

PAM_MANCHESTERPULSE.VI*

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	<p>This module refers to LabVIEW, a software development environment that features a graphical programming language. Please see the LabVIEW QuickStart Guide¹ module for tutorials and documentation that will help you:</p>
	<p>• Get started with LabVIEW</p>
	<p>• Get started with LabVIEW to Audio Signal Processing</p>

Table 1

NOTE: Visit LabVIEW Setup² to learn how to adjust your own LabVIEW environment to match the settings used by the LabVIEW screencast video(s) in this module. Click the "Fullscreen" button at the lower right corner of the video player if the video does not fit properly within your browser window.

1 LabVIEW SubVI: pam_ManchesterPulse.vi

- **Description:** Create a prototype Manchester pulse shape. The Manchester pulse is a polar NRZ (non return to zero) that is 1 during the first half of the bit interval and -1 during the second half of the bit interval.
- **Category:** Pulse amplitude modulation ("pam" prefix)

2 Inputs (Controls)

1. Tb, bit interval [s] (1) – DBL
2. fs, sampling frequency [Hz] (10) – DBL

Parentheses () indicate default value; square brackets [] designate units.

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¹"NI LabVIEW Getting Started FAQ" <<http://cnx.org/content/m15428/latest/>>

²"LabVIEW Setup for "Communication Systems Projects with LabVIEW"" <<http://cnx.org/content/m17319/latest/>>

3 Outputs (Indicators)

1. `pulse_shape` – 1-D array of DBL

4 Required Behavior

- `pulse_shape` contains `Tb` times `fs` sample points.
- The first half of the output array contains +1, while the second half of the output array contains -1.

5 LabVIEW Coding Tips

View the screencast video in [Create a SubVI in LabVIEW³](#) to learn the mechanics of subVIs.

Refer to the Figure 1 screencast video for LabVIEW coding tips and techniques specific to this subVI.

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Figure 1: [video] LabVIEW coding tips and techniques for `pam_ManchesterPulse.vi`

³"Create a SubVI in LabVIEW" <<http://cnx.org/content/m14767/latest/>>