

# UPA-50 VHF/UHF RF Power Amplifier

*Compact. Yet highly versatile.*



While the General Dynamics URC-200 LOS radio is an amazing piece of equipment on its own, sometimes you need extra power to accomplish your mission.

That's exactly why we designed the UPA-50 Amplifier. Now you can broadcast up to a full 50 watts FM and 30 watts AM in the VHF (115-174 MHz) and UHF (225-420 MHz) bands in your choice of modulations: AM, FM, FSK or continuous wave (CW).

What's more, the UPA-50 offers outstanding harmonic and spurious frequency rejection, with an extremely low noise floor. Which means you can use it in even the most challenging LOS environments.

The UPA-50 puts out the power and takes a beating, too. It's perfect for even the toughest tasks on land, air and sea. In fact, we tested it against humidity, fungus, altitude, shock, dropping and vibration, and its Mean-Time-Between-Failure (MTBF) rate averaged 10,000 hours before any problems arose. That means you'll probably never experience a breakdown. We strive for

six-sigma quality: our personal commitment to uncompromising dependability.

And while the UPA-50 will help you get your message out, it won't get in your way. The entire package is just 9.5 pounds, and measures less than 400 cubic inches. Plus, it's designed to meet MIL-STD-461 for RF emissions.

But here's the best thing about the UPA-50: We put all the controls where they can do the most good – in front, where you can see them. You save time, which means you communicate faster and get more done. The only button left on the back is the emergency reset button, where you won't confuse it for anything else.

The UPA-50 is just one of the many accessories General Dynamics offers for the URC-200. And each one is designed to make your job easier, and to help your radios install faster and last longer. Strong, dependable, and easy to use, the UPA-50 is further proof that at General Dynamics, big things do come in small packages.

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**GENERAL DYNAMICS**  
C4 Systems

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## Technical Specifications

### Benefits/Features

Why you should buy the UPA-50 VHF/UHF RF Power Amplifier:

#### Powerful

- 50 Watt VHF/UHF RF power amplifier
- 100 MHz to 174 MHz and 225 MHz to 420 MHz

#### Versatile

- 25 or 50 Watt FM
- 20 or 30 Watt AM
- CW, AM, FM or FSK
- Lightweight, 9.5 lbs. (4.3 kg)
- Remote controllable

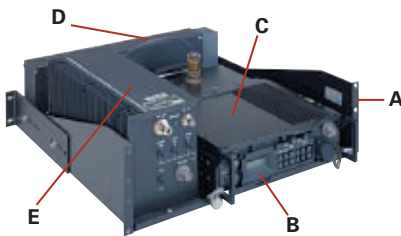
#### Dependable

- Excellent co-location performance
- 10,000 hours MTBF

#### Saves Money

- Low cost

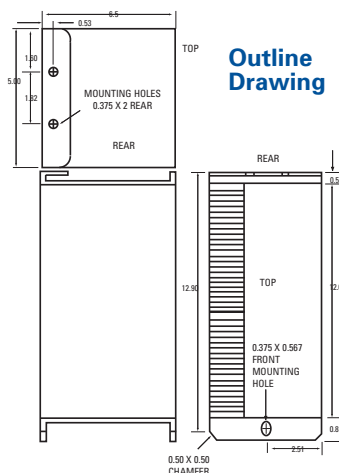
### Rackmount configuration



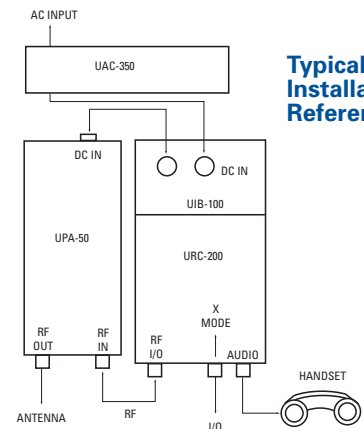
(Replaces AN/GRC-17 and AN/GRC-211)

- A. URM-100 (part # 01-P35865M001) 19-inch rack mount for radio, power amp, and power supply
- B. URC-200 (part # 01-P36742M001) VHF/UHF, multi-band transceiver
- C. UIB-100 (part # 01-P35807M001) Interface for radio to external power source
- D. UAC-350 AC supply, radio plus power amplifier
- E. UPA-50 (part # 01-P34364E001) 50 Watt power amplifier

Model number:	UPA-50
Part number:	01-P34364E001
Frequency range:	100 to 174 MHz; 225 to 420 MHz
Encryption:	Compatible with wide and narrow band encryptors
DC current requirement:	11.5 Amps at +28 VDC
RF output power:	25 or 50 watts FM, $\pm 1$ dB 20 or 30 watts AM, average at 90% $\pm 1$ dB
RF input power:	3 to 12 watts average at 90% AM, CW FM
Electro-magnetic Interference (EMI):	MIL-STD-461, CEO 6, REO 2
Noise floor:	Outputs $< -140$ dBm/Hz
Input impedance:	50 ohms
Harmonics:	100 to 106 MHz = $< -40$ dBc 106 to 115 MHz = $< -55$ dBc 115 TP 174 MHz = $< -60$ dBc 225 to 231 MHz = $< -40$ dBc 231 to 420 MHz = $< -60$ dBc
Amplifier distortion:	10% at 90% AM from 100-150 MHz and 225-400 MHz 15% from 150-174 MHz and 400-420 MHz
Protection:	Fault indicator for short, open, temperature and VSWR $> 3:1$
Bypass mode:	Automatic
Remote control:	Available
Supply voltage:	+26 to +32 VDC for rated output
Operating temperature:	$-30^{\circ}\text{C}$ to $+55^{\circ}\text{C}$
Storage temperature:	$-54^{\circ}\text{C}$ to $+70^{\circ}\text{C}$
Duty Cycle:	5 min Rec, 1 min Transmit Continuous at $+30^{\circ}\text{C}$ , 1/2 hour at $55^{\circ}\text{C}$
Cooling:	Convection (without blower)
Weight:	9.5 lbs. (4.3 kg)
Size:	6.5 inch high x 5 inch wide x 13.3 inch deep (165mm x 127mm x 305mm)
MTBF:	10,000 hours
Environmental:	Tested for vibration, temperature, humidity and altitude



Outline Drawing



Typical Installation Reference

## GENERAL DYNAMICS

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