

IDENTIFICATION

Product:Code:	DEC-12-ZR3A-D
Product Name:	DIAL-MS PXDXSRC Program Description
Date Created:	July 1, 1970
Maintainer:	Software Services

LAP6-DIAL is an editor, filing system and assembler for use with the PDP-12 computer. The editor and filing portions are derived from the basic LINC program LAP6¹ by Mary Allen Wilkes of Washington University. The assembly portion is derived from several programs used for the PDP-8 computer including PAL-D².

The Digital Equipment Corporation wishes to express to the author, Mary Allen Wilkes (Clark), and the Computer Research Laboratory of Washington University, St. Louis, Missouri, its appreciation for the development set forth in LAP6 as well as its thanks for permission to use parts of the LAP6 program.

¹M. A. Wilkes, LAP6 Handbook, Computer Research Laboratory Tech. Rep. No. 2, Washington University, St. Louis, May 1, 1967.

²PAL-D Assembler Programmer's Reference Manual DEC-D8-ASAA-D.

1.0 PROGRAM OVERVIEW

The PXDXSRC program has two parts, Display Index and Print Index, which are almost exact copies of each other; in Print Index the Teletype is substituted for the scope used in Display Index. Both programs read in the rest of the routine (block 362); Print Index reads in the Teletype routine (block 364). They then pick up the unit number from E6 + 6 and read in the index which is scanned for legal filenames, printing or displaying them when found. When finished, Print Index returns control to the user. Display Index can skip over entries without displaying them. By typing the characters l, 2, Q, or W, the line count is changed so that the Index can be "moved" up or down on the scope. In addition, it looks for the character R to re-read the Index or a rubout to delete the last line being displayed. A colon causes the present Index to be written out on the tape.

2.0 ENVIRONMENT

PXDXSRC is two blocks long (361 and 362) and resides in memory locations 4000-4777. In addition, it uses part of the PRINTMS output routine to print on the Teletype. It reads this program (block 364) into locations 5400-5777. This section of code, called the Teletype routines above, is duplicated in both PXDXSRC and PRINTMS.

3.0 FLOW PROGRAM (Attached)

4.0 PROGRAM LISTING (Attached)

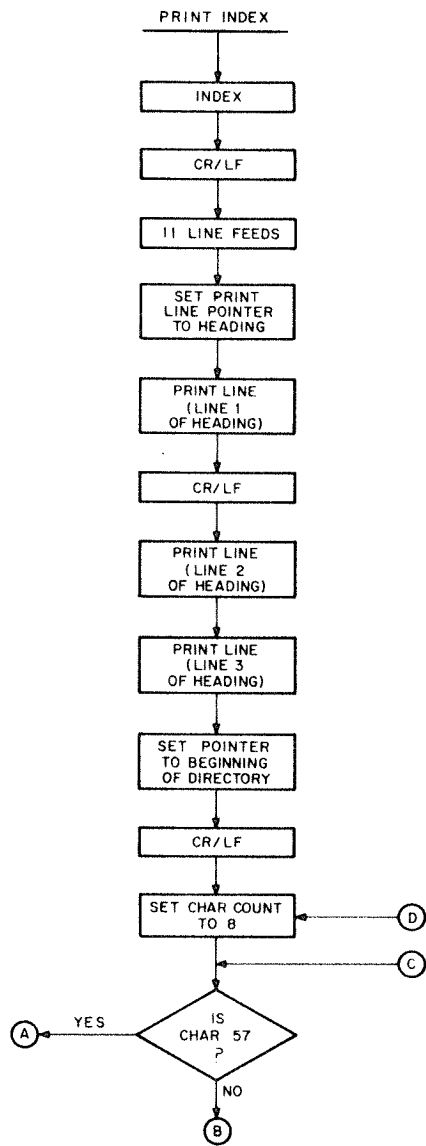


Figure 1

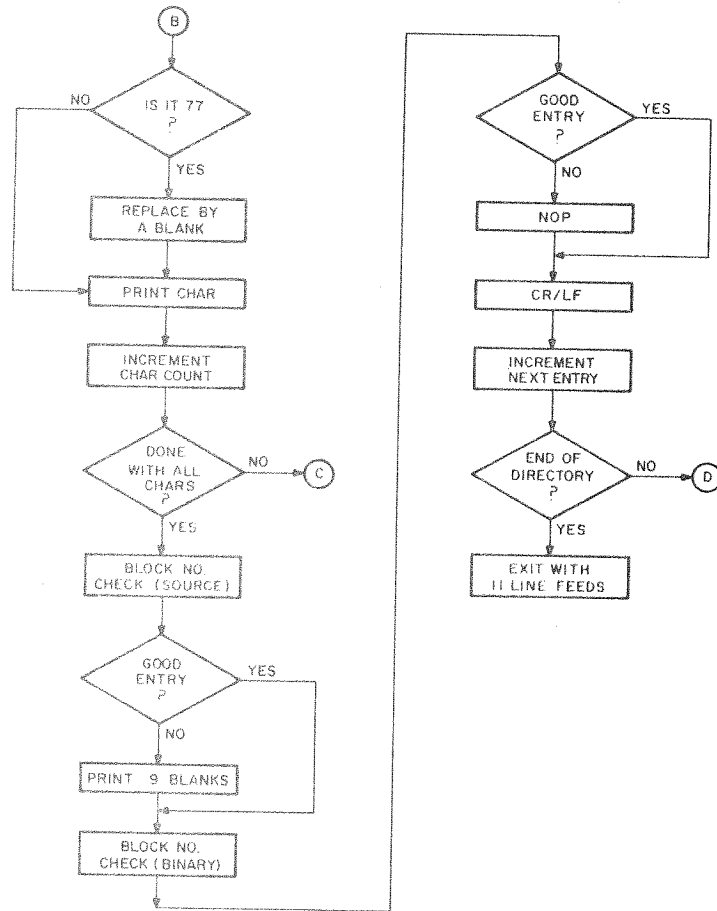


Figure 2

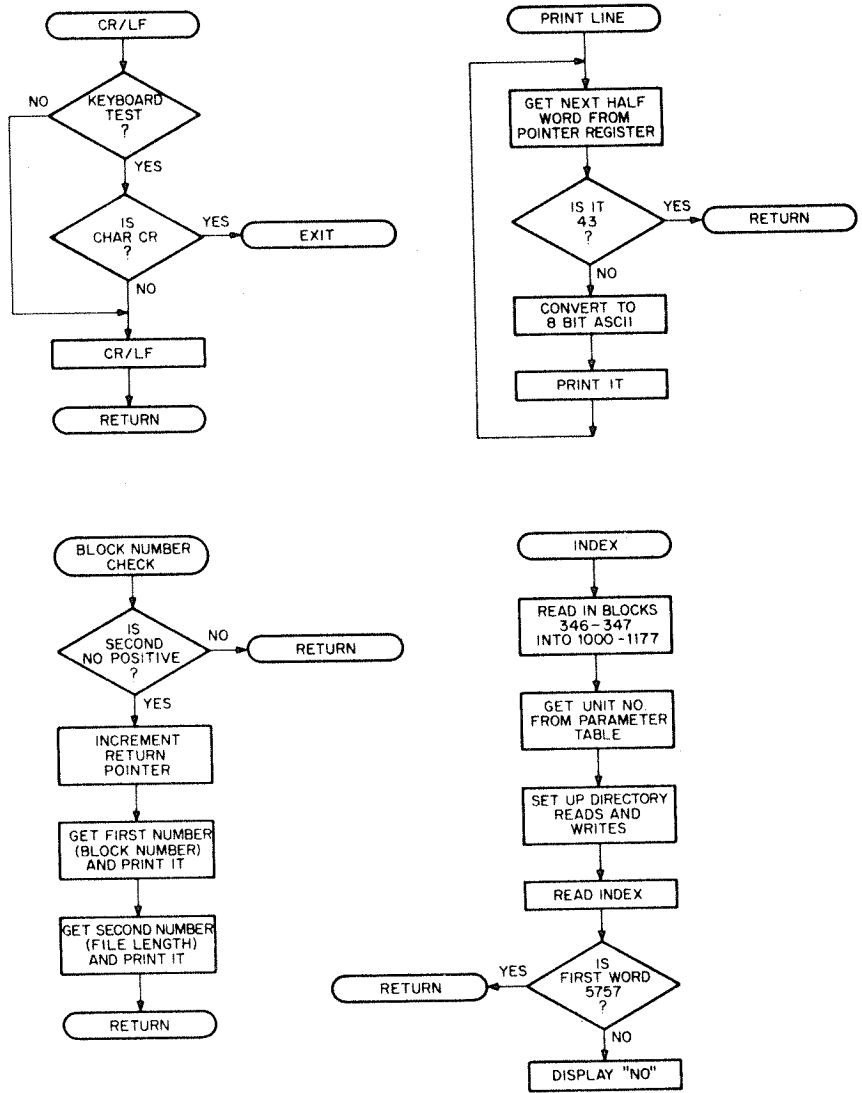


Figure 3

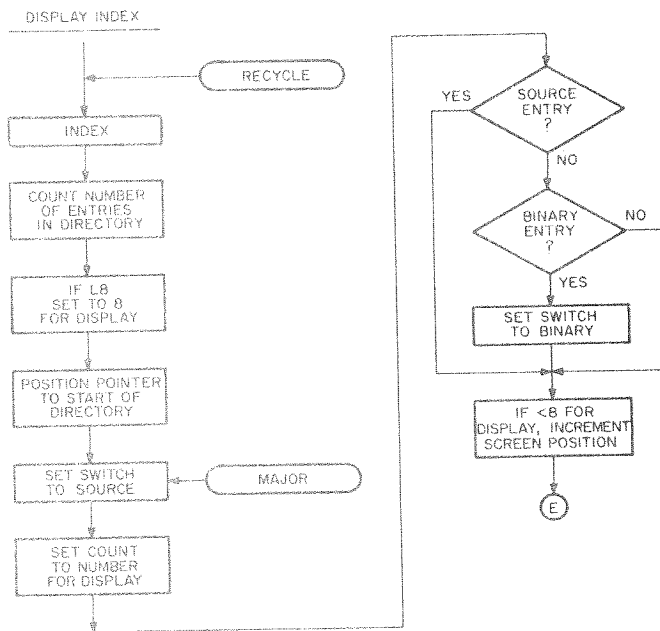


Figure 4

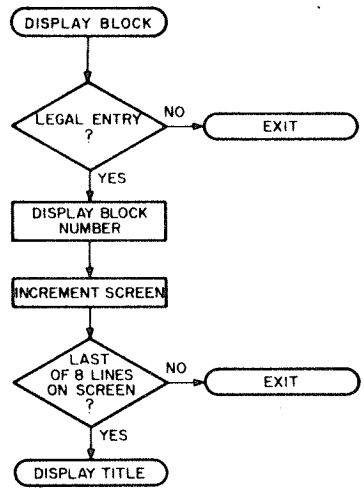
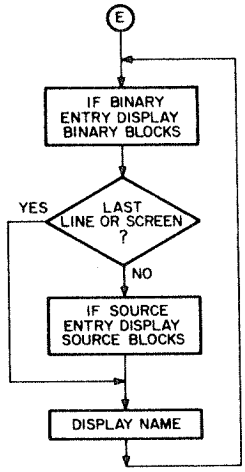


Figure 5

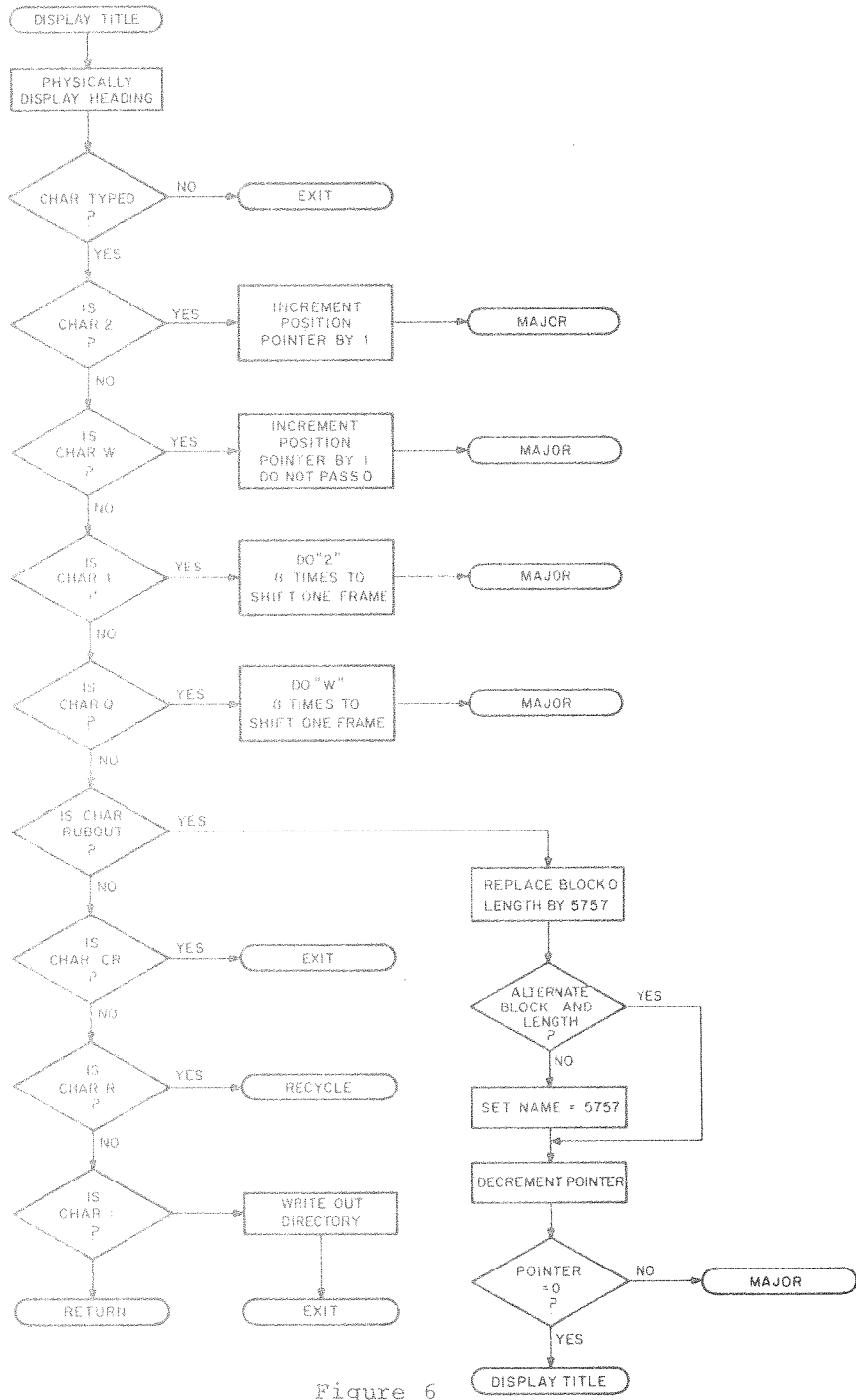


Figure 6

ADDR	DATA	COMMENT
0075	0101	BSE I
0076	7007	7007
0077	0103	STC 2
0100	0104	XSK 2
0101	0105	JMP F5-2
0102	0106	JMP M5
0103	0107	JMP AZ
0104		/GET BN, NBLKS
0105		SET 5
0106		0
0107		LDA I 2
0110		BCL I
0111		7000
0112		STC G5
0113		LDA I 2
0114		AP0
0115		JMP 0 /NO ENTRY
0116		JMP W8-2
0117		LDA I
0120		0 /BLK NO
0121		JMP Q8
0122		LDA 2
0123		JMP Q8
0124		XSK I 5
0125		JMP 5 /ENTY, +2
0126		/LINEFEED
0127		SET 3
0130		0
0131		SET I 5
0132		-11
0133		JMP T8
0134		XSK I 5
0135		JMP :-2
0136		JMP 3
0137		-37 /77-37=40
0140		/NO SRC SPACE OVER
0141		SET I 13
0142		-11
0143		JMP W8-2
0144		XSK I 13
0145		JMP :-2
0146		JMP H5-5
0147		/PRINT NUMBER - LEADING ZEROS
0150		/
0151		/
0152		SET 4
0153		0
0154		JMP M8 /SAVE AND SHIFT NUM
0155		AZE /DIGIT 0?
0156		JMP R8+3 /NO, PRINT REST
0157		ADD N8+3 /GET SHIFT REG.
0160		BCL I
0161		-1 /LAST ONE?
0162		AZE I /??
0163		JMP R8+3 /YEP, PRINT IT
0164		JMP W8-2 /BLANK
0165		JMP N8 /SHIFT AND CHECK
0166		JMP Q8LOOP /CHECK NEXT
0167		/
0170		/
0171		/INDEX READ
0172		IDA

0273	0044	0261	0044	/ONCE PER FRAME
0274	0010	0262	0010	L2,SET 4
0275	0063	0263	0063	10 /CONSTANT
0276	7767	0264	7767	SET I 3
0277	1000	0265	1000	-10
0300	0627	0266	0627	LDA
0301	2262	0267	2262	G2
0302	0451	0270	0451	ADD L2+1 /10
0303	6367	0271	6367	AP0
0304	0017	0272	0017	JMP E2+5 /G2, MORE THAN 10
0305	4012	0273	4012	COM
0306	2370	0274	2370	STC 12
0307	1120	0275	1120	/COMPUTE VERTICAL
0311	0040	0276	0040	ADD E2+6
0312	0232	0277	0232	ADA I
0313	6275	0300	6275	40
0314	0043	0301	0043	XSK I 12
0315	0627	0302	0627	JMP I-3
0316	4414	0303	4414	SET 3
0317	6014	0304	6014	G2
0320	0077	0305	0077	STC M1
0321	0004	0306	0004	JMP I4
0322	6372	0307	6372	/ONCE PER LINE
0323	1020	0310	1020	/BN ENTRY
0326	7775	0311	7775	G1,SET I 17
0327	1140	0312	1140	4
0330	0004	0313	0004	JMP X1
0331	0077	0314	0077	LDA I
0332	0046	0315	0046	-2
0333	6372	0316	6372	ADM
0334	6521	0317	6521	4
0335	6305	0320	6305	SET I 17
0336	0057	0321	0057	46
0337	0000	0322	0000	JMP X1
0340	1020	0323	1020	JMP E1
0341	7771	0324	7771	JMP G1
0343	1140	0325	1140	/CHECK NAME
0344	0004	0326	0004	E1, SET 17
0345	0066	0327	0066	0
0346	7767	0330	7767	LDA I
0350	0061	0331	0061	-6
0351	0070	0332	0070	ADM
0352	0045	0333	0045	4
0353	0004	0334	0004	SET I 6
0354	1325	0335	1325	-10
0355	1420	0336	1420	SET I 1
0350	5700	0337	5700	70
0357	6000	0340	6000	SET 5
0360	6346	0341	6346	4
0361	1325	0342	1325	LDH I 5
0362	1420	0343	1420	SHD I
0363	7700	0344	7700	5700
0364	6017	0345	6017	JMP 0
0365	0715	0346	0715	JMP I+5
0366	0226	0347	0226	/DISPLAY NAME
0370	6342	0350	6342	LDH I 5
				SHD I
				7700
				JMP 17
				JMP Y1
				XSK I 6
				JMP I-6

0371	0351	6017	JMP 17
0372	0352	0053	/CHECK ENTRY FOR COUNT
0373	0353	0010	J2, SET 13
0374	0354	1030	10 /DELETE ADDRESS
0375	0355	1030	LDA I 10
0376	0356	0471	LDA I 10
0377	0357	0232	APO I
0400	0360	0220	XSK I 12
0401	0361	6000	XSK I 0
0402	0362	1020	JMP 0 /.+1 IF ENTRY
0403	0363	0004	/UP 10
0404	0364	1140	E2, LDA I
0405	0365	0010	4
0406	0366	6000	ADM
0407	0367	1020	10
0410	0370	7600	JMP 0
0411	0371	6303	/FIX VERTICAL
0412	0372	0046	LDA I
0413	0373	0000	-177 /CONSTANT
0414	0374	1020	JMP G1-2
0415	0375	7776	/CHECK ENTRY
0416	0376	1140	X1, SET 6
0417	0377	0004	0
0420	0378	0000	LDA I
0421	0379	1020	-1 /CONSTANT
0422	0380	0000	ADM
0423	0381	1140	4
0424	0382	0004	LDA 4
0425	0383	1004	BCL I
0426	0384	1560	7000
0427	0385	7000	STC M1+5 /BM
0430	0386	4421	LDA I 4
0431	0387	1024	APO
0432	0388	0451	JMP 0 /NO ENTRY
0433	0389	6000	SET I 1
0434	0390	0061	354
0435	0391	0354	/DISPLAY ENTRY
0436	0392	1020	W1, LDA I
0437	0393	0040	40
0440	0394	1160	ADM I
0441	0395	0000	M1, 0 /VERTICAL
0442	0396	1000	LDA
0443	0397	0017	17
0444	0398	6716	JMP Y1+1
0445	0399	1020	LDA I
0446	0400	0000	0 /CM
0447	0401	6653	JMP T1
0450	0402	1004	LDA 4 /NO OF BLKS
0451	0403	6653	JMP T1
0452	0404	0223	XSK I 3
0453	0405	6006	JMP 6
0454	0406	1000	/LAST NAME
0455	0407	0004	LDA
0456	0408	1560	4
0457	0409	0002	BCL I
0460	0410	4004	2
0461	0411	6321	STC 4
0462	0412	1020	JMP E1
0463	0413	0100	/DISPLAY TITLE
0465	0414	2414	C1, LDA I
0466	0415	0466	100

```

0470 0471 0472 0473 0474 0475 0476 0477 0500 0501 0502 0503 0504 0505 0506 0507 0510 0511 0512 0513 0514 0515 0516 0517 0520 0521 0522 0523 0524 0525 0526 0527 0530 0531 0532 0533 0534 0535 0536 0537 0540 0541 0542 0543 0544 0545 0546 0547 0550 0551 0552 0553 0554 0555 0556 0557 0560 0561 0562 0563 0564 0565 0566
JMP V1
KST 0415
JMP L2
/KEYBOARD
LIF 3
JMP KBDOOPR
SHD I
6200 /2
JMP S1
SHD I
2700 /W
JMP C2
SHD I
6100 /1
JMP Q1
SHD I
2100 /Q
JMP P1
APO I
JMP ,+4
SHD I
3700 /DELETE
JMP D2
SHD I
4300 /EOL
JMP AZ
SHD I
2200 /REPEAT
JMP V1-2
SAE I
72
/ : FOR NEWW INDEX
JMP L2
/WRITE NEW INDEX
M2, SRO I
-0
JMP AZ /1
PDP
PMODE
CIF 10
JMS I WRITE
JBUNIT
LINC
LMODE
JMP AZ
/REPEAT
JMP PX
JMP A2
/DISPLAY TITLE
V1, SET 2
0
SET I 1
70
SET I 6
Z1-4000
JMP R1
SET I 1
424
JMP R1
JMP 2
/DISPLAY TITLE
R1, SET 17
/MAKE SURE ITS NEGATIVE( LINEFEED=37, RUBOUT=4037)
/SKIP PAST RUBOUT CHECK
/WRITE OUT THE INDEX NOW
/REBOOTSTRAP THE SYSTEM.
U1,
/
/
0510 6755
0511 6172
0512 6215
0513 0042
0514 0000
0515 0061
0516 0070
0517 0066
0520 4730
0521 6526
0522 0061
0523 0424
0524 6526
0525 6002
0526 0057
0527 0057
0530 1520
0531 7777
0532 6755
0533 0002
4504 6212
4505 4422
4506 4756
4507 6141
0540 6755
0541 6172
0542 6215
0543 0042
0544 0000
0545 0061
0546 0070
0547 0066
0548 4730
0549 6526
0550 0061
0551 0424
0552 6526
0553 6002
0554 0057
0555 0057
0556 0057
0557 0057
0558 0057
0559 0057
0560 0057
0561 0057
0562 0057
0563 0057
0564 0057
0565 0057
0566 0057

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0567	0527	0000	LDH I 6
0570	0530	1326	SHD I
0571	0531	1420	0000
0572	0532	0000	JMP 17
0573	0533	6017	JMP Y1
0574	0534	5715	JMP :-5
0575	0535	6530	/DELETE
0576			D2,LDA I
0577	0536	1020	5757
0600	0537	5757	STA I 13
0601	0540	1073	STA I 13
0602	0541	1073	LDA
0603	0542	1000	13
0604	0543	0013	BCL I
0605	0544	1660	2
0606	0545	0002	STC 13
0607	0546	4013	LDA 13
0610	0547	1013	APD I
0611	0550	0471	JMP N2
0612	0551	6561	LDA
0613	0552	1000	13
0614	0553	0013	BCL I
0615	0554	1560	7
0616	0555	0007	STC 13
0617	0556	4013	ADD D2+1
0620	0557	2537	STA 13
0621	0560	1053	N2, LDA I
0622	0561	1020	1
0623	0562	0001	ADD G2
0624	0563	2627	AZE
0625	0564	0450	STC G2
0626	0565	4627	CLR
0627	0566	0011	STC M2+1
0630	0567	4501	XSK I 11
0631	0570	0231	JMP H2
0632	0571	6243	/ALL DELETED
0633			SET I 11
0634	0572	0071	2777
0635	0573	2777	STA I 11
0636	0574	1071	XSK 11
0637	0575	0211	JMP :-2
0640	0576	6574	A1, JMP V1
0641	0577	6513	KST
0642	0600	0415	JMP :-2
0643	0601	6577	LIF 3
0644	0602	0603	KBDOPR
0645	0603	7400	JMP
0646	0604	1420	SHD I
0647	0605	7200	7200 /: FOR NEW INDEX
0650	0606	6500	JMP M2
0651	0607	1420	SHD I
0652	0610	2300	2300 /REPEAT
0653	0611	6511	JMP V1-2
0654	0612	1460	SAE I
0655	0613	0043	43
0656	0614	6577	JMP A1
0657	0615	6755	JMP AZ
0660			/KEYBOARD CHANGES
0661			/FORWARD ENTRY
0662	0616	6626	S1, JMP B2
0663	0617	6243	JMP H2

0667	0667	JMP B2
0670	0622	XSK I 2
0671	0222	JMP I -2
0672	0624	JMP H2
0673	0625	/FORWARD
0674	1020	B2, LDA I
0675	7767	G2, =10
0676	0630	SAE
0677	0011	I1
0700	0632	ADD X1+3
0701	0633	STC G2
0702	0634	JMP 0
0703		/BACKWARD ENTRY
0704	0635	C2, JMP J1
0705	0636	JMP H2
0706		/BACKWARD PAGE
0707		P1, SET I 2
0710	0637	-10
0711	0640	JMP J1
0712	0641	XSK I 2
0713	0642	JMP I -2
0714	0643	JMP H2
0715	0644	/BACKWARD
0716		J1, LDA I
0717	0645	I
0720	0646	ADD G2
0721	0647	AZE
0722	0650	STC G2
0723	0651	JMP 0
0724	0652	/NUMBER DISPLAY
0725		I1, SET 7
0726	0653	0
0727	0654	ROL I
0730	0655	STC K1+3
0731	0656	JMP K1
0732	0657	SRO
0733	0660	K1-7
0734	0661	JMP K1-4 /DISPLAY LAST
0735	0662	AZE
0736	0663	JMP I+6
0737	0664	ADD I /NO LEADING ZEROS
0740	0665	ADA I
0741	0666	I2
0742	0667	STC I
0743	0670	JMP I1+4
0744	0671	ADA I
0745	0672	I40
0746	0673	JMP Y1+1
0747	0674	JMP K1
0750	0675	SRO I
0751	0676	I200
0752	0677	4210
0753	0700	JMP I+2
0754	0701	JMP I-7
0755		/DISPLAY LAST
0756		ADA I
0757	0702	I40
0760	0703	JMP Y1+1
0761	0704	JMP 7
0762	0705	/FIX DIGIT
0763		K1, ADD I+3
0764		ROL 3
		STA I
		I1000

0765	0711	0000	0	/NUMBER IO DISPLAY
0766	0712	1560	BCL I	
0767	0713	7761	7761	
0770	0714	6000	JMP 0	
0771			/DISPLAY	
0772	0715	0241	Y1, ROL 1	
0773	0716	1120	ADA I	
0774	0717	2001	A6	
0775	0720	4012	STC 12	
0776	0721	2414	ADD M1	
0777	0722	1752	DSC 12	
1000	0723	1772	DSC I 12	
1001	0724	1020	LDA I	
1002	0725	0004	4	
1003	0726	2001	ADD 1	
1004	0727	4001	STC 1	
1005	0730	6000	JMP 0	
1006			/TITLE TABLE	
1007	0731	1601	1601	
1010	0732	1505	1505	
1011	0733	0002	0002	
1012	0734	1640	1640	
1013	0735	4002	4002	
1014	0736	1413	1413	
1015	0737	2300	2300	
1016			/NO	
1017	0740	0011	N1, CLR	
1020	0741	4414	STC M1 /V COORD	
1021	0742	0061	SET I 1	
1022	0743	0330	330 /H	
1023	0744	1020	LDA I	
1024	0745	0034	34	
1025	0746	6716	JMP Y1+1	
1026	0747	1772	DSC I 12	
1027	0750	1772	DSC I 12	
1030	0751	0415	KST	
1031	0752	6742	JMP N1+2	
1032	0753	0603	LIF 3	
1033	0754	7400	JMP KBDOPR	
1034				
1035	0755	7420	JMP B8	
1036				
1037				
1040				
1041				
1042	0756	0000	JBUNIT, 0	/INDEX UNIT NUMBER
1043	0757	0006	6	/CORE LOCATION 3000-3777
1044	0760	0346	G7	/THE BLOCK NUMBER
1045	0761	0002	2	/NUMBER OF RECORDS TOWARD IN.
1046				
1047				
1050				
1051				
1052				
1053				
1054				
1055				
1056				

/END PX,DX SRC
 /ADD TELETYPE HERE BEFORE ASSEMBLY
 /
 EJECT


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1156 1445 7454 JMP ,+7
1157 1446 0062 SET I 2
1160 1447 4772 J9+2-4000
1161 1450 7632 JMP Y8 /NAME
1162 1451 1020 LDA I
1163 1452 0054 54
1164 1453 7613 JMP W8 /,
1165 1454 1020 LDA I
1166 1455 0000 L8, /PAGE NUMBER
1167 1456 7555 JMP P8
1170 1457 1020 LDA I
1171 1460 0001 1 /CONSTANT
1172 1461 3455 ADD ,+4
1173 1462 5455 STC ,+5
1174 1463 3474 ADD C8 /LINE NUMBER
1175 1464 0470 AZE I
1176 1465 7476 JMP X8-6
1177 1466 7611 JMP W8-2
1200 1467 7611 JMP W8-2
1201 1470 0062 SET I 2
1202 1471 5770 S8-4000
1203 1472 7632 JMP Y8 /LN=
1204 1473 1020 LDA I
1205 1474 0000 C8, /LN
1206 1475 7555 JMP P8 /PRINT NUMBER
1207 1476 7504 JMP X8
1210 1477 7536 JMP T8
1211 1500 0065 SET I 5
1212 1501 7706 -71
1213 1502 5630 STC TBCONT
1214 1503 6014 JMP 14
1215 /KST, CARRIAGE RETURN
1216 SET 7
1217 1504 0047 X8,
1218 1505 0000
1220 1506 0415 KST
1221 1507 7515 JMP ,+6
1222 1510 0603 LIF 3
1223 1511 7400 JMP KBDOPR
1224 1512 1420 SHD I
1225 1513 4300 4300
1226 1514 7420 JMP B8
1227 1515 0002 PDP
1230 PMODE
1231 5516 7200 CLA
1232 5517 1325 TAD P215
1233 5520 4726 JMS I TYPOA
1234 5521 1327 TAD P212
1235 5522 4726 JMS I TYPOA
1236 5523 6141 LINC
1237 LMODE
1240 1524 6007 JMP 7
1241 1525 0215 P215, 215
1242 1526 5530 TYPOA, TYPO
1243 1527 0212 P212, 212
1244 PMODE
1245 5530 0000 TYPO,
1246 5531 6041
1247 5532 5331
1250 5533 6046 JMP ,+1
1251 5534 7200 TLS
1252 5535 5730 CLA
1253 JMP I TYPO

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/ZERO OUT THE TAB COUNTER, A NEW LINE IS HERE.
/EXIT.

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1256 5537 7200 1256 5540 1327 1257 5541 4744 1260 5542 6141 1261 1543 6000 1262 1544 5530 1263 1545 0044 1264 1546 0000 1265 1547 7575 1266 1550 1120 1267 1551 0060 1268 1552 7613 1269 1553 7603 1270 1554 7547 1271 1555 0044 1272 1556 0000 1273 1557 0450 1274 1560 7565 1275 1561 1120 1276 1562 0060 1277 1563 7613 1278 1564 6004 1279 1565 7575 1280 1566 0450 1281 1567 7572 1282 1570 7603 1283 1571 7565 1284 1572 1120 1285 1573 0060 1286 1574 7552 1287 1575 0243 1288 1576 1060 1289 1577 0000 1290 1600 1560 1291 1601 7770 1292 1602 6000 1293 1603 1000 1294 1604 1577 1295 1605 1520 1296 1606 3567 1297 1607 6000 1298 1610 6004 1299 1611 1020 1300 1612 0040 1301 1613 0002 1302 5614 4631 1303 5615 5277 1304 5616 1277 1305 5617 1300 1306 5620 7650 1307 5621 5322 1308 5622 1277 1309 5623 4627 1310 5624 2230 1311 5625 6141 1312 1313 1314 1315 1316 1317 1318 1319 1320 1321 1322 1323 1324 1325 1326 1327 1328 1329 1330 1331 1332 1333 1334 1335 1336 1337 1338 1339 1340 1341 1342 1343 1344 1345 1346 1347 1348 1349 1350 1351 1352 1353 1354 1355 1356 1357 1358 1359 1360 1361 1362 1363 1364 1365 1366 1367 1368 1369 1370 1371 1372 1373 1374 1375 1376 1377 1378 1379 1380 1381 1382 1383 1384 1385 1386 1387 1388 1389 1390 1391 1392 1393 1394 1395 1396 1397 1398 1399 1400 1401 1402 1403 1404 1405 1406 1407 1408 1409 1410 1411 1412 1413 1414 1415 1416 1417 1418 1419 1420 1421 1422 1423 1424 1425 1426 1427 1428 1429 1430 1431 1432 1433 1434 1435 1436 1437 1438 1439 1440 1441 1442 1443 1444 1445 1446 1447 1448 1449 1450 1451 1452 1453 1454 1455 1456 1457 1458 1459 1460 1461 1462 1463 1464 1465 1466 1467 1468 1469 1470 1471 1472 1473 1474 1475 1476 1477 1478 1479 1480 1481 1482 1483 1484 1485 1486 1487 1488 1489 1490 1491 1492 1493 1494 1495 1496 1497 1498 1499 1500 1501 1502 1503 1504 1505 1506 1507 1508 1509 1510 1511 1512 1513 1514 1515 1516 1517 1518 1519 1520 1521 1522 1523 1524 1525 1526 1527 1528 1529 1530 1531 1532 1533 1534 1535 1536 1537 1538 1539 1540 1541 1542 1543 1544 1545 1546 1547 1548 1549 1550 1551 1552 1553 1554 1555 1556 1557 1558 1559 1560 1561 1562 1563 1564 1565 1566 1567 1568 1569 1570 1571 1572 1573 1574 1575 1576 1577 1578 1579 1580 1581 1582 1583 1584 1585 1586 1587 1588 1589 1590 1591 1592 1593 1594 1595 1596 1597 1598 1599 1600 1601 1602 1603 1604 1605 1606 1607 1608 1609 1610 1611 1612 1613 1614 1615 1616 1617 1618 1619 1620 1621 1622 1623 1624 1625 1626 1627 1628 1629 1630 1631 1632 1633 1634 1635 1636 1637 1638 1639 1640 1641 1642 1643 1644 1645 1646 1647 1648 1649 1650 1651 1652 1653 1654 1655 1656 1657 1658 1659 1660 1661 1662 1663 1664 1665 1666 1667 1668 1669 1670 1671 1672 1673 1674 1675 1676 1677 1678 1679 1680 1681 1682 1683 1684 1685 1686 1687 1688 1689 1690 1691 1692 1693 1694 1695 1696 1697 1698 1699 1700 1701 1702 1703 1704 1705 1706 1707 1708 1709 1710 1711 1712 1713 1714 1715 1716 1717 1718 1719 1720 1721 1722 1723 1724 1725 1726 1727 1728 1729 1730 1731 1732 1733 1734 1735 1736 1737 1738 1739 1740 1741 1742 1743 1744 1745 1746 1747 1748 1749 1750 1751 1752 1753 1754 1755 1756 1757 1758 1759 1760 1761 1762 1763 1764 1765 1766 1767 1768 1769 1770 1771 1772 1773 1774 1775 1776 1777 1778 1779 1780 1781 1782 1783 1784 1785 1786 1787 1788 1789 1790 1791 1792 1793 1794 1795 1796 1797 1798 1799 1800 1801 1802 1803 1804 1805 1806 1807 1808 1809 1810 1811 1812 1813 1814 1815 1816 1817 1818 1819 1820 1821 1822 1823 1824 1825 1826 1827 1828 1829 1830 1831 1832 1833 1834 1835 1836 1837 1838 1839 1840 1841 1842 1843 1844 1845 1846 1847 1848 1849 1850 1851 1852 1853 1854 1855 1856 1857 1858 1859 1860 1861 1862 1863 1864 1865 1866 1867 1868 1869 1870 1871 1872 1873 1874 1875 1876 1877 1878 1879 1880 1881 1882 1883 1884 1885 1886 1887 1888 1889 1890 1891 1892 1893 1894 1895 1896 1897 1898 1899 1900 1901 1902 1903 1904 1905 1906 1907 1908 1909 1910 1911 1912 1913 1914 1915 1916 1917 1918 1919 1920 1921 1922 1923 1924 1925 1926 1927 1928 1929 1930 1931 1932 1933 1934 1935 1936 1937 1938 1939 1940 1941 1942 1943 1944 1945 1946 1947 1948 1949 1950 1951 1952 1953 1954 1955 1956 1957 1958 1959 1960 1961 1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000

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NO ERRORS

SYMBOL	VALUE	DEF	REFERENCES
AZ	4755	1035	0103 0521 0533 0543 0657
A1	4577	0641	0656
A2	4215	0226	0240 0550
A6	2001	1064	0774
A7	0370	1422	
A8	5400	1076	
B1	4165	0172	0010 0224
B2	4626	0674	0662 0667
B7	0000	1423	
B8	5420	1121	1035 1226
CONVRT	5703	1436	1357 1452 1454
CONVT	5631	1357	1341
C1	4435	0464	
C2	4635	0704	0503
C8	5474	1205	1174
D1	4214	0224	0006
D2	4536	0577	0516 0620
D5	5741	1475	0017
D7	0300	1066	
E1	4321	0340	0335 0462
E2	4362	0404	0232 0263 0304 0310
E5	5763	1517	0024
E6	2371	1063	0173
E7	0000	1067	
F5	4040	0033	0063 0101
G1	4305	0323	0262 0272 0336 0414
G2	4627	0675	0214 0253 0256 0301 0316 0624 0626 0701 0720 0722
G5	4123	0120	0112
G7	0346	1055	1044
H2	4243	0255	0250 0632 0663 0672 0705 0714
H5	4077	0073	0036 0146
ITSG00	0065	0060	0042 0055
JBLANK	4063	0056	0046 0052
JBN0BK	5431	1142	
JBUNIT	4756	1042	0176 0205 0540
J1	4645	0716	0704 0711
J2	4352	0373	0233 0235 0264 0266
J5	4142	0141	0065
J8	5656	1406	1404
J9	0771	1070	1153 1160
K800PR	1400	1062	0475 0645 1033 1223
K1	4706	0762	0730 0731 0733 0734 0747
LNRT	5625	1352	1463
L2	4261	0274	0246 0265 0302 0472 0527
L8	5455	1166	
M1	4414	0441	0517 0427 0466 0467 0776 1020
M10	5701	1434	1456
M2	4500	0531	0212 0630 0650
M211A	5700	1433	1344
M40	5673	1426	1446
M47	5672	1425	1442
M5	4131	0127	0012 0102 1410
M8	5575	1320	0154 1270 1307 1327
N1	4740	1017	0221 1031
N2	4561	0622	0612
N8	5603	1326	0157 0165 1274 1312
PX	172	0177	0547
P1	+637	0707	0511
P100	5675	1430	1450
P011	5474	1431	1453

SYMBOL	VALUE	DEF	DEF	REFERENCES
P215	5525	1241		1232
P240	5674	1427		1451 1467
P77	5702	1435		1437
P8	5555	1277		1167 1206
P8S	5565	1307		1313
01	4620	0665		0213 0506
08	4150	0152		0121 0123
08LOOP	4152	0154		0166
READ	0021	1060		0204
R1	4526	0566		0560 0563
R8	5545	1266		0156 0163 1275 1316
SKIP	5732	1465		1461 1473
S1	4616	0662		0500
S8	5771	1525		1202
TABCV	5720	1453		1444
TABP	5722	1455		1346
TBCONT	5630	1356		1213 1351 1455 1462
TEMP	5677	1432		1342 1343 1347 1440 1441 1445
TYPES	5544	1264		1260
TYPO	5530	1245		1242 1252 1264 1355
TYPOA	5526	1242		1233 1235
TYP5	5627	1355		1350 1470
T1	4653	0725		0447 0451 0743
T4	5731	1464		1466 1471
T5	4110	0105		0064 0070
T8	5536	1254		0133 1102 1142 1151 1210
U1	4444	0474		
V1	4513	0552		0470 0524 0641 0653
WRITE	0022	1061		0537
W1	4411	0436		
W8	5613	1337		0061 0066 0067 0116 0143 0164 1107 1147 1164 1177 1200 1273 1305 1374 1413
X1	4372	0416		0325 0334 0700
X8	5504	1216		0011 0021 0030 0072 1112 1141 1150 1176 1207 1406
Y1	4715	0772		0366 0444 0574 0746 0757 1025
Y8	5632	1361		0020 0022 0025 1161 1203 1376 1421
Z1	4731	1007		0557
Z0	5424	1135		

