



DelaySystem User Guide

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1 Introduction

DelaySystem is a simple and cost-effective way to upgrade a standard time-lapse VCR to offer pre-event recording. This advanced feature, normally associated with costly digital recording systems, offers the advantage of capturing the complete event of interest rather than a second or two after the trigger.

Delaysystem operates by utilising large banks of high-speed memory to provide a 1 to 120 second video delay with a negligible loss in quality. (custom delays are available)The system consists of a small DC powered unit that is very simple to operate, ideal for covert installations. DelaySystem also offers a number of operational benefits. For example, in battery powered remote surveillance applications, installing DelaySystem can significantly improve battery life by storing video while a VCR is completely powered-down. When a trigger is received, the VCR may be powered-up and start recording well before the delay cycle is completed.

Delaysystem can also improve the performance of low-cost motion detectors by allowing decision times to be increased, dramatically reducing the number of false triggers.

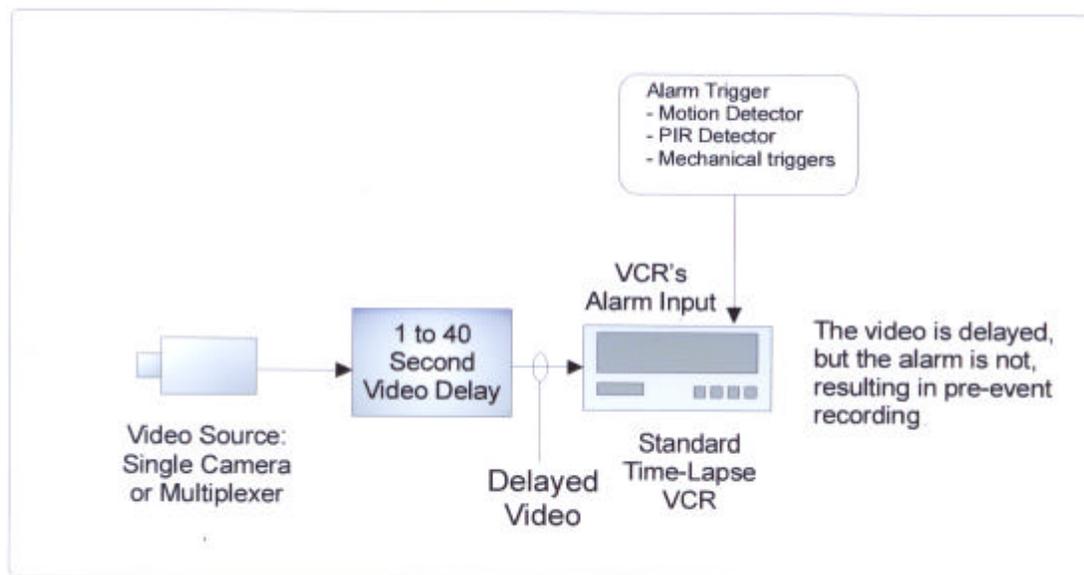


Figure 1: Typical DelayLine Application

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2 Quick Start Guide

DelaySystem is simple to set-up and install. The following is a basic installation guide.

2.1 Connect video inputs and outputs as shown in Figure 2. Video input / output levels are 1 Vpp into 75R.

2.2 Connect a +7 to 32 V DC power source to the encoder and decoder to units. As a guide, the system requires approximately 125 mA at 12 Volts DC.

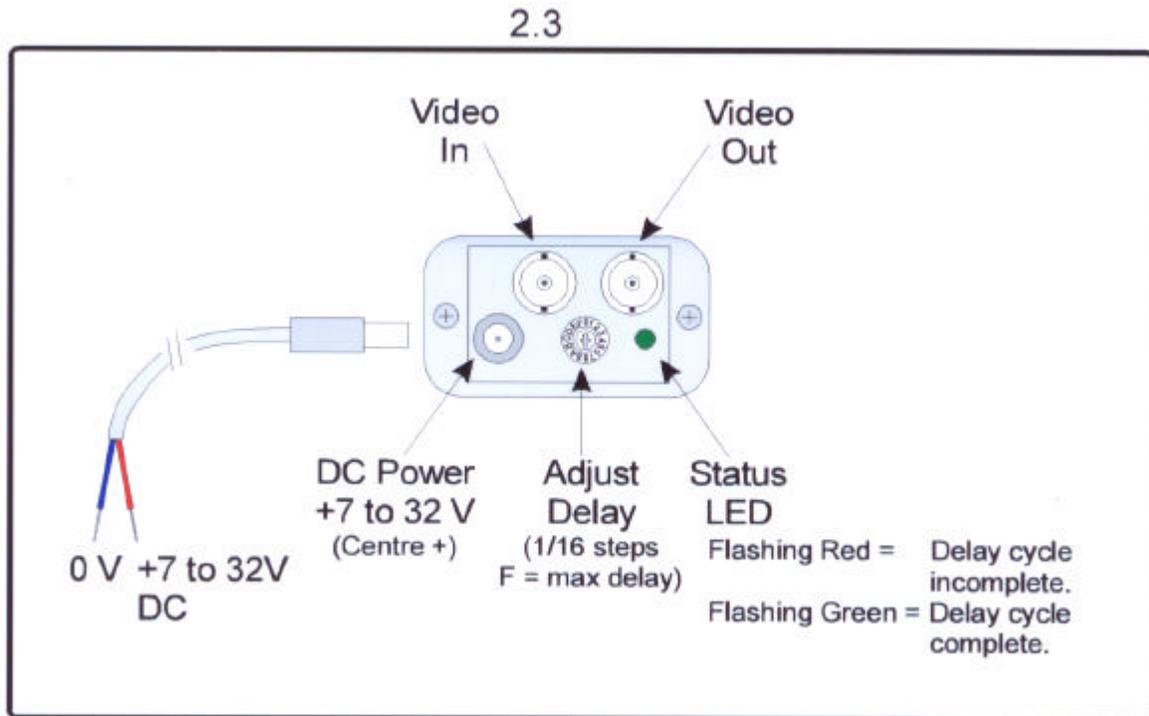


Figure 2: Typical DelayLine Installation

2.4 Video will be by-passed from input to output until the delay period has elapsed, at which point delayed video will automatically switch over to the delayed output. At the same time the status LED will change from flashing red to flashing green.

2.5 The maximum delay time is indicated on the label on the underside of the unit. The delay may be altered by using the hex switch located on the front panel (0 = least delay, F = max delay). For the actual delay increments please refer to Section 3.1.

NB: With power removed, DelaySystem automatically bypasses the video from input to output.

3 Operation

DelaySystem is simple to operate. The system is compatible with PAL, NTSC or SECAM video formats without the need for user configuration. The maximum delay time is dependant upon the amount of memory fitted. Please refer to the label on the under side of the unit indicating the unit's configuration.

The main user control is the front panel hex switch that allows for user adjustment of the delay time in 16 steps. If a longer delay is required it is possible to trade video quality for extra delay time by changing an internal DIP switch (see Section 4). As standard, DelaySystem units are factory set for high quality video performance. Please see Figure 3 below showing some of the available DelaySystems options.

Model	High Quality		Medium Quality	
	Max Delay	Step Size	Max Delay	Step Size
DelayLine 7.5 / 10	7.5 Sec	0.47 Sec	10 Sec	0.63 Sec
DelayLine 15 / 30	15 Sec	0.94 Sec	20 Sec	1.25 Sec
DelayLine 30 / 40	30 Sec	1.88 Sec	40 Sec	2.50 Sec
DelayLine 60 / 80	60 Sec	3.75 Sec	80 Sec	5.00 Sec

Figure 3: DelayLine Delay Times

At initial power up, DelaySystem bypasses the incoming video to the output until the delay time has been reached, at which point the delayed video is then output.

3.1 Delay Control

The hex switch on the front panel controls the delay. Position "F" is the maximum delay, position "0" the minimum delay. For other settings the delay is given by the following formula:

$$\text{Delay} = (\text{DIPSWITCH} + 1) * \text{StepSize}$$

Example: hex switch position 4 for a 30 second DelaySystem selects the following delay: $(4 + 1) * 1.88 = 9.4$ seconds.

NB: Changing the hex switch while powered may result in indeterminate output until the delay cycle has fully completed.

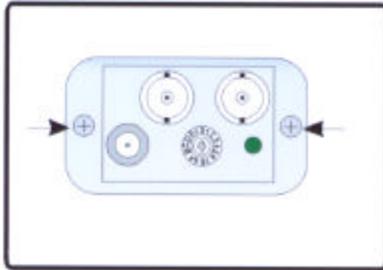
3.2 LED

When operating, a LED indicates the status of the unit. Flashing red while the initial delay cycle is completing and then flashing green when outputting delayed video.

3.3 Video By-Pass / Loop-Through:

To aid fault finding, when powered down DelayLine bypasses the video input to the output unchanged.

4 Configuration



The DelayLine may be configured by internal DIP switches. To adjust the switches, firstly remove the two front panel screw covers and then remove the exposed screws. Gently slide the PCB about half way out of box to expose the DIP switches (see Figure 4 below).

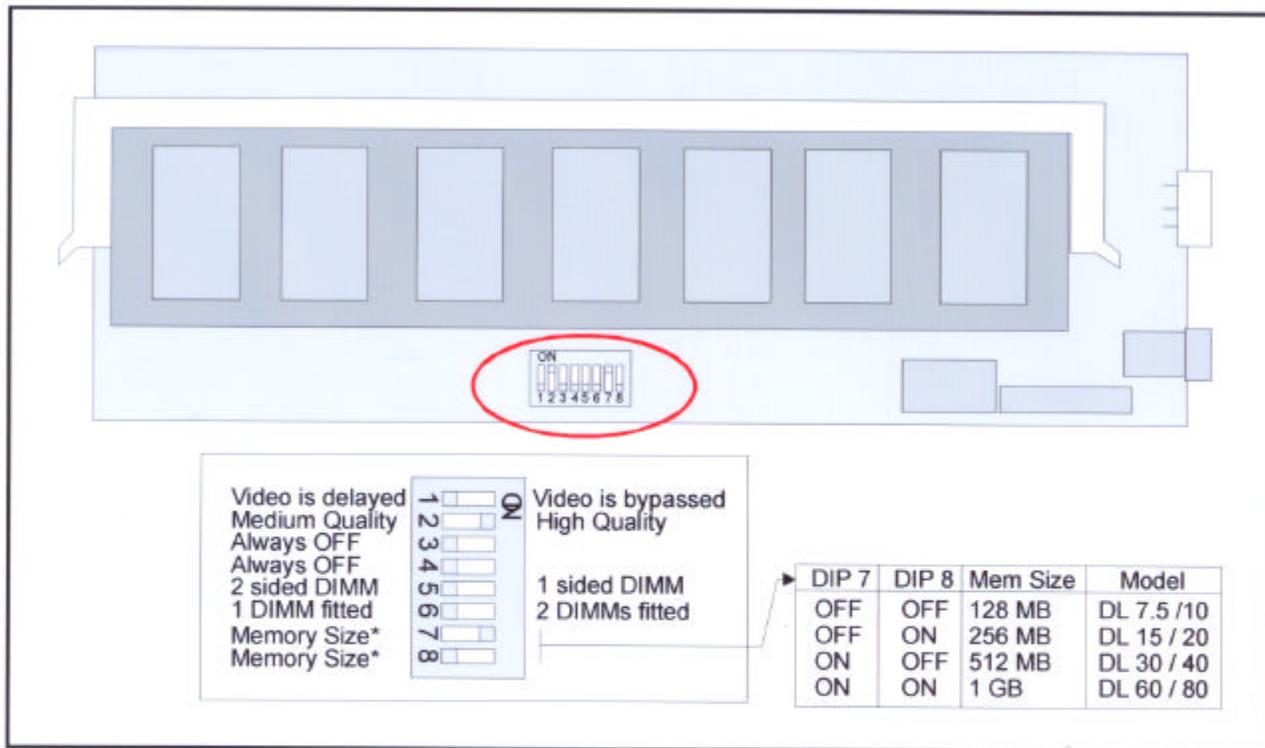


Figure 4: Internal Configuration DIP Switches

Switch No.	OFF	ON	Factory Default Setting
1	Video is delayed	Video is bypassed	OFF
2	Medium video quality	High video quality	ON
3	Not used	Not used	OFF
4	Not used	Not used	OFF
5	Double sided DIMM (16 devices) fitted	Single sided DIMM (8 devices) fitted	As required
6	1 DIMM fitted	2 DIMMs fitted	As required
7	Total memory size	Total memory size	As required
8	Total memory size	Total memory size	As required