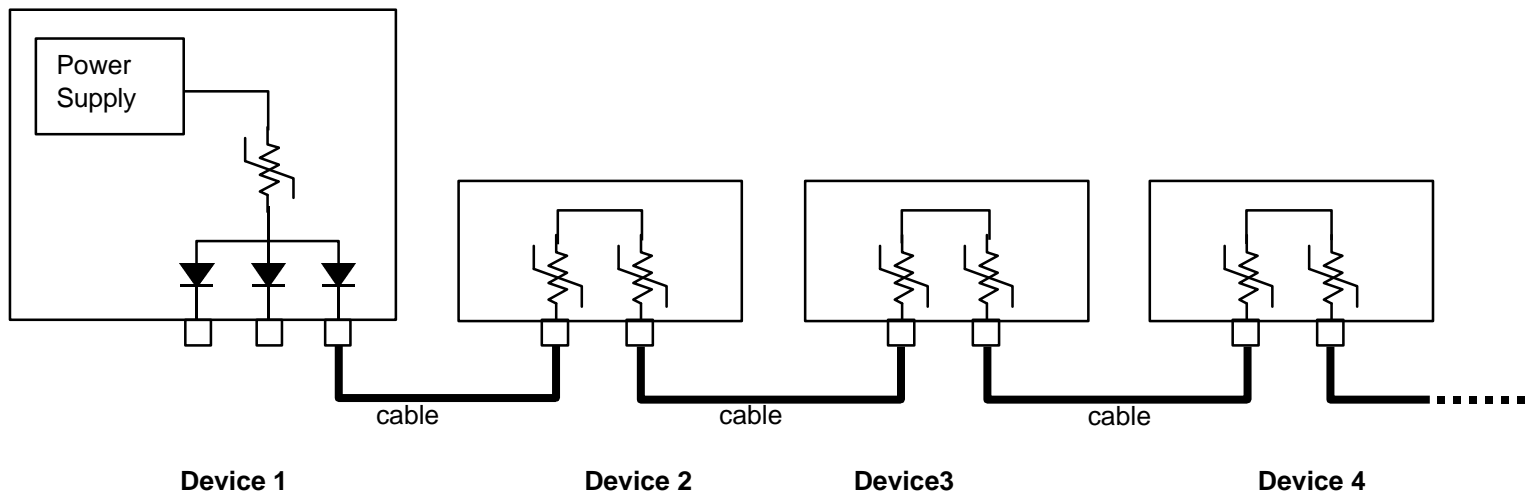


Concern: In a pass-through device, voltage drops across two current limiters, not one.  
What implications does this have to available power and the number of hops?



Variables	
Supply Voltage:	<b>30 V</b>
Supply Current:	<b>1.5 A</b>
Limiter resistance:	<b>0.300 <math>\Omega</math></b>
Cable resistance:	<b>0.330 <math>\Omega</math></b>

	Vin (V)	Current (A)	Resistance ( $\Omega$ )	Voltage Drop	Vout (V)	Pout (W)
Device 1	30.00	1.5	0.300	0.450	29.55	44.33
Cable 1	29.55	1.5	0.330	0.495	29.06	43.58
Device 2	29.06	1.5	0.600	0.900	28.16	42.23
Cable 2	28.16	1.5	0.330	0.495	27.66	41.49
Device 3	27.66	1.5	0.600	0.900	26.76	40.14
Cable 3	26.76	1.5	0.330	0.495	26.27	39.40
Device 4	26.27	1.5	0.600	0.900	25.37	38.05
Cable 4	25.37	1.5	0.330	0.495	24.87	37.31
Device 5	24.87	1.5	0.600	0.900	23.97	35.96
Cable 5	23.97	1.5	0.330	0.495	23.48	35.21
Device 6	23.48	1.5	0.600	0.900	22.58	33.86
Cable 6	22.58	1.5	0.330	0.495	22.08	33.12

Device	7	22.08	1.5	0.600	0.900	21.18	31.77
Cable	7	21.18	1.5	0.330	0.495	20.69	31.03
Device	8	20.69	1.5	0.600	0.900	19.79	29.68
Cable	8	19.79	1.5	0.330	0.495	19.29	28.94
Device	9	19.29	1.5	0.600	0.900	18.39	27.59
Cable	9	18.39	1.5	0.330	0.495	17.90	26.84
Device	10	17.90	1.5	0.600	0.900	17.00	25.49
Cable	10	17.00	1.5	0.330	0.495	16.50	24.75
Device	11	16.50	1.5	0.600	0.900	15.60	23.40
Cable	11	15.60	1.5	0.330	0.495	15.11	22.66
Device	12	15.11	1.5	0.600	0.900	14.21	21.31
Cable	12	14.21	1.5	0.330	0.495	13.71	20.57
Device	13	13.71	1.5	0.600	0.900	12.81	19.22
Cable	13	12.81	1.5	0.330	0.495	12.32	18.47
Device	14	12.32	1.5	0.600	0.900	11.42	17.12
Cable	14	11.42	1.5	0.330	0.495	10.92	16.38
Device	15	10.92	1.5	0.600	0.900	10.02	15.03
Cable	15	10.02	1.5	0.330	0.495	9.53	14.29
Device	16	9.53	1.5	0.600	0.900	8.63	12.94
Cable	16	8.63	1.5	0.330	0.495	8.13	12.20

Device	17	8.13	1.5	0.600	0.900	7.23	10.85
Cable	17	7.23	1.5	0.330	0.495	6.74	10.10
Device	18	6.74	1.5	0.600	0.900	5.84	8.75
Cable	18	5.84	1.5	0.330	0.495	5.34	8.01
Device	19	5.34	1.5	0.600	0.900	4.44	6.66
Cable	19	4.44	1.5	0.330	0.495	3.95	5.92
Device	20	3.95	1.5	0.600	0.900	3.05	4.57
Cable	20	3.05	1.5	0.330	0.495	2.55	3.83

Variables	
Supply Voltage:	<b>30</b> V
Supply Current:	<b>1</b> A
Limiter resistance:	<b>0.300</b> $\Omega$
Cable resistance:	<b>0.330</b> $\Omega$

	Vin (V)	Current (A)	Resistance ( $\Omega$ )	Voltage Drop	Vout (V)	Pout (W)
Device 1	30.00	1	0.300	0.300	29.70	29.70
Cable 1	29.70	1	0.330	0.330	29.37	29.37
Device 2	29.37	1	0.600	0.600	28.77	28.77
Cable 2	28.77	1	0.330	0.330	28.44	28.44
Device 3	28.44	1	0.600	0.600	27.84	27.84
Cable 3	27.84	1	0.330	0.330	27.51	27.51
Device 4	27.51	1	0.600	0.600	26.91	26.91
Cable 4	26.91	1	0.330	0.330	26.58	26.58
Device 5	26.58	1	0.600	0.600	25.98	25.98
Cable 5	25.98	1	0.330	0.330	25.65	25.65
Device 6	25.65	1	0.600	0.600	25.05	25.05
Cable 6	25.05	1	0.330	0.330	24.72	24.72

Device	7	24.72	1	0.600	0.600	24.12	24.12
Cable	7	24.12	1	0.330	0.330	23.79	23.79
Device	8	23.79	1	0.600	0.600	23.19	23.19
Cable	8	23.19	1	0.330	0.330	22.86	22.86
Device	9	22.86	1	0.600	0.600	22.26	22.26
Cable	9	22.26	1	0.330	0.330	21.93	21.93
Device	10	21.93	1	0.600	0.600	21.33	21.33
Cable	10	21.33	1	0.330	0.330	21.00	21.00
Device	11	21.00	1	0.600	0.600	20.40	20.40
Cable	11	20.40	1	0.330	0.330	20.07	20.07
Device	12	20.07	1	0.600	0.600	19.47	19.47
Cable	12	19.47	1	0.330	0.330	19.14	19.14
Device	13	19.14	1	0.600	0.600	18.54	18.54
Cable	13	18.54	1	0.330	0.330	18.21	18.21
Device	14	18.21	1	0.600	0.600	17.61	17.61
Cable	14	17.61	1	0.330	0.330	17.28	17.28
Device	15	17.28	1	0.600	0.600	16.68	16.68
Cable	15	16.68	1	0.330	0.330	16.35	16.35
Device	16	16.35	1	0.600	0.600	15.75	15.75
Cable	16	15.75	1	0.330	0.330	15.42	15.42

Device	17	15.42	1	0.600	0.600	14.82	14.82
Cable	17	14.82	1	0.330	0.330	14.49	14.49
Device	18	14.49	1	0.600	0.600	13.89	13.89
Cable	18	13.89	1	0.330	0.330	13.56	13.56
Device	19	13.56	1	0.600	0.600	12.96	12.96
Cable	19	12.96	1	0.330	0.330	12.63	12.63
Device	20	12.63	1	0.600	0.600	12.03	12.03
Cable	20	12.03	1	0.330	0.330	11.70	11.70

Variables	
Supply Voltage:	<b>20</b> V
Supply Current:	<b>1</b> A
Limiter resistance:	<b>0.300</b> $\Omega$
Cable resistance:	<b>0.330</b> $\Omega$

	Vin (V)	Current (A)	Resistance ( $\Omega$ )	Voltage Drop	Vout (V)	Pout (W)
Device 1	20.00	1	0.300	0.300	19.70	19.70
Cable 1	19.70	1	0.330	0.330	19.37	19.37
Device 2	19.37	1	0.600	0.600	18.77	18.77
Cable 2	18.77	1	0.330	0.330	18.44	18.44
Device 3	18.44	1	0.600	0.600	17.84	17.84
Cable 3	17.84	1	0.330	0.330	17.51	17.51
Device 4	17.51	1	0.600	0.600	16.91	16.91
Cable 4	16.91	1	0.330	0.330	16.58	16.58
Device 5	16.58	1	0.600	0.600	15.98	15.98
Cable 5	15.98	1	0.330	0.330	15.65	15.65
Device 6	15.65	1	0.600	0.600	15.05	15.05
Cable 6	15.05	1	0.330	0.330	14.72	14.72



Device	7	14.72	1	0.600	0.600	14.12	14.12
Cable	7	14.12	1	0.330	0.330	13.79	13.79
Device	8	13.79	1	0.600	0.600	13.19	13.19
Cable	8	13.19	1	0.330	0.330	12.86	12.86
Device	9	12.86	1	0.600	0.600	12.26	12.26
Cable	9	12.26	1	0.330	0.330	11.93	11.93
Device	10	11.93	1	0.600	0.600	11.33	11.33
Cable	10	11.33	1	0.330	0.330	11.00	11.00
Device	11	11.00	1	0.600	0.600	10.40	10.40
Cable	11	10.40	1	0.330	0.330	10.07	10.07
Device	12	10.07	1	0.600	0.600	9.47	9.47
Cable	12	9.47	1	0.330	0.330	9.14	9.14
Device	13	9.14	1	0.600	0.600	8.54	8.54
Cable	13	8.54	1	0.330	0.330	8.21	8.21
Device	14	8.21	1	0.600	0.600	7.61	7.61
Cable	14	7.61	1	0.330	0.330	7.28	7.28
Device	15	7.28	1	0.600	0.600	6.68	6.68
Cable	15	6.68	1	0.330	0.330	6.35	6.35
Device	16	6.35	1	0.600	0.600	5.75	5.75
Cable	16	5.75	1	0.330	0.330	5.42	5.42

Device	17	5.42	1	0.600	0.600	4.82	4.82
Cable	17	4.82	1	0.330	0.330	4.49	4.49
Device	18	4.49	1	0.600	0.600	3.89	3.89
Cable	18	3.89	1	0.330	0.330	3.56	3.56
Device	19	3.56	1	0.600	0.600	2.96	2.96
Cable	19	2.96	1	0.330	0.330	2.63	2.63
Device	20	2.63	1	0.600	0.600	2.03	2.03
Cable	20	2.03	1	0.330	0.330	1.70	1.70

Variables	
Supply Voltage:	<b>20 V</b>
Supply Current:	<b>1.5 A</b>
Limiter resistance:	<b>0.300 <math>\Omega</math></b>
Cable resistance:	<b>0.330 <math>\Omega</math></b>

	Vin (V)	Current (A)	Resistance ( $\Omega$ )	Voltage Drop	Vout (V)	Pout (W)
Device 1	20.00	1.5	0.300	0.450	19.55	29.33
Cable 1	19.55	1.5	0.330	0.495	19.06	28.58
Device 2	19.06	1.5	0.600	0.900	18.16	27.23
Cable 2	18.16	1.5	0.330	0.495	17.66	26.49
Device 3	17.66	1.5	0.600	0.900	16.76	25.14
Cable 3	16.76	1.5	0.330	0.495	16.27	24.40
Device 4	16.27	1.5	0.600	0.900	15.37	23.05
Cable 4	15.37	1.5	0.330	0.495	14.87	22.31
Device 5	14.87	1.5	0.600	0.900	13.97	20.96
Cable 5	13.97	1.5	0.330	0.495	13.48	20.21
Device 6	13.48	1.5	0.600	0.900	12.58	18.86
Cable 6	12.58	1.5	0.330	0.495	12.08	18.12

Device	7	12.08	1.5	0.600	0.900	11.18	16.77
Cable	7	11.18	1.5	0.330	0.495	10.69	16.03
Device	8	10.69	1.5	0.600	0.900	9.79	14.68
Cable	8	9.79	1.5	0.330	0.495	9.29	13.94
Device	9	9.29	1.5	0.600	0.900	8.39	12.59
Cable	9	8.39	1.5	0.330	0.495	7.90	11.84
Device	10	7.90	1.5	0.600	0.900	7.00	10.49
Cable	10	7.00	1.5	0.330	0.495	6.50	9.75
Device	11	6.50	1.5	0.600	0.900	5.60	8.40
Cable	11	5.60	1.5	0.330	0.495	5.11	7.66
Device	12	5.11	1.5	0.600	0.900	4.21	6.31
Cable	12	4.21	1.5	0.330	0.495	3.71	5.57
Device	13	3.71	1.5	0.600	0.900	2.81	4.22
Cable	13	2.81	1.5	0.330	0.495	2.32	3.47
Device	14	2.32	1.5	0.600	0.900	1.42	2.12
Cable	14	1.42	1.5	0.330	0.495	0.92	1.38
Device	15	0.92	1.5	0.600	0.900	0.02	0.03
Cable	15	0.02	1.5	0.330	0.495	-0.47	-0.71
Device	16	-0.47	1.5	0.600	0.900	-1.38	-2.06
Cable	16	-1.38	1.5	0.330	0.495	-1.87	-2.80

Device	17	-1.87	1.5	0.600	0.900	-2.77	-4.15
Cable	17	-2.77	1.5	0.330	0.495	-3.27	-4.90
Device	18	-3.27	1.5	0.600	0.900	-4.17	-6.25
Cable	18	-4.17	1.5	0.330	0.495	-4.66	-6.99
Device	19	-4.66	1.5	0.600	0.900	-5.56	-8.34
Cable	19	-5.56	1.5	0.330	0.495	-6.06	-9.08
Device	20	-6.06	1.5	0.600	0.900	-6.95	-10.43
Cable	20	-6.95	1.5	0.330	0.495	-7.45	-11.18