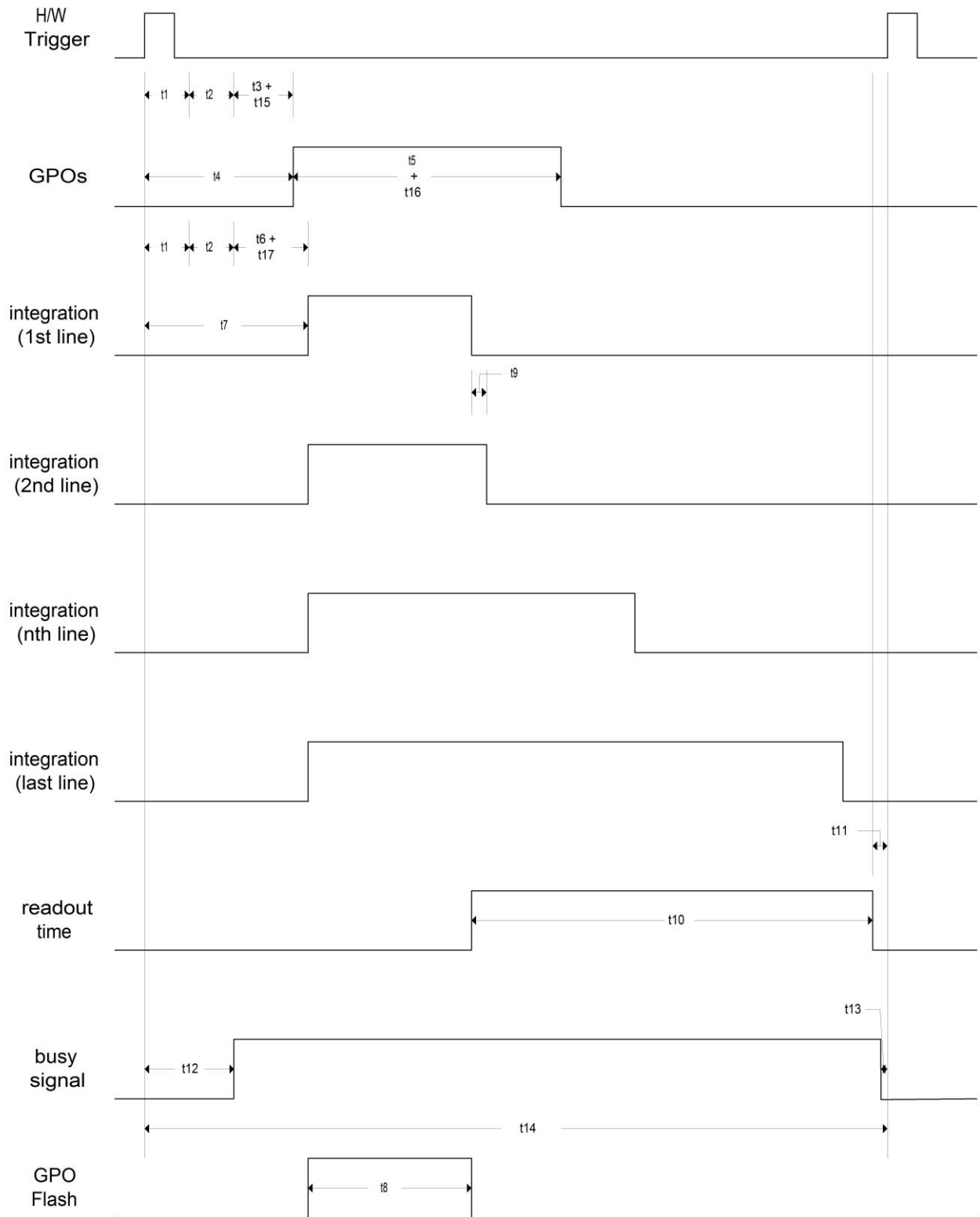# PL-D7715 Trigger WITH Controlled Lighting

User should use GPO Flash to control Light Source or Electro-mechanical shutter

Signal	Description	Min	Typ	Max
t1	Board Level hardware propagation delay (3.3V HCMOS to trigger)		10 ns	
	Enclosed hardware propagation delay (5V to trigger optocoupler)		8 us ON 30 us OFF (Note 1)	
	Enclosed hardware propagation delay (12V to trigger optocoupler)		2.5 us ON 40 us OFF (Note 1)	
t2	Debounce time	1.0 us	1 us	1.0 us
t3	Programmable GPO delay	0.0 us	in 10 us steps	2.5 sec
t4	Start of trigger to start of GPO (t1 + t2 + t3 + t15)		9.0 us	
t5	Programmable GPO time	10.0 us	in 10 us steps	2.5 sec
t6	Programmable Trigger Delay	0.0 us	in 10 us steps	2.5 sec
t7	Start of trigger to start of integration (t1 + t2 + t6 + t17)		561 us (Note 2)	
t8	Integration time	140 us	Step Size 2.33 us	5.0 sec
t9	Row Time		See Readout Times	
t10	Read out time		See Readout Times	
t11	End of read out to start of trigger	50 us (no updates)	depends on updates	1.0 ms (with updates)
t12	Start of trigger to start of busy		t1 + t2	
t13	End of busy to start of trigger		25.0 ns	
t14	Frame period		t7 + t8 + t9 + t10 + t11	
t15 & t16	Board Level hardware propagation delay (3.3V HCMOS from GPO)		20 ns	
	Enclosed hardware propagation delay (GPO optocoupler with 1K pullup to 5V)		3 us ON 70 us OFF (Note 1)	
t17	Global Reset Release Setup Timing	549.24 us	560 us	571.65 us

Notes:

1. "ON" refers to current flowing through the optocoupler and "OFF" refers to no current flowing through the optocoupler.   Refer to interface schematics.

2. For minimum hardware trigger, the programmable trigger (t6) should be set to 0 (minimum).   For a software trigger, t7 = 1.7 ms typical.