

IN THE BEGINNING IV
(ELECTRONIC)

DAVID ROSENBOOM

1980

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IN THE BEGINNING

(1978-1981)

DAVID ROSENBOOM

General Notes on the Series of Works

The macro-title, *In the Beginning*, refers to a series of works created from 1978 through 1981. These works were written for a variety of large and small instrumental ensembles, computer-aided electronic music instruments, film/video, and synthetic speech. The last of these is, in turn, also a series of pieces, titled, *Future Travel*, documented by an LP record (Street Records) and more recently a CD (New World Records) released under the same name. All of the works focus, among other things, on the development of a unique harmonic, rhythmic and melodic language. This language takes inspiration from research on a model of proportional structures in music and on an evolving, topologically modeled theory of musical "shape" perception. There is programmatic content in the works, which relates to human beings' propensity to attempt to double themselves in both religion and technology and which develops a scenario for the evolution of human consciousness toward the birth of a macroscopic Earth-organism to which all individual entities contribute.

The *In the Beginning* system of proportions emphasizes sets of irreducible ratios with inversive symmetry and exploits both harmonic (linear) and sub-harmonic (non-linear) relations. These are used to construct cycles of growth and decay, resulting from the natural reinforcement of proportions with each other, moving toward maximum resonance and away from it. Thus, a sense of natural phasing occurs, though all movement takes place through proportional modulation by quantum steps. Additionally, stochastic methods are used to implement smooth transitions from areas where the probability is high that one or more sets of proportions will be predominant in the musical material to areas where others take over.

Many of the horizontal (ex. melodic) forms result from the use of a limited set of prototype shapes or contours. These are applied to the other musical materials (ex. pitch, rhythm, timbre) currently predominant in the space of proportions. Each section of music has its own unique shape determinants and modulation schemes. The contours themselves resulted from physiological analyses of human expressive gestures carried out in preparation for the works.

The compositions mirror nature in the creation of singularities, particles, or differentiated units of perception. They do this by making use of the idea of resonance as a key to creation within an initially smooth medium, like undifferentiated space or the undisturbed surface of a calm lake. Resonance represents the force of drawing together in patterned relationships, which outline natural ontological evolution. The harmonic and rhythmic space is the medium; the composer and performers provide the initiating force; the system of proportions articulates growth when interactions produce reinforcement and decay when they produce collisions.

Recordings for the entire *In the Beginning* series are now documented on CDs (New World Records).

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IN THE BEGINNING IV (ELECTRONIC)

DAVID ROSENBOOM

PIEDMONT, CA 1980

Like *In the Beginning I (Electronic)*, *In the Beginning IV (Electronic)* was created for performance with the 300 Series Electric Music Box from Buchla and Associates in Berkeley, California. Unlike *In the Beginning I (Electronic)*, which concentrates very heavily on the vertical (e.g. harmonic and poly-rhythmic) structures in the music, *In the Beginning IV (Electronic)* gives much more emphasis to horizontal and especially melodic aspects. In addition, the poly-rhythmic ideas of *In the Beginning I (Electronic)* are maintained and further elaborated. In the later work, the harmonic ideas are developed in the melodic domain.

Much of the earlier formal macrostructure is also maintained with certain changes. For example, the form of seven sections, each emphasizing a limited source set of proportions is continued, but movement among them is less fixed. This allows the composer-performer a greater degree of freedom to improvise with some of the compositional materials.

An important new concept provides much of the focus and order for the work. Each section is characterized by the use of one or two prototype "shapes," musical contours that are applied primarily to the generation of melodies, but also to other parameters in sound synthesis and the musical form. Altogether there are five sets of shapes, four sets containing two related shapes and one set containing only one shape, which are mapped topologically in what the composer refers to as a "musical concept space." Certain rules are established that control movement in this space. These have the musical effect of determining pathways through which one can choose to transition from one shape to another.

At performance time the composer-performer selects prototype shapes, poly-rhythmic ratios, pitch sets characterized by limited ratio groups, fundamental frequencies from which the pitch sets are to be calculated, and waveform timbres for the sound generating hardware. These selections can be made instantaneously by touching keys on the 300 System's Model 221 Kinesthetic Input Port and can be changed at any time. It is these selections that comprise the primary performing actions in *In the Beginning IV (Electronic)* and that determine the melody-rhythm complexes that result. By making carefully informed choices, the composer-performer can control the *style* of the music emanating from a given section and can traverse a very broad range of musical qualities.

The PATCH-IV computer language was used to implement this macro-structure, and a program listing is provided. A chart the composer has used in performances to remind of which keys on the Model 221 Kinesthetic Input Port can select and enable specific musical materials is included as well.

The musical "shapes" employed are the direct result of measurements and analyses of real, human gesture forms. These were recorded with various sensors monitoring actions in the neuro-musculature of persons expressing particular emotions (reverence, love, joy, laughter/humor, passion/sex), in brainwave tracings, and through a variety of

other artistic content analyses. Hand-drawn graphs of these shapes are included, along with a chart labeled *Pyramid for the Piece* that shows the transition pathways available from shape set to shape set. Polynomials that can be programmed to re-generate the shape prototypes were determined by a method of least-squares analysis. Tables output from a least-squares analysis computer program are provided, so that the data in them can be used for composition algorithms. Melodies were constructed with these shapes in both original and inverted forms using harmonic and sub-harmonic series elements. These same shapes were also used in simpler ways in *In the Beginning: Etudes II and III* and in methods for generating the contours of arpeggios that appear in the score for *In the Beginning III (Quintet)*. The composer has employed all of this material to inspire spontaneous composition and performance.

7/6, 11/2

I Rh K67
Rs K68

8/5, 10/3

II LOh K69
LOs K70

Choose:
OCTAVE
FUNDAMENTAL
RHYTHM

7/6, 9/4

III Jh K71
Js K72

IV H/S K73 H→S

7/6, 9/4

V Jh K71
Js K72

8/5 10/3

7/6, 11/2

VI Sh K74 Rh K67
Ss K75 Rs K68

T Seg. K90, 91, 92, 93

Advancers K86, 87, 88, 89

R Seg. K82, 83, 84, 85

STOP K99 K80 DEF

K49 tune + Def octaves K48 Def - envelopes

K50+ 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16

Time

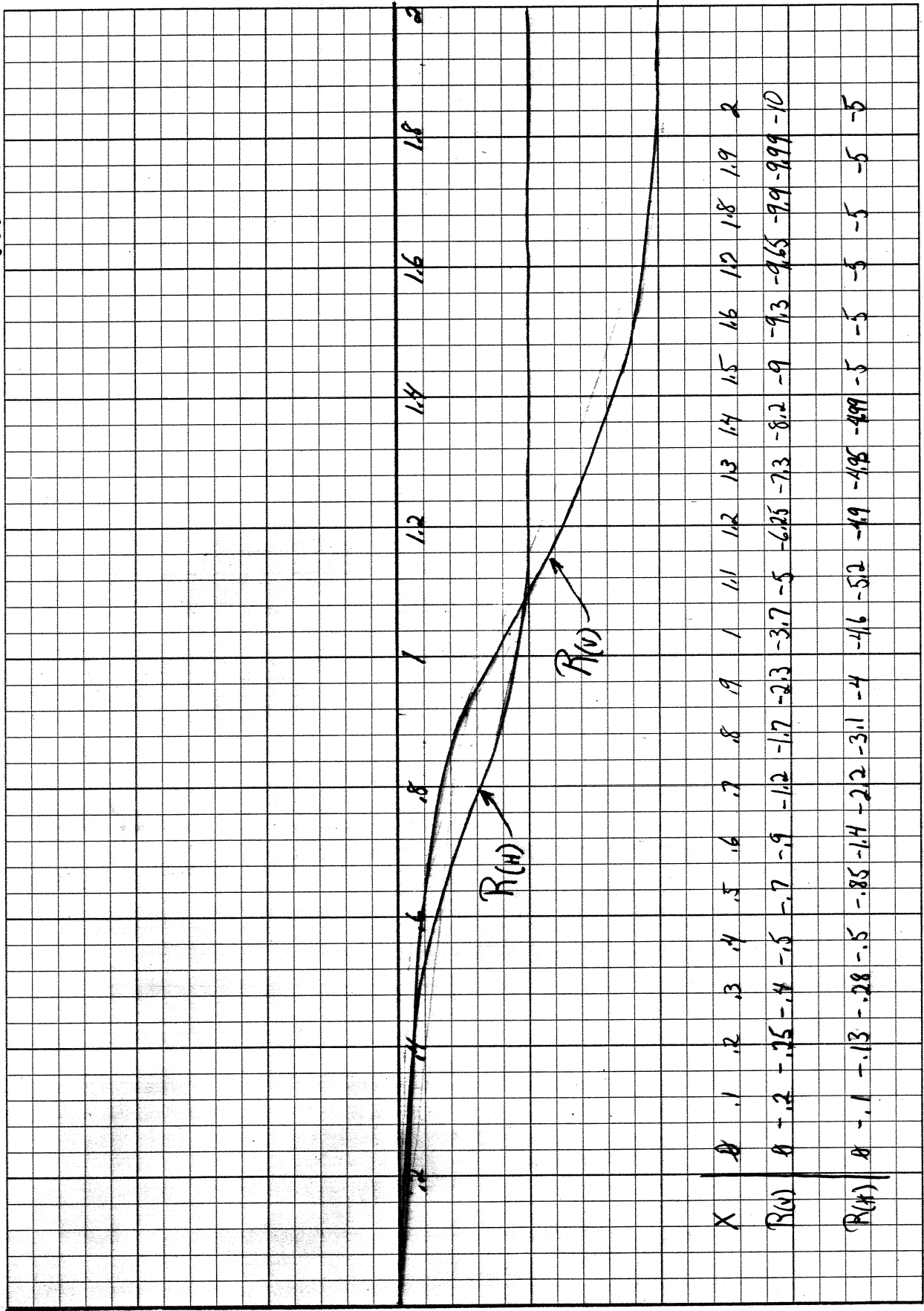
3	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
---	---	---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----

$R(v)$ & $R(h)$

$F = .$

Predominant vector - vertical

Normalized γ such that $R(v)_{(max)} = \pm 10$



LEAST - SQUARES POLYNOMIALS

NUMBER OF POINTS = 20
 MEAN VALUE OF X = .949999
 MEAN VALUE OF Y = -4.322
 STD ERROR OF Y = 3.93729

NOTE: CODE FOR 'WHAT NEXT?' IS:

0 = STOP PROGRAM
 1 = COEFFICIENTS ONLY
 2 = ENTIRE SUMMARY
 3 = FIT NEXT HIGHER DEGREE

POLYFIT OF DEGREE 10 INDEX OF DETERM = .999704 WHAT NEXT?
 2

TERM COEFFICIENT

0 .196397E-2
 1 -5.06855
 2 45.912
 3 -194.795
 4 337.021
 5 -94.3157
 6 -484.961
 7 726.857
 8 -455.187
 9 137.293
 10 -16.3736

R(1)

X-ACTUAL	Y-ACTUAL	Y-CALC	DIFF	PCT-DIFF
0	0	.196397E-2	-.196397E-2	-100
.1	-.2	-.208224	.822431E-2	-3.94974
.2	-.25	-.247405	-.259513E-2	1.04894
.3	-.4	-.367138	-.328625E-1	8.951
.4	-.5	-.544032	.440317E-1	-8.09359
.5	-.7	-.7121	.120997E-1	-1.69916
.6	-.9	-.882448	-.175525E-1	1.98907
.7	-1.2	-1.15499	-.450067E-1	3.89671
.8	-1.7	-1.66111	-.38888E-1	2.34108
.9	-2.3	-2.48652	.186521	-7.50127
1	-3.7	-3.61624	-.837574E-1	2.31614
1.1	-5	-4.9291	-.708971E-1	1.43834
1.2	-6.25	-6.24063	-.936604E-2	.150081
1.3	-7.3	-7.38208	.82077E-1	-1.11184
1.4	-8.2	-8.25734	.573397E-1	-.694408
1.5	-9	-8.88551	-.114488	1.28847
1.6	-9.3	-9.3546	.545998E-1	-.583668
1.7	-9.65	-9.69255	.425491E-1	-.438988
1.8	-9.9	-9.90137	.13752E-2	-.13889E-1
1.9	-9.99	-10.0625	.724592E-1	-.720095

STD ERROR OF ESTIMATE FOR Y = .984234E-1

LEAST - SQUARES POLYNOMIALS

NUMBER OF POINTS = 20
 MEAN VALUE OF X = .949999
 MEAN VALUE OF Y = -3.11
 STD ERROR OF Y = 2.13565

NOTE: CODE FOR 'WHAT NEXT?' IS:

0 = STOP PROGRAM
 1 = COEFFICIENTS ONLY
 2 = ENTIRE SUMMARY
 3 = FIT NEXT HIGHER DEGREE

POLYFIT OF DEGREE 11 INDEX OF DETERM = .999163
 2

WHAT NEXT?

TERM COEFFICIENT

0 -.28562E-3
 1 -1.93583
 2 10.781
 3 23.0562
 4 -528.621
 5 2280.49
 6 -5022.86
 7 6429.33
 8 -4948.78
 9 2257.37
 10 -562.564
 11 59.0562

R(X)

X-ACTUAL	Y-ACTUAL	Y-CALC	DIFF	PCT-DIFF
0	0	-.28562E-3	.28562E-3	-100
.1	-.1	-.97487E-1	-.251299E-2	2.57777
.2	-.13	-.138538	.853783E-2	-6.16281
.3	-.28	-.267523	-.124769E-1	4.66384
.4	-.5	-.502394	.239432E-2	-.476582
.5	-.85	-.860361	.103615E-1	-1.20432
.6	-1.4	-1.40443	.443459E-2	-.315756
.7	-2.2	-2.17406	-.259399E-1	1.19316
.8	-3.1	-3.10338	.338268E-2	-.109
.9	-4	-4.00953	.953484E-2	-.237804
1	-4.6	-4.68494	.849371E-1	-1.81298
1.1	-5.2	-5.01659	-.18341	3.65606
1.2	-4.9	-5.04275	.142755	-2.83088
1.3	-4.95	-4.95942	.94223E-2	-.189988
1.4	-4.99	-4.95504	-.34956E-1	.705463
1.5	-5	-4.99428	-.572205E-2	.114572
1.6	-5	-5.0588	.587978E-1	-1.16229
1.7	-5	-5.02513	.251331E-1	-.500149
1.8	-5	-5.0179	.179043E-1	-.356808
1.9	-5	-5.0669	.669041E-1	-1.32041

STD ERROR OF ESTIMATE FOR Y = .952655E-1

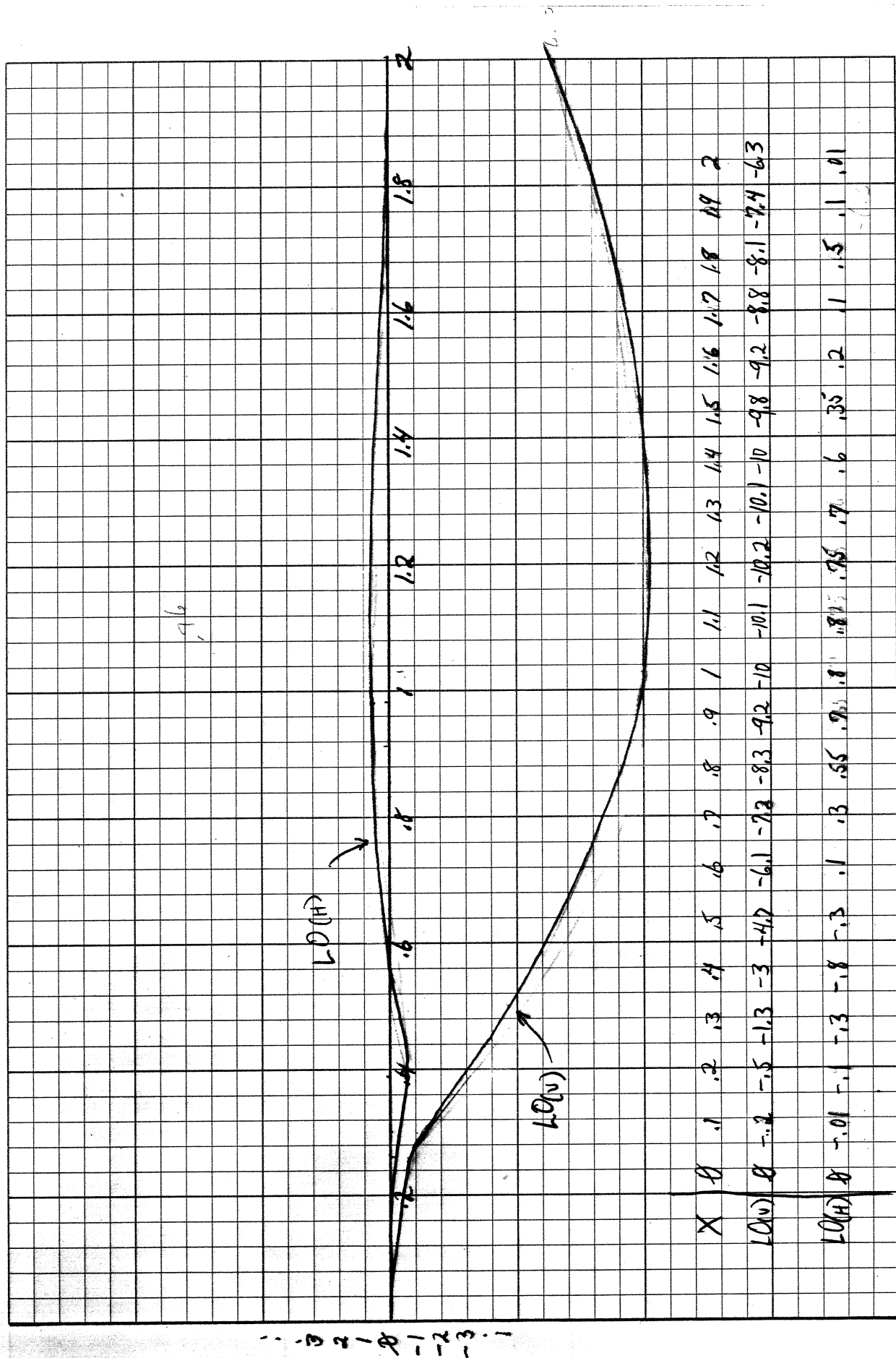
BASIC 03-00

$LD(v) + LD(H)$

$P = "$

Predominant vector - vertical

Normalized Y such that $LD(v)(\max) = -10.2$



LEAST - SQUARES POLYNOMIALS

NUMBER OF POINTS = 20
 MEAN VALUE OF X = .949999
 MEAN VALUE OF Y = -6.71
 STD ERROR OF Y = 3.71142

NOTE: CODE FOR 'WHAT NEXT?' IS:

- 0 = STOP PROGRAM
- 1 = COEFFICIENTS ONLY
- 2 = ENTIRE SUMMARY
- 3 = FIT NEXT HIGHER DEGREE

POLYFIT OF DEGREE 9 INDEX OF DETERM = .999398 WHAT NEXT?
 2

TERM	COEFFICIENT
0	-.250404E-2
1	-9.94387
2	149.74
3	-905.393
4	2305.8
5	-3232.82
6	2693.56
7	-1327.52
8	357.205
9	-40.4246

LO(2)

X-ACTUAL	Y-ACTUAL	Y-CALC	DIFF	PCT-DIFF
0	0	-.250404E-2	.250404E-2	-100
.1	-.2	-.204067	.40673E-2	-1.99312
.2	-.5	-.433749	-.662514E-1	15.2742
.3	-1.3	-1.4375	.137498	-9.56508
.4	-3	-2.96099	-.39011E-1	1.3175
.5	-4.7	-4.59442	-.105577	2.29795
.6	-6.1	-6.07823	-.217676E-1	.358124
.7	-7.2	-7.3283	.128304	-1.75081
.8	-8.3	-8.35523	.552254E-1	-.660968
.9	-9.2	-9.18006	-.199423E-1	.217235
1	-10	-9.79374	-.206261	2.10605
1.1	-10.1	-10.1663	.663271E-1	-.652419
1.2	-10.2	-10.2819	.819225E-1	-.796763
1.3	-10.1	-10.1789	.788746E-1	-.774885
1.4	-10	-9.94279	-.572119E-1	.575411
1.5	-9.8	-9.65301	-.146993	1.52277
1.6	-9.2	-9.3173	.117305	-1.259
1.7	-8.8	-8.82217	.221729E-1	-.251332
1.8	-8.1	-8.06034	-.396566E-1	.491997
1.9	-7.4	-7.42671	.267143E-1	-.359706

STD ERROR OF ESTIMATE FOR Y = .125564

LEAST - SQUARES POLYNOMIALS

NUMBER OF POINTS = 20
 MEAN VALUE OF X = .949999
 MEAN VALUE OF Y = .252
 STD ERROR OF Y = .433925

NOTE: CODE FOR 'WHAT NEXT?' IS:

- 0 = STOP PROGRAM
- 1 = COEFFICIENTS ONLY
- 2 = ENTIRE SUMMARY
- 3 = FIT NEXT HIGHER DEGREE

POLYFIT OF DEGREE 9 INDEX OF DETERM = .963995
 2

WHAT NEXT?

TERM COEFFICIENT

0 -.911262E-2
 1 -.545527
 2 34.3309
 3 -356.485
 4 1292.16
 5 -2291.69
 6 2248.95
 7 -1250.08
 8 369.155
 9 -45.0308

LO(H)

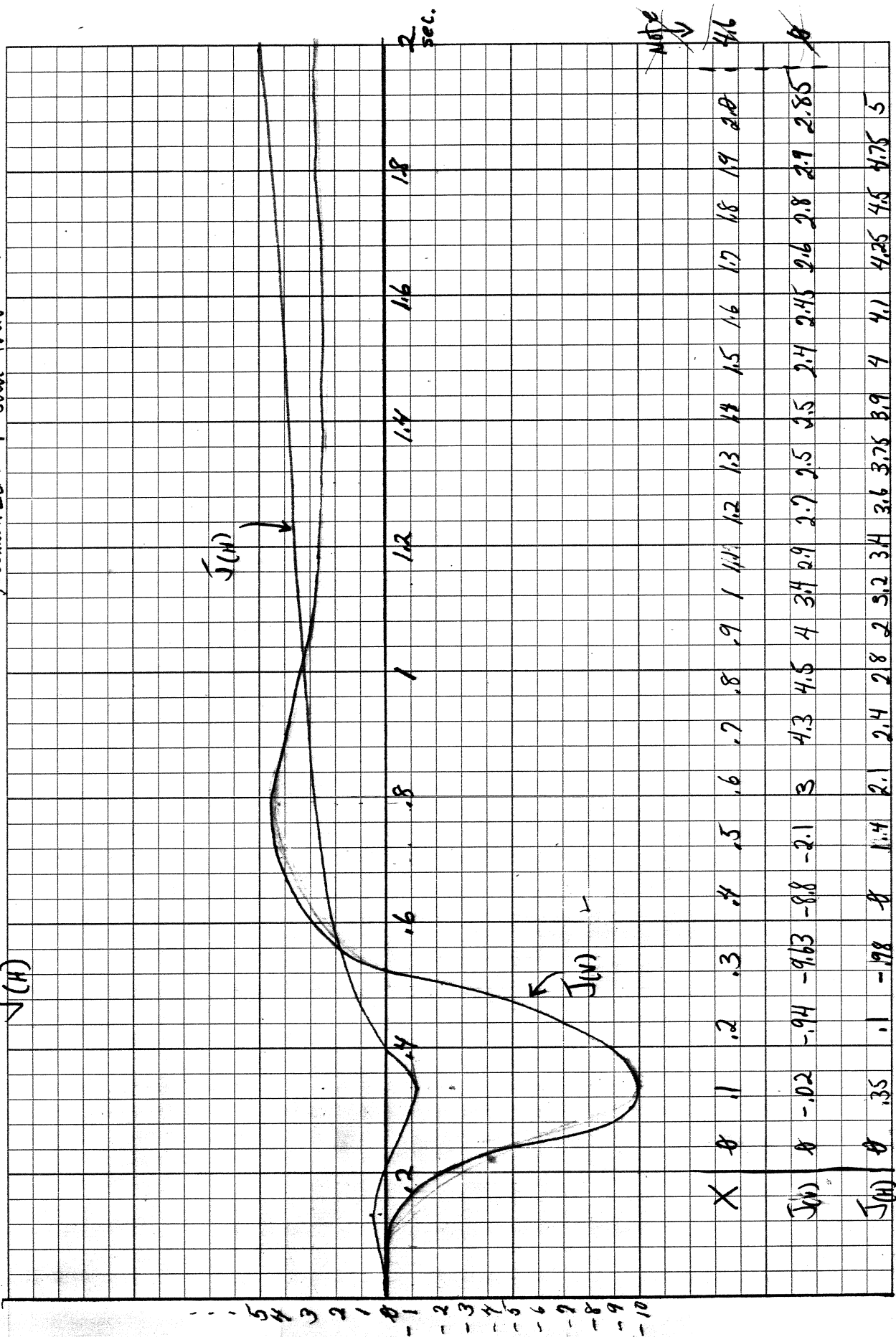
X-ACTUAL	Y-ACTUAL	Y-CALC	DIFF	PCT-DIFF
0	0	-.911262E-2	.911262E-2	-100
.1	-.1E-1	.315854E-1	-.415854E-1	-131.66
.2	-.1	-.133888	.338876E-1	-25.3105
.3	-.3	-.420935	.120935	-28.7301
.4	-.8	-.543219	-.256781	47.2702
.5	-.3	-.387105	.871047E-1	-22.5016
.6	.1	-.359091E-1	.135909	-378.481
.7	.3	.342575	-.42575E-1	-12.4279
.8	.55	.614007	-.640067E-1	-10.4244
.9	.7	.737902	-.379019E-1	-5.13645
1	.8	.760164	.39836E-1	5.24045
1.1	.8	.75359	.464097E-1	6.15847
1.2	.75	.75371	-.371039E-2	-.492283
1.3	.7	.731416	-.31416E-1	-4.29523
1.4	.6	.610866	-.10866E-1	-1.77879
1.5	.35	.370072	-.200716E-1	-5.42371
1.6	.2	.145192	.548078E-1	37.7484
1.7	.1	.154208	-.54208E-1	-35.1525
1.8	.5	.510929	-.109285E-1	-2.13895
1.9	.1	.123658	-.236579E-1	-19.1317

STD ERROR OF ESTIMATE FOR Y = .113495

$$J(v) + F = 5$$

$$J(H)$$

predominant vector - vertical
Normalized γ such that $J(\max) = \pm 10$



LEAST - SQUARES POLYNOMIALS

NUMBER OF POINTS = 20
 MEAN VALUE OF X = .949999
 MEAN VALUE OF Y = 1.073
 STD ERROR OF Y = 3.91163

J(v)

NOTE: CODE FOR 'WHAT NEXT?' IS:

- 0 = STOP PROGRAM
- 1 = COEFFICIENTS ONLY
- 2 = ENTIRE SUMMARY
- 3 = FIT NEXT HIGHER DEGREE

POLYFIT OF DEGREE 10 INDEX OF DETERM = .921805

WHAT NEXT?

2

TERM COEFFICIENT

0	-.14758
1	-4.14058
2	776.956
3	-9694.64
4	42150.1
5	-91973.9
6	115194
7	-86800.4
8	38962.8
9	-9611.89
10	1004.04

X-ACTUAL	Y-ACTUAL	Y-CALC	DIFF	PCT-DIFF
0	0	-.14758	.14758	-100
.1	-.2E-1	.915443	-.935443	-102.185
.2	-.94	-3.08986	2.14986	-69.578
.3	-9.63	-7.93411	-1.69589	21.3746
.4	-8.8	-7.979	-.821001	10.2895
.5	-2.1	-3.43381	1.33381	-38.8435
.6	3	2.04368	.956321	46.7941
.7	4.3	5.24645	-.946451	-18.0398
.8	4.5	5.39621	-.896208	-16.6081
.9	4	3.85155	.148449	3.85426
1	3.4	2.5551	.844896	33.067
1.1	2.9	2.38379	.516209	21.6549
1.2	2.7	2.84697	-.146966	-5.1622
1.3	2.5	3.10864	-.608639	-19.579
1.4	2.5	2.49232	.768375E-2	.308298
1.5	2.4	1.22981	1.17019	95.1523
1.6	2.45	1.53187	.918129	59.9351
1.7	2.6	4.97175	-2.37175	-47.7046
1.8	2.8	2.63908	.160923	6.0977
1.9	2.9	3.01538	-.115384	-3.82651

STD ERROR OF ESTIMATE FOR Y = 1.58929

LEAST - SQUARES POLYNOMIALS

NUMBER OF POINTS = 20
 MEAN VALUE OF X = .949999
 MEAN VALUE OF Y = 2.481
 STD ERROR OF Y = 1.7722

NOTE: CODE FOR 'WHAT NEXT?' IS:

- 0 = STOP PROGRAM
- 1 = COEFFICIENTS ONLY
- 2 = ENTIRE SUMMARY
- 3 = FIT NEXT HIGHER DEGREE

POLYFIT OF DEGREE 9 INDEX OF DETERM = .979219

WHAT NEXT?

2

TERM COEFFICIENT

0 -.501751E-1
 1 38.3878
 2 -498.569
 3 2282.14
 4 -5126.21
 5 6518.12
 6 -4933.08
 7 2204.43
 8 -537.406
 9 55.1392

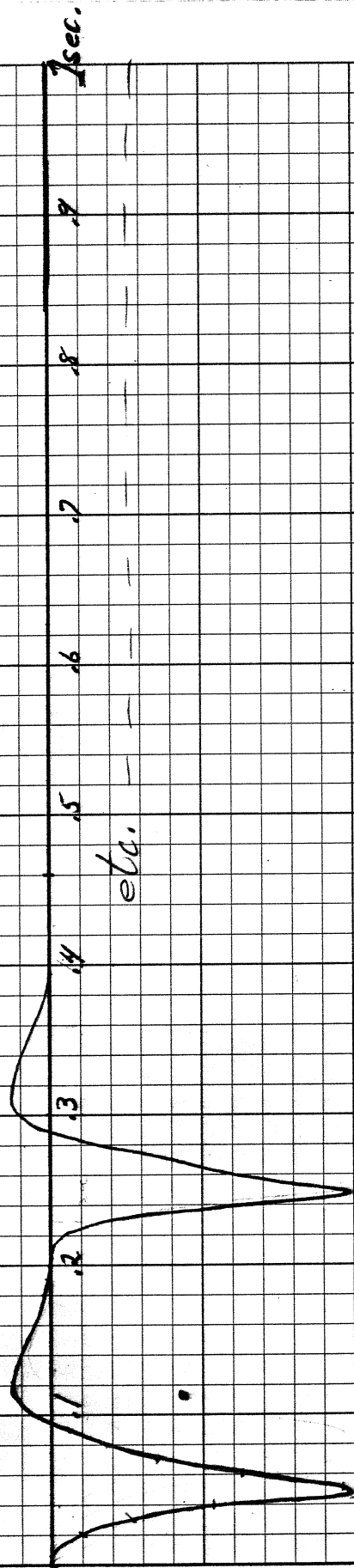
J(H)

X-ACTUAL	Y-ACTUAL	Y-CALC	DIFF	PCT-DIFF
0	0	-.501751E-1	.501751E-1	-100
.1	.35	.632891	-.282891	-44.6982
.2	.1	-.463276	.563276	-121.585
.3	-.98	-.618946	-.361054	58.3336
.4	0	.173232	-.173232	-100
.5	1.4	1.22271	.177286	14.4994
.6	2.1	2.01269	.873089E-1	4.33792
.7	2.4	2.40863	-.862694E-2	-.358168
.8	2.8	2.55555	.24445	9.56544
.9	2	2.66858	-.668585	-25.0539
1	3.2	2.89624	.303763	10.4882
1.1	3.4	3.2387	.161302	4.98044
1.2	3.6	3.58022	.197802E-1	.552484
1.3	3.75	3.84645	-.964537E-1	-2.5076
1.4	3.9	3.94199	-.419903E-1	-1.06521
1.5	4	3.98748	.12516E-1	.313883
1.6	4.1	4.04531	.546904E-1	1.35194
1.7	4.25	4.26229	-.122881E-1	-.288298
1.8	4.5	4.47413	.258675E-1	.578156
1.9	4.75	4.73296	.170383E-1	.359993

STD ERROR OF ESTIMATE FOR Y = .352148

$L(V) F = .19880715$

Predominant vector = vertical



X	0	.1	.15	.2	.25	.3	.35	.4	.45	.5	.55	.6	.65	.7	.75	.8	.85	.9	.95	1
Y	0	-1	-2.4	-5.2	-9.2	-6.1	-3.5	-1.9	-1.6	.5	1.1	1.3	1.2	1	.8	.6	.3	.15	.08	0

= 1 cycle ~ .2 sec in length

LEAST - SQUARES POLYNOMIALS

NUMBER OF POINTS = 20
 MEAN VALUE OF X = .575
 MEAN VALUE OF Y = -1.085
 STD ERROR OF Y = 2.95208

NOTE: CODE FOR 'WHAT NEXT?' IS:

- 0 = STOP PROGRAM
- 1 = COEFFICIENTS ONLY
- 2 = ENTIRE SUMMARY
- 3 = FIT NEXT HIGHER DEGREE

POLYFIT OF DEGREE 9 INDEX OF DETERM = .925315 WHAT NEXT?
 2

TERM	COEFFICIENT
0	-.683533E-1
1	138.974
2	-2261.56
3	10585.6
4	-20631
5	13745.7
6	10658.1
7	-23316.7
8	14049.7
9	-2967.7

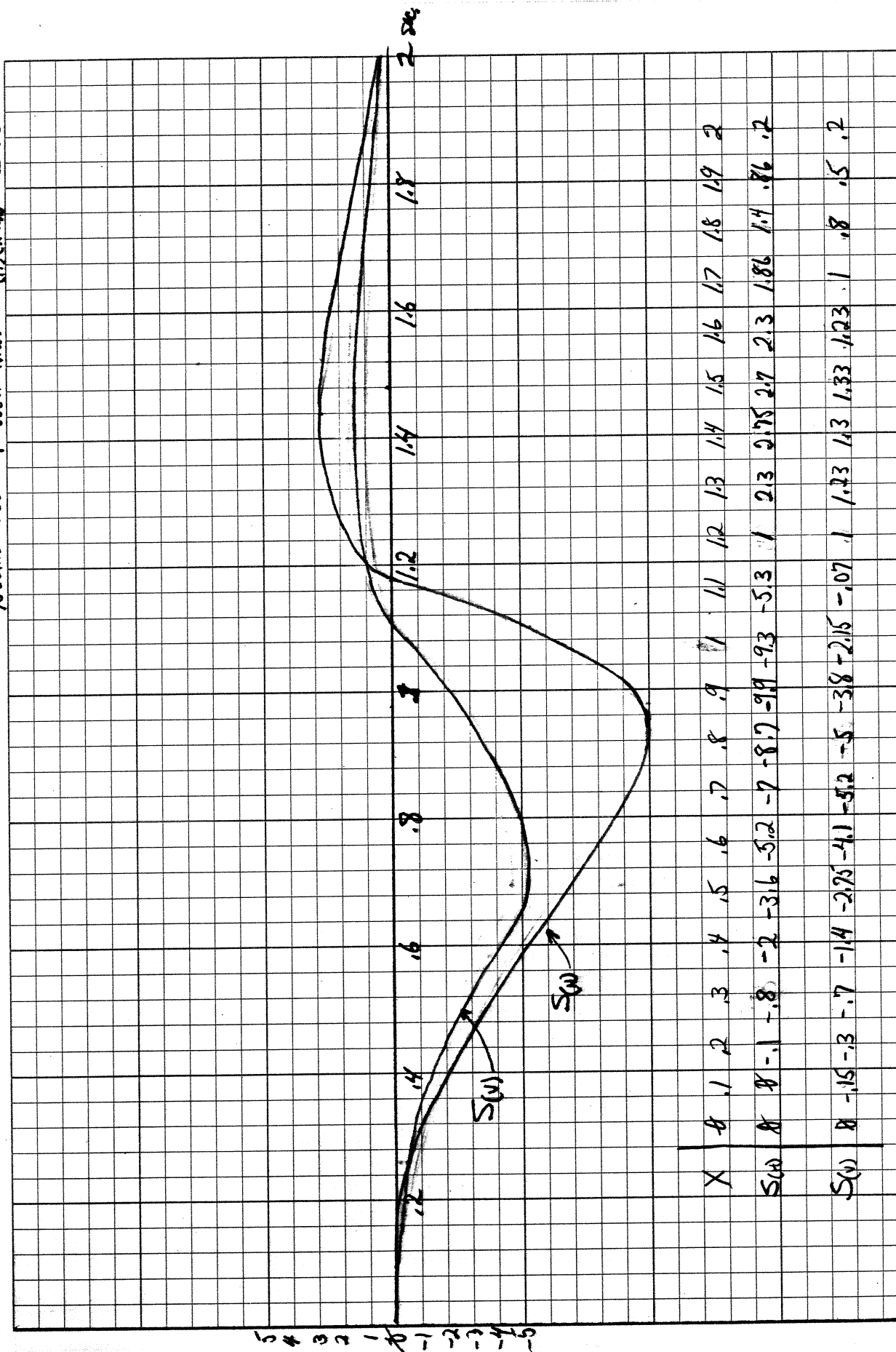
X-ACTUAL	Y-ACTUAL	Y-CALC	DIFF	PCT-DIFF
0	0	-.683533E-1	.683533E-1	-100
.1	-1	-.118192	-.881809	746.085
.15	-2.4	-3.69668	1.29668	-35.0768
.2	-5.2	-6.24431	1.04431	-16.7241
.25	-9.7	-7.05718	-2.64282	37.4488
.3	-6.1	-6.28139	.181387	-2.88769
.7	.3	.504103	-.204103	-40.4884
.8	.55	.191449	.358551	187.283
.9	.7	.789102	-.891022E-1	-11.2916
1	.8	1.07529	-.275294	-25.6018
1.1	.8	.498935	.301065	60.3415
1.2	.75	.831134	-.811338E-1	-9.76183
1.3	.7	.596266	.103734	17.3972
.35	-3.5	-4.49063	.990633	-22.06
.4	-1.9	-2.36614	.466144	-19.7006
.45	-.6	-.484625	-.115375	23.807
.5	.5	.797476	-.297476	-37.3022
.55	1.1	1.37214	-.27214	-19.8333
.6	1.3	1.34633	-.463295E-1	-3.44117
.65	1.2	.962715	.237285	24.6474

STD ERROR OF ESTIMATE FOR Y = 1.11205

$$S_H + S(V) \quad F = .5$$

predominant vector - horizontal

Normalizes γ such that $S_H(\max) = \pm 10$



LEAST - SQUARES POLYNOMIALS

NUMBER OF POINTS = 20
 MEAN VALUE OF X = .949999
 MEAN VALUE OF Y = -.861501
 STD ERROR OF Y = 2.20732

NOTE: CODE FOR 'WHAT NEXT?' IS:

0 = STOP PROGRAM
 1 = COEFFICIENTS ONLY
 2 = ENTIRE SUMMARY
 3 = FIT NEXT HIGHER DEGREE

POLYFIT OF DEGREE 10 INDEX OF DETERM = .997818
 2

WHAT NEXT?

TERM	COEFFICIENT
0	-.931632E-2
1	10.9505
2	-232.596
3	1590.49
4	-5301.51
5	9396.58
6	-9474.4
7	5575.3
8	-1865.33
9	318.559
10	-20.0511

X-ACTUAL	Y-ACTUAL	Y-CALC	DIFF	PCT-DIFF
0	0	-.931632E-2	.931632E-2	-100
.1	-.15	-.948573E-1	-.551427E-1	58.1323
.2	-.3	-.414285	.114285	-27.586
.3	-.7	-.62697	-.730304E-1	11.6481
.4	-1.4	-1.36469	-.353098E-1	2.58739
.5	-2.75	-2.73785	-.121536E-1	.443912
.6	-4.1	-4.2325	.132497	-3.13046
.7	-5.2	-5.13612	-.638809E-1	1.24376
.8	-5	-4.9865	-.134993E-1	.270716
.9	-3.8	-3.79884	-.115776E-2	.304767E-1
1	-2.15	-2.01691	-.133086	6.59851
1.1	-.7E-1	-.277725	.207725	-74.7952
1.2	1	.918434	.815659E-1	8.88097
1.3	1.23	1.4051	-.175102	-12.4619
1.4	1.3	1.34763	-.476313E-1	-3.53444
1.5	1.33	1.22128	.108719	8.90204
1.6	1.23	1.20574	.242643E-1	2.01241
1.7	1	1.07911	-.79113E-1	-7.3313
1.8	.8	.733063	.669374E-1	9.1312
1.9	.5	.316356	.183644	58.0495

STD ERROR OF ESTIMATE FOR Y = .149834

LEAST - SQUARES POLYNOMIALS

NUMBER OF POINTS = 20
 MEAN VALUE OF X = .949999
 MEAN VALUE OF Y = -1.8365
 STD ERROR OF Y = 4.27395

S(H)

NOTE: CODE FOR 'WHAT NEXT?' IS:

- 0 = STOP PROGRAM
- 1 = COEFFICIENTS ONLY
- 2 = ENTIRE SUMMARY
- 3 = FIT NEXT HIGHER DEGREE

POLYFIT OF DEGREE 11 INDEX OF DETERM = .980316
 2

WHAT NEXT?

TERM	COEFFICIENT
0	.141186E-1
1	-23.606
2	413.282
3	-2369.73
4	5161.74
5	-1115.15
6	-15773.9
7	32352.8
8	-30634.9
9	15768
10	-4262.07
11	474.878

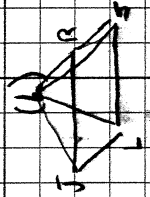
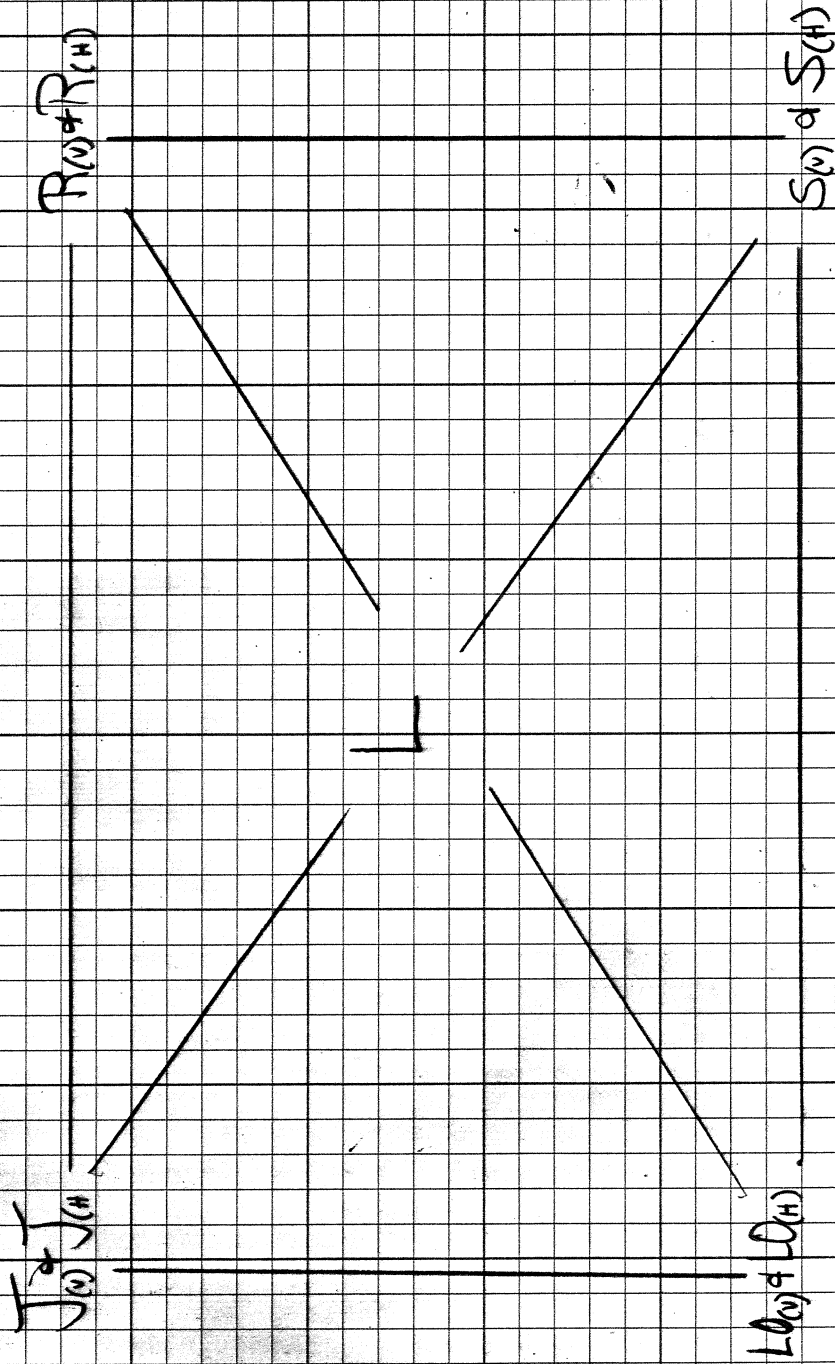
S(H)

X-ACTUAL	Y-ACTUAL	Y-CALC	DIFF	PCT-DIFF
0	0	.141186E-1	-.141186E-1	-100
.1	0	-.912083E-1	.912083E-1	-100
.2	-.1	.102049	-.202049	-197.992
.3	-.8	-.902375	.102375	-11.345
.4	-2	-2.21805	.218047	-9.83059
.5	-3.6	-3.43628	-.163717	4.76437
.6	-5.2	-4.94874	-.251255	5.07715
.7	-7	-7.04612	.461235E-1	-.654594
.8	-8.7	-9.1721	.4721	-5.14713
.9	-9.9	-10.0582	.158189	-1.57274
1	-9.3	-8.62289	-.67711	7.85247
1.1	-5.3	-4.92667	-.373331	7.57776
1.2	1	-.449999	1.45	-322.223
1.3	2.3	2.72074	-.420739	-15.4641
1.4	2.75	3.45635	-.706353	-20.4364
1.5	2.7	2.38765	.312354	13.0821
1.6	2.3	2.14764	.152361	7.09434
1.7	1.86	3.10831	-1.24831	-40.1604
1.8	1.4	2.52735	-1.12735	-44.606
1.9	.86	.619088	.240912	38.914

STD ERROR OF ESTIMATE FOR Y = .924098

BASIC 03-00

Diagram for the Piece



IN THE BEGINNING IV (Analog)

```
@@DEF STM ADDRS DA
K00 K32 VLTS0 00
K00 K33 VLTS0 24
K00 K34 VLTS0 38
K00 K35 VLTS0 48
K00 K36 VLTS0 56
K00 K37 VLTS0 62
K00 K38 VLTS0 68
K00 K39 VLTS0 72
K00 K40 VLTS0 76
K00 K41 VLTS0 80
K00 K42 VLTS0 84
K00 K43 VLTS0 86
K00 K44 VLTS0 88
K00 K45 VLTS0 92
K00 K46 VLTS0 94
K00 K47 VLTS0 96
K01 K32 VLTS0 02
K01 K33 VLTS0 26
K01 K34 VLTS0 40
K01 K35 VLTS0 50
K01 K36 VLTS0 58
K01 K37 VLTS0 64
K01 K38 VLTS0 70
K01 K39 VLTS0 74
K01 K40 VLTS0 78
K01 K41 VLTS0 82
K01 K42 VLTS0 86
K01 K43 VLTS0 88
K01 K44 VLTS0 90
K01 K45 VLTS0 94
K01 K46 VLTS0 96
K01 K47 VLTS0 98
K02 K32 VLTS0 04
K02 K33 VLTS0 28
K02 K34 VLTS0 42
K02 K35 VLTS0 52
K02 K36 VLTS0 60
K02 K37 VLTS0 66
K02 K38 VLTS0 72
K02 K39 VLTS0 76
K02 K40 VLTS0 80
K02 K41 VLTS0 84
K02 K42 VLTS0 88
K02 K43 VLTS0 90
K02 K44 VLTS0 92
K02 K45 VLTS0 96
K02 K46 VLTS0 98
K02 K47 VLTS0 A0
K03 K32 VLTS0 06
K03 K33 VLTS0 30
K03 K34 VLTS0 44
K03 K35 VLTS0 54
K03 K36 VLTS0 62
```

K03	K37	VLTS0	68
K03	K38	VLTS0	74
K03	K39	VLTS0	78
K03	K40	VLTS0	82
K03	K41	VLTS0	86
K03	K42	VLTS0	90
K03	K43	VLTS0	92
K03	K44	VLTS0	94
K03	K45	VLTS0	98
K03	K46	VLTS0	A0
K03	K47	VLTS0	A2
K04	K32	VLTS0	08
K04	K33	VLTS0	32
K04	K34	VLTS0	46
K04	K35	VLTS0	56
K04	K36	VLTS0	64
K04	K37	VLTS0	70
K04	K38	VLTS0	76
K04	K39	VLTS0	80
K04	K40	VLTS0	84
K04	K41	VLTS0	88
K04	K42	VLTS0	92
K04	K43	VLTS0	94
K04	K44	VLTS0	96
K04	K45	VLTS0	A0
K04	K46	VLTS0	A2
K04	K47	VLTS0	A4
K05	K32	VLTS0	10
K05	K33	VLTS0	34
K05	K34	VLTS0	48
K05	K35	VLTS0	58
K05	K36	VLTS0	66
K05	K37	VLTS0	72
K05	K38	VLTS0	78
K05	K39	VLTS0	82
K05	K40	VLTS0	86
K05	K41	VLTS0	90
K05	K42	VLTS0	94
K05	K43	VLTS0	96
K05	K44	VLTS0	98
K05	K45	VLTS0	A2
K05	K46	VLTS0	A4
K05	K47	VLTS0	A6
K06	K32	VLTS0	12
K06	K33	VLTS0	36
K06	K34	VLTS0	50
K06	K35	VLTS0	60
K06	K36	VLTS0	68
K06	K37	VLTS0	74
K06	K38	VLTS0	80
K06	K39	VLTS0	84
K06	K40	VLTS0	88
K06	K41	VLTS0	92
K06	K42	VLTS0	96
K06	K43	VLTS0	98
K06	K44	VLTS0	A0
K06	K45	VLTS0	A4
K06	K46	VLTS0	A6
K06	K47	VLTS0	A8
K07	K32	VLTS0	14
K07	K33	VLTS0	38
K07	K34	VLTS0	52
K07	K35	VLTS0	62
K07	K36	VLTS0	70
K07	K37	VLTS0	76
K07	K38	VLTS0	82

K07 K39 VLTS0 86
K07 K40 VLTS0 90
K07 K41 VLTS0 94
K07 K42 VLTS0 98
K07 K43 VLTS0 A0
K07 K44 VLTS0 A2
K07 K45 VLTS0 A6
K07 K46 VLTS0 A8
K07 K47 VLTS0 B0
K08 K32 VLTS0 16
K08 K33 VLTS0 40
K08 K34 VLTS0 54
K08 K35 VLTS0 64
K08 K36 VLTS0 72
K08 K37 VLTS0 78
K08 K38 VLTS0 84
K08 K39 VLTS0 88
K08 K40 VLTS0 92
K08 K41 VLTS0 96
K08 K42 VLTS0 A0
K08 K43 VLTS0 A2
K08 K44 VLTS0 A4
K08 K45 VLTS0 A8
K08 K46 VLTS0 B0
K08 K47 VLTS0 B2
K09 K32 VLTS0 18
K09 K33 VLTS0 42
K09 K34 VLTS0 56
K09 K35 VLTS0 66
K09 K36 VLTS0 74
K09 K37 VLTS0 80
K09 K38 VLTS0 86
K09 K39 VLTS0 90
K09 K40 VLTS0 94
K09 K41 VLTS0 98
K09 K42 VLTS0 A2
K09 K43 VLTS0 A4
K09 K44 VLTS0 A6
K09 K45 VLTS0 B0
K09 K46 VLTS0 B2
K09 K47 VLTS0 B4
K10 K32 VLTS0 20
K10 K33 VLTS0 44
K10 K34 VLTS0 58
K10 K35 VLTS0 68
K10 K36 VLTS0 76
K10 K37 VLTS0 82
K10 K38 VLTS0 88
K10 K39 VLTS0 92
K10 K40 VLTS0 96
K10 K41 VLTS0 A0
K10 K42 VLTS0 A4
K10 K43 VLTS0 A6
K10 K44 VLTS0 A8
K10 K45 VLTS0 B2
K10 K46 VLTS0 B4
K10 K47 VLTS0 B6
K11 K32 VLTS0 22
K11 K33 VLTS0 46
K11 K34 VLTS0 60
K11 K35 VLTS0 70
K11 K36 VLTS0 78
K11 K37 VLTS0 84
K11 K38 VLTS0 90
K11 K39 VLTS0 94
K11 K40 VLTS0 98

K11	K41	VLTS0	A2
K11	K42	VLTS0	A6
K11	K43	VLTS0	A8
K11	K44	VLTS0	B0
K11	K45	VLTS0	B4
K11	K46	VLTS0	B6
K11	K47	VLTS0	B8
K12	K32	VLTS0	00
K12	K33	VLTS0	02
K12	K34	VLTS0	04
K12	K35	VLTS0	08
K12	K36	VLTS0	10
K12	K37	VLTS0	12
K12	K38	VLTS0	16
K12	K39	VLTS0	20
K12	K40	VLTS0	24
K12	K41	VLTS0	28
K12	K42	VLTS0	34
K12	K43	VLTS0	40
K12	K44	VLTS0	48
K12	K45	VLTS0	58
K12	K46	VLTS0	72
K12	K47	VLTS0	96
K13	K32	VLTS0	02
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K13	K35	VLTS0	10
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K13	K37	VLTS0	14
K13	K38	VLTS0	18
K13	K39	VLTS0	22
K13	K40	VLTS0	26
K13	K41	VLTS0	30
K13	K42	VLTS0	36
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K13	K44	VLTS0	50
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K14	K34	VLTS0	08
K14	K35	VLTS0	12
K14	K36	VLTS0	14
K14	K37	VLTS0	16
K14	K38	VLTS0	20
K14	K39	VLTS0	24
K14	K40	VLTS0	28
K14	K41	VLTS0	32
K14	K42	VLTS0	38
K14	K43	VLTS0	44
K14	K44	VLTS0	52
K14	K45	VLTS0	62
K14	K46	VLTS0	76
K14	K47	VLTS0	A0
K15	K32	VLTS0	06
K15	K33	VLTS0	08
K15	K34	VLTS0	10
K15	K35	VLTS0	14
K15	K36	VLTS0	16
K15	K37	VLTS0	18
K15	K38	VLTS0	22
K15	K39	VLTS0	26
K15	K40	VLTS0	30
K15	K41	VLTS0	34
K15	K42	VLTS0	40

K15	K43	VLTS0	46
K15	K44	VLTS0	54
K15	K45	VLTS0	64
K15	K46	VLTS0	78
K15	K47	VLTS0	A2
K16	K32	VLTS0	08
K16	K33	VLTS0	10
K16	K34	VLTS0	12
K16	K35	VLTS0	16
K16	K36	VLTS0	18
K16	K37	VLTS0	20
K16	K38	VLTS0	24
K16	K39	VLTS0	28
K16	K40	VLTS0	32
K16	K41	VLTS0	36
K16	K42	VLTS0	42
K16	K43	VLTS0	48
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K17	K32	VLTS0	10
K17	K33	VLTS0	12
K17	K34	VLTS0	14
K17	K35	VLTS0	18
K17	K36	VLTS0	20
K17	K37	VLTS0	22
K17	K38	VLTS0	26
K17	K39	VLTS0	30
K17	K40	VLTS0	34
K17	K41	VLTS0	38
K17	K42	VLTS0	44
K17	K43	VLTS0	50
K17	K44	VLTS0	58
K17	K45	VLTS0	68
K17	K46	VLTS0	82
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K18	K32	VLTS0	12
K18	K33	VLTS0	14
K18	K34	VLTS0	16
K18	K35	VLTS0	20
K18	K36	VLTS0	22
K18	K37	VLTS0	24
K18	K38	VLTS0	28
K18	K39	VLTS0	32
K18	K40	VLTS0	36
K18	K41	VLTS0	40
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K18	K45	VLTS0	70
K18	K46	VLTS0	84
K18	K47	VLTS0	A8
K19	K32	VLTS0	14
K19	K33	VLTS0	16
K19	K34	VLTS0	18
K19	K35	VLTS0	22
K19	K36	VLTS0	24
K19	K37	VLTS0	26
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K19	K39	VLTS0	34
K19	K40	VLTS0	38
K19	K41	VLTS0	42
K19	K42	VLTS0	48
K19	K43	VLTS0	54
K19	K44	VLTS0	62

K19	K45	VLTS0	72
K19	K46	VLTS0	86
K19	K47	VLTS0	B0
K20	K32	VLTS0	16
K20	K33	VLTS0	18
K20	K34	VLTS0	20
K20	K35	VLTS0	24
K20	K36	VLTS0	26
K20	K37	VLTS0	28
K20	K38	VLTS0	32
K20	K39	VLTS0	36
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K20	K46	VLTS0	88
K20	K47	VLTS0	B2
K21	K32	VLTS0	18
K21	K33	VLTS0	20
K21	K34	VLTS0	22
K21	K35	VLTS0	26
K21	K36	VLTS0	28
K21	K37	VLTS0	30
K21	K38	VLTS0	34
K21	K39	VLTS0	38
K21	K40	VLTS0	42
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K21	K45	VLTS0	76
K21	K46	VLTS0	90
K21	K47	VLTS0	B4
K22	K32	VLTS0	20
K22	K33	VLTS0	22
K22	K34	VLTS0	24
K22	K35	VLTS0	28
K22	K36	VLTS0	30
K22	K37	VLTS0	32
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K22	K45	VLTS0	78
K22	K46	VLTS0	92
K22	K47	VLTS0	B6
K23	K32	VLTS0	22
K23	K33	VLTS0	24
K23	K34	VLTS0	26
K23	K35	VLTS0	30
K23	K36	VLTS0	32
K23	K37	VLTS0	34
K23	K38	VLTS0	38
K23	K39	VLTS0	42
K23	K40	VLTS0	46
K23	K41	VLTS0	50
K23	K42	VLTS0	56
K23	K43	VLTS0	62
K23	K44	VLTS0	70
K23	K45	VLTS0	80
K23	K46	VLTS0	94

K23 K47 VLT50 B8
K48 K32 FLSS1
K48 K33 FLSS1
K48 K34 FLSS1
K48 K35 FLSS1
K48 K36 FLSS1
K48 K37 FLSS1
K48 K38 FLSS1
K48 K39 FLSS1
K48 K40 FLSS1
K48 K41 FLSS1
K48 K42 FLSS1
K48 K43 FLSS1
K48 K44 FLSS1
K48 K45 FLSS1
K48 K46 FLSS1
K48 K47 FLSS1
K48 K48 VSM04 4A
K48 K48 VSM05 CA
K48 K48 VSM06 CA
K48 K48 VSM07 4A
K48 K48 VSM08 4A
K48 K48 VSM09 CA
K48 K48 VSM10 CA
K48 K48 VSM11 4A
K48 K48 VSM20 2A
K48 K48 VSM21 3A
K48 K48 VSM22 AA
K48 K48 VSM23 BA
K49 K26 DTA00 00
K49 K26 DTA02 00
K49 K26 DTA04 00
K49 K26 DTA06 00
K49 K27 DTA00 01
K49 K27 DTA02 01
K49 K27 DTA04 01
K49 K27 DTA06 01
K49 K29 DTA00 02
K49 K29 DTA02 02
K49 K29 DTA04 02
K49 K29 DTA06 02
K49 K31 DTA00 03
K49 K31 DTA02 03
K49 K31 DTA04 03
K49 K31 DTA06 03
K49 K49 VLT48 48
K49 K49 VLT50 48
K49 K49 VLT52 48
K49 K49 VLT54 48
K50 K86 SEQ 5 00
K50 K87 SEQ 6 00
K50 K88 SEQ 7 00
K50 K89 SEQ 8 00
K50 K99 SEQ 1 FE
K50 K99 SEQ 2 FE
K50 K99 SEQ 3 FE
K50 K99 SEQ 4 FE
K51 K82 SEQ 1 01
K51 K83 SEQ 2 02
K51 K84 SEQ 3 03
K51 K85 SEQ 4 04
K52 K82 SEQ 1 05
K52 K83 SEQ 2 06
K52 K84 SEQ 3 07
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K53 K82 SEQ 1 09

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K53 K84 SEQ 3 0B
K53 K85 SEQ 4 0C
K54 K82 SEQ 1 0D
K54 K83 SEQ 2 0E
K54 K84 SEQ 3 0F
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K65 K83 SEQ 2 3A
K65 K84 SEQ 3 3B
K65 K85 SEQ 4 3C
K66 K82 SEQ 1 3D
K66 K83 SEQ 2 3E
K66 K84 SEQ 3 3F
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K67 K90 SEQ 5 41
K67 K91 SEQ 6 41
K67 K92 SEQ 7 41
K67 K93 SEQ 8 41
K68 K90 SEQ 5 57
K68 K91 SEQ 6 57
K68 K92 SEQ 7 57
K68 K93 SEQ 8 57
K69 K90 SEQ 5 6C
K69 K91 SEQ 6 6C
K69 K92 SEQ 7 6C

K69 K93 SEQ 8 6C
K70 K90 SEQ 5 80
K70 K91 SEQ 6 80
K70 K92 SEQ 7 80
K70 K93 SEQ 8 80
K71 K90 SEQ 5 92
K71 K91 SEQ 6 92
K71 K92 SEQ 7 92
K71 K93 SEQ 8 92
K72 K90 SEQ 5 A5
K72 K91 SEQ 6 A5
K72 K92 SEQ 7 A5
K72 K93 SEQ 8 A5
K73 K90 SEQ 5 B9
K73 K91 SEQ 6 B9
K73 K92 SEQ 7 B9
K73 K93 SEQ 8 B9
K74 K90 SEQ 5 D2
K74 K91 SEQ 6 D2
K74 K92 SEQ 7 D2
K74 K93 SEQ 8 D2
K75 K90 SEQ 5 E6
K75 K91 SEQ 6 E6
K75 K92 SEQ 7 E6
K75 K93 SEQ 8 E6

LN	TIME	ACT1	ACT2	ACT3
00	00.00	STOP		
01	02.53	K 86	J 01	
02	02.53	K 87	J 02	
03	02.53	K 88	J 03	
04	02.53	K 89	J 04	
05	01.69	K 86	J 05	
06	01.69	K 87	J 06	
07	01.69	K 88	J 07	
08	01.69	K 89	J 08	
09	00.84	K 86	J 09	
0A	00.84	K 87	J 0A	
0B	00.84	K 88	J 0B	
0C	00.84	K 89	J 0C	
0D	00.42	K 86	J 0D	
0E	00.42	K 87	J 0E	
0F	00.42	K 88	J 0F	
10	00.42	K 89	J 10	
11	00.28	K 86	J 11	
12	00.28	K 87	J 12	
13	00.28	K 88	J 13	
14	00.28	K 89	J 14	
15	00.21	K 86	J 15	
16	00.21	K 87	J 16	
17	00.21	K 88	J 17	
18	00.21	K 89	J 18	
19	00.17	K 86	J 19	
1A	00.17	K 87	J 1A	

1B 00.17 K 88 J 1B
1C 00.17 K 89 J 1C
1D 00.14 K 86 J 1D
1E 00.14 K 87 J 1E
1F 00.14 K 88 J 1F
20 00.14 K 89 J 20
21 00.12 K 86 J 21
22 00.12 K 87 J 22
23 00.12 K 88 J 23
24 00.12 K 89 J 24
25 00.10 K 86 J 25
26 00.10 K 87 J 26
27 00.10 K 88 J 27
28 00.10 K 89 J 28
29 00.09 K 86 J 29
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2B 00.09 K 88 J 2B
2C 00.09 K 89 J 2C
2D 00.08 K 86 J 2D
2E 00.08 K 87 J 2E
2F 00.08 K 88 J 2F
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31 00.07 K 86 J 31
32 00.07 K 87 J 32
33 00.07 K 88 J 33
34 00.07 K 89 J 34
35 00.06 K 86 J 35
36 00.06 K 87 J 36
37 00.06 K 88 J 37
38 00.06 K 89 J 38
39 00.05 K 86 J 39
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3B 00.05 K 88 J 3B
3C 00.05 K 89 J 3C
3D 00.04 K 86 J 3D
3E 00.04 K 87 J 3E
3F 00.04 K 88 J 3F
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48 00.00 K 42 STOP
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4C 00.00 K 38 STOP
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4E 00.00 K 33 STOP
4F 00.00 K 32 STOP
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56 00.00 INRF J 48
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5B 00.00 SD98 J 69
5C 00.00 K 34 STOP

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5E 00.00 K 36 STOP
5F 00.00 SE99 J 6A
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61 00.00 K 41 STOP
62 00.00 K 42 STOP
63 00.00 K 44 STOP
64 00.00 K 45 STOP
65 00.00 SF98 J 6B
66 00.00 K 46 STOP
67 00.00 K 47 STOP
68 00.00 J 59
69 00.00 INRD J 59
6A 00.00 INRE J 5A
6B 00.00 INRF J 5D
6C 00.00 D=00 E=00 F=00
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6E 00.00 K 47 STOP
6F 00.00 K 44 STOP
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71 00.00 K 43 STOP
72 00.00 K 41 STOP
73 00.00 K 39 STOP
74 00.00 SE95 J 7E
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76 00.00 K 34 STOP
77 00.00 K 32 STOP
78 00.00 K 33 STOP
79 00.00 K 35 STOP
7A 00.00 SF90 J 7F
7B 00.00 K 37 STOP
7C 00.00 J 6E
7D 00.00 INRD J 6E
7E 00.00 INRE J 6F
7F 00.00 INRF J 72
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85 00.00 K 35 STOP
86 00.00 K 32 STOP
87 00.00 K 36 STOP
88 00.00 SE96 J 90
89 00.00 K 42 STOP
8A 00.00 K 45 STOP
8B 00.00 K 47 STOP
8C 00.00 K 46 STOP
8D 00.00 SF95 J 91
8E 00.00 J 82
8F 00.00 INRD J 82
90 00.00 INRE J 83
91 00.00 INRF J 86
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98 00.00 K 38 STOP
99 00.00 K 32 STOP
9A 00.00 K 33 STOP
9B 00.00 SE96 J A3
9C 00.00 K 34 STOP
9D 00.00 K 35 STOP
9E 00.00 K 45 STOP

9F 00.00 SF90 J A4
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A3 00.00 INRE J 95
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A8 00.00 K 42 STOP
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AB 00.00 K 39 STOP
AC 00.00 K 34 STOP
AD 00.00 K 32 STOP
AE 00.00 SE96 J B7
AF 00.00 K 36 STOP
B0 00.00 K 42 STOP
B1 00.00 K 46 STOP
B2 00.00 SF98 J B8
B3 00.00 K 47 STOP
B4 00.00 K 45 STOP
B5 00.00 J A7
B6 00.00 INRD J A7
B7 00.00 INRE J A8
B8 00.00 INRF J AC
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BB 00.00 K 42 STOP
BC 00.00 K 43 STOP
BD 00.00 K 44 STOP
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C1 00.00 K 39 STOP
C2 00.00 K 45 STOP
C3 00.00 K 46 STOP
C4 00.00 K 47 STOP
C5 00.00 SE94 J D0
C6 00.00 K 41 STOP
C7 00.00 K 40 STOP
C8 00.00 K 37 STOP
C9 00.00 K 36 STOP
CA 00.00 K 35 STOP
CB 00.00 K 34 STOP
CC 00.00 K 33 STOP
CD 00.00 SF95 J D1
CE 00.00 J BB
CF 00.00 INRD J BB
D0 00.00 INRE J BD
D1 00.00 INRF J C2
D2 00.00 D=00 E=00 F=00
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D5 00.00 K 41 STOP
D6 00.00 K 39 STOP
D7 00.00 K 36 STOP
D8 00.00 K 34 STOP
D9 00.00 K 33 STOP
DA 00.00 SD99 J E3
DB 00.00 K 32 STOP
DC 00.00 K 35 STOP
DD 00.00 K 37 STOP
DE 00.00 SE98 J E4
DF 00.00 K 47 STOP
E0 00.00 K 44 STOP

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E2 00.00 J D4
E3 00.00 INRD J D4
E4 00.00 INRE J D7
E5 00.00 INRF J DD
E6 00.00 D=00 E=00 F=00
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E8 00.00 K 46 STOP
E9 00.00 K 44 STOP
EA 00.00 K 40 STOP
EB 00.00 K 35 STOP
EC 00.00 SD96 J F5
ED 00.00 K 32 STOP
EE 00.00 K 36 STOP
EF 00.00 K 42 STOP
F0 00.00 SE99 J F6
F1 00.00 K 45 STOP
F2 00.00 K 47 STOP
F3 00.00 SF98 J F7
F4 00.00 J E8
F5 00.00 INRD J E8
F6 00.00 INRE J EA
F7 00.00 INRF J EF
F8 00.00 STOP
F9 00.00 STOP
FA 00.00 STOP
FB 00.00 STOP
FC 00.00 STOP
FD 00.00 STOP
FE 00.00 STOP
FF 00.00 STOP

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Address Assignment Table

0	48	00
1	50	01
2	52	04
3	54	05