BODeplot:STARt?      /*The query returns 1.000000E+2.*/
```

3.5.7 :BODeplot:STOP

Syntax

:BODeplot:STOP <*freq*>

:BODeplot:STOP?

Description

Sets or queries the stop frequency of the sweep signal for the Bode plot function. The default unit is Hz.

Parameter

Name	Type	Range	Default
<freq>	Real	100 Hz to 25 MHz	100 Hz

Remarks

The "Stop Frequency" should be greater than the "Start Frequency". You can use *:BODeplot:STARt* to set or query the start frequency of the sweep signal.

Return Format

The query returns the stop frequency in scientific notation. The unit is Hz.

Example

```
:BODeplot:STOP 500    /*Sets the stop frequency to 500 Hz.*/
:BODeplot:STOP?      /*The query returns 5.000000E+2.*/
```

3.5.8 :BODeplot:POINts

Syntax

:BODeplot:POINts <*num*>

:BODeplot:POINts?

Description

Sets or queries the number of points per decade.

Parameter

Name	Type	Range	Default
<num>	Integer	10 to 300	10

Remarks

N/A

Return Format

The query returns an integer.

Example

```
:WAVeform:POINts 20   /*Sets the number of points per decade to
20.*/
:WAVeform:POINts?   /*The query returns 20.*/
```

3.5.9 :BODeplot:VOLTage

Syntax

:BODeplot:VOLTage <*range*>,<*amp*>

:BODeplot:VOLTage? <*range*>

Description

Sets or queries the voltage amplitude of the sweep signal within the specified frequency range for the Bode plot function. The default unit is V for voltage and Hz for frequency.

Parameter

Name	Type	Range	Default
<amp>	Real	20 mV to 5 V	-
<range>	Discrete	{ALL|10|100|1K|10K|100K|1M|10M|25M|1000|10000|100000|1000000|10000000|25000000|1e1|1e2|1e3|1e4|1e5|1e6|1e7|2.5e7}	-

Remarks

- When <range> is set to ALL, it sets a uniform voltage amplitude for the sweep signals in all frequency ranges. The voltage amplitude of the sweep signal cannot be changed.
- When <range> is set to other parameter, the voltage amplitude of the sweep signal can be modified. You can set a voltage amplitude for the sweep signal whose frequency is greater than the selected value.

Return Format

The query returns the voltage amplitude of the sweep signal within the specified frequency range in scientific notation. The unit is V.

Example

```
:BODeplot:VOLTage 100,0.2     /*Sets the voltage amplitude of the
sweep signal whose frequency is greater than 100 Hz to 200 mV.*/
:BODeplot:VOLTage? 100    /*The query returns 2.000000E-1.*/
```

3.6 :CHANnel<n> Commands

The **:CHANnel<n>** commands are used to set or query the bandwidth limit, coupling, vertical scale, vertical offset, and other vertical system parameters of the analog channel.

- Setting the bandwidth limit can reduce the noises in the displayed waveforms. For example, the signal under test is a pulse with high frequency oscillation. When the bandwidth limit is turned off, the high frequency components of the signal under test can pass the channel. When the bandwidth limit is turned on,