LVC 5050HC

Single-phase, 3U, Two-Channel Industrial Amplifier

Performance Overview:

AC Power (up to 20 kHz):	3000 watts RMS
Small Signal (3V p-p):	100 kHz
For High-Power Applications to:	20 kHz+
DC Power:	30A at 16.5 VDC
40 mS Pulse (1Ω):	100 Ap
Slew Rate:	>30 V/µs
Output Voltage:	±60 Vp
Output Impedance:	<10 mΩ in series with <2 µH

AE Techron's LVC 5050HC amplifier is a general purpose, high voltage, medium continuous current, linear power amplifier. It works best when driving loads of 1 - 4 ohms. The LVC 5050HC works well with either pulsed or continuous test signals or environments that have both conditions.

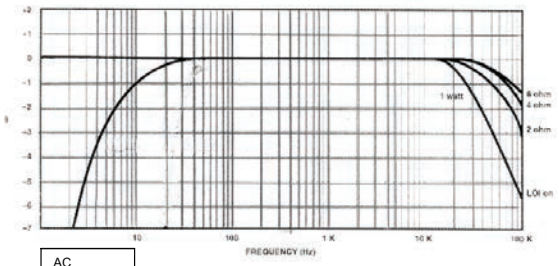
The **LVC 5050HC** has two (2) separate channels that can be operated independently or combined for greater maximum voltage or current. In Bridge-mono mode the available output voltage doubles. In Parallel-mono mode the amplifier operates with twice the available output current .

The **LVC 5050HC** features a bi-level power supply that allows the amplifier to be optimized dynamically for either high-pulse voltage output or low-voltage, high-current output. This feature allows the LVC 5050HC to produce less heat and produce higher long-term power without added distortion.

Features

- Bench-sized.
- Source and sink (4-quadrant).
- Controlled-voltage or controlled-current operation.
- User-adjustable voltage or current limiting.
- External monitoring of voltage and current output.
- Remote switching to standby mode via contact closure.
- Protection circuitry protects the amplifier from input overloads, improper output connection (including shorted and improper loads), over-temperature, over-current, and supply voltages that are too high or low.
- Shipped ready to operate from 120-volt (±10%) single-phase AC mains; Also available in 100, 200, 208, 230 and 240 VAC versions.

DC Coupled



AC Coupled

Typical Frequency Response

Specifications

Performance

One hour continuous ratings. Continuous DC power levels are lower. See DC Specifications chart for test conditions.

Frequency Response, 20 Hz–20 kHz (1 watt): ±0.1 dB

Slew Rate: >31 V/µSec

Output Impedance: <10 mOhm in series with <2 µH

Phase Response (10 Hz - 20 kHz): ±10 degrees at 1 watt

Input Impedance,
Balanced: >10k ohm
Unbalanced: >5k ohm

Load Impedance: Safe with all load types, even reactive ones.

THD: Less than 0.05% from 20 Hz to 1 kHz, increasing linearly to 0.1% at 20 kHz at full output.

I.M. Distortion (8-ohm load): Less than 0.05% from 410 milliwatts to full output.

Signal-to-Noise Ratio, A-weighted (at 26 dB gain): Better than 105 dB below full output

Control, Status, I/O

Front Panel LED Displays indicate:
Power, Overload (per channel), I_{LOAD} / I_{LIMIT} (per channel)

Front Panel Switch: Power ON/OFF

Gain Controls, when enabled:
31-detent rotary control

Signal Output:
High-power 5-way binding posts

Signal Input:
Balanced or Unbalanced via back-panel plug-in module

Communication Capabilities

Operation Monitor: Run/Standby

Voltage Monitor (2-channel operation only): 20V/V ± 1%

Current Monitor (2-channel operation only): 4A/V ± 1%

Remote Control via Plug-in Module:
Force to Standby

Physical Characteristics

Chassis:
The amplifier is designed for stand-alone or rack-mounted operation. The chassis is steel with a black powder coat finish and a silver-finished aluminum front panel. The unit occupies three EIA 19-inch-wide units.

Weight: 77 lbs (35.2 kg), Shipping 88 lbs (40.2 kg)

AC Power:
Single phase, 120 VAC, 60 Hz, 30A service;
(100-, 120-, 200-, 208-, 230- or 240-volt, 50-60 Hz models available. Call for specifications.) US models come with a three-blade NEMA TT30P plug.

Operating Temperature:
10°C to 50°C (50°F to 122°F), maximum output Power de-rated above 30°C (86°F).)

Humidity: 70% or less, non-condensing

Cooling:
Forced air cooling from front to back through removable filters.

Airflow: 180CFM

Dimensions: 19 in. x 16 in. x 5.25 in.
(48.3 cm x 40.3 cm x 13.3 cm)

Protection

Over/Under Voltage:
± 10% from specified supply voltage amplifier is forced to Standby

Over Current:
Breaker protection on both main power and low voltage supplies

Over Temperature:
Separate output transistor, heat sink, and transformer temperature monitoring and protection

AC Specifications – Single Channel Output

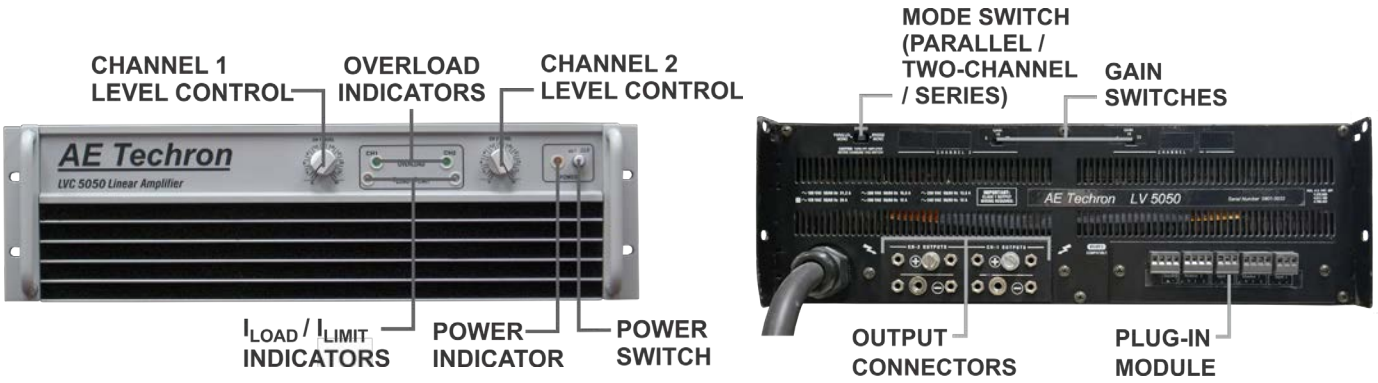
	RMS OUTPUT		
	100% Duty Cycle		
Load (ohms)	Voltage	Current	Power
no load	60		
4	42	10.5	441
2	33	16.5	544.5
1	14.4	14.4	207.36

Testing performed using a 1 kHz sinewave into resistive loads as specified. Performance reported is typical into the specified load up to 20 kHz frequency levels. Performance may be affected when operating into highly reactive loads or above 20 kHz, reducing maximum voltage, current and power output.

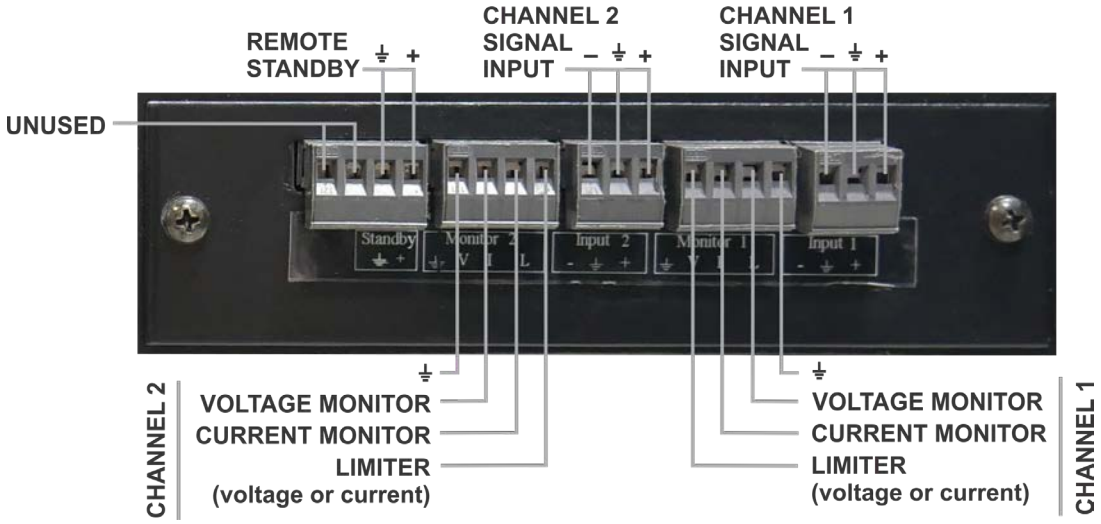
DC Specifications – Parallel Mono Output

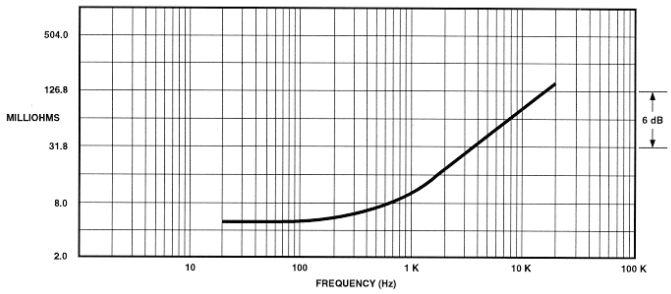
OUTPUT (Amperes)		
VDC	Current (amperes)	Power
13.5	30	

Testing performed into resistive load as specified.



PLUG-IN MODULE CONNECTIONS





Typical Output Impedance

AE Techron Sales Representative