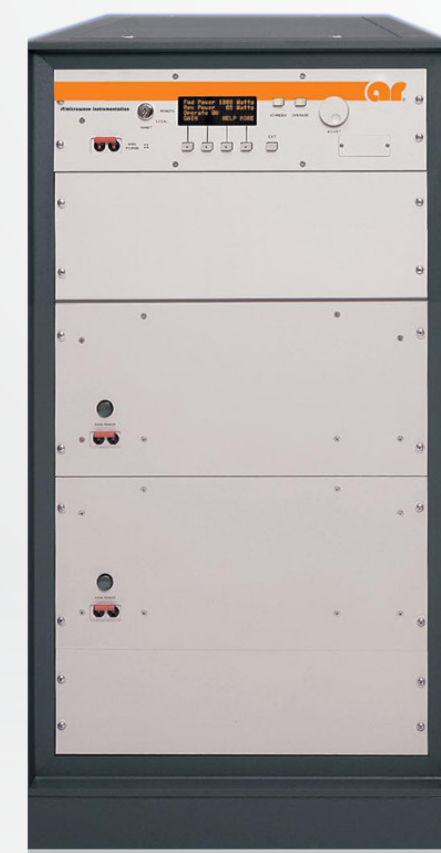


2024 High Power RF & Microwave Amplifier Portfolio



2024 High Power RF & Microwave Amplifier



UNLOCKING POSSIBILITIES: APPLICATIONS OF HIGH POWER SOLID STATE AMPLIFIERS

When it comes to pushing the boundaries of technology and ensuring the reliability of electronic systems, high power solid state amplifiers play a pivotal role in many applications. Here's a glimpse into the diverse realms where these amplifiers are instrumental:

EMC IMMUNITY TESTING

Electromagnetic Compatibility (EMC) testing, immunity testing is performed across the automotive, medical, aeronautic, consumer goods and communications industries ensure that electronic devices can operate properly in the presence of electromagnetic interference (EMI). Amplifiers boost the intensity of electromagnetic fields to the desired level which the device under test (DUT) is exposed. *Main needs are 10 KHz-18 GHz (40 GHz) with CW and pulsed power up to 10 kW.*

BCI TEST (BULK CURRENT INJECTION)

Bulk current injection (BCI), where current is injected directly into cables and harness to simulate the EMI (electromagnetic interference) susceptibility a device might encounter with signals applied to power and communication lines. Amplifiers are used in these setups to boost the injected or conducted signals. For this application, amplifiers need to be able to provide the full power from very low impedances to very high impedances since DUT are never 50 Ω. *Main needs are 10 KHz-400 MHz with CW power up to 1kW.*

HIRF (High-Intensity Radiated Field) TESTING

HIRF (High-Intensity Radiated Field) testing involves specific modulation schemes or pulse characteristics to simulate several types of electromagnetic threats. HIRF is a crucial aspect of ensuring the electromagnetic compatibility and safety of electronic systems, particularly in the A & D industry. High-intensity electromagnetic fields are simulated to evaluate how well electronic systems, such as avionics, weapons and other critical components, can withstand and operate within such environments. *Main needs are 1-18 GHz with pulsed power up to 1MW and more.*

NEMP (Nuclear Electromagnetic Pulse) TESTING

NEMP testing involves the simulation of the electromagnetic pulse generated by a nuclear detonation. The purpose of NEMP testing is to evaluate the resilience of electronic systems and critical infrastructure to the intense electromagnetic fields produced during a nuclear explosion. Amplifiers are used to generate the high-power electromagnetic pulses needed for testing. *Main needs are in the 1-400 MHz range, with pulsed power up to 500 kW.*

SCIENTIFIC APPLICATIONS

Scientific applications where precise control and manipulation of electromagnetic signals are necessary such as particle accelerators used in high-energy physics experiments. For these applications, amplifiers often need high linearity and high phase and amplitude stability. *Main needs are very narrow bands amplifiers in the range of 1MHz to 3 GHz, with CW power from a few kW up to a few MW, as well as in pulsed mode.*

COMPONENT TEST

Component test setups with amplifiers generating interference signals, allowing engineers to assess how well communication components can tolerate and reject unwanted signals. This is crucial in ensuring reliability against interference in real-world environments. Filters, duplexers, and other frequency-selective components are tested with the amplifiers generating signals that allow engineers to characterize the performance of these components in terms of IMD, bandwidth, insertion loss, and rejection.

RF components, such as filters, attenuators, and cables are also tested. This involves measuring parameters like gain, noise figure, and distortion to ensure that components meet specifications. *Main amplifier needs are in the .5 to 12 GHz segment, with CW power up to 1 kW.*

EW (ELECTRONIC WARFARE) JAMMING AND JAMMING SIMULATION

Electronic warfare systems to amplify the power of jamming signals to disrupting enemy communication and radar systems. Along with electronic countermeasures to amplify signals designed to deceive or neutralize enemy radar and communication systems.

Jamming simulation signals that reproduce the electronic interference and power levels created by hostile forces. Signals are directed toward the system under test to evaluate its ability to operate effectively in the presence of jamming. *Main needs are 20 MHz-10 GHz with CW or pulsed power up to a few kW*

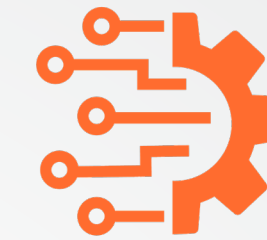
EW (ELECTRONIC WARFARE) DESTRUCTION

As with EW jamming and jamming simulation, EW destruction involves generating high power levels to overpower and damage enemy radar and threats as well as assessing the resilience of electronic systems, vehicles, drones, aircrafts and missiles to various destruction attack scenarios.

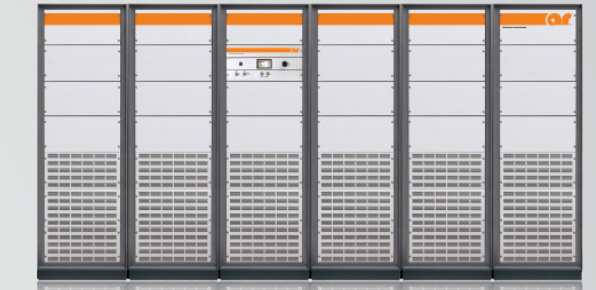
RADAR AND RADAR SIMULATION

Pulse and continuous (CW radar exist but are exceptional) wave amplifiers are used in radar systems helping/ allowing to boost the power of transmitted signals and improve the detection range, accuracy, surveillance and tracking radar enhancing target detection and tracking capabilities.

Radar simulators (versus Operating Radars) are used in laboratory to ensure that electronic devices can operate properly in the presence of electromagnetic interference (EMI). Amplifiers boost the intensity of electromagnetic fields to the desired level which the device under test (DUT) is exposed. (Simply as an EMC test procedure) *Main needs are 1-18 GHz with pulsed power from 5 kW up to 1 MW.*



INNOVATION



REVOLUTIONIZING SOLID STATE TECHNOLOGY LIMITS:

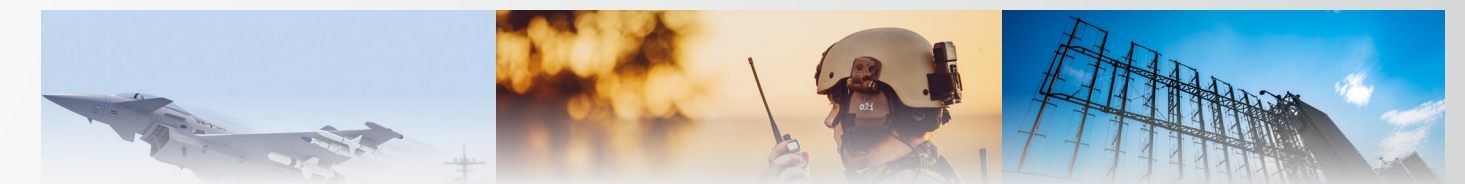
Explore the forefront of solid-state technology with our groundbreaking high-power amplifiers. Experience the dependability and simplicity of solid-state technology combined with power and frequency capabilities traditionally associated with TWT technology.

TAILORED SOLUTIONS TO MATCH YOUR NEEDS:

Benefit from our specialized expertise to tailor amplifiers precisely to your requirements. Witness the harmonious integration of high power and frequency, an exclusive feature made possible through our innovative approach.

SEAMLESS EXPANSION WITH ADVANCED COMBINER TECHNOLOGY:

Effortlessly scale up to unprecedented power levels with our unique combiner technology. Achieve seamless scalability, setting new benchmarks in amplifier performance.



WORLD FIRST SOLID STATE INDUSTRIAL AMPLIFIERS

Frequency	Power Level	Amplifier Type	Customer	Country	Application
1.0-6.0GHz	3 kW	CW	European Defence Agency	France	HIRF EMC (High Intensity Radiated Fields)& Radar
0.1-1.0GHz	10 kW	Pulse	U.S. Department of Defence	USA	Electronic Warfare
1.0-6.0GHz	5 kW	Pulse	U.S. Department of Defence	USA	Electronic Warfare
1.0-6.0GHz	50 kW	Pulse	European Defence Agency	Germany	Radar & Electronic Warfare
1-400MHz	80 kW	Pulse	U.S. Department of Defence	USA	NEMP (Nuclear Electromagnetic Pulse)
8.5-10.5GHz	30kW	Pulse	U.S. Department of Defence	USA	Electronic Warfare
0.1-1.0GHz	150KW	Pulse	U.S. Department of Defence	USA	HIRF EMC (High Intensity Radiated Fields)& Electronic Warfare



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UNRIVALLED RANGE | POWER & FREQUENCY

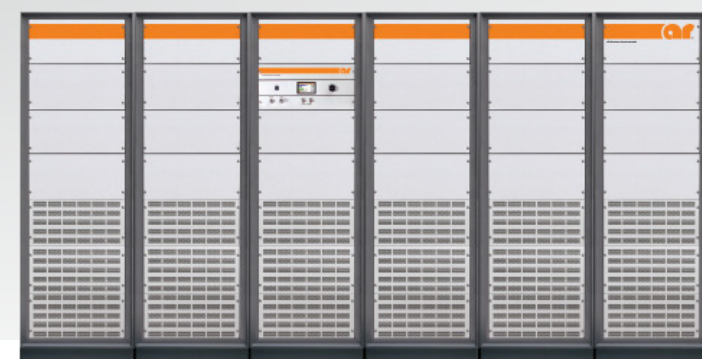
This amplifier portfolio introduces a new series naming convention for AR products to be introduced throughout 2024

WIDE BANDS														NARROW BANDS						
A series	B series	BP series	D series	E series	EP series	F series	G series	H series	HP series	J series	JP series	K series	Ka series	LP series	SP series	CP series	XP series	XL series	XLP series	KuP series
CW 10 KHz-225 MHz	CW 10 KHz-400 MHz	Pulsed 1-400 MHz	CW 10 KHz-1 GHz	CW 80-1000 MHz	Pulsed 80-1000 MHz	CW 1-2.5 GHz	CW 0.7-6 GHz	CW 1-6 GHz	Pulsed 1-6 GHz	CW 6-18 GHz	Pulsed 6-18 GHz	CW 18-26.5 GHz	CW 26.5-40 GHz	Pulsed 1.2-1.4 GHz	Pulsed 2.9-3.4 GHz	Pulsed 5.2-5.9 GHz	Pulsed 8.5-10.5 GHz	CW 8-12 GHz	Pulsed 8-12 GHz	Pulsed 16-17 GHz
16 kW	1 kW	500 kW	250 W	10 kW	150 kW	1 kW	400 W	15 kW	100 kW	4 kW	12 kW	200 W	200 W	200 kW	600 kW	600 kW	100 kW	10 kW	50 kW	100 kW
10 kW	600 W	300 kW	100 W	6 kW	100 kW	500 W	200 W	10 kW	50 kW	1 kW	8 kW	130 W	130 W	150 kW	300 kW	300 kW	50 kW	5 kW	20 kW	50 kW
5 kW	350 W	150 kW	50 W	4 kW	50 kW	250 W	120 W	8 kW	20 kW	500 W	4 kW	80 W	80 W	100 kW	150 kW	150 kW	30 kW	2 kW	10 kW	20 kW
2.5 kW	250 W	100 kW	25 W	2 kW	20 kW	125 W	60 W	5 kW	10 kW	250 W	3 kW	50 W	50 W	50 kW	100 kW	100 kW	20 kW	1 kW	5 kW	10 kW
1 kW	175 W	80 kW	10 W	1 kW	10 kW		30 W	3 kW	5 kW	125 W	1 kW	30 W	30 W	20 kW	50 kW	50 kW	10 kW	300 W	2 kW	5 kW
500 W	100 W	40 kW		800 W	5 kW			2 kW	3 kW	75 W		20 W	20 W	10 kW	20 kW	20 kW	5 kW			2 kW
125 W		20 kW		500 W	2 kW			1 kW		40 W		10 W	10 W	5 kW	10 kW	10 kW	2 kW			
50 W				250 W				750 W		20 W				2 kW	5 kW	5 kW				
25 W				125 W				500 W							2 kW	2 kW				
				50 W				250 W												
								125												
								75 W												
								60 W												
								30 W												
								15 W												

STANDARD CATALOGUE PRODUCT
 NEW PRODUCT - available to quote

APPLICATIONS

EMC / Immunity	EMC / Immunity	NEMP	EMC / Immunity	EMC / Immunity	HIRF	EMC / Immunity	EMC / Immunity	EMC / Immunity	EMC / Immunity	EMC / Immunity	EMC / Immunity	EMC / Immunity	EMC / Immunity	Radar Test	Radar Test	Radar Test	EW Jamming	Radar Test	Radar Test	Radar Test
HIRF	BCI	Nuclear IEM	Science Applications	Industrial Tests	EW Jamming	Component Test	Component Test	Component Test	HIRF	Component Test	HIRF			HIRF	HIRF	HIRF	EW Destruction	HIRF	HIRF	HIRF
Industrial Tests			Industrial Tests					EW Jamming	EW Jamming	EW Jamming	EW Jamming					EW Jamming		EW Jamming	EW Jamming	
									EW Destruction							EW Destruction		EW Destruction	EW Destruction	



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