

Titan Modular Mainframe Amplifier Cards

2-Channel Commercial Power Amplifier Modules



General Description

The IEDT6152, IEDT6302, and IEDT6602 are Class D (switching mode) dual channel power amplifier modules that are used in the Titan series power amplifier modular mainframes. Each card may be used in either the Titan IEDT9160 Nine-Card Capable Mainframe or IEDT6400 Two-Card Capable Mainframe. Any card may be dynamically placed in any slot in the mainframes without requiring configuration settings to be made on the amplifier cards.

Class D operation combined with an integral switching mode power supply offers many advantages and the unique AtlasIED design makes full use of these benefits including:

- Higher Efficiency
- Increased Reliability
- Improved Performance
- Lower Operating Cost

The card contains no onboard attenuation controls. Attenuation is handled by the modular mainframe or electronics before the amplifier. This ensures user error does not happen during system commissioning.

The power amplifier module has built-in voltage limiters to protect the loudspeakers from being over driven. In addition, a temperature sensor on the heatsink will automatically shut down a module that becomes too hot in order to protect the electronics. When used with the IEDT9160 mainframe, the amplifier module's status signals are monitored by the IEDT9160 CPU. Failures will be detected and reported to alert users that service is required. When used in an IEDT6400 mainframe, these status signals are presented at the back of the mainframe for monitoring by external devices such as the T9032MT or T9032LVIO collectors.

The amplifier module has LED indicators located on its front edge. A single green LED will illuminate to indicate that the amplifier is powered on. Each channel on the card also has a multi-color signal LED. It will illuminate green when input signal is present on the channel. This LED changes to yellow to indicate that the channel is clipping.

A power switch is provided on the front of each module. It is recessed and requires a tool to operate. The switch allows an individual card to be powered down, removed, and replaced without affecting any other cards installed in the same mainframe. Each card provides +24VDC through current limiting resistors to operate the fans in the rear of the mainframe to aid in system cooling.

Each model is available in either 120VAC or 240VAC power operation. 120VAC models contain an "L" suffix while 240VAC models contain an "H" suffix.

Electrical	IEDT6152H	IEDT6152L	IEDT6302H	IEDT6302L	IEDT6602H	IEDT6602L
Power Supply Type	Switch Mode	Switch Mode	Switch Mode	Switch Mode	Switch Mode	Switch Mode
Amp Topology	Class D	Class D	Class D	Class D	Class D	Class D
Number of Fixed Inputs	2	2	2	2	2	2
Accessory Inputs	N/A	N/A	N/A	N/A	N/A	N/A
DSP Internal	N/A	N/A	N/A	N/A	N/A	N/A
Network	N/A	N/A	N/A	N/A	N/A	N/A
Optional Accessory Card Slot	N/A	N/A	N/A	N/A	N/A	N/A
Output Power						
100V x 2-CH (200Ω load-continuous) (Note 2)	50 Watt					
100V x 2-CH (64Ω load-pulse) (Note 1)	150 Watt					
70V x 2-CH (100Ω load-continuous) (Note 2)		50 Watt				
70V x 2-CH (32Ω load-pulse) (Note 1)		150 Watt				
100V x 2-CH (100Ω load-continuous) (Note 2)			100 Watt			
100V x 2-CH (32Ω load-pulse) (Note 1)			300 Watt			
70V x 2-CH (50Ω load-continuous) (Note 2)				100 Watt		
70V x 2-CH (16Ω load-pulse) (Note 1)				300 Watt		
100V X 2-CH (50Ω load-continuous) (Note 2)					200 Watt	
100V x 2-CH (16Ω load-pulse) (Note 1)					600 Watt	
70V x 2-CH (25Ω load-continuous) (Note 2)						200 Watt
70V x 2-CH (8Ω load-pulse) (Note 1)						600 Watt
Factory Default Settings (as shipped)						
Amplifier Configuration	2-CH 100V Mode (CH 1/2 = 100V)	2-CH 70V Mode (CH 1/2 = 70V)	2-CH 100V Mode (CH 1/2 = 100V)	2-CH 70V Mode (CH 1/2 = 70V)	2-CH 100V Mode (CH 1/2 = 100V)	2-CH 70V Mode (CH 1/2 = 70V)
Level Controls	N/A	N/A	N/A	N/A	N/A	N/A
GPIO Control Ports (Rear Panel)	N/A	N/A	N/A	N/A	N/A	N/A
I/O Matrix	N/A	N/A	N/A	N/A	N/A	N/A
Auto Power Down (APD)	N/A	N/A	N/A	N/A	N/A	N/A
Inputs						
Input Quantity	2 Balanced Inputs	2 Balanced Inputs	2 Balanced Inputs	2 Balanced Inputs	2 Balanced Inputs	2 Balanced Inputs
Input Type (Line Balanced or Unbalanced)	Balanced	Balanced	Balanced	Balanced	Balanced	Balanced
Input Impedance, Ω	20KΩ Balanced	20KΩ Balanced	20KΩ Balanced	20KΩ Balanced	20KΩ Balanced	20KΩ Balanced
Input Sensitivity	5dBu - 1.377V	5dBu - 1.377V	5dBu - 1.377V	5dBu - 1.377V	5dBu - 1.377V	5dBu - 1.377V
Maximum Input Level dBu & Vrms	14dBu - 3.82V	14dBu - 3.82V	14dBu - 3.82V	14dBu - 3.82V	14dBu - 3.82V	14dBu - 3.82V
Input Connectors Type	N/A	N/A	N/A	N/A	N/A	N/A
Accessory Slot	N/A	N/A	N/A	N/A	N/A	N/A

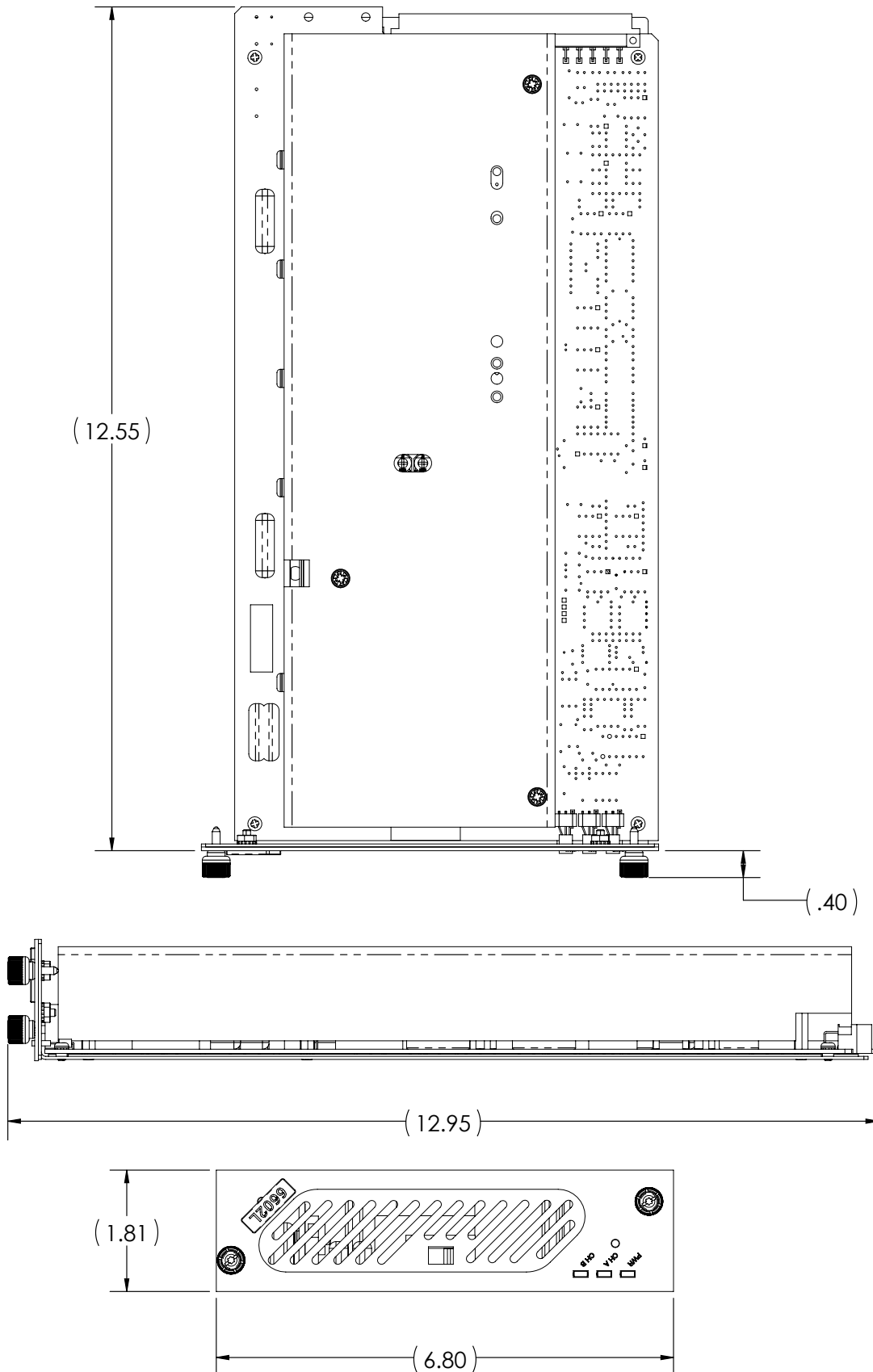
Level Control						
Front Panel Manual (enable-disable in GUI)	N/A	N/A	N/A	N/A	N/A	N/A
GUI Control	N/A	N/A	N/A	N/A	N/A	N/A
Status Indicators - Front Panel and GUI						
Power	Green Indicator	Green Indicator	Green Indicator	Green Indicator	Green Indicator	Green Indicator
Standby (Remote turn ON)	N/A	N/A	N/A	N/A	N/A	N/A
Output Signal	Green, CH 1/2	Green, CH 1/2	Green, CH 1/2	Green, CH 1/2	Green, CH 1/2	Green, CH 1/2
LED Bar Meter	N/A	N/A	N/A	N/A	N/A	N/A
Output Limit/Protect	Yellow, CH 1/2	Yellow, CH 1/2	Yellow, CH 1/2	Yellow, CH 1/2	Yellow, CH 1/2	Yellow, CH 1/2
2-CH Operation	N/A	N/A	N/A	N/A	N/A	N/A
70V / 100V Operation	N/A	N/A	N/A	N/A	N/A	N/A
Output Mute Status	N/A	N/A	N/A	N/A	N/A	N/A
DSP Type & Tools						
IO Routing	N/A	N/A	N/A	N/A	N/A	N/A
Hi & Low Pass Filters	N/A	N/A	N/A	N/A	N/A	N/A
EQ	N/A	N/A	N/A	N/A	N/A	N/A
Delay	N/A	N/A	N/A	N/A	N/A	N/A
Limiter	N/A	N/A	N/A	N/A	N/A	N/A
DSP Frequency type	N/A	N/A	N/A	N/A	N/A	N/A
Control Ports (Rear Panel)						
GPIO Port	N/A	N/A	N/A	N/A	N/A	N/A
Ethernet	N/A	N/A	N/A	N/A	N/A	N/A
Output Terminals (Speaker)						
Output Connectors Type	N/A	N/A	N/A	N/A	N/A	N/A
Output Connectors Number of Terminals	N/A	N/A	N/A	N/A	N/A	N/A
Output Connectors Fixed or Removable	N/A	N/A	N/A	N/A	N/A	N/A
Wire Size	N/A	N/A	N/A	N/A	N/A	N/A
Terminal Spacing	N/A	N/A	N/A	N/A	N/A	N/A
Current Rating	N/A	N/A	N/A	N/A	N/A	N/A
Electrical Specifications (General)						
Total Harmonic Distortion 1 kHz and 1 dB below rated power	< 0.01 %	< 0.01 %	< 0.01 %	< 0.01 %	< 0.01 %	< 0.01 %
Signal to Noise Ratio	> 85dB Below Rated Output 20Hz - 20kHz	> 85dB Below Rated Output 20Hz - 20kHz	> 85dB Below Rated Output 20Hz - 20kHz	> 85dB Below Rated Output 20Hz - 20kHz	> 85dB Below Rated Output 20Hz - 20kHz	> 85dB Below Rated Output 20Hz - 20kHz
Frequency Response	20Hz - 20kHz (6.25-watt into 200Ω)	20Hz - 20kHz (6.25-watt into 100Ω)	20 Hz - 20kHz (12.5-watt into 100Ω)	20Hz - 20kHz (12.5-watt into 50Ω)	20Hz - 20kHz (25-watt into 50Ω)	20Hz - 20kHz (25-watt into 25Ω)
Damping Factor (20Hz to 400Hz)	Aprox 300	Aprox 150	Aprox 150	Aprox 80	Aprox 50	Aprox 50
Crosstalk CH1-2 & CH 2-1	73dB	73dB	73dB	73dB	73dB	73dB
Protection	Power Limit 150%. Fused	Power Limit 150%. Fused	Power Limit 150%. Fused	Power Limit 150%. Fused	Power Limit 150%. Fused	Power Limit 150%. Fused
AC Power Requirements						
Operating Voltage (VAC)	210V-260V 50/60Hz (Factory set)	105V-130V 50/60Hz (Factory set)	210V-260V 50/60Hz (Factory set)	105V-130V 50/60Hz (Factory set)	210V-260V 50/60Hz (Factory set)	105V-130V 50/60Hz (Factory Set)
Minimum Power-Up Voltage	180V	90V	180V	90V	180V	90V
Maximum Operating Voltage	260V	130V	260V	130V	260V	130V
Mains Interface	N/A	N/A	N/A	N/A	N/A	N/A
Power Cord (Ships With)	N/A	N/A	N/A	N/A	N/A	N/A

Power Consumption, Current Draw						
Amps						
Active Mode - No Signal	468mA	468mA	468mA	468mA	468mA	468mA
RMS Power 70V, Both Channels @ 1/8 Power	1.16A	1.16A	1.16A	1.16A	1.16A	1.16A
RMS Power 70V, Both Channels @ Clipping Output	5.58A	5.58A	5.58A	5.58A	5.58A	5.58A
Watts						
Active Mode - No Signal	39W(56VA-0VA)	39W(56VA-0VA)	39W(56VA-0VA)	39W(56VA-0VA)	39W(56VA-0VA)	39W(56VA-0VA)
RMS Power 70V, Both Channels @ 1/8 Power	100W(139VA-50VA)=89VA	100W(139VA-50VA)=89VA	100W(139VA-50VA)=89VA	100W(139VA-50VA)=89VA	100W(139VA-50VA)=89VA	100W(139VA-50VA)=89VA
RMS Power 70V, Both Channels @ Clipping Output	517W(670VA-400VA)=270VA	517W(670VA-400VA)=270VA	517W(670VA-400VA)=270VA	517W(670VA-400VA)=270VA	517W(670VA-400VA)=270VA	517W(670VA-400VA)=270VA
BTU/hr (Note3)						
Active Mode - No Signal	192BTU	192BTU	192BTU	192BTU	192BTU	192BTU
RMS Power 70V, Both Channels @ 1/8 Power	304BTU	304BTU	304BTU	304BTU	304BTU	304BTU
RMS Power 70V, Both Channels @ Clipping Output	920BTU	920BTU	920BTU	920BTU	920BTU	920BTU
Cooling						
Cooling System	Part of Required Amplifier Mainframe	Part of Required Amplifier Mainframe	Part of Required Amplifier Mainframe	Part of Required Amplifier Mainframe	Part of Required Amplifier Mainframe	Part of Required Amplifier Mainframe
Cooling Air Flow Direction	Front to Back	Front to Back	Front to Back	Front to Back	Front to Back	Front to Back
Dimensions and Weight						
Rack Mount Requirements	Required Amplifier Mainframe, IEDT6400 or IEDT9160H	Required Amplifier Mainframe, IEDT6400 or IEDT9160	Required Amplifier Mainframe, IEDT6400 or IEDT9160H	Required Amplifier Mainframe, IEDT6400 or IEDT9160	Required Amplifier Mainframe, IEDT6400 or IEDT9160H	Required Amplifier Mainframe, IEDT6400 or IEDT9160H
Dimensions - Unit	W 1.8" x H 6.8" x D 12.5" (4.6mm x 17.3mm x 31.75mm)	W 1.8" x H 6.8" x D 12.5" (4.6mm x 17.3mm x 31.75mm)	W 1.8" x H 6.8" x D 12.5" (4.6mm x 17.3mm x 31.75mm)	W 1.8" x H 6.8" x D 12.5" (4.6mm x 17.3mm x 31.75mm)	W 1.8" x H 6.8" x D 12.5" (4.6mm x 17.3mm x 31.75mm)	W 1.8" x H 6.8" x D 12.5" (4.6mm x 17.3mm x 31.75mm)
Dimensions - Shipping	N/A	N/A	N/A	N/A	N/A	N/A
Weight - Unit	4 Lbs. (1.8 Kg)	4 Lbs. (1.8 Kg)	4 Lbs. (1.8 Kg)	4 Lbs. (1.8 Kg)	4 Lbs. (1.8 Kg)	4 Lbs. (1.8 Kg)
Weight - Shipping	N/A	N/A	N/A	N/A	N/A	N/A
Agency Approvals						
North America Agency	None	None	None	None	None	None
Testing Standard North America	None	None	None	None	None	None
FCC Class A (Conducted & Radiated Emissions)	Part 15 of the FCC rules	Part 15 of the FCC rules	Part 15 of the FCC rules	Part 15 of the FCC rules	Part 15 of the FCC rules	Part 15 of the FCC rules
RoHS / WEE Compliant	No	No	No	No	No	No
CE	No	No	No	No	No	No

NOTES:

1. Power level is define as: 1 kHz Sine wave signal burst of 20 cycles (20mS) at 1% THD+N, followed by 480 cycles of a 1kHz sine wave at 10% of the max.
2. Max Power is defined as 1 kHz input signal applied to achieve the maximum power output before clipping into lead appropriate to each amplifier's rating/size.
3. BTU is calculated by the AC Mains Volt-Amperes minus the RMS power output measured at the specified load and condition, multiplied by 3.412.

Dimensional Drawings



Architect and Engineer Specifications

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