

To Playback MV480 messages using ASCII strings:

The ELK-MV480 can be commanded to playback any of its 400 messages by sending an ASCII string from a computer's serial port to an ELK-MB485 *RS232 to RS485 converter* connected to the MV480 (see hookup diagram below). The MV480 playback command string requires 22 ASCII characters including the carriage return and line feed.

Each MV480 message requires its own unique string which must be constructed by the end user as described below. The strings contain the messages' address, the MV480 address & type, CRC, and other identifiers. Usually all the end user needs to be concerned with is the message address and generating the CRC for each string used.

String Example: To play message number **259**; the string would be: ***@40312003000100??>>\r\n**
(All addresses are hexadecimal)

String Description:

The ***** is the start identifier

The **@** is the length. (16 in this case. Points to the starting position of the CRC).

The **4** is the MV480 type.

The **0** is the address of the MV480. 0 is global so the MV480 will not send back a reply.

The **3** is the MM443 type. (Just leave this at 3)

The **1** is the address of the MV443. (Just leave this at 1)

The **2** is the 1st character of the "play" command.

The **0** is the 2nd character of the "play" command. (0x20 = play message)

The **0** is the 1st character of the low message address.

The **3** is the 2nd character of the low message address. (0x03)

The **0** is the 1st character of the special function.

The **0** is the 2nd character of the special function. (0x00 = oneshot, 0x01 = repeat)

The **0** is the 1st character of the high message address.

The **1** is the 2nd character of the high message address. (0x01) (Total Address = 0103 hex or 259 decimal)

The **0** is the 1st character of padding. (Just leave this at 0)

The **0** is the 2nd character of padding. (Just leave this at 0)

The **?** is the 1st character of the high CRC (the magic module software will generate the CRC for you)

The **?** is the 2nd character of the high CRC

The **>** is the 1st character of the low CRC

The **>** is the 2nd character of the low CRC

\r\n is carriage return and line feed

Examples of various message strings. Bold numbers are the message lo and hi addresses.

```
|--Message--|-----String-----|
1.....*@40312001000000??9<\r\n
2.....*@40312002000000???\r\n
3.....*@4031200300000003?;\r\n
4.....*@40312004000000??<9\r\n
5.....*@4031200500000003?=>9\r\n
6.....*@4031200600000003?>\r\n
7.....*@40312007000000???\r\n
8.....*@40312008000000??05\r\n
9.....*@4031200900000003?15\r\n
10.....*@4031200A000000038=>\r\n
11.....*@4031200B000000038=>\r\n
12.....*@4031200C000000?8<>\r\n
```

```
|--Message--|-----String-----|
13.....*@4031200D000000038;8\r\n
14.....*@4031200E000000?8;8\r\n
15.....*@4031200F000000?89;\r\n
16.....*@4031201000000?34=\r\n
31.....*@4031201F000000345:\r\n
80.....*@40312050000000004<\r\n
255....*@403120FF000000?61<\r\n
256...*@40312000000100??=\r\n
257...*@403120010001003?<=\r\n
258...*@403120020001003??>\r\n
381....*@4031207D0001001>:8\r\n
400....*@40312090000100951=\r\n
```

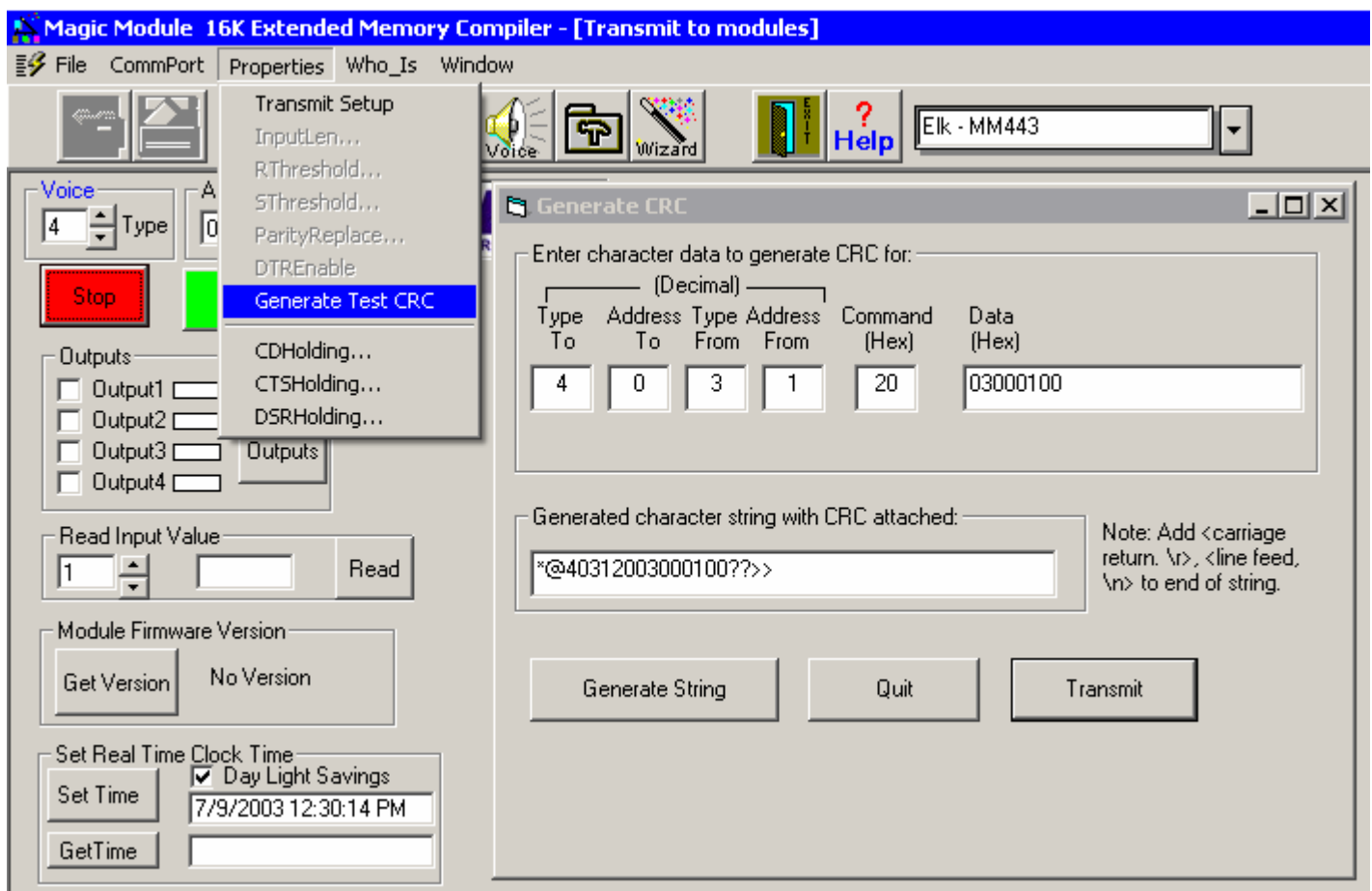
To generate the strings:

Strings can be generated by using the Magic Module Code Development program. Address data must be entered in hexadecimal format. Find the desired message's lo and hi hex address from the table below. Messages 1 thru 255 are set at the low address location; just leave 00 in the high address location. Messages 256 thru 400 are set at the low address location also but place 01 into the high address location.

Examples...

Message 45 would require 2D in the low address location and 00 in the high location. (45 decimal=2D hex)
Message 350 would require 5E in the low address location and 01 in the high location.

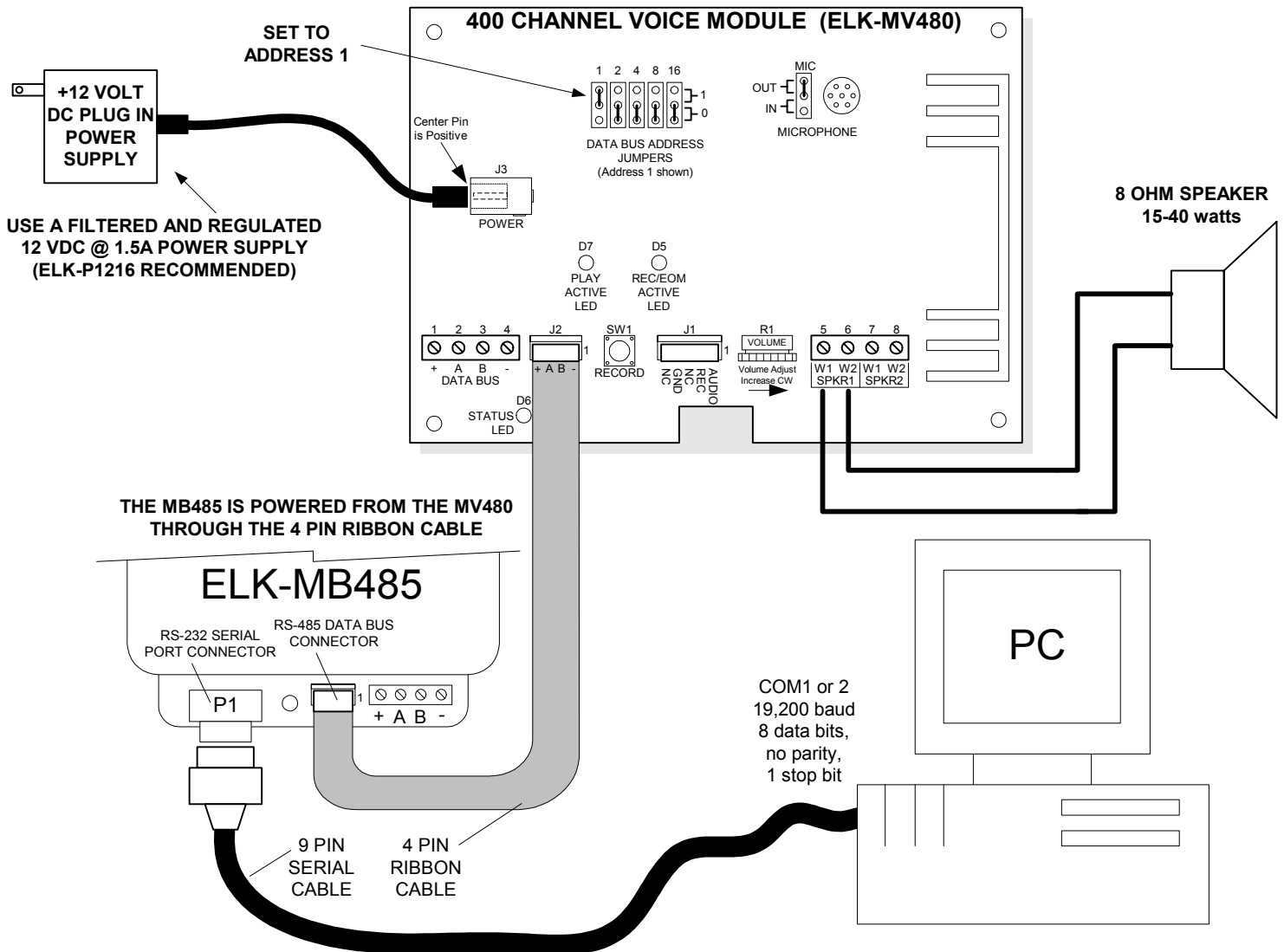
Open the Magic Module Code Development program. Click the "XMIT" button. Click "CommPort", "Settings..." and insure the computer's COM port is set for: 19,200 baud, 8 data bits, no parity, 1 stop bit, and flow control to none. Click "Properties" and "Generate Test CRC". For example...Enter the "4 0 3 1 20 03000100" as shown in the generate CRC dialog box shown below. The CRC will be calculated and added to the end of the string as shown below. Press the "Transmit" button to send the string out the computer's serial port to the MV480. If the MB485 and MV480 are connected properly to the computer, the message #259 ("sensor") should be heard. For another message, just change the "Data" box to a new address and a new string will be generated. Strings can now be copied and pasted into end users controlling programs.



Address Lookup Table

Mess	Lo	Hi	Mess	Lo	Hi	Mess	Lo	Hi	Mess	Lo	Hi	Mess	Lo	Hi
1	01	00	81	51	00	161	A1	00	241	F1	00	321	41	01
2	02	00	82	52	00	162	A2	00	242	F2	00	322	42	01
3	03	00	83	53	00	163	A3	00	243	F3	00	323	43	01
4	04	00	84	54	00	164	A4	00	244	F4	00	324	44	01
5	05	00	85	55	00	165	A5	00	245	F5	00	325	45	01
6	06	00	86	56	00	166	A6	00	246	F6	00	326	46	01
7	07	00	87	57	00	167	A7	00	247	F7	00	327	47	01
8	08	00	88	58	00	168	A8	00	248	F8	00	328	48	01
9	09	00	89	59	00	169	A9	00	249	F9	00	329	49	01
10	0A	00	90	5A	00	170	AA	00	250	FA	00	330	4A	01
11	0B	00	91	5B	00	171	AB	00	251	FB	00	331	4B	01
12	0C	00	92	5C	00	172	AC	00	252	FC	00	332	4C	01
13	0D	00	93	5D	00	173	AD	00	253	FD	00	333	4D	01
14	0E	00	94	5E	00	174	AE	00	254	FE	00	334	4E	01
15	0F	00	95	5F	00	175	AF	00	255	FF	00	335	4F	01
16	10	00	96	60	00	176	B0	00	256	00	01	336	50	01
17	11	00	97	61	00	177	B1	00	257	01	01	337	51	01
18	12	00	98	62	00	178	B2	00	258	02	01	338	52	01
19	13	00	99	63	00	179	B3	00	259	03	01	339	53	01
20	14	00	100	64	00	180	B4	00	260	04	01	340	54	01
21	15	00	101	65	00	181	B5	00	261	05	01	341	55	01
22	16	00	102	66	00	182	B6	00	262	06	01	342	56	01
23	17	00	103	67	00	183	B7	00	263	07	01	343	57	01
24	18	00	104	68	00	184	B8	00	264	08	01	344	58	01
25	19	00	105	69	00	185	B9	00	265	09	01	345	59	01
26	1A	00	106	6A	00	186	BA	00	266	0A	01	346	5A	01
27	1B	00	107	6B	00	187	BB	00	267	0B	01	347	5B	01
28	1C	00	108	6C	00	188	BC	00	268	0C	01	348	5C	01
29	1D	00	109	6D	00	189	BD	00	269	0D	01	349	5D	01
30	1E	00	110	6E	00	190	BE	00	270	0E	01	350	5E	01
31	1F	00	111	6F	00	191	BF	00	271	0F	01	351	5F	01
32	20	00	112	70	00	192	C0	00	272	10	01	352	60	01
33	21	00	113	71	00	193	C1	00	273	11	01	353	61	01
34	22	00	114	72	00	194	C2	00	274	12	01	354	62	01
35	23	00	115	73	00	195	C3	00	275	13	01	355	63	01
36	24	00	116	74	00	196	C4	00	276	14	01	356	64	01
37	25	00	117	75	00	197	C5	00	277	15	01	357	65	01
38	26	00	118	76	00	198	C6	00	278	16	01	358	66	01
39	27	00	119	77	00	199	C7	00	279	17	01	359	67	01
40	28	00	120	78	00	200	C8	00	280	18	01	360	68	01
41	29	00	121	79	00	201	C9	00	281	19	01	361	69	01
42	2A	00	122	7A	00	202	CA	00	282	1A	01	362	6A	01
43	2B	00	123	7B	00	203	CB	00	283	1B	01	363	6B	01
44	2C	00	124	7C	00	204	CC	00	284	1C	01	364	6C	01
45	2D	00	125	7D	00	205	CD	00	285	1D	01	365	6D	01
46	2E	00	126	7E	00	206	CE	00	286	1E	01	366	6E	01
47	2F	00	127	7F	00	207	CF	00	287	1F	01	367	6F	01
48	30	00	128	80	00	208	D0	00	288	20	01	368	70	01
49	31	00	129	81	00	209	D1	00	289	21	01	369	71	01
50	32	00	130	82	00	210	D2	00	290	22	01	370	72	01
51	33	00	131	83	00	211	D3	00	291	23	01	371	73	01
52	34	00	132	84	00	212	D4	00	292	24	01	372	74	01
53	35	00	133	85	00	213	D5	00	293	25	01	373	75	01
54	36	00	134	86	00	214	D6	00	294	26	01	374	76	01
55	37	00	135	87	00	215	D7	00	295	27	01	375	77	01
56	38	00	136	88	00	216	D8	00	296	28	01	376	78	01
57	39	00	137	89	00	217	D9	00	297	29	01	377	79	01
58	3A	00	138	8A	00	218	DA	00	298	2A	01	378	7A	01
59	3B	00	139	8B	00	219	DB	00	299	2B	01	379	7B	01
60	3C	00	140	8C	00	220	DC	00	300	2C	01	380	7C	01
61	3D	00	141	8D	00	221	DD	00	301	2D	01	381	7D	01
62	3E	00	142	8E	00	222	DE	00	302	2E	01	382	7E	01
63	3F	00	143	8F	00	223	DF	00	303	2F	01	383	7F	01
64	40	00	144	90	00	224	E0	00	304	30	01	384	80	01
65	41	00	145	91	00	225	E1	00	305	31	01	385	81	01
66	42	00	146	92	00	226	E2	00	306	32	01	386	82	01
67	43	00	147	93	00	227	E3	00	307	33	01	387	83	01
68	44	00	148	94	00	228	E4	00	308	34	01	388	84	01
69	45	00	149	95	00	229	E5	00	309	35	01	389	85	01
70	46	00	150	96	00	230	E6	00	310	36	01	390	86	01
71	47	00	151	97	00	231	E7	00	311	37	01	391	87	01
72	48	00	152	98	00	232	E8	00	312	38	01	392	88	01
73	49	00	153	99	00	233	E9	00	313	39	01	393	89	01
74	4A	00	154	9A	00	234	EA	00	314	3A	01	394	8A	01
75	4B	00	155	9B	00	235	EB	00	315	3B	01	395	8B	01
76	4C	00	156	9C	00	236	EC	00	316	3C	01	396	8C	01
77	4D	00	157	9D	00	237	ED	00	317	3D	01	397	8D	01
78	4E	00	158	9E	00	238	EE	00	318	3E	01	398	8E	01
79	4F	00	159	9F	00	239	EF	00	319	3F	01	399	8F	01
80	50	00	160	A0	00	240	F0	00	320	40	01	400	90	01

MV480 Hookup



To convert the RS485 data bus to 9600 baud, use the following string:

*<00:10601008>29

This is a global command, meaning all Magic Module types on the bus will convert to 9600 baud.