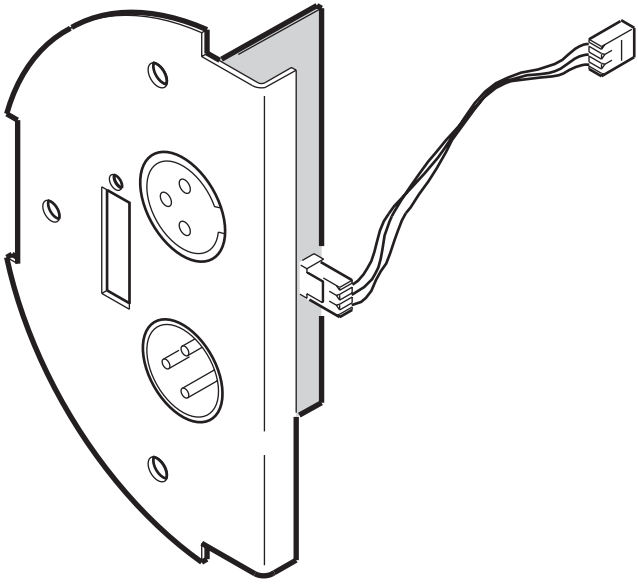
Magnum 1500
DMX Interface Module
Instruction Note



Magnum 1500 DMX Interface Module Instruction note: P/N 35010501, Rev. C

MAGNUM 1500 DMX INTERFACE MODULE

The Magnum 1500 can be controlled using a DMX controller on a serial data link if a DMX interface module is installed. This module is available separately as an optional accessory (DMX Interface Module, Magnum 1500, P/N 91612000).

Up to 32 devices can be controlled via DMX on one serial data link. The link must be daisy-chained in one single line, maximum 500 meters (1640 ft.) long. More devices can be added and the link can be extended beyond 500 meters or branched using an optically isolated splitter/amplifier such as the Martin RS-485 Opto-Splitter (P/N 90758060).

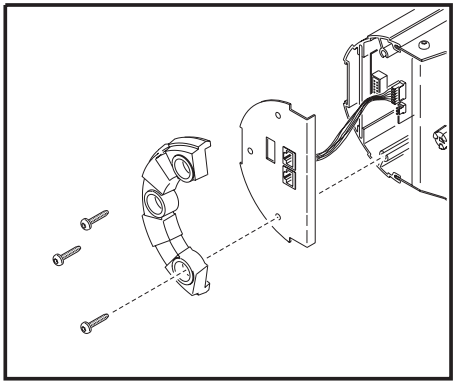
DMX installation

To use a DMX controller with the Magnum 1500, you must remove the remote control module that is fitted as standard and fit a DMX module in its place.

Installing a DMX module

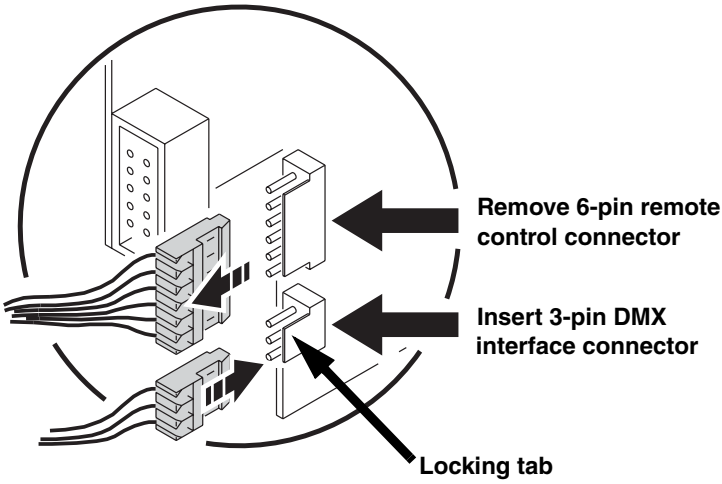
To install a DMX control module:

1. Disconnect the power supply cable and allow the machine to cool for at least 20 minutes.
2. Remove the three T25 Torx screws on the remote control connections module and remove the black rubber protection molding.



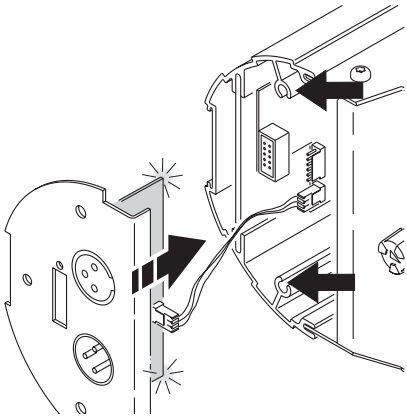
Magnum 1500 DMX interface module

3. Being careful to avoid straining any wires, pull the module gently outwards and to one side. Note the position of the module's wiring connector, with the wires facing away from the locking tab on the circuit board connector, and disconnect it from the 6-pin plug on the circuit board inside the housing. Then remove the module completely.



4. The DMX interface module has a 3-pin female wiring connector. This must be connected to the 3-pin male connector on the circuit board – *not* the 6-pin connector used by the remote control module (see illustration).
5. Hold the DMX module up to the housing and push the DMX interface connector in so that its wires face away from the locking tab on the circuit board connector. The locking ridge molded into the end of the DMX interface connector must face towards the locking tab on the circuit board connector. The wiring connector is an easy sliding fit. If you need to force it, you may be trying to insert it the wrong way round.

6. Line up the edge of the circuit board on the DMX adapter module so that it can slide into the groove in the screw hole in the housing and gently push the DMX adapter into place, being careful not to trap any wires.
7. Replace the black rubber molding and the three Torx screws.

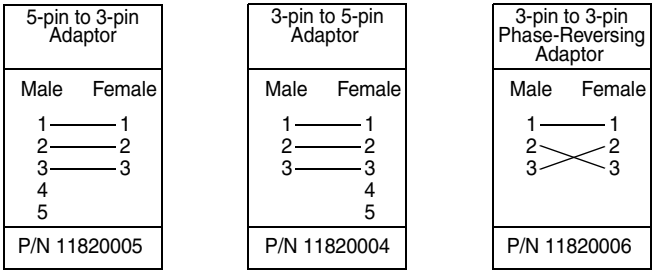


DMX cable connection

A reliable data link requires suitable cable. Standard microphone cable cannot transmit DMX data reliably over long runs. For best results, use shielded cable with at least one twisted pair specifically designed for RS-485 applications. Your Martin dealer can supply suitable high quality cable in various lengths.

The Magnum 1500's XLR data sockets are wired with pin 1 to ground, pin 2 to signal - (cold), and pin 3 to signal + (hot). This is the standard pin assignment for DMX devices.

One or more adaptor cables may be required to connect the Magnum 1500 to the controller and/or other types of fixture, because some devices may have 5-pin XLR connectors and others may have reversed signal polarity (pin 2 hot and pin 3 cold). The required connector polarity is normally labelled on devices and specified in user manuals.



DMX connection pins and polarity

To connect a 5-pin XLR output to the Magnum 1500, use a 5-pin male to 3-pin female XLR adaptor cable (P/N 11820005). To connect the Magnum 1500 to a 5-pin XLR input, use a 3-pin male to 5-pin female adaptor cable (P/N 1820004). To connect to devices with reversed polarity, use a phase-reversing adaptor (P/N 1820006)

To connect a DMX data link:

1. Power off all devices.
2. Using suitable data cable, connect the controller's DMX output to the first device's DMX input.
3. Connect the DMX output of the first device to the DMX input of the next device.
4. Continue connecting devices output to input.
5. Terminate the link by inserting a male termination plug (available from your Martin dealer: P/N 91613017) into the DMX output of the last device. A termination plug is simply an XLR connector with a 120 Ohm, 0.25 W resistor soldered across pins 2 and 3.

Specifying DMX control addresses

The Magnum 1500 uses a single DMX control channel to receive instructions from the controller. This control channel is the Magnum 1500's DMX address. The DMX address must be set on the Magnum 1500 for instructions to be received successfully on this channel from the controller.

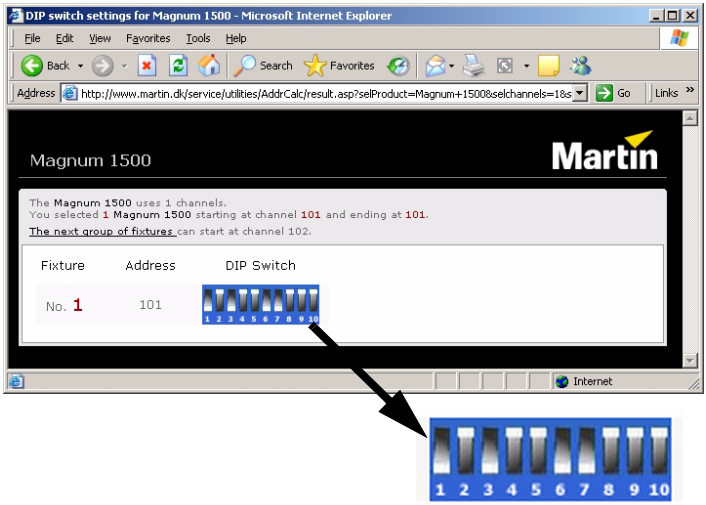
To control devices individually, each must have its own unique DMX address. To control devices as a group, they can all be given the same DMX address. They will then receive the same instructions and should behave identically. Setting up identical devices with the same DMX address can also be a good tool for troubleshooting unexpected behavior.

A Magnum 1500's DMX address can be set to any channel from 1 to 511 using DIP-switches 1 - 9 on the DMX module.

To set the DMX address:

1. Choose an available address for the Magnum 1500.
2. Look up the DIP-switch settings for this address using the Martin Address Calculator at http://www.martin.dk/service/utilities/AddrCalc/index.asp or look for the address in the DIP-switch settings table on page 32. For example, to

set the DMX address to 101, you need to set DIP-switch pins 1, 3, 6 and 7 to ON, as shown in the illustration below:



3. Power off the controller and all the machines you want to connect to the DMX link.
4. For each machine, set the DMX address by setting the DIP-switch pins 1 through 9 to the ON (1) or OFF (0) position as listed in the table on the next page. As an example, channel 101 is highlighted in the table.

DMX address DIP-switch settings

Find the DMX address you want to set in the following table. Read the settings for pins 1 - 5 to the left and read the settings for pins 6 - 9 above the address. "0" means OFF and "1" means ON. Pin 10 is always OFF for DMX operation.

For example, to set a DMX address to 101, set pins 1, 3, 6 and 7 to ON, and the other pins to OFF.

DIP-Switch Setting 0 = OFF 1 = ON					#9	0	0	0	**0**	0	0	0	0	1	1	1	1	1	1	1	1
					#8	0	0	0	**0**	1	1	1	1	0	0	0	0	1	1	1	1
					#7	0	0	1	**1**	0	0	1	1	0	0	1	1	0	0	1	1
					#6	0	1	0	**1**	0	1	0	1	0	1	0	1	0	1	0	1
#1	#2	#3	#4	#5																	
0	0	0	0	0		32	64	96	128	160	192	224	256	288	320	352	384	416	448	480	
1	0	0	0	0	1	33	65	97	129	161	193	225	257	289	321	353	385	417	449	481	
0	1	0	0	0	2	34	66	98	130	162	194	226	258	290	322	354	386	418	450	482	
1	1	0	0	0	3	35	67	99	131	163	195	227	259	291	323	355	387	419	451	483	
0	0	1	0	0	4	36	68	100	132	164	196	228	260	292	324	356	388	420	452	484	
1	**0**	**1**	**0**	**0**	5	37	69	**101**	133	165	197	229	261	293	325	357	389	421	453	485	
0	1	1	0	0	6	38	70	102	134	166	198	230	262	294	326	358	390	422	454	486	
1	1	1	0	0	7	39	71	103	135	167	199	231	263	295	327	359	391	423	455	487	
0	0	0	1	0	8	40	72	104	136	168	200	232	264	296	328	360	392	424	456	488	
1	0	0	1	0	9	41	73	105	137	169	201	233	265	297	329	361	393	425	457	489	
0	1	0	1	0	10	42	74	106	138	170	202	234	266	298	330	362	394	426	458	490	
1	1	0	1	0	11	43	75	107	139	171	203	235	267	299	331	363	395	427	459	491	
0	0	1	1	0	12	44	76	108	140	172	204	236	268	300	332	364	396	428	460	492	
1	0	1	1	0	13	45	77	109	141	173	205	237	269	301	333	365	397	429	461	493	
0	1	1	1	0	14	46	78	110	142	174	206	238	270	302	334	366	398	430	462	494	
1	1	1	1	0	15	47	79	111	143	175	207	239	271	303	335	367	399	431	463	495	
0	0	0	0	1	16	48	80	112	144	176	208	240	272	304	336	368	400	432	464	496	
1	0	0	0	1	17	49	81	113	145	177	209	241	273	305	337	369	401	433	465	497	
0	1	0	0	1	18	50	82	114	146	178	210	242	274	306	338	370	402	434	466	498	
1	1	0	0	1	19	51	83	115	147	179	211	243	275	307	339	371	403	435	467	499	
0	0	1	0	1	20	52	84	116	148	180	212	244	276	308	340	372	404	436	468	500	
1	0	1	0	1	21	53	85	117	149	181	213	245	277	309	341	373	405	437	469	501	
0	1	1	0	1	22	54	86	118	150	182	214	246	278	310	342	374	406	438	470	502	
1	1	1	0	1	23	55	87	119	151	183	215	247	279	311	343	375	407	439	471	503	
0	0	0	1	1	24	56	88	120	152	184	216	248	280	312	344	376	408	440	472	504	
1	0	0	1	1	25	57	89	121	153	185	217	249	281	313	345	377	409	441	473	505	
0	1	0	1	1	26	58	90	122	154	186	218	250	282	314	346	378	410	442	474	506	
1	1	0	1	1	27	59	91	123	155	187	219	251	283	315	347	379	411	443	475	507	
0	0	1	1	1	28	60	92	124	156	188	220	252	284	316	348	380	412	444	476	508	
1	0	1	1	1	29	61	93	125	157	189	221	253	285	317	349	381	413	445	477	509	
0	1	1	1	1	30	62	94	126	158	190	222	254	286	318	350	382	414	446	478	510	
1	1	1	1	1	31	63	95	127	159	191	223	255	287	319	351	383	415	447	479	511	

DMX controller operation

When the Magnum 1500 is powered on, the LED on the DMX module next to the DIP-switches lights to indicate that a valid DMX signal is being received, and the machine starts to warm up. The Magnum 1500 is ready for operation after approximately 10 minutes.

Set the level on the Magnum 1500's DMX control channel to zero to cut fog output to zero. Increase the level on the machine's DMX control channel to increase the level of fog output.

DMX control channel levels

Level	Percentage	Effect
0-27	0-10%	No fog output
28-255	11-100%	Fog output increases in 24 increments