



## Description

The MIX-4046 Supervised Output Module is an intelligent addressable module designed to be used with a Mircom compatible control panel providing high rates of information exchange and fast and secure responses.

The MIX-4046 Output Module controls speakers, Notification Appliances or Fire-Phones.

The module is compatible with MGC FT-300A and FH-100A Fire-Phones. A supervision/busy tone "ON" is provided for an off-hook handset.

The module supports class A or B:

- One circuit rated 2A, 24VDC (NAC)
- One circuit rated 2A 25VRMS (Speaker)
- One circuit rated 0.5A 70VRMS (Speaker)
- Fire Phone

An internal EOL resistor is provided for Class A operation.

The module has a panel controlled LED indicator. The LED flashes during normal operation and stays ON steadily when the device is in alarm condition.

The address of each module is set using the MIX-4090 programming tool. For setting the address on this device, disconnect it from the loop, or ensure that the loop to which is connected is both disconnected from the panel and shorted across the SCL+ and SLC- inputs at the device. Failing to take either of these steps may change the address programming of previously configured sensors on the loop.

## Features

- Any combination of MIX-4000 series devices up to 240 can be connected on a single SLC
- Mounts in a standard 4" square or double gang electrical back box
- Indicating LED provides module status.
- Same device can handle NAC, Speakers and Fire Telephone applications.

## Benefits

- A single stocked device type covers three application:
  - Supervised powered output
  - Speaker 25V/70V
  - Fire phone
- Supports group activation capability for fast reaction time.
- No jumpers or special hardware setting for specific applications.
- Can handle Class A or Class B device wiring. No external EOL required for class A operation.
- Device automatically selects application (mode) as directed by the panel configuration at start-up
- Compatible with legacy 5000 audio amplifiers and also digital 6000 audio amplifiers

## Technical Specifications

Normal Operating Value	15 to 30 VDC
Maximum Alarm Current	2.5mA (LED on)
Average Operating Current	1.8mA with 22K EOL
Max Fire Phone Wiring Resistance	150 Ohms
Temperature Range	32°F to 120°F (0°C to 49°C)
Humidity	10% to 93% Non-condensing
Wiring Range on all terminals	22 to 12 AWG
Dimensions	4 5/8"H x 4 1/4" W x 1 1/8" D
Mounting	4" square by 2 1/8" deep box



## NAC Wiring

The total drop from the power supply output to the devices should not exceed 1.8V. This includes the riser drop and the MIX-4046 device line drop. If the riser is connected to several MIX-4046, the total riser load current must be used to calculate drop. The following tables provide a useful approximation.

Max. riser length from power supply to last MIX-4046								
Riser Current	#18AWG		#16AWG		#14AWG		#12AWG	
	ft	m	ft	m	ft	m	ft	m
500mA	210	64	335	102m	535	163m	850	259
1A	105	32	165	51	265	82	425	130
1.5A	70	21	110	34	175	54	280	86
2A	50	16	80	26	130	54	210	65
2.5A	40	13	65	21	105	33	170	52

Maximum line length from MIX-4046 to last device with worst case riser loss								
Line current	#18AWG		#16AWG		#14AWG		#12AWG	
	ft	m	ft	m	ft	m	ft	m
100mA	350	107	560	171	890	272	1400	432
250mA	140	43	220	68	355	109	565	173
500mA	70	21	110	34	175	54	280	35
1A	35	11	55	17	90	27	140	43
2A	15	5	25	9	45	14	70	22

## Speaker Line Wire Selection (70VRMS Line): QAA Style Amplifiers

The maximum voltage drop on a 70V line should not exceed 7V from the amplifier to the last speaker to limit power loss to 1dB. The following tables provide a useful approximation.

Maximum riser length from amplifier to last MIX-4046								
Riser Wattage	#18AWG		#16AWG		#14AWG		#12AWG	
(W)	ft	m	ft	m	ft	m	ft	m
15	1900	579	3000	914	4900	1494	7700	2347
30	950	290	1525	465	2425	739	3850	1173
60	480	146	760	232	1210	369	1925	587

Maximum line length from MIX-4046 to last speaker with worst case riser loss								
Line Wattage	#18AWG		#16AWG		#14AWG		#12AWG	
(W)	ft	m	ft	m	ft	m	ft	m
7.5	1275	389	2030	620	3235	986	5140	1570
15	640	195	1015	310	1615	493	2570	784
30	320	98	505	155	805	247	1285	392

## Speaker Line Wire Selection (25VRMS Line): QAA Style Amplifiers

The total voltage drop in the evacuation audio circuit wiring from the amplifier to the last speaker powered at 25 VRMS should not exceed 2V with a 1dB drop limit. This includes the drop in the audio trunk and the drop in the audio branch circuit in the MIX-4046 module. The following tables show a useful approximation.

Maximum riser length from amplifier to last MIX-4046								
Riser Wattage	#18AWG		#16AWG		#14AWG		#12AWG	
(W)	ft	m	ft	m	ft	m	ft	m
15	245	75	390	119	615	188	980	299
30	120	37	195	59	310	95	490	149
60	60	18	95	29	155	47	245	75

Maximum line length from MIX-4046 to last speaker with worst case riser loss								
Line Wattage	#18AWG		#16AWG		#14AWG		#12AWG	
(W)	ft	m	ft	m	ft	m	ft	m
7.5	165	50	300	79	410	126	655	200
15	80	25	130	40	205	63	330	100
30	40	12	65	20	100	31	165	50

## Speaker Line Wire Selection (70VRMS Line): QAD Style Amplifiers

The maximum voltage drop on a 70V line should not exceed 7V from the amplifier to the last speaker to limit power loss to 1dB. The following tables provide a useful approximation.

Maximum riser length from amplifier to last MIX-4046								
Riser Wattage	#18AWG		#16AWG		#14AWG		#12AWG	
(W)	ft	m	ft	m	ft	m	ft	m
25	1140	347	1800	548	2940	896	4620	1408
50	570	174	915	279	1455	443	2310	704
75	384	117	608	186	968	295	1540	470
100	288	88	456	139	726	221	1155	352

Maximum line length from MIX-4046 to last speaker with worst case riser loss								
Line Wattage	#18AWG		#16AWG		#14AWG		#12AWG	
(W)	ft	m	ft	m	ft	m	ft	m
12.5	765	233	1,218	372	1,941	592	3,084	942
25	384	117	609	186	969	296	1,542	470
37.5	256	78	404	124	644	198	1,028	314
50	192	59	303	93	483	148	771	235

## Speaker Line Wire Selection (25VRMS Line): QAD Style Amplifiers

The total voltage drop in the evacuation audio circuit wiring from the amplifier to the last speaker powered at 25 VRMS should not exceed 2V with a 1dB drop limit. This includes the drop in the audio trunk and the drop in the audio branch circuit in the MIX-4046 module. The following tables show a useful approximation.

Maximum riser length from amplifier to las MIX-4046								
Riser Wattage	#18AWG		#16AWG		#14AWG		#12AWG	
(W)	ft	m	ft	m	ft	m	ft	m
25	147	45	234	71	369	113	588	179
50	72	22	117	35	186	57	294	89
75	48	14	76	23	124	38	196	60
100	36	11	57	17	93	28	147	45

Maximum line legnth from MIX-4046 to last speaker with worst case riser loss								
Line Wattage	#18AWG		#16AWG		#14AWG		#12AWG	
(W)	ft	m	ft	m	ft	m	ft	m
12.5	99	30	180	47	246	76	393	120
25	48	15	78	24	123	38	198	60
37.5	32	10	52	16	80	25	132	40
50	24	7	39	12	60	19	99	30

## Ordering Information

Model	Description
MIX-4046	Supervised Output Module
MIX-4090	MIX-4000 Addressable Device Programmer
BB-400	Surface Mount Electrical Box
MP-302	EOL Plate



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