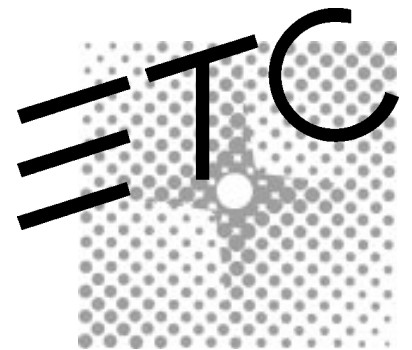


response
96 OUT

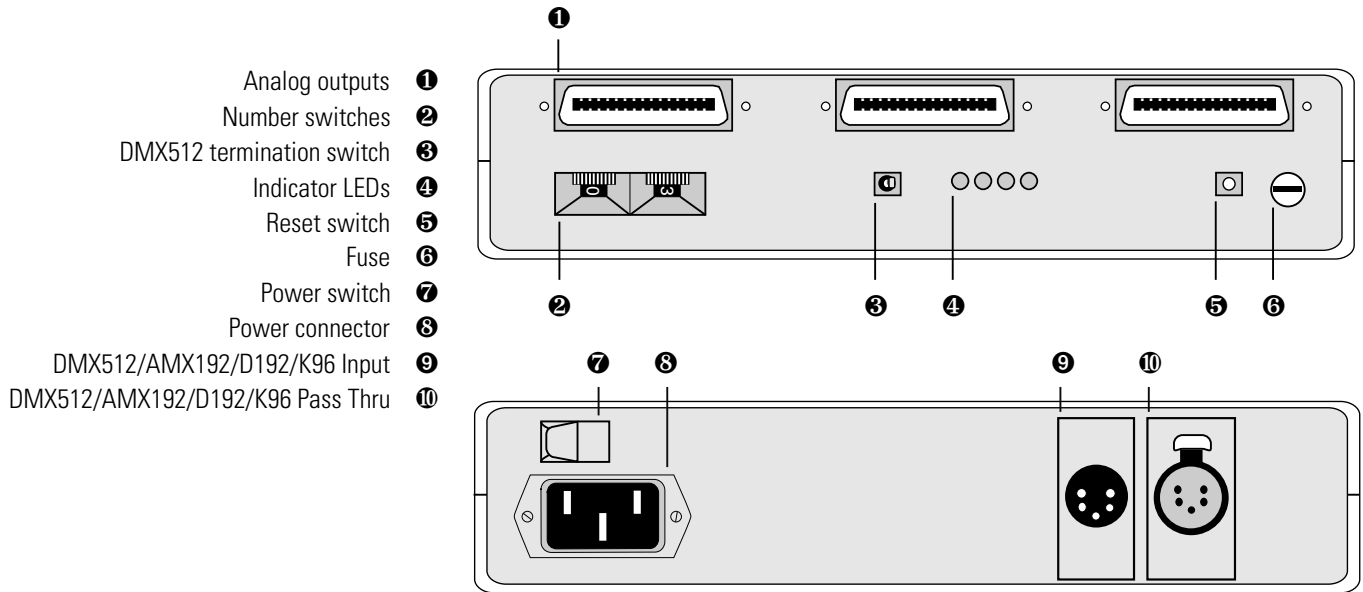
User Manual



response

96 OUT

The Response 96 Out interface allows you to convert 96 DMX512, AMX192, D192, or K96 dimmer signals to analog signals. This manual provides information on all Response 96 Out controls, connectors and indicators.



To use Response 96 OUT, follow these steps:

1. Remove cover, and set DIP switches to select desired operation mode (see page 4).
2. Return cover to Response 96 OUT housing.
3. Plug power cable into the power connector and a 120 VAC outlet, and turn power switch **On**.
4. Insert input cable input into the connector. If necessary, insert output cable into the Pass Thru connector.
5. Insert 36-pin analog dimmer cables in analog output connectors.
6. Set number switches to select starting analog dimmer output number (see page 2).
7. If Response 96 OUT is the last device in a DMX512, D192 or K96 data link, set DMX512 termination switch **On** (right). In AMX192 mode, leave DMX512 termination switch **Off** (left).
8. Press [Reset] after all options are adjusted to desired settings.

See following pages for filter and potentiometer settings and additional information on switch functions and settings.

Note: When data flow is interrupted, all outputs fade to zero percent after approximately four minutes.

Caution: AC is exposed when cover is removed.

Entering starting analog dimmer number

Enter	For starting output	Enter	For starting output	Enter	For starting output
01	1	31	181	61	361
02	7	32	187	62	367
03	13	33	193	63	373
04	19	34	199	64	379
05	25	35	205	65	385
06	31	36	211	66	391
07	37	37	217	67	397
08	43	38	223	68	403
09	49	39	229	69	409
10	55	40	235	70	415
11	61	41	241	71	421
12	67	42	247	72	427
13	73	43	253	73	433
14	79	44	259	74	439
15	85	45	265	75	445
16	91	46	271	76	451
17	97	47	277	77	457
18	103	48	283	78	463
19	109	49	289	79	469
20	115	50	295	80	475
21	121	51	301	81	481
22	127	52	307	82	487
23	133	53	313	83	493
24	139	54	319	84	499
25	145	55	325	85	505
26	151	56	331	86	511
27	157	57	337		
28	163	58	343		
29	169	59	349		
30	175	60	355		

The rotary number switches allow you to set the dimmer number for the first analog output. The remaining 95 analog outputs are consecutively numbered from the number you enter.

Refer to the accompanying chart to determine number switch setting for the desired starting analog output number. You must press [Reset] after entering a new address setting.

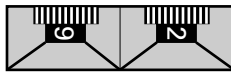
Performing diagnostic tests

Five diagnostic tests are provided on the Response 96 Out; each is described below. To run a test, follow these steps:

1. Enter the two-digit test number on the rotary number switches. See below for test numbers and descriptions.
2. Press [Reset] to start test.
3. Adjust the rate at which the test runs by setting the right number switch between 0 and 9. Test pauses when switch is set to 0; test runs at its maximum rate when switch is set to 1, and at its minimum rate when switch is set to 9.
4. To stop test, enter a valid two-digit starting dimmer number (01- 86) on the number switches, and press Reset.

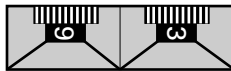
Chase

The **Chase** test flashes each of the 96 analog dimmers to full intensity in a chase sequence. Set number switches to 92.



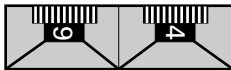
Fade All

The **Fade All** test simultaneously fades all analog dimmers to full intensity, and then back down to zero intensity. Set number switches to 93.



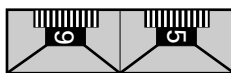
Fade Chase

The **Fade Chase** test fades each of the 96 analog dimmers to full intensity, and then back to zero intensity, in a chase sequence. Set number switches to 94.



Selected Output to Full

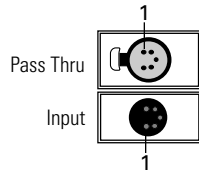
The **Selected Output to Full** test sets a selected analog dimmer output to full intensity and holds it there. Set number switches to 95, and press [Reset]. Then enter analog dimmer number (01-96).



All to Percent

The **All to Percent** test sets all analog dimmer outputs to an intensity percentage you specify and holds them there. Set number switches to 96, and press [Reset]. Then enter a percentage between 00 and 99 on the number switches.





Input connectors

Response 96 Out has two 5-pin XLR connectors, a male connector for input and a female connector for pass through. The Pass Thru port allows you to pass the control signal through the Response 96 Out to other interface or dimming equipment.

DMX512/D192/K96 connector pinout

- 1 - Common
- 2 - Data (-)
- 3 - Data (+)
- 4 - No connection
- 5 - Pass through

AMX192 connector pinout

- 1 - Common
- 2 - Clock (+)
- 3 - Clock (-)
- 4 - Analog multiplex
- 5 - Pass through

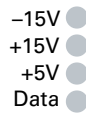
Reset switch

Pressing the [Reset] switch forces the microprocessor to reread DIP switch and number switch settings.



You must press [Reset] to activate DIP switch setting changes and to start and stop diagnostic tests.

Indicator LEDs



Status	Indicates
-15V LED continuous	-15 volts power present
+15V LED continuous	+15 volts power present
+5V LED continuous	+5 volts power present
Data LED continuous	Valid data
Data LED blinking	No data



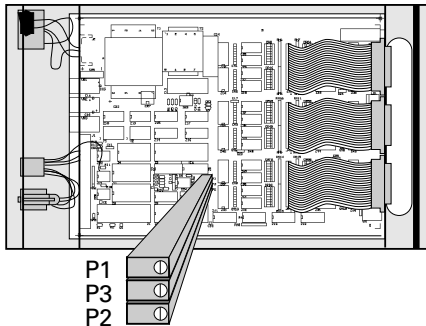
DMX512 termination switch

If the Response 96 Out is the last device in a DMX512, D192 or K96 data stream, set the DMX512 termination switch **On** (right). If you are sending a digital data stream to another interface or dimming device, set the DMX512 termination switch **Off** (left). For AMX192 operation, set DMX512 termination switch **Off** (left).

Potentiometers

The Response 96 Out has three potentiometers, two analog output pots, and an AMX192 input pot. Pots are located on the circuit board inside the Response 96 Out.

Caution: AC is exposed when cover is removed.



AMX192 maximum input level (P1)

Pot P1 adjusts the maximum AMX192 input level. Voltage meter readings are required to accurately adjust levels. Turn pot clockwise to decrease the maximum AMX192 input level, or counterclockwise to increase the maximum AMX192 input level. When shipped from the factory, maximum AMX192 input level is set to 5 volts.

Maximum analog output level (P2)

Pot P2 adjusts the maximum analog output level from 0 to 12 volts. Voltage meter readings are required to accurately adjust the output levels. When shipped from the factory, maximum analog output level is set to 10 volts. Turn pot clockwise to increase maximum analog output level or counterclockwise to decrease the maximum analog output level.

Minimum analog output level (P3)

Pot P3 adjusts the minimum analog output level from 0 to 300 millivolts. Voltage meter readings are required to accurately adjust the output levels. When shipped from the factory, minimum analog output level is set to 0 volts. Turn pot clockwise to increase minimum analog output level or counterclockwise to decrease the minimum analog output level. Note that minimum analog output setting (P3) affects the maximum analog output setting (P2). Check both settings if you change either of them.

DIP switch settings

DIP switch settings determine operation mode and select analog output filters. See below for DIP switch settings; set all unused DIP switches in the open position. DIP switches are located on the circuit board inside the Response 96 Out.

Caution: AC is exposed when cover is removed.

Operation mode

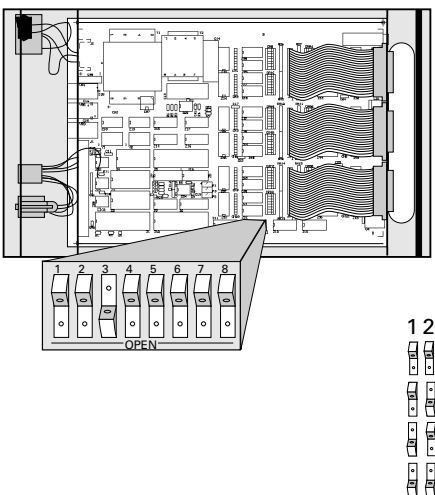
Set DIP switches 1 and 2 according to chart below to select operation mode. System is configured for DMX512 input when shipped from factory.

	Switch 1	Switch 2
DMX512 operation	Open	Open
AMX192 operation	Open	Closed
D192 operation	Closed	Open
K96 operation	Closed	Closed

Analog output filters

Output filters moderate fluctuating input signals. Filters slow lamp response to control adjustments; therefore, experiment with filters to determine the minimum filter needed. Set DIP switches 7 and 8 as shown below to select filter. System is configured with no filter when shipped from the factory.

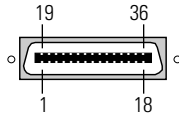
	Switch 7	Switch 8
No filter	Open	Open
Small filter	Closed	Open
Medium filter	Open	Closed
Large filter	Closed	Closed



1 2

7 8

Analog connectors



Three analog Centronics-type connectors each output 32 analog signals. Each analog output can drive 10ma, with a maximum output of 250ma for the entire board. The minimum voltage can be adjusted from 0 to 300 millivolts. The maximum voltage can be adjusted from 0 to 12 volts. See the section on potentiometers for adjustment information.

Analog pinouts

Connector 1

Pins 1-32 - Dimmers 1-32

Connector 2

Pins 1-32 - Dimmers 33-64

Connector 3

Pins 1-32 - Dimmers 65-96

All Connectors

Pins 33-34 - Not connected

Pins 35-36 - Common

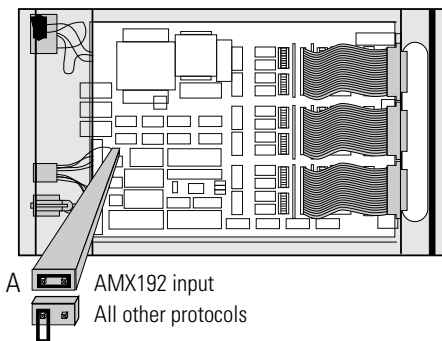
Optical isolation

The Response 96 Out features an optical isolation device. Optical isolation creates a physical break between the Response 96 Out and the DMX512 data link to help prevent accidental high-voltage potentials applied to the analog outputs from damaging other equipment on the DMX512 line.

If you are using the Response 96 Out in AMX192 operation mode (see page 6) you must configure the circuit board to bypass the optical isolation feature.

To bypass optical isolation for AMX192 operation, position jumper over both pins at location A on circuit board (near 96-pin DIN connector).

To enable optical isolation for DMX512, D192 or K96 operation, position jumper over only one pin at location A on circuit board.



AC power

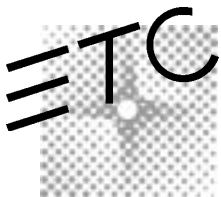
The Response 96 Out has an operating range of 90 to 140 volts AC, 50/60 hertz with nominal voltage at 115 volts. It has an external AGC-1 (one amp) fuse. Disconnect power before replacing fuse. Consult factory on 240 VAC operation.



Specifications

Dimensions	2.1"H x 9"W x 16.75"D (portable) 1.75"H x 19"W x 15"D (rack mount)
Weight	7.75 pounds (portable) 12 pounds (rack mount)
Processing speed	50 hertz

Caution: AC is exposed when cover is removed.



Electronic Theatre Controls

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