

DESCRIPTION

This class AB GaN Rack Mount SSPA is designed for both military and commercial applications. It is capable of supporting any signal type and modulation format, including but not limited to 3-4G telecom, WLAN, OFDM, DVB, and CW/AM/FM. These highly versatile units can be custom-configured with an extensive array of monitoring circuitry, control and communication interfaces, and any combination of RF connectors. Custom RF filtering, switching, and multiple PA blocks can be designed in for any system requirement.



FEATURES

AC, DC or Dual Power Supplies
Forward Power Monitoring
Front or Rear RF/Control Connections

PA and System Redundancy Configurations
High Speed Switching
Forced-Air and Fan-less cooling options available

Tx SPECIFICATIONS

PARAMETER	MIN	TYP	MAX	UNIT
Operating Frequency Range	700		2700	MHz
PSat Power Output (at output connector)		50		dBm
Gain		50		dB
Gain Flatness (Entire operating band)		1.5		dB
Gain Adjustment		25 dB		--
Input Return Loss		-15		dB
AC Supply Voltage	+85		+264	VAC
AC Supply Frequency	47		63	Hz
Switching Time		1.0	2.0	uS

MECHANICAL		
PARAMETER	DESCRIPTION	UNIT
Dimensions (L x W x H)	17 x 19 x 3.47 (2U EIA Rack Mountable)	
RF Connectors (Input / Output)	N-Female standard on front or rear of rack Other configurations available upon request	--
RF Connector (-30 dB Sample Port)	N-Female standard on front or rear of rack Other configurations available upon request	--
Power Connector	IEC 60320-C14 standard Other connector types available upon request	--
Cooling	Forced air cooling standard Heat-pipes, fan-less, and liquid cooling configurations available depending on system requirements	--
Mounting	Panel mounting standard via 8-32 or 10-32 screws Rack slide rails and other configurations available	--
Transport	Front panel rack handles included with unit	

ENVIRONMENTAL / PROTECTIONS			
PARAMETER	MIN	MAX	UNIT
Ambient Operating Temp.	-10	+50	°C
Storage Temp Range	-60	+100	°C
Humidity Range	0-100		%
Altitude	0-30,000		ft.
Shock / Vibration	MIL-STD-810 and equivalents		--
EMI / RFI	Designed to comply with MIL-STD-461 and equivalents		--
Max RF Input	0.0		dBm
Load VSWR @ P1dB	Open / Short Output Protection		--
Thermal Protection	User-configurable alarm / shutdown		--

CONTROL / MONITORING STANDARD FEATURES AND OPTIONS	
FEATURE / OPTION	DESCRIPTION
Forward Power Monitoring	RMS power (modulation independent), peak power, or envelope detection available. The output can be configured to report power in dBm, Watts, VSWR, or any other format upon request (e.g. SNMP variable, TCP/IP or user-defined serial message)
Temperature Monitoring	Temperature sensors embedded in amplifier modules report system temperature to the front panel and to all communication interfaces in degrees C. Pre-programmed warnings can be set when internal temperatures approach thermal shut down temp. Options are also available to override thermal shut down if required.
Fan Status	Fan speeds and fan lock detect circuits are monitored by the internal SBC. Fan failure and/or blockage are reported to the front panel LCD and through any other communication interfaces that are equipped.
Amplifier Status Monitoring	Various amplifier parameters are monitored including operating voltage, current draw, transmit/receive status (for bi-directional units) and case temperature. Amp failure or any out of range parameters are reported to the front panel and through any other communication interfaces that are equipped.

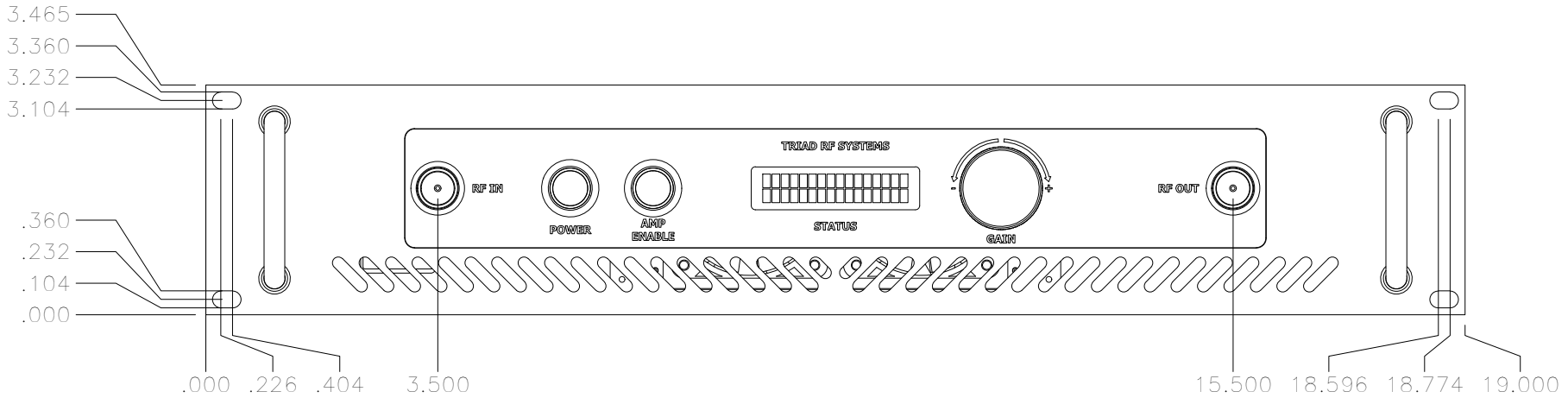
LCD DISPLAY	
DESCRIPTION	FUNCTION / USAGE
Temperature Monitor	Displays amplifier internal temperature
Amp Enable Button / Status Display	Press Amp Enable to enable, Press Amp Disable to disable. Button will also report amplifier status if system is in an over-temperature condition, or if any other system failure has occurred
Gain Control	Turn gain control knob clockwise or counter-clockwise to increase or decrease the gain, adjustable up to 50 dB
Status Display	Green Circle = System OK Amber Circle = System near thermal shut-off point Red Circle = Amplifier thermal shut down protection has occurred

Front Panel Display: 0 dB Attenuation Set, Normal Status



ANALOG CONTROL / MONITORING CONNECTIONS – 9 PIN D-SUB FEMALE CONNECTOR	
PIN	DESCRIPTION
1	Amplifier TTL On / Off Control for Remote Operation – TTL Hi = Amplifier on, TTL Lo = Amplifier off, No connection to wire – Amplifier defaults to on when main AC voltage supplied
2	Forward power detector – Analog voltage proportional to power output - set to 2.0V @ 53dBm out, slope of detector is a linear 70mV / dB
3	Reflected power detector – Analog voltage proportional to reflected power output - set to 2.0V @ 50dBm out into an open load slope of detector is a linear 70mV / dB
4	RS-422 Serial Tx+ (Full duplex operation - see ICD for detailed command structure)
5	RS-422 Serial Tx-
6	RS-422 Serial Rx+
7	RS-422 Serial Rx-
8	Amp fault output – TTL Hi if normal, TTL Low if amplifier has shut down due to over-temp condition or other fault
9	Signal Ground

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
0	INITIAL RELEASE	7/19/18	DH

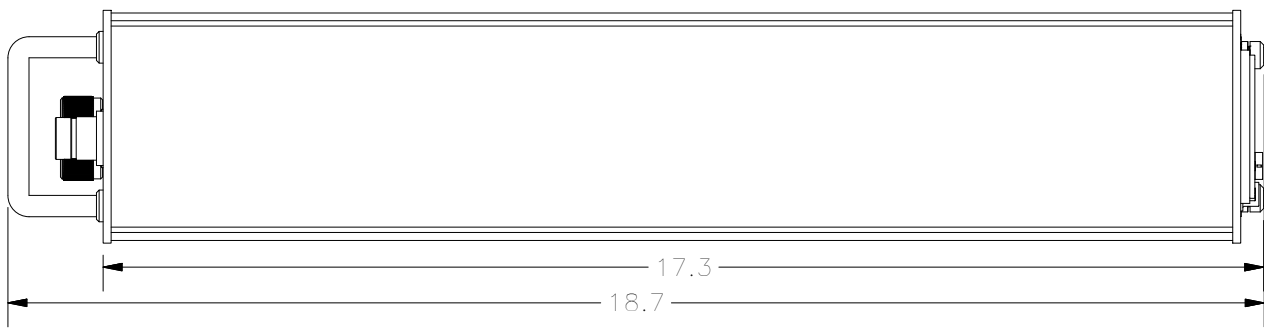
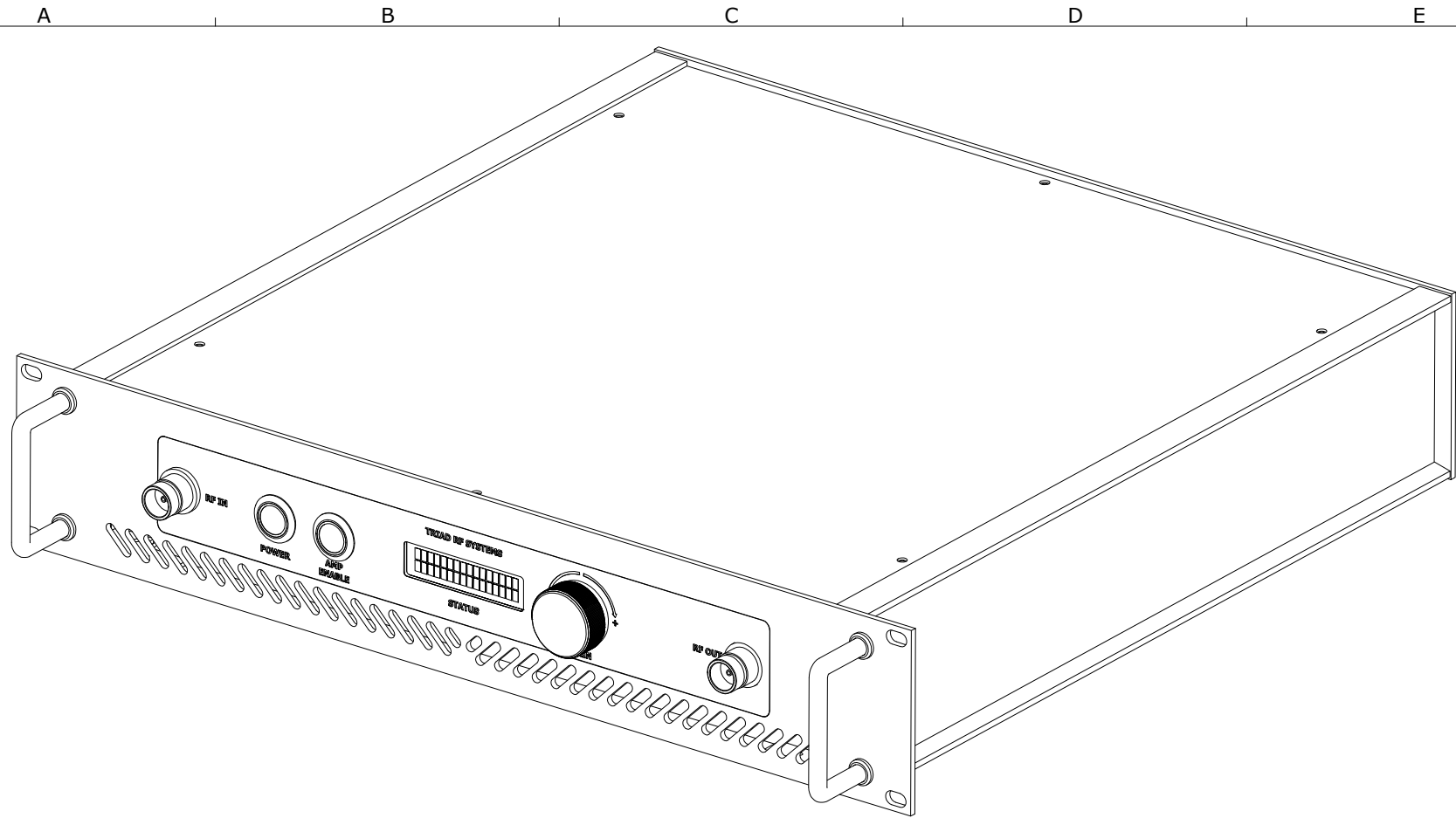


DRAWN	DEAN	7/19/2018
DESIGNED	DEAN	1/3/2017
CHECKED		
ENG. APPROVED		
MFG. APPROVED		



11 HARTS LANE SUITE I
EAST BRUNSWICK, NJ 08816
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DIMENSIONS ARE IN INCHES UNLESS SPECIFIED OTHERWISE		SIZE	DWG. NO.	REV
DECIMALS .XX ± .01 .XXX ± .005	FRACTIONS ± 1/32	ANGLES ± 2°	A	2U_RACK_LCD
SCALE: NONE		CAGE CODE	67DZ3	SHEET 1 OF 3



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CHECKED			SIZE	DWG NO.	REV
ENG. APPROVED			A	2U_RACK_LCD	
MFG APPROVED			SCALE: NONE	CAGE CODE 67DZ3	SHEET 2 OF 3

A

B

C

D

E

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1

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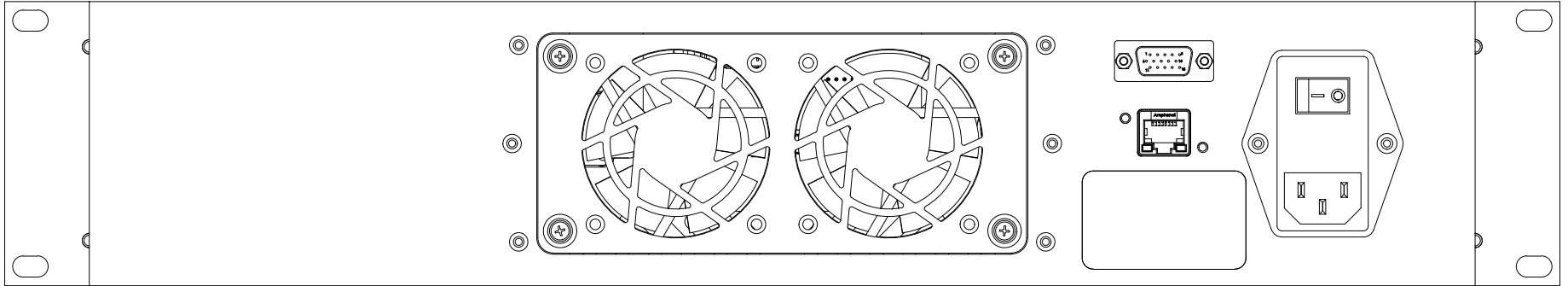
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.000 1.035

17.965 19.000

DRAWN	DEAN	7/19/2018			
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MFG. APPROVED			SCALE: NONE	CAGE CODE 67DZ3	SHEET 3 OF 3

A

B

C

D

E