

\$15.00

Price includes punched
paper tape listing.

DAZZLEMATION



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DAZZLE-MATION

General Description

The Dazzlemation program, written by Steve Dompier, is designed as an aid in the production of animated DAZZLER displays. The "Magenta Martini" animation is provided as one example of the type of animation possible using the Dazzlemation program.

Once the Dazzlemation program is entered into your computer, the animation sequence can be entered from your keyboard or paper tape reader. CONTROL R on your keyboard is the command to begin the display of the animated sequence. The speed of execution of the sequence is set to one of 256 possible values under sense switch control. All sense switches up, for example, give full speed execution.

Memory Requirements

A total of 6K bytes of memory is required for the storage of the Dazzlemation program, the animation sequence, and the resultant Dazzler picture. The memory should be located in the first 6K of memory space. The Dazzlemation program loads beginning at location zero in memory, and runs beginning at location zero.

Loading the Dazzlemation Paper Tape

The paper tape and object code listing supplied use the following I/O convention.

Data port = 1

Status port = \emptyset

Data - available flag = bit 6, active high

Transmitter-buffer-empty flag = bit 7, active high

If you use a different I/O convention, you may need to make changes in some of the locations underlined.

Hex Address Instruction

66	DB 00	IN <u>0</u>
68	E6 <u>40</u>	ANI <u>40H</u>
6A	C2 <u>80</u> 01	JNZ <u>180H</u>
3D4	DB <u>01</u>	IN <u>1</u>
409	DB <u>01</u>	IN <u>1</u>

380	DB 00	IN <u>Ø</u>
382	E6 80	ANI 80H
384	CA <u>80</u> 03	JZ 380H
387	<u>7E</u>	MOV A,M
388	D3 01	OUT <u>1</u>
3C3	DB 00	IN <u>Ø</u>
3C5	E6 80	ANI 80H
3C7	CA <u>C3</u> 03	JZ 3C3H
3CA	<u>7E</u>	MOV A,M
3CB	D3 01	OUT <u>1</u>

- 1) Enter the following paper tape load routine into your computer at location 1000 Hex (020 000 Split-octal):

<u>Hex Instruction</u>		<u>Split-octal Instruction</u>
21 00 00	LXI H, <u>Ø</u>	041 000 000
DB 00	IN <u>Ø</u>	333 000
E6 40	ANI 4 <u>Ø</u> H	346 <u>100</u>
CA 03 10	JZ 1 <u>003</u> H	312 <u>003</u> 020
DB 01	IN <u>1</u>	333 <u>001</u>
77	MOV M,A	167
23	INX H	043
C3 03 10	JMP 1 <u>003</u> H	303 003 020

- 2) Examine location 1000 Hex. (The data lights should read 21 Hex).
 3) Run. (This clears the input buffer)
 4) Stop.
 5) Examine 1000 Hex.
 6) Align the first byte of data on the Dazzlemation paper tape with the read sensors on your paper tape reader.
 7) Run. Start paper tape reader.
 8) After paper tape read depress Stop.
 9) Reset
 10) Run
 11) Depress CONTROL Q on your keyboard to begin the entry of a new animation sequence. A flashing cursor will appear on the screen.

Loading "Magenta Martini"

The magenta martini animation, by Steve Dompier, is provided on punched paper tape. After loading the Dazzlemation sequence, simply align the first byte of the Magenta Martini paper tape with the read sensors on the teletype or other paper tape reader and turn on the reader. After the paper tape is read set the sense switches for the desired speed of the animation. CONTROL R begins the execution of the animation.

Composing an Animation Sequence

Animation sequences are composed using your keyboard. First you should be familiar with these Dazzlement Executive Commands:

CONTROL Q - Begin a new sequence.
CONTROL B - Stop cursor from flashing.
CONTROL C - Delete cursor.
CONTROL R - Run.
CONTROL X - Stop and return to executive.

After depressing CONTROL Q on your keyboard to begin a new sequence, the sequence is drawn on your TV screen using keyboard entries. As you deposit the sequence, the direction of cursor motion is first set by these commands:

N - Up
M - Down
COMMA - Left
PERIOD - Right

For diagonal moves, hold down the SHIFT key while depressing N or M and then COMMA or PERIOD.

To set the intensity of each point as you deposit it in sequence use one of these two commands:

H - High intensity
L - Low intensity

Now you are ready to enter the animation sequence. The color of each point entered in the sequence is determined by which key is used to deposit that element:

R - Red
G - Green
Y - Yellow
W - White
B - Blue
P - Purple
C - Cyan
RUBOUT - Black
+ - Pause

The following two commands may be inserted in a program sequence:

CONTROL Z Clear screen, maintain trace memory when the screen is rewritten.

ESCAPE Clear screen, inhibit trace memory.

CONTROL S Programmed stop point.

For teletypes CONTROL - SHIFT K provides the ESCAPE function.
For most other terminals, it is CONTROL SEMI - COLON.

After the Dazzlemation sequence is deposited from the keyboard, the cursor should be positioned at the point relative to the original drawing where the original sequence should be redrawn in the animation. To start the animation depress CONTROL R. As long as there is no CONTROL S in the sequence, the sequence will be redrawn on the screen again and again, the speed of execution being set by the sense switches. Each subsequent drawing in the animation will be displaced from the previous one precisely by the same amount the cursor was displaced from the original drawing at the time of execution. Note that CONTROL R clears CONTROL S, so should you want just a single execution of your sequence, CONTROL S must be set for each execution.

Once you have composed a Dazzlemation animation you may wish to save the animation on paper tape. The special Dazzlemation command SHIFT P can be used to punch your Dazzlemation sequence on paper tape. When using the SHIFT P command, be sure that a CONTROL S is used to terminate your sequence.

DAZZLEMATION OBJECT CODE

0000: C3 00 02 1F 1F 00 AA 05 08 00 00 00 00 00 00 18
0010: 2E 00 67 C3 19 00 26 00 6F 22 09 00 2A 03 00 44
0020: 4D C3 D2 01 00 00 00 00 21 01 00 C9 00 00 00 00
0030: 3E 01 32 0D 00 C3 E4 01 C3 38 00 00 00 00 00 00 00
0040: E5 CD 80 00 E1 C9 00 00 00 00 00 00 00 00 00 00 00
0050: 00 00 00 00 00 00 00 C3 C1 00 FE 00 C2 63 00
0060: CD 80 00 11 00 C8 DB 00 E6 40 C2 80 01 3A 0B 00
0070: FE 00 C2 66 00 13 7A FE 00 C2 66 00 C3 58 00 00
0080: 2A 03 00 7D D6 02 00 00 00 4F 44 CD B8 00 79 C6
0090: 04 00 00 00 4F CD B8 00 2A 03 00 7C D6 02 00 00
00A0: 00 47 4D CD B8 00 78 C6 04 00 00 00 47 CD B8 00
00B0: 3A 06 00 0F 32 06 00 C9 CD E8 00 EE 0F CD 38 01
00C0: C9 3A 0D 00 FE 01 CA B5 03 3A 0C 00 C3 5B 00 00
00D0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00E0: 00 00 00 00 00 00 00 00 CD 00 01 7E DA F2 00 E6
00F0: 0F C9 E6 F0 07 07 07 07 C9 01 01 01 01 01 01 01
0100: 21 00 10 78 17 17 17 D2 0E 01 11 00 02 19 79 17
0110: 17 17 D2 19 01 11 00 04 19 79 E6 1F 07 07 07 17
0120: 5F 3E 00 17 57 19 78 1F F5 00 E6 0F 5F 16 00 19
0130: F1 C9 00 00 00 00 00 E6 0F F5 CD 00 01 D1 DA
0140: 48 01 7E E6 F0 82 77 C9 7A 07 07 07 07 57 7E E6
0150: 0F 82 77 C9 00 00 00 00 3E 00 32 08 00 C3 C0 01
0160: 3E 08 32 08 00 C3 C0 01 21 00 10 AF 77 23 7C FE
0170: 18 C2 7F 52 47 59 42 50 43 57 FF 00 00 00 00 00
0180: 3A 06 00 0F DC 80 00 CD D1 03 78 FE 20 CA C0 01
0190: 21 72 01 00 11 FF FF 1C 78 00 00 00 BE CA AA 01
01A0: 7E FE FF CA 40 02 23 C3 97 01 78 00 00 00 00 00
01B0: 32 07 00 00 00 00 00 00 00 00 00 00 00 00 00 00
01C0: 2A 03 00 44 4D 00 2A 07 00 7C 85 00 00 00 00 CD
01D0: 38 01 2A 09 00 7C 80 67 7D 81 6F 22 03 00 CD C3
01E0: 02 C3 58 00 11 00 00 DB FF 57 13 7A FE FF C8 C3
01F0: EA 01 7F 52 47 59 42 50 43 57 2E 2C 4D 4E 2F 1B
0200: 31 FF 0F 3E 88 D3 0E 3E 30 D3 0F 21 1F 1F 22 03
0210: 00 21 00 AA 22 05 00 21 00 18 22 0E 00 21 09 00
0220: AF 77 23 7D FE 0D C2 20 02 CD 30 02 C3 58 00 00
0230: 21 00 10 AF 77 23 7C FE 20 C2 33 02 C9 00 00 00
0240: 21 68 02 11 80 15 78 BE CA 54 02 23 15 CA 58 00
0250: 1C C3 46 02 6B 6E 24 E9 00 2A 03 00 44 4D C3 D2
0260: 01 C3 00 01 00 00 00 00 2E 2C 4D 4E 2F 11 3B 3E
0270: 3C 5D 5E 4C 48 03 02 10 40 1B 12 13 00 00 00 00

(CONTINUED)

0280: 00 05 0A 0F 14 1D ED 23 2B 33 3B 43 46 50 5A C0
0290: 8B 98 AF A8 A5 00 00 00 00 07 00 00 00 00 00 00 00
02A0: 00 00 00 00 00 00 00 00 70 01 50 00 50 00 30 01
02B0: 08 00 90 00 00 09 00 00 30 05 00 05 00 05 30 01
02C0: 00 00 60 2A 03 00 7C E6 C0 CA DC 02 17 D2 D6 02
02D0: 26 3F 2D C3 DC 02 26 00 2C 00 00 00 7D F6 C0 CA
02E0: F2 02 17 D2 EC 02 2E 3F 25 C3 C6 02 2E 00 24 C3
02F0: C6 02 22 03 00 C9 C6 02 2E 3F 25 C3 C6 02 00 00
0300: 3E 01 C3 10 00 3E FF C3 10 00 3E 01 C3 16 00 3E
0310: FF C3 16 00 21 00 00 22 09 00 C3 C0 01 C3 00 00
0320: 00 00 00 3E 01 32 0A 00 C3 58 00 3E FF 32 0A 00
0330: C3 58 00 3E 01 32 09 00 C3 58 00 3E FF 32 09 00
0340: C3 58 00 C3 58 01 C3 60 01 00 00 00 00 00 00 00
0350: 3A 0C 00 2F 32 0C 00 C3 58 00 3A 0B 00 2F 32 0B
0360: 00 C3 58 00 16 20 EF CD 80 03 15 C2 67 03 00 C9
0370: 21 00 18 00 CD 80 03 FE 13 CA 91 03 23 C3 73 03
0380: DB 00 E6 80 CA 80 03 7E D3 01 C9 CD 64 03 C3 70
0390: 03 CD 64 03 C3 58 00 00 3E 18 32 38 02 CD 30 02
03A0: 3E 20 32 38 02 C3 58 00 AF 32 0D 00 C3 32 04 21
03B0: FF 17 22 0E 00 F7 00 00 C3 06 04 23 46 C3 00 04
03C0: 21 00 00 DB 00 E6 80 CA C3 03 7E D3 01 23 C3 C3
03D0: 03 21 EF 03 DB 01 E6 7F 47 23 78 BE C8 7E FE FF
03E0: C2 D9 03 78 2A 0E 00 77 23 22 0E 00 C9 C3 1C 00
03F0: 03 02 10 40 11 00 FF 00 00 00 00 00 00 00 00 00
0400: 22 0E 00 C3 8A 01 2A 0E 00 DB 01 FE 11 C2 18 04
0410: 3E 00 32 0D 00 C3 00 00 FE 9A C2 25 04 3E 00 32
0420: 0D 00 C3 58 00 FE 18 C2 BB 03 3E A8 32 92 02 C3
0430: BB 03 3E AF 32 92 02 C3 58 00 07 07 07 07 07 07
0440: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0450: 00 00 00 00 00 0D
0460: 0D 0D 0D 0D 0D

OK
CLOAD A

OK

DAZZLE-MATION SOURCE (Disassembly)

OK
RUN

ADRESSES? 10240, 11364

ADDRESS	CODE
10240	JMP 512
10243	RAR
10244	RAR
10245	NOP
10246	XRA D
10247	DCR B
10248	---
10249	NOP
10250	NOP
10251	NOP
10252	NOP
10253	NOP
10254	NOP
10255	---
10256	MVI L 0
10258	MOV H,A
10259	JMP 25
10262	MVI H 0
10264	MOV L,A
10265	SHLD 9
10268	LHLD 3
10271	MOV B,H
10272	MOV C,L
10273	JMP 466
10276	NOP
10277	NOP
10278	NOP
10279	NOP
10280	LXI H 1
10283	RET
10284	NOP
10285	NOP
10286	NOP
10287	NOP
10288	MVI A 1
10290	STA 13
10293	JMP 484
10296	JMP 56
10299	NOP
10300	NOP
10301	NOP
10302	NOP
10303	NOP
10304	PUSH H
10305	CALL 128
10308	POP H

This source incorporates the following I/O convention.

Data port=1

Status port=0

Data-available flag=bit 5, active high
Transmitter-buffer-empty flag=bit 1, active high

All numbers in this disassembly are decimal.

All addresses are relative to 10240 decimal which corresponds to 0.

10309	RET	10387	NOP
10310	NOP	10388	MOV C,A
10311	NOP	10389	CALL 184
10312	NOP	10392	LHLD 3
10313	NOP	10395	MOV A,H
10314	NOP	10396	SUI 2
10315	NOP	10398	NOP
10316	NOP	10399	NOP
10317	NOP	10400	NOP
10318	NOP	10401	MOV B,A
10319	NOP	10402	MOV C,L
10320	NOP	10403	CALL 184
10321	NOP	10406	MOV A,B
10322	NOP	10407	ADI 4
10323	NOP	10409	NOP
10324	NOP	10410	NOP
10325	NOP	10411	NOP
10326	NOP	10412	MOV B,A
10327	NOP	10413	CALL 184
10328	JMP 193	10416	LDA 6
10331	CPI 0	10419	RRC
10333	JNZ 99	10420	STA 6
10336	CALL 128	10423	RET
10339	LXI D 51200	10424	CALL 232
10342	IN 0	10427	XRI 15
10344	ANI 32	10429	CALL 312
10346	JNZ 384	10432	RET
10349	LDA 11	10433	LDA 13
10352	CPI 0	10436	CPI 1
10354	JNZ 102	10438	JZ 949
10357	INX D	10441	LDA 12
10358	MOV A,D	10444	JMP 91
10359	CPI 0	10447	NOP
10361	JNZ 102	10448	NOP
10364	JMP 88	10449	NOP
10367	NOP	10450	NOP
10368	LHLD 3	10451	NOP
10371	MOV A,L	10452	NOP
10372	SUI 2	10453	NOP
10374	NOP	10454	NOP
10375	NOP	10455	NOP
10376	NOP	10456	NOP
10377	MOV C,A	10457	NOP
10378	MOV B,H	10458	NOP
10379	CALL 184	10459	NOP
10382	MOV A,C	10460	NOP
10383	ADI 4	10461	NOP
10385	NOP	10462	NOP
10386	NOP	10463	NOP
		10464	NOP
		10465	NOP

10466	NOP	10541	MVI D 0
10467	NOP	10543	DAD D
10468	NOP	10544	POP PSW
10469	NOP	10545	RET
10470	NOP	10546	NOP
10471	NOP	10547	NOP
10472	CALL 256	10548	NOP
10475	MOV A,M	10549	NOP
10476	JC 242	10550	NOP
10479	ANI 15	10551	NOP
10481	RET	10552	ANI 15
10482	ANI 240	10554	PUSH PSW
10484	RLC	10555	CALL 256
10485	RLC	10558	POP D
10486	RLC	10559	JC 328
10487	RLC	10562	MOV A,M
10488	RET	10563	ANI 240
10489	LXI B 257	10565	ADD D
10492	LXI B 257	10566	MOV M,A
10495	LXI B 33	10567	RET
10498	---	10568	MOV A,D
10499	MOV A,B	10569	RLC
10500	RAL	10570	RLC
10501	RAL	10571	RLC
10502	RAL	10572	RLC
10503	JNC 270	10573	MOV D,A
10506	LXI D 512	10574	MOV A,M
10509	DAD D	10575	ANI 15
10510	MOV A,C	10577	ADD D
10511	RAL	10578	MOV M,A
10512	RAL	10579	RET
10513	RAL	10580	NOP
10514	JNC 281	10581	NOP
10517	LXI D 1024	10582	NOP
10520	DAD D	10583	NOP
10521	MOV A,C	10584	MVI A 0
10522	ANI 31	10586	STA 8
10524	RLC	10589	JMP 448
10525	RLC	10592	MVI A 8
10526	RLC	10594	STA 8
10527	RAL	10597	JMP 448
10528	MOV E,A	10600	LXI H 4096
10529	MVI A 0	10603	XRA A
10531	RAL	10604	MOV M,A
10532	MOV D,A	10605	INX H
10533	DAD D	10606	MOV A,H
10534	MOV A,B	10607	CPI 24
10535	RAR	10609	JNZ 21119
10536	PUSH PSW	10612	MOV B,A
10537	NOP	10613	MOV E,C
10538	ANI 15	10614	MOV R,D
10540	MOV E,A		

10615	M0V D,B	10688	LHLD 3
10616	M0V B,E	10691	M0V B,H
10617	M0V D,A	10692	M0V C,L
10618	RST 7	10693	NOP
10619	NOP	10694	LHLD 7
10620	NOP	10697	M0V A,H
10621	NOP	10698	ADD L
10622	NOP	10699	NOP
10623	NOP	10700	NOP
10624	LDA 6	10701	NOP
10627	RRC	10702	NOP
10628	CC 128	10703	CALL 312
10631	CALL 977	10706	LHLD 9
10634	M0V A,B	10709	M0V A,H
10635	CPI 32	10710	ADD B
10637	JZ 448	10711	M0V H,A
10640	LXI H 370	10712	M0V A,L
10643	NOP	10713	ADD C
10644	LXI D 65535	10714	M0V L,A
10647	INR E	10715	SHLD 3
10648	M0V A,B	10718	CALL 707
10649	NOP	10721	JMP 88
10650	NOP	10724	LXI D 0
10651	NOP	10727	IN 255
10652	CMP M	10729	M0V D,A
10653	JZ 426	10730	INX D
10656	M0V A,M	10731	M0V A,D
10657	CPI 255	10732	CPI 255
10659	JZ 576	10734	RZ
10662	INX H	10735	JMP 490
10663	JMP 407	10738	M0V A,A
10666	M0V A,E	10739	M0V D,D
10667	NOP	10740	M0V B,A
10668	NOP	10741	M0V E,C
10669	NOP	10742	M0V B,D
10670	NOP	10743	M0V D,B
10671	NOP	10744	M0V B,E
10672	STA 7	10745	M0V D,A
10675	NOP	10746	MVI L 44
10676	NOP	10748	M0V C,L
10677	NOP	10749	M0V C,M
10678	NOP	10750	CMA
10679	NOP	10751	DCX D
10680	NOP	10752	LXI SP 4095
10681	NOP	10755	MVI A 136
10682	NOP	10757	OUT 14
10683	NOP	10759	MVI A 48
10684	NOP	10761	OUT 15
10685	NOP	10763	LXI H 7967
10686	NOP	10766	SHLD 3
10687	NOP		

10769	LXI H 43520	10859	MØV C,M
10772	SHLD 5	10860	CMA
10775	LXI H 6144	10861	LXI D 15931
10778	SHLD 14	10864	INR A
10781	LXI H 9	10865	MØV E,L
10784	XRA A	10866	MØV E,M
10785	MØV M,A	10867	MØV C,H
10786	INX H	10868	MØV C,B
10787	MØV A,L	10869	INX B
10788	CPI 13	10870	STAX B
10790	JNZ 544	10871	---
10793	CALL 560	10872	MØV B,B
10796	JMP 88	10873	DCX D
10799	NØP	10874	STAX D
10800	LXI H 4096	10875	INX D
10803	XRA A	10876	NØP
10804	MØV M,A	10877	NØP
10805	INX H	10878	NØP
10806	MØV A,H	10879	NØP
10807	CPI 32	10880	NØP
10809	JNZ 563	10881	DCR B
10812	RET	10882	LDAX B
10813	NØP	10883	RRC
10814	NØP	10884	INR D
10815	NØP	10885	DCR E
10816	LXI H 616	10886	---
10819	LXI D 5504	10887	INX H
10822	MØV A,B	10888	DCX H
10823	CMP M	10889	INX SP
10824	JZ 596	10890	DCX SP
10827	INX H	10891	MØV B,E
10828	DCR D	10892	MØV B,M
10829	JZ 88	10893	MØV D,B
10832	INR E	10894	MØV E,D
10833	JMP 582	10895	RNZ
10836	MØV L,E	10896	ADC E
10837	MØV L,M	10897	SBB B
10838	INR H	10898	XRA A
10839	PCHL	10899	XRA B
10840	NØP	10900	ANA L
10841	LHLD 3	10901	NØP
10844	MØV B,H	10902	NØP
10845	MØV C,L	10903	NØP
10846	JMP 466	10904	NØP
10849	JMP 256	10905	RLC
10852	NØP	10906	NØP
10853	NØP	10907	NØP
10854	NØP	10908	NØP
10855	NØP	10909	NØP
10856	MVI L 44	10910	NØP
10858	MØV C,L	10911	NØP

10912	NOP	10985	JMP 710
10913	NOP	10988	MVI L 0
10914	NOP	10990	INR H
10915	NOP	10991	JMP 710
10916	NOP	10994	SHLD 3
10917	NOP	10997	RET
10918	NOP	10998	ADI 2
10919	NOP	11000	MVI L 63
10920	MOV M,B	11002	DCR H
10921	LXI B 80	11003	JMP 710
10924	MOV D,B	11006	NOP
10925	NOP	11007	NOP
10926	---	11008	MVI A 1
10927	LXI B 8	11010	JMP 16
10930	SUB B	11013	MVI A 255
10931	NOP	11015	JMP 16
10932	NOP	11018	MVI A 1
10933	DAD B	11020	JMP 22
10934	NOP	11023	MVI A 255
10935	NOP	11025	JMP 22
10936	---	11028	LXI H 0
10937	DCR B	11031	SHLD 9
10938	NOP	11034	JMP 448
10939	DCR B	11037	JMP 0
10940	NOP	11040	NOP
10941	DCR B	11041	NOP
10942	---	11042	NOP
10943	LXI B 0	11043	MVI A 1
10946	MOV H,B	11045	STA 10
10947	LHLD 3	11048	JMP 88
10950	MOV A,H	11051	MVI A 255
10951	ANI 192	11053	STA 10
10953	JZ 732	11056	JMP 88
10956	RAL	11059	MVI A 1
10957	JNC 726	11061	STA 9
10960	MVI H 63	11064	JMP 88
10962	DCR L	11067	MVI A 255
10963	JMP 732	11069	STA 9
10966	MVI H 0	11072	JMP 88
10968	INR L	11075	JMP 344
10969	NOP	11078	JMP 352
10970	NOP	11081	NOP
10971	NOP	11082	NOP
10972	MOV A,L	11083	NOP
10973	ANI 192	11084	NOP
10975	JZ 754	11085	NOP
10978	RAL	11086	NOP
10979	JNC 748	11087	NOP
10982	MVI L 63	11088	LDA 12
10984	DCR H	11091	CMA
		11092	STA 12

11095	JMP 88	11207	JZ 963
11098	LDA 11	11210	MØV A,M
11101	CMA	11211	ØUT 1
11102	STA 11	11213	INX H
11105	JMP 88	11214	JMP 963
11108	MVI D 32	11217	LXI H 1007
11110	RST 5	11220	IN 1
11111	CALL 896	11222	ANI 127
11114	DCR D	11224	MØV B,A
11115	JNZ 871	11225	INX H
11118	NØP	11226	MØV A,B
11119	RET	11227	CMP M
11120	LXI H 6144	11228	RZ
11123	NØP	11229	MØV A,M
11124	CALL 896	11230	CPI 255
11127	CPI 19	11232	JNZ 985
11129	JZ 913	11235	MØV A,B
11132	INX H	11236	LHLD 14
11133	JMP 883	11239	MØV M,A
11136	IN 0	11240	INX H
11138	ANI 2	11241	SHLD 14
11140	JZ 896	11244	RET
11143	MØV A,M	11245	JMP 28
11144	ØUT 1	11248	INX B
11146	RET	11249	STAX B
11147	CALL 868	11250	---
11150	JMP 880	11251	MØV B,B
11153	CALL 868	11252	LXI D 65280
11156	JMP 88	11255	NØP
11159	NØP	11256	NØP
11160	MVI A 24	11257	NØP
11162	STA 568	11258	NØP
11165	CALL 560	11259	NØP
11168	MVI A 32	11260	NØP
11170	STA 568	11261	NØP
11173	JMP 88	11262	NØP
11176	XRA A	11263	NØP
11177	STA 13	11264 (0247)	SHLD 14
11180	JMP 1074	11267	JMP 394
11183	LXI H 6143	11270	LHLD 14
11186	SHLD 14	11273	IN 1
11189	RST 6	11275	CPI 17
11190	NØP	11277	JNZ 1048
11191	NØP	11280	MVI A 0
11192	JMP 1030	11282	STA 13
11195	INX H	11285	JMP 0
11196	MØV B,M	11288	CPI 154
11197	JMP 1024	11290	JNZ 1061
11200	LXI H 0	11293	MVI A 0
11203	IN 0	11295	STA 13
11205	ANI 2	11298	JMP 88

11301	CPI	24
11303	JNZ	955
11306	MVI	A 168
11308	STA	658
11311	JMP	955
11314	MVI	A 175
11316	STA	658
11319	JMP	88
11322	RLC	
11323	RLC	
11324	RLC	
11325	RLC	
11326	RLC	
11327	RLC	
11328	NOP	
11329	NOP	
11330	NOP	
11331	NOP	
11332	NOP	
11333	NOP	
11334	NOP	
11335	NOP	
11336	NOP	
11337	NOP	
11338	NOP	
11339	NOP	
11340	NOP	
11341	NOP	
11342	NOP	
11343	NOP	
11344	NOP	
11345	NOP	
11346	NOP	
11347	NOP	
11348	NOP	
11349	DCR	C
11350	DCR	C
11351	DCR	C
11352	DCR	C
11353	DCR	C
11354	DCR	C
11355	DCR	C
11356	DCR	C
11357	DCR	C
11358	DCR	C
11359	DCR	C
11360	DCR	C
11361	DCR	C
11362	DCR	C
11363	DCR	C
11364	DCR	C