



From: Shiloh, Yehonatan
 Sent: Sunday, October 31, 1999 5:41 AM
 To: Shkedy, Zvi
 Cc: Falk, Dov; Sofer, Haim; Ross, Ted; Lasio, Yehudit
 Subject: rom?

Enclosed below are the contents of 2 files which are described in <http://www.dishplex.com> as being portions of the EchoStar ROM. This is how they are described at the website: This is the first of 2 files are the disassembled version of the e* ROM info that was posted on #dishnetwork. These files require Ultra Edit to be viewed. More details on the file soon. Donated by "Binky".

This is the second of 2 files are the disassembled version of the e* ROM info that was posted on #dishnetwork. These files require Ultra Edit to be viewed. More details on the file soon. Donated by "Binky".

Regards,
 Yoni Shiloh
 e-mail: YShiloh@ndsiarael.com
 phone: +972 (2) 5894437
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 cell: +972 (51) 958627

99/09/08

[03:49] *** ^Piper has joined #dishnetwork [03:55] <^Piper> this dishshit rom 2 rear

```

7F10: 81,A6,4B,B7,50,AD,96,24,B2,C6,01,A2,A1,98,26,10 ; |X-P--$'E.†|~z.
7F20: C6,01,A3,26,0B,9C,AE,7A,A6,9F,CD,68,59,CC,01,A5 ; .....
7F30: AD,9C,B6,3F,A0,05,CA,01,A4,26,8D,97,A3,5B,22,88 ; -e?
      .A.D6 -E["
7F40: D6,01,A4,E7,7F,5A,26,F8,38,50,AE,80,C6,01,A4,CD ; 0.nç z6ø8PøE.ni
7F50: 78,1E,3F,50,CC,7A,9C,A6,4B,B7,50,CD,7E,AD,24,B7 ; x ?Pizæ|X-Pi--$-
7F60: CD,7E,CE,B6,3F,A1,07,26,42,C6,01,A4,A1,02,26,3B ; i-i?|.æE.†|.æ;
7F70: CE,01,A5,C6,01,A6,CD,6E,88,22,03,CC,7A,9C,CD,6E ; i.VE.|in~.izæin
7F80: 23,CD,68,ED,CD,6D,C9,CD,6C,06,FD,BE,FD,B6,FE,CD ; #fhâimEfl.yKÿ?pf
7F90: 6E,1B,5D,26,05,4D,27,0E,20,02,A6,FF,38,50,CD,79 ; n.|æ.M'.
      .|yæPiy
7FA0: 80,CD,6D,65,20,ES,3F,50,CC,7A,9C,CC,7A,6B,A6,0F ; çime ä?Pizæizk;.
7FB0: B7,20,4F,BE,20,DE,ED,20,DB,73,8A,3A,20,2A,F4,81 ; - OX på ÚsS:
      *ø
7FC0: A6,4B,B7,50,AD,EE,A1,20,24,1B,AE,0F,D6,7B,0B,E7 ; |X-P-æ| $.ø.ö{.ç
7FD0: 80,5A,2A,F8,38,50,CD,6A,47,ED,20,AE,80,A6,10,CD ; EZ*øPijGà øE;.i
7FE0: 78,1E,3F,50,81,9B,9B,9B,9B,9B,9B,9B,9B,9B,9B,9B ; x 7P >>>>>>>>
7FF0: 9B,9B,9B,9B,9B,9B,9B,9B,9B,9B,9B,9B,9B,9B,20,FE ; >>>>>>>>>>>> p

```

[03:56] *** ^Piper has quit IRC (Quit: Leaving)

Preliminary disassembly pending further info.

```

      ORG 7F10H
7F10 81      rts
7F11 A64B    lda    #04BH
7F13 B750    sta    050H
7F15 AD96    bsr    7EADH
7F17 24B2    bcc    7ECBH

```

CASE NO.
 SA CV 03-950 DOC (JTLx)
 ECHOSTAR SATELLITE CORP., et al.,

vs.

NDS GROUP PLC, et al.

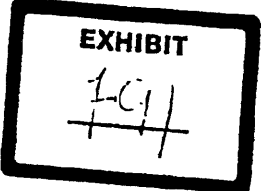
DEFENDANT'S EXHIBIT 791

DATE _____ IDEN.

DATE _____ EVID.

BY _____
 Deputy Clerk

NDS097889



From: Shlich, Yehonatan
 Sent: Sunday, October 31, 1999 5:41 AM
 To: Shkedy, Zvi
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99/09/08

[03:49] *** ^Piper has joined #dishnetwork [03:55] <^Piper> this dishshit rom 2 rear

```

7F10: 81,A6,4B,B7,50,AD,96,24,B2,C6,01,A2,A1,98,26,10 ; |K-P--$*E.†~a.
7F20: C6,01,A3,26,0B,9C,AE,7A,A6,9F,CD,68,59,CC,01,A5 ; .....
7F30: AD,9C,B6,3F,A0,05,C1,01,A4,26,8D,97,A3,5B,22,88 ; -e!}
.A.06 -E{"
7F40: D6,01,A4,E7,7F,5A,26,F8,38,50,AE,80,C6,01,A4,CD ; 0.ç Ztø8PøEE.=i
7F50: 78,1E,3F,50,CC,7A,9C,A6,4B,B7,50,CD,7E,AD,24,B7 ; x ?P!ze|K-Pi--$-
7F60: CD,7E,CE,B6,3F,A1,07,26,42,C6,01,A4,A1,02,26,3B ; i-!}?.&BE.0|.e;
7F70: CE,01,AE,C6,01,A6,CD,6E,88,22,03,CC,7A,9C,CD,6E ; f.VE.|in~.izæin
7F80: 23,CD,68,EO,CD,6D,C9,CD,6C,06,FD,BE,FD,B6,FE,CD ; #fhålmæfl.ÿxy!pí
7F90: 6E,18,5D,26,05,4D,27,0E,20,02,A6,FF,38,50,CD,79 ; n.|æ.M'.
.|ÿæPíy
7FA0: 80,CD,6D,65,20,ES,3F,50,CC,7A,9C,CC,7A,6B,A6,0F ; çíne à?Pizæizk!;
7FB0: B7,20,4F,BE,20,DE,EO,20,DB,73,8A,3A,20,2A,F4,81 ; · OX ðà ÚsŠ:
*6
7FC0: A6,4B,B7,50;AD,ES,A1,20,24,18,AE,0F,D6,7B,0B,E7 ; |K-P-è| $.°ó{.ç
7FD0: 80,5A,2A,F8,38,50,CD,6A,47,EO,20,AE,80,A6,10,CD ; EZ*ø8PíjGa æE:.i
7FE0: 78,1E,3F,50,81,9B,9E,9B,9B,9B,9B,9B,9B,9B,9B,9B ; x ?P >>>>>>>>
7FF0: 9B,9B,9B,9B,9B,9B,9B,9B,9B,9B,9B,9B,9B,9B,9B,9B ; >>>>>>>>>>>> p

```

[03:56] *** ^Piper has quit IRC (Quit: Leaving)

Preliminary disassembly pending further info.

```

ORG 7F10H
7F10 81 rts
7F11 A64B lda #04BH
7F13 B750 sta 050H
7F15 AD96 bsr 7EADH
7F17 24B2 bcc 7ECBH

```

7F19	C601A2		lda	01A2H
7F1C	A198	cmp	#098H	
7F1E	2610	bne	7F30H	
7F20	C601A3		lda	01A3H
7F23	260B	bne	7F30H	
7F25	9C	rsp		
7F26	AE7A	ldx	#07AH	
7F28	A69F	lda	#09FH	
7F2A	CD6859		jsr	6859H
7F2D	CC01A5		jmp	01A5H
7F30	AD9C	bsr	7ECEH	
7F32	B63F	lda	03FH	
7F34	A005	sub	#005H	
7F36	C101A4		cmp	01A4H
7F39	268D	bne	7EC8H	
7F3B	97	tax		
7F3C	A35B	cpx	#05BH	
7F3E	2288	bhi	7EC8H	
7F40	D601A4		lda	01A4H,X
7F43	E77F	sta	7FH,X	
7F45	5A	decx		
7F46	26F8	bne	7F40H	
7F48	3850	lsl	50H	
7F4A	AE80	ldx	#080H	
7F4C	C601A4		lda	01A4H
7F4F	CD781E		jsr	781EH
7F52	3F50	clr	50H	
7F54	CC7A9C		jmp	7A9CH
7F57	A64B	lda	#04BH	
7F59	B750	sta	050H	
7F5B	CD7EAD		jsr	7EADH
7F5E	24B7	bcc	7F17H	
7F60	CD7ECE		jsr	7ECEH
7F63	B63F	lda	03FH	
7F65	A107	cmp	#007H	
7F67	2642	bne	7FABH	
7F69	C601A4		lda	01A4H
7F6C	A102	cmp	#002H	
7F6E	263B	bne	7FABH	
7F70	CE01A5		ldx	01A5H
7F73	C601A6		lda	01A6H
7F76	CD6E88		jsr	6E88H
7F79	2203	bhi	7F7EH	
7F7B	CC7A9C		jmp	7A9CH
7F7E	CD6E23		jsr	6E23H
7F81	CD68E0		jsr	68E0H
7F84	CD6DC9		jsr	6DC9H
7F87	CD6C06		jsr	6C06H
7F8A	FD	jsr,X		
7F8B	BEFD	ldx	0FDH	
7F8D	B6FE	lda	0FEH	
7F8F	CD6E18		jsr	6E18H
7F92	5D	tctx		
7F93	2605	bne	7F9AH	
7F95	4D	tsta		
7F96	270E	beq	7FAGH	
7F98	2002	bra	7F9CH	
7F9A	A6FF	lda	#0FFH	
7F9C	3850	lsl	50H	
7F9E	CD7980		jsr	7980H
7FA1	CD6D65		jsr	6D65H
7FA4	20E5	bra	7F8BH	
7FA6	3F50	clr	50H	
7FAB	CC7A9C		jmp	7A9CH
7FAB	CC7A6B		jmp	7A6BH

```

7FAE A60F      lda    #00FH
7FB0 B720      sta    020H
7FB2 4F        clra
7FB3 BE20      ldx    020H
7FB5 DEE020    ldx    E020H,X
7FB8 DB738A    add    738AH,X
7FB9 3A20      dec    20H
7FBD 2AF4      bpl    7FB3H
7FBF 81        rts
7FC0 A64B      lda    #04BH
7FC2 B750      sta    05CH
7FC4 ADE8      bsr    7FAEH
7FC6 A120      cmp    #020H
7FC8 2418      bcc    7FE2H
7FCA AE0F      ldx    #00FH
7FCC D67B0B    lda    7B0BH,X
7FCE E780      sta    80H,X
7FD1 5A        decx
7FD2 2AF8      bpl    7FCCH
7FD4 3850      lsl    50H
7FD6 CD6A47    jsr    6A47H
7FD9 E020      sub    20H,X
7FDB AE80      ldx    #080H
7FDD AC10      lda    #010H
7FDF CD781E    jsr    781EH
7FE2 3F50      clr    50H
7FE4 81        rts
7FE5 9B        sei
7FE6 9B        sei
7FE7 9B        sei
7FE8 9B        sei
7FE9 9B        sei
7FEA 9B        sei
7FEB 9B        sei
7FEC 9B        sei
7FED 9B        sei
7FEE 9B        sei
7FEF 9B        sei
7FF0 9B        sei
7FF1 9B        sei
7FF2 9B        sei
7FF3 9B        sei
7FF4 9B        sei
7FF5 9B        sei
7FF6 9B        sei
7FF7 9B        sei
7FF8 9B        sei
7FF9 9B        sei
7FFA 9B        sei
7FFB 9B        sei
7FFC 9B        sei
7FFD 9B        sei
7FFE 20FE      bra    7FFEH

```

99/09/11

[22:47] *** magma has joined #dishnetwork

```

2000: 0D,04,2A,3F,00,8E,20,FB,9D,33,25,80,80,00,D6,E0 ; ..*7.2 a 3tec.0
2010: 00,81,0F,00,01,0F,C8,CC,AE,0A,D6,20,0D,E7,29,5A ; .....xi*.0
.c)
2020: 2A,F8,81,AD,F3,CD,21,41,CD,20,E8,20,FE,06,02,09 ; *e -6f!Af e p..
2030: 02,00,F0,0E,04,ED,CC,1E,AF,1E,04,CC,22,1A,0C,04 ; ..0..fi - .i".."

```

```

2040: 03,07,01,03,CC,40,1E,AD,CF,0F,04,03,CC,22,37,06 ;
....ie -i...i*7
2050: 02,E7,CC,1F,28,3F,27,3F,28,3F,29,AD,75,BE,2F,B6 ; .cI (?)(?)~uK/
2060: 2E,BB,2B,B7,2B,5A,BD,2A,BB,27,B7,27,24,06,3C,28 ; .+*4ZM*+''$.<
2070: 26,02,3C,29,5D,26,EE,3A,2B,3A,2E,2A,E8,AE,02,E6 ; E.<)}Ei:++*g°.
2080: 27,CD,22,B3,5A,2A,FB,4F,81,12,04,B6,01,13,04,3F ; 'i''Z*MO ..f...
2090: 01,AD,49,A6,40,AD,45,16,02,14,04,20,FE,B6,2E,A1 ; -.Y|@-E....
bf.
20A0: 10,26,37,4F,04,21,07,CD,22,F6,BD,2A,BA,25,E7,36 ; .570.!i'6/2*%q
20B0: 5C,B3,2E,26,EE,AD,51,AD,17,BD,2A,E1,36,26,1B,5C ; \'.Ei-Q-.M*66E.
20C0: B3,2E,26,FE,4F,20,15,CD,1F,55,AD,1C,AD,6E,20,85 ; *.650 .i U -n
20D0: AD,45,3F,03,01,21,02,16,03,81,A6,FA,0E,04,04,CD ; -E?!!... |G...
20E0: 1F,77,4F,B7,20,81,A6,FF,10,2B,AD,0F,1A,03,AD,27 ; wO.
|y+----
20F0: 11,2B,B6,30,27,02,AD,35,3F,03,81,5F,4D,26,02,14 ; .+f0'-.5? .ME.

```

[22:48] <magma> new world order has spoken! ecboron 2000-20ff back off nagra [22:48] ***
magma has quit IRC (Quit: Leaving)

The beginning part is wide open to interpretation.

VARIATION # 1

```

ORG 2000H
2000 0D042A      brclr6 042AH
2003 3F00      clr      00H
2005 8E        stop
2006 20FB      bra      2003H
2008 9D        nop
2009 3325      com      25H
200B 80        rti
200C 80        rti

```

Variation # 2

```

ORG 2000H
2000 0D        db
2001 042A3F      brset2 2A3FH
2004 008E20      brset0 8E20H
2007 FB        add,X
2008 9D        nop
2009 3325      com      25H
200B 80        rti
200C 80        rti

```

```

200D 00D6E0      brset0 D6E0H
2010 00810F      brset0 810FH
2013 00010F      brset0 010FH
2016 C8CCAE      eor      CCAEH
2019 0AD620      brset5 D620H
201C 0DE729      brclr6 E729H
201F 5A        decx
2020 2AF8      bpl      201AH
2022 81        rts
2023 ADF3      bsr      2018H
2025 CD2141      jsr      2141H
2028 CD20E8      jsr      20E8H
202B 20FE      bra      202BH
202D 060209      brset3 0209H
2030 0200F0      brset1 00F0H
2033 0E04ED      brset7 04EDH
2036 CC1EAF      jmp      1EAFH
2039 1E04      bset7   04H
203B CC221A      jmp      221AH

```

203E	0C0403		brset6	0403H
2041	070103		brclr3	0103H
2044	CC401E		jmp	401EH
2047	ADCF	bsr	2018H	
2049	0F0403		brclr7	0403H
204C	CC2237		jmp	2237H
204F	0602E7		brset3	02E7H
2052	CC1F28		jmp	1F28H
2055	3F27	clr	27H	
2057	3F28	clr	28H	
2059	3F29	clr	29H	
205B	AD75	bsr	20D2H	
205D	BE2F	ldx	02FH	
205F	B62E	lda	02EH	
2061	BB2B	add	02BH	
2063	B72B	sta	02BH	
2065	5A	decx		
2066	BD2A	jsr	02AH	
2068	BB27	add	027H	
206A	B727	sta	027H	
206C	2406	bcc	2074H	
206E	3C28	inc	28H	
2070	2602	bne	2074H	
2072	3C29	inc	29H	
2074	5D	tstx		
2075	26EE	bne	2065H	
2077	3A2B	dec	2BH	
2079	3A2E	dec	2EH	
207B	2AE8	bpl	2065H	
207D	AEO2	ldx	#002H	
207F	E627	lda	27H,X	
2081	CD22B3		jsr	22B3H
2084	5A	decx		
2085	2AF8	bpl	207FH	
2087	4F	clra		
2088	81	rts		
2089	1204	bset1	04H	
208B	B601	lda	001H	
208D	1304	bclr1	04H	
208F	3F01	clr	01H	
2091	AD49	bsr	20DCH	
2093	A640	lda	#040H	
2095	AD45	bsr	20DCH	
2097	1602	bset3	02H	
2099	1404	bset2	04H	
209B	20FE	bra	209BH	
209D	B62E	lda	02EH	
209F	A110	cmp	#010H	
20A1	2637	bne	20DAH	
20A3	4F	clra		
20A4	042107		brset2	2107H
20A7	CD22F6		jsr	22F6H
20AA	BD2A	jsr	02AH	
20AC	BA25	ora	025H	
20AE	E736	sta	36H,X	
20B0	5C	incx		
20B1	B32E	cpx	02EH	
20B3	26EE	bne	20A3H	
20B5	ADS1	bsr	2108H	
20B7	AD17	bsr	20D0H	
20B9	BD2A	jsr	02AH	
20BB	E136	cmp	36H,X	
20BD	261B	bne	20DAH	
20BF	5C	incx		
20C0	B32E	cpx	02EH	

20C2	26F5	bne	20B9H
20C4	4F	clra	
20C5	2015	bra	20DCH
20C7	CD1F55	jsr	1F55H
20CA	AD1C	bsr	20E8H
20CC	AD6E	bsr	213CH
20CE	2085	bra	2055H
20D0	AD45	bsr	2117H
20D2	3F03	clr	03H
20D4	012102	brclr0	2102H
20D7	1603	bset3	03H
20D9	81	rts	
20DA	A6FA	lda	#0FAH
20DC	0E0404	brset7	0404H
20DF	CD1F77	jsr	1F77H
20E2	4F	clra	
20E3	E720	sta	020H
20E5	81	rts	
20E6	A6FF	lda	#0FFH
20E8	102B	bset0	2BH
20EA	AD0F	bsr	20FBH
20EC	1A03	bset5	03H
20EE	AD27	bsr	2117H
20F0	112B	bclr0	2BH
20F2	B630	lda	030H
20F4	2702	beq	20FBH
20F6	AD35	bsr	212DH
20F8	3F03	clr	03H
20FA	81	rts	
20FB	5F	clrx	
20FC	4D	tsta	
20FD	2602	bne	2101H
20FF	14	bset2	FFFFH