



# CIA400 Series Integrated Power Amplifier

MV-1.24 | MV-1.24X | AE-1.24 | AE-1.24X



## Features

- Audio Environment (AE) or Music Voice (MV) System Configurations.
- Hardware set, non-defeatable brick wall style opto-coupler based output level compressors.
- Extremely Low Noise Amplifier Architecture Utilized.
- Built in Fast-Acting Output Signal Compressor.
- Front panel Music Volume, Microphone Volume & Source Selection Controls.
- Dual Full, Dual Highs, Bridged or Biamped mode selector switch.
- Combo XLR/TRS balanced Lo-Z Microphone Input.
- Three Unbalanced Summing Left & Right RCA Input jacks for Line Level Music.
- Combo XLR/TRS jack accepting a Balanced Line Level Music Source.
- Male XLR Jacks providing a line level preamplifier and low frequency only output signal.
- Neutrik® Speakon type output connection to speakers.
- Anti "Speaker-Thump" Turn On Delay.
- DC Mode Output Speaker Protection.
- Speaker / Transmission Line Short Circuit Protection.
- Extensive Status and Activity Indication LEDs.

The four models available in the CIA400 series are the **MV-1.24**, **MV-1.24X**, **AE-1.24**, and **AE-1.24X**. Each model differs only from its inclusion of front panel music volume control, microphone volume control, and a music source selection switch. Each amplifier is field configurable for operation in 1 of 4 modes, and the rear panels are conveniently printed with a speaker connection wiring guide for each mode. Each of the audio inputs and outputs on the back panel have their own gain controls, located just under their respective jack, allowing for optimum control and installation flexibility.

The amplifiers are available in either Audio Environment (AE) or Music Voice (MV) System configurations. AE system amplifiers **do not** have a user adjustable front panel Microphone Volume control, where as MV System amplifiers do. In AE systems, any microphone signals are automatically mixed with whatever program music material is playing, at a preset level. Either of these AE or MV configurations are available with or without a front panel Music Input Source Selector Switch. Systems with an "X" on the end of the model number are equipped with a "1-of-4" rotary style Music Input Source Selector Switch on its front panel.

Interface and Display	
<i>Front Panel</i>	
Controls (vary for each model number).	Power Switch, Music Volume, Microphone Volume (varys), Input Selector Switch (varys).
Indication LEDs [Color]	Microphone Input Active [Blue], Music Input Active [Blue], 2% Voltage Output [Green], 20% Voltage Output [Green], 50% Voltage Output [Yellow], 75% Voltage Output [Yellow], Max Voltage Output [Red], Ready / Temp / Speaker Line Fault Status Indicator [BiColor]
Connectors / Inputs	Auxiliary Music Input # 1, Auxiliary Microphone Input # 1



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## Interface and Display

### Rear Panel

Controls	Amplifier Channel 1 (Highs) Gain, Microphone Gain Selector Switch
Audio Inputs	Power Inlet, Speaker Connector, Music Inputs # 2-3-4, Microphone Input # 2
Audio Outputs	Balanced Preamp Output, Balanced Sub Output, Unbalanced Preamp Output, Unbalanced Sub Output
Power / Speaker Connectors	3-Prong IEC Inlet, Switched Accessory Outlet, SpeakON

The two-channel integrated power amplifier shall deliver a minimum continuous power of 75 Watts RMS per channel into 8 Ohm loads, 125 Watts RMS per channel into 4 Ohm loads with both channels operating.

The power amplifier shall have two auxiliary level music inputs (Input 1 & 4), two line level music inputs (Input 2 & 3), two Lo-Z microphone inputs with selectable front end gain level switch, one gain level adjustment control for highs on Channel 1, one balanced Subwoofer output, one balanced Preamp output, one unbalanced Subwoofer output and one unbalanced Preamp output connector.

The amplifier shall have one Neutrik SpeakON connector, one switched accessory outlet and one heatsink temperature sensitive switched fan outlet and one user resettable circuit breaker.

The power amplifier section shall be Class AB, convection cooled with a [-3dB] frequency response for Channel 1 (Highs) from 165Hz to 85kHz and a [-3dB] frequency response for Channel 2 (Lows) from 4Hz to 75Hz utilizing a hardware set Non-Defeatable 2nd Order Sub-Bessel Sallen Key Filter hardware set to 106Hz Cut-off frequency.

## I/O Specifications – Note: 0dBu = 0.775Vrms or ~1.1Vpeak

### Auxiliary Level Music Inputs 1

Connector Type	Dual Red / White RCA
Input Impedance	10KΩ – Per Leg
Front End Voltage Gain	2.4dB
Maximum Input Level	+13dBu

### Line Level Music Inputs 2, 3, and 4

Connector Type	Dual Red / White RCA
Input Impedance	27KΩ – Per Leg
Front End Voltage Gain	11dB
Maximum Input Level	+21dBu

### Lo-Z Microphone Inputs

Connector Type	Combo TRS / XLR
Input Impedance	8.2KΩ Balanced
Front End Voltage Gain	13dB to 40dB
Maximum Input Level	+8dBu to -18dBu

### Pre and Sub Outputs

Connector Type	Male XLR Jacks
Output Impedance	150Ω – Per Leg

	MV-1.24	MV-1.24X	AE-1.24	AE-1.24X
Front End Signal Conditioning				
Independent Microphone Volume Control	Yes	Yes	No	No
Music Input Selector Switch	No	Yes	No	Yes
Front End Error Amp Topology	Dual Mirrored Differential Long Tailed Pair, CCS Biased			
Output Section Topology	Direct Coupled Class AB – Double BiPolar Output.			
Preamplifier Stage Gain	Adjustable From Full Cut to +14dB [ +6dB Default ]			
Power Amplifier Stage Gain	25 V/V [ +28dB ]			
Output Voltage Rails	+/- 48VDC unloaded, Ground Referenced			
Current Draw	5 Amperes [ Nominal ]			
Sine Wave Output Power with Compressor Engaged				
8 Ohms	75 W RMS continuous per channel			
4 Ohms	125 W RMS continuous per channel			
2 Ohms	140 W RMS continuous per channel			
Input Impedance				
for Unbalanced Inputs 1, 2, 3, and 4	17K $\Omega$ per RCA Leg			
for Balanced Input 2	10K $\Omega$ per XLR Leg			
Output Impedance				
Preamp / Sub Outputs	150 $\Omega$ per XLR Leg			
Load Impedance				
2 Ohm Minimum	Dual Mono Full Range, Dual Mono Highs or Biamped Modes			
4 Ohm Minimum	Bridged Mono Modes			
Amplifier Section Frequency Performance	Less than 5Hz. to greater than 20kHz			
Amplifier Power Supply	Linear - 400 VA Toroid – 13,600uF Shared Rail Filter Capacitance			
DC Output Offset	No more than +/- 100mVp			
Damping Factor	> 200 into 8 $\Omega$ .			
Quiescent Offset & Noise at Output	< 10mVp-p			
Rise Time – Uncompensated – Non Filtered	3.5 $\mu$ S [ 10% to 90% at 5vp-p]			
Required AC Mains	110-125VAC, 50-60Hz, 5A.			
Chassis Material	12 Gauge 5052-H32 Aluminum			
Cooling Method	Variable Speed Internal Fan			
Number of Output Channels	2			
Dimensions	19" W x 3 1/2" H x 12 1/2" D			
Weight	18 lbs.			

*Specifications Subject to change without notice*

