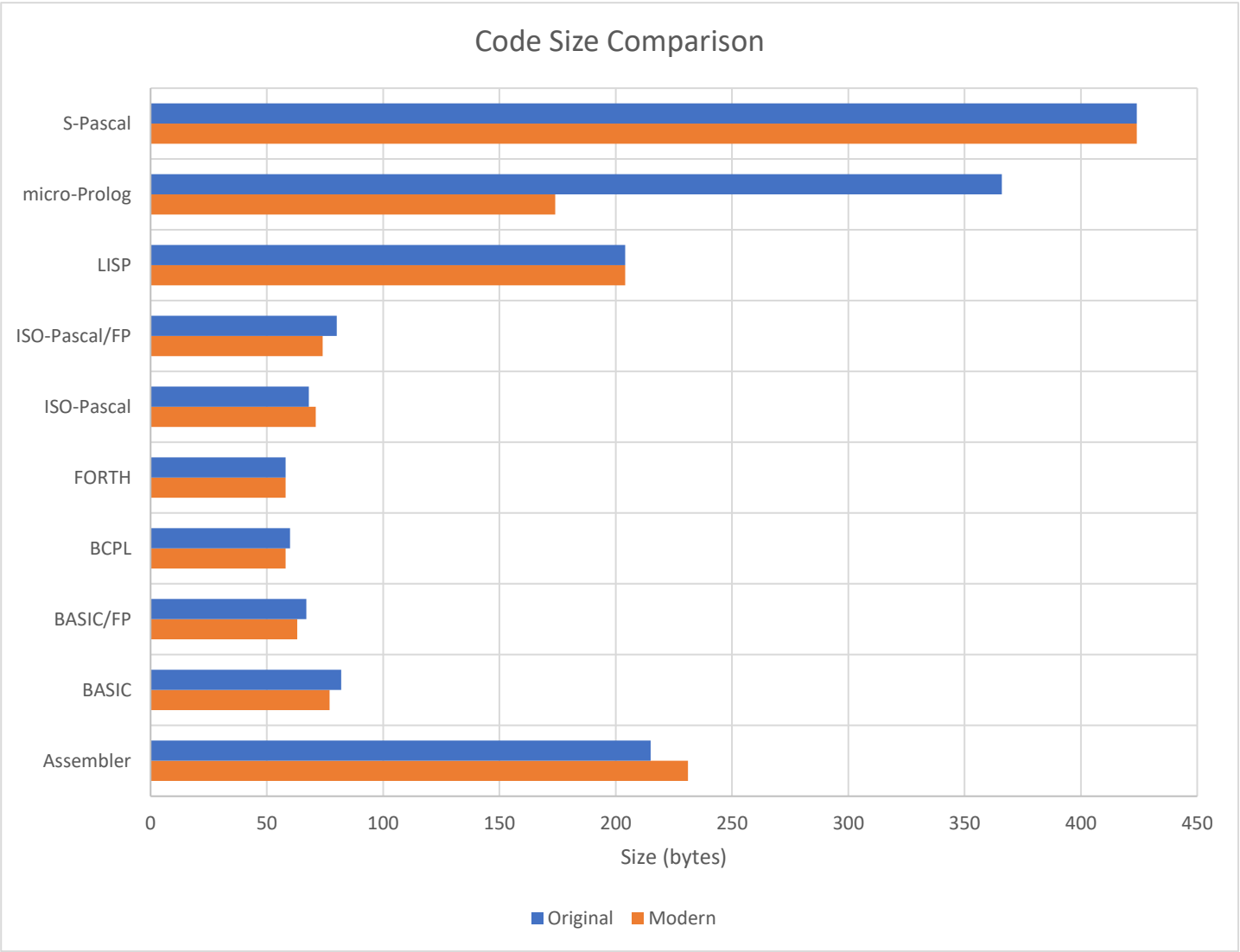


Sizes Sheet

Language	File	Original	Modern
Assembler	TAKasm	215	231
BASIC	TAKscv	-	167
BASIC	TAK	82	77
BASIC	TAKfp	67	63
BASIC	TAKstr	-	92
BCPL	TAK	60	58
Beebug C	Small-C	116	-
Beebug C	TAK	-	137
COMAL	TAK	-	164
COMAL	TAKfp	-	143
FORTH	F.TAK	58	58
ISO-Pascal	TAK	68	71
ISO-Pascal	TAKfp	80	74
LISP	TAK	204	204
micro-Prolog	TAK	366	174
micro-Prolog	TAKacl	-	203
S-Pascal	B.TAK	424	424

Language	Original	Modern	% Change	Difference	Sort
Assembler	215	231	7.4%	16	a
BASIC	82	77	-6.1%	-5	b
BASIC/FP	67	63	-6.0%	-4	c
BCPL	60	58	-3.3%	-2	d
FORTH	58	58	0.0%	0	e
ISO-Pascal	68	71	4.4%	3	f
ISO-Pascal/FP	80	74	-7.5%	-6	g
LISP	204	204	0.0%	0	h
micro-Prolog	366	174	-52.5%	-192	i
S-Pascal	424	424	0.0%	0	j

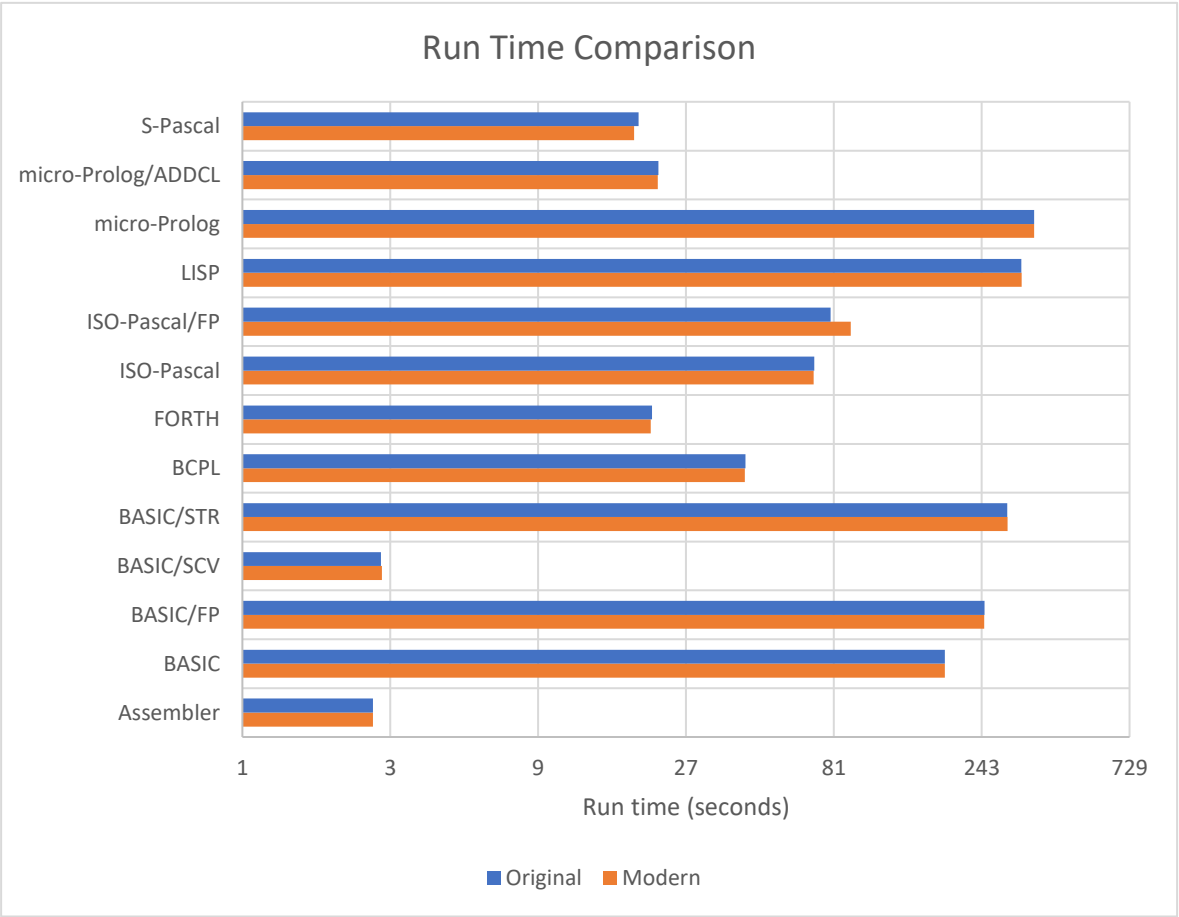


Timings Sheet

Language / Variant	Filename		BBC B, OS 1.20	B-Em	MAME	Master 128	Master 128	Master 128	MAME M128	MAME M128
		Original	6502 2nd proc.	BBC B (OS1.20)	BBC B (OS1.20)	Mod. OS 1.20	MOS 3.20B	MOS 3.50B	MOS 3.20	MOS 3.50
Assembler	TAKAsm	2.64	2.64	2.65	2.52	1.92	1.92	1.92	1.90	1.89
BASIC	TAK	185	185	185	176	134	132	131	130	129
BASIC	TAKfp	248	247	247	236	180	167	164	164	162
BASIC	TAKscv	2.80	2.82	2.81	2.69	2.05	2.00	1.99	1.98	1.96
BASIC	TAKstr	294	294	295	282	215	207	206	203	203
BCPL	TAK	42	42	41	40	30	30	30	30	30
Beebug C	TAK	x	67	66	64	48	48	48	48	48
COMAL	TAK	x	865	868	829	631	631	631	622	622
COMAL	TAKfp	x	855	858	819	624	624	624	615	615
FORTH	F.TAK	21	20.8	20.6	19.9	15.2	15.2	15.2	14.9	14.9
ISO-Pascal	TAK	70	70	70	67	51	51	51	50	50
ISO-Pascal	TAKfp	79	92	92	88	67	67	67	66	66
LISP 5	TAK	326	327	345	321	303	332	356	331	354
LISP 5 (no tube)	TAK	x	272	271	272	272	270	294	271	294
LISP 4 patched (tube)	TAK	x	136	136	130	99	99	99	97	97
LISP 4 patched (no tube)	TAK	x	205	205	205	205	203	204	204	204
micro-Prolog	TAK	359	359	358	342	260	260	260	256	256
micro-Prolog	TAKacl	22	21.9	21.9	20.9	16.0	15.9	15.9	15.6	15.6
S-Pascal	B.TAK	19	18.4	18.3	17.5	13.4	13.4	13.4	13.2	13.2

BBC B
Master 128
B-Em
MAME

Language	Original	Modern	% Change	Difference
Assembler	2.64	2.64	0.0%	0
BASIC	185	185	-0.2%	-0.38
BASIC/FP	248	247	-0.2%	-0.61
BASIC/SCV	3	3	0.7%	0.02
BASIC/STR	294	294	0.1%	0.25
BCPL	42	42	-0.5%	-0.23
FORTH	21.0	20.8	-1.0%	-0.22
ISO-Pascal	70	70	-0.5%	-0.33
ISO-Pascal/FP	79	92	16.4%	12.93
LISP	326	327	0.4%	1.23
micro-Prolog	359	359	-0.1%	-0.24
micro-Prolog/ADDCL	22.0	21.9	-0.5%	-0.12
S-Pascal	19.0	18.4	-3.3%	-0.62



Scatter Graph Sheet

Original Results

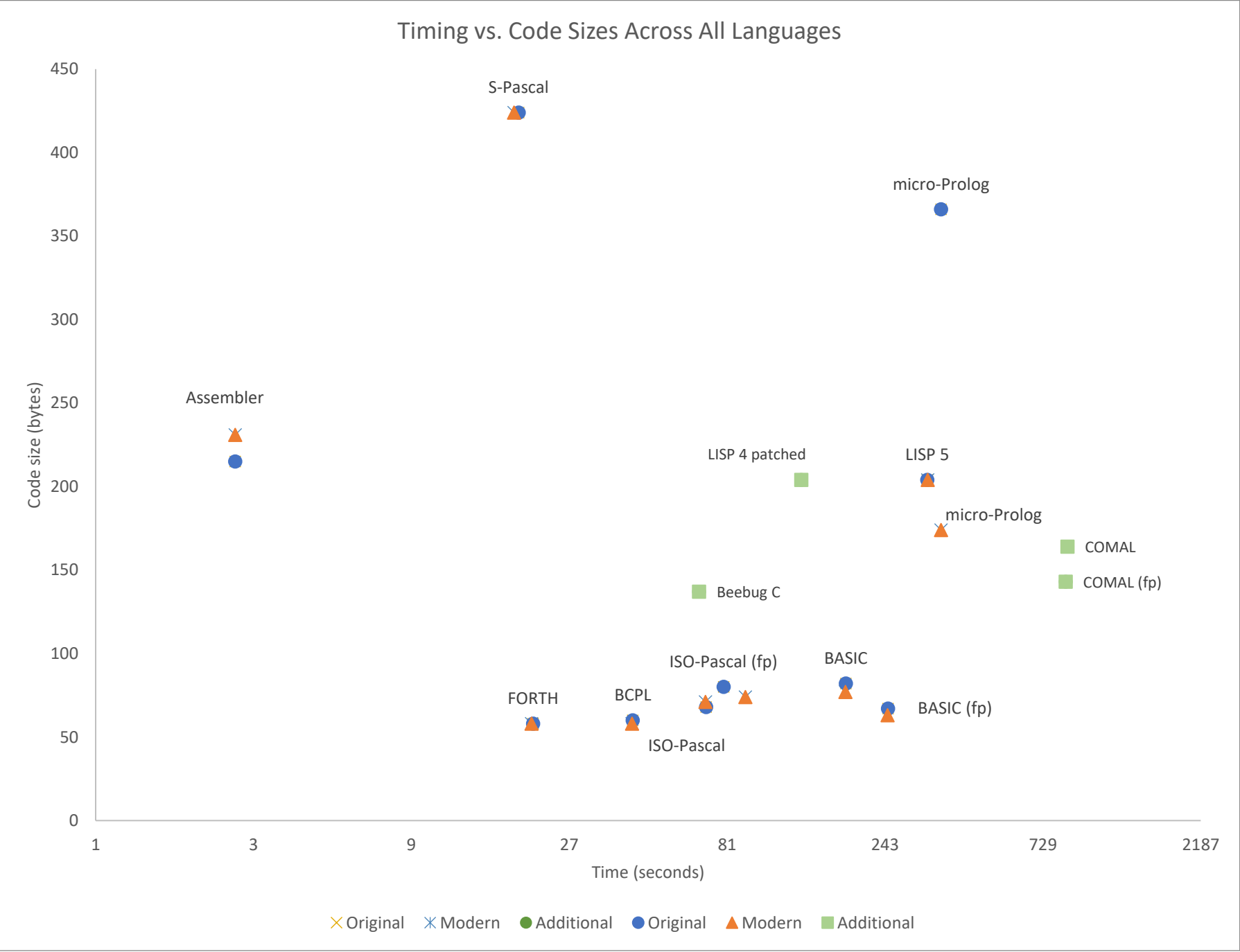
Language	Time (seconds)	Code size (bytes)
Assembler	2.64	215
BASIC	185.00	82
BASIC (fp)	248.00	67
BCPL	42.00	60
FORTH	21.00	58
ISO-Pascal	70.00	68
ISO-Pascal (fp)	79.00	80
LISP 5	326.00	204
micro-Prolog	359.00	366
S-Pascal	19.00	424

Modern Results

Language	Time (seconds)	Code size (bytes)
Assembler	2.64	231
BASIC	184.62	77
BASIC (fp)	247.39	63
BCPL	41.77	58
FORTH	20.78	58
ISO-Pascal	69.67	71
ISO-Pascal (fp)	91.93	74
LISP 5	327.23	204
micro-Prolog	358.76	174
S-Pascal	18.38	424

Additional Results

Language	Time (seconds)	Code size (bytes)
Beebug C	67	137
COMAL	865	164
COMAL (fp)	855	143
LISP 4 (patched)	135.64	204



HeatMaps Sheet

		BBC B, OS													
		1.20		B-Em	MAME			MAME	MAME			BBC	BBC	M128	M128
		6502 2nd	BBC B	BBC B	Master 128	Master 128	Master 128	M128	M128			Baseline	StdDev	Baseline	StdDev
Language / Variant	Filename	Original	proc.	(OS1.20)	(OS1.20)	Mod. OS 1.20	MOS 3.20B	MOS 3.50B	MOS 3.20	MOS 3.50					
Assembler	TAKAsm	0.00	0.00	0.16	-1.94	0.00	0.00	0.00	-1.04	-1.56		2.64	0.06	1.92	0.02
BASIC	TAK	0.09	0.00	0.04	-1.96	2.36	0.00	-0.45	-1.52	-1.95		184.62	4.20	131.51	1.20
BASIC	TAKfp	0.11	0.00	0.00	-1.96	7.18	0.00	-1.27	-1.53	-2.76		247.39	5.60	166.52	1.88
BASIC	TAKscv	-0.33	0.00	-0.17	-2.15	2.93	0.00	-0.50	-1.00	-2.00		2.82	0.06	2.00	0.02
BASIC	TAKstr	-0.04	0.00	0.07	-1.99	4.36	0.00	-0.44	-1.52	-1.94		294.25	6.20	206.51	1.87
BCPL	TAK	0.22	0.00	-0.90	-1.97	0.00	0.00	-0.03	-1.52	-1.52		41.77	1.03	30.27	0.26
Beebug C	TAK		0.00	-0.21	-1.83	0.00	0.00	0.00	-1.53	-1.53		66.65	1.66	48.45	0.43
COMAL	TAK		0.00	0.16	-1.65	0.00	0.00	0.00	-1.51	-1.51		864.58	21.54	631.34	5.51
COMAL	TAKfp		0.00	0.15	-1.65	0.00	0.00	0.00	-1.51	-1.51		854.70	21.35	623.98	5.44
FORTH		0.47	0.00	-0.30	-1.84	0.00	0.00	0.00	-1.52	-1.45		20.78	0.47	15.16	0.13
ISO-Pascal	TAK	0.21	0.00	-0.09	-1.95	0.00	0.00	0.00	-1.52	-1.52		69.67	1.58	50.71	0.44
ISO-Pascal	TAKfp	-2.15	0.00	-0.05	-0.71	0.02	0.00	0.01	-1.50	-1.50		91.93	6.03	66.76	0.58
LISP 5	TAK	-0.12	0.00	1.70	-0.59	-2.14	0.00	7.19	-0.48	6.72		327.23	10.17	332.14	13.82
LISP 5 (no tube)	TAK		0.00	-1.92	-1.44	0.14	0.00	8.79	0.16	8.97		271.97	0.33	270.24	13.74
LISP 4 patched (tube)	TAK		0.00	0.02	-1.72	0.00	0.00	0.00	-1.51	-1.51		135.64	3.29	98.97	0.86
LISP 4 patched (no tube)	TAK		0.00	-1.87	-1.55	2.63	0.00	0.35	0.16	0.50		205.21	0.37	203.35	0.44
micro-Prolog	TAK	0.03	0.00	-0.06	-2.01	0.01	0.00	-0.03	-1.51	-1.51		358.76	8.38	260.37	2.25
micro-Prolog	TAKacl	0.22	0.00	0.00	-1.91	0.62	0.00	-0.13	-1.64	-1.64		21.88	0.54	15.90	0.14
S-Pascal	B.TAK	1.02	0.00	-0.07	-1.42	0.00	0.00	-0.07	-1.50	-1.57		18.38	0.61	13.36	0.12

LISP Performance (Original/Patched ROMS, with/out Tube)

LISP 5 (tube)	333.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LISP v5, no tube	17.0%	-0.67	-0.82	-0.60	-0.34	-0.62	-0.55	-0.60	-0.54	
LISP patched v4 (tube)	66.5%	-2.31	-2.33	-2.30	-2.26	-2.34	-2.30	-2.33	-2.29	
LISP patched v4, no tube	38.8%	-1.47	-1.56	-1.40	-1.09	-1.29	-1.36	-1.27	-1.34	
LISP Baseline		327.23	344.51	321.27	302.59	332.14	356.03	330.56	354.45	
LISP StdDev		82.93	89.51	83.04	90.24	99.79	111.88	99.90	111.99	

HeatMaps Sheet

Emulator Relative Performance

Assembler	TAKAsm	0.38%	-4.55%	-1.04%	-1.56%
BASIC	TAK	0.09%	-4.45%	-1.52%	-1.51%
BASIC	TAKfp	0.00%	-4.44%	-1.53%	-1.51%
BASIC	TAKscv	-0.35%	-4.61%	-1.00%	-1.51%
BASIC	TAKstr	0.15%	-4.19%	-1.52%	-1.51%
BCPL	TAK	-2.23%	-4.86%	-1.52%	-1.49%
Beebug C	TAK	-0.53%	-4.55%	-1.53%	-1.53%
COMAL	TAK	0.39%	-4.11%	-1.51%	-1.51%
COMAL	TAKfp	0.37%	-4.13%	-1.51%	-1.51%
FORTH	F.TAK	-0.67%	-4.19%	-1.52%	-1.45%
ISO-Pascal	TAK	-0.22%	-4.42%	-1.52%	-1.52%
ISO-Pascal	TAKfp	-0.33%	-4.63%	-1.50%	-1.51%
LISP 5	TAK	5.28%	-1.82%	-0.48%	-0.44%
LISP 5 (no tube)	TAK	-0.23%	-0.17%	0.16%	0.17%
LISP 4 patched (tube)	TAK	0.05%	-4.17%	-1.51%	-1.51%
LISP 4 patched (no tube)	TAK	-0.34%	-0.28%	0.16%	0.15%
micro-Prolog	TAK	-0.13%	-4.69%	-1.51%	-1.48%
micro-Prolog	TAKacl	0.00%	-4.71%	-1.64%	-1.51%
S-Pascal	B.TAK	-0.22%	-4.68%	-1.50%	-1.50%
Average		0.08%	-3.88%	-1.24%	-1.28%

BASC Relative Performance

BASIC	TAK	1.57%	-0.56%	-1.01%	132.25
BASIC	TAKfp	5.70%	-2.23%	-3.47%	170.32
BASIC	TAKscv	1.82%	-0.66%	-1.16%	2.01
BASIC	TAKstr	2.75%	-1.16%	-1.59%	208.93
Version average		2.96%	-1.15%	-1.81%	
% faster than BASIC III			4.1%	4.8%	

	Original ROM		Patched ROM	
	MOS 3.20	MOS 3.50	MOS 3.20	MOS 3.50
DFS	105	107	105	107
ADFS	281	259	90	79

