

ACOM

# ACOM 2020S

1.8-54 MHz Linear Power Amplifier



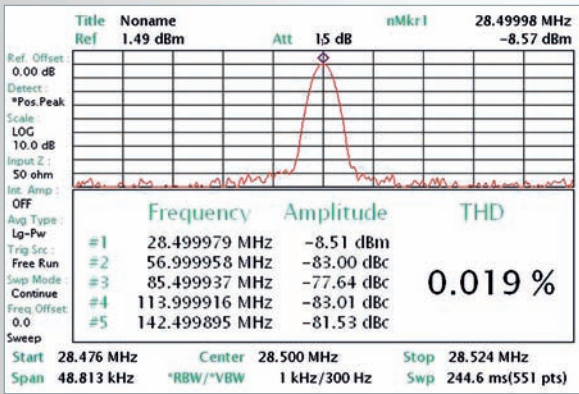
OUTSTANDING HF POWER PRODUCTS

## 1500 W RF OUTPUT

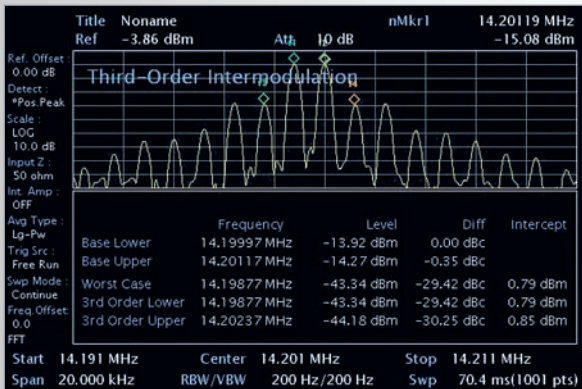
The ACOM 2020S is a state-of-the-art 1500 W heavy-duty, solid-state linear amplifier, covering all amateur bands from 1.8 to 54 MHz.



High Power Amplifier Units



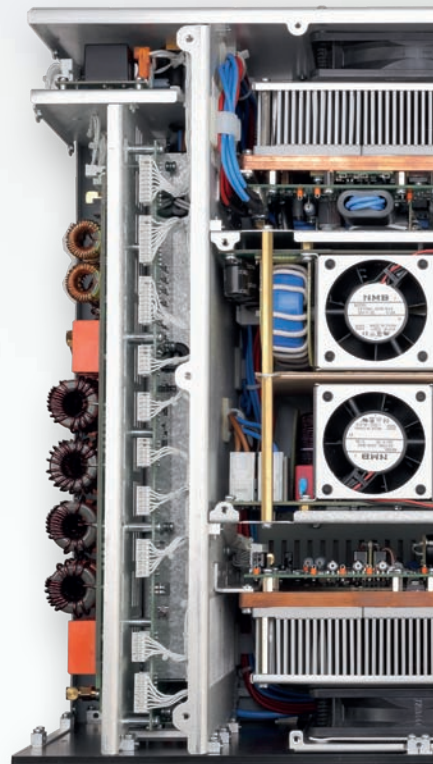
**Total Harmonic Distortion = 0.019 %**  
Characteristics example on 28 MHz



**3<sup>rd</sup> Order Lower = -35.42 dBc**  
Characteristics example on 14 MHz

## Remote Control Unit

All indicators and controls (except the primary mains switch and power indicator) are accessible via the 7" touch screen Remote Control Unit or via Ethernet.



ACOM 2020S | Line

The amplifier uses two PA modules, two dip... for very low distortions

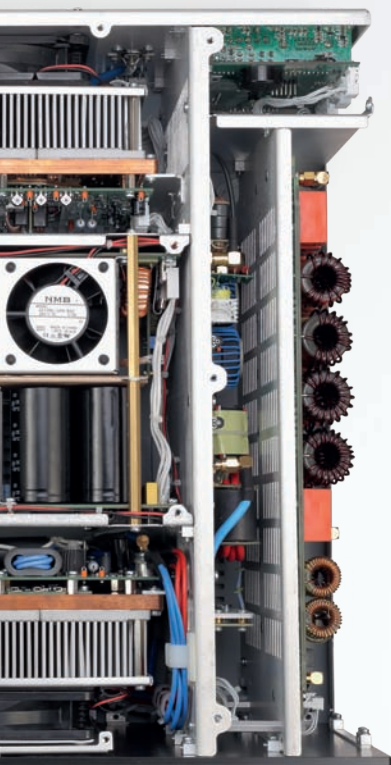






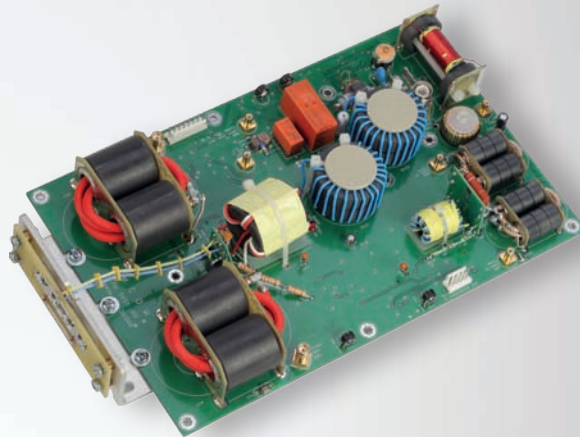
### Easy to Operate

Only the Remote Control Unit could be placed within the reach of the operator while the amplifier Main Unit can be placed away.

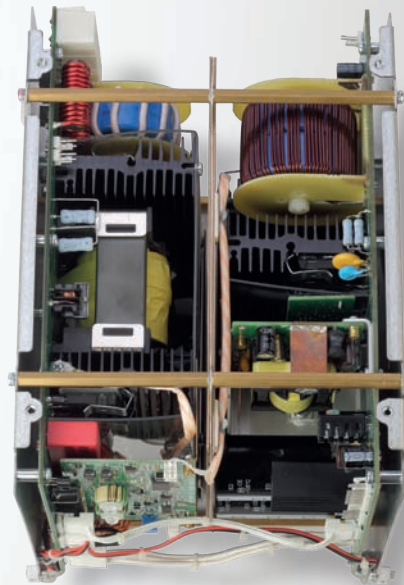


### Linear Power Amplifier

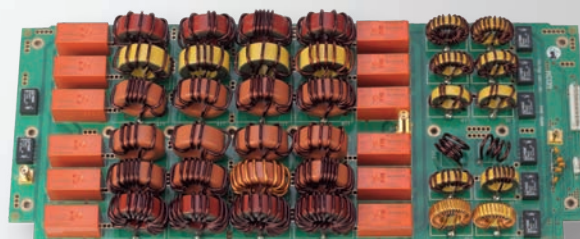
Complex filter units and powerful PA combiner and pure output signal.



### High Performance Combiner / Divider



### 3.5 kVA Low Noise Switching Power Supply



### Diplexer Filters

## MAIN FEATURES

### USAGE

The ACOM 2020S is a state-of-the-art 1500 W heavy-duty, solid-state linear amplifier, covering all amateur bands from 1.8 to 54 MHz.

### EASY TO OPERATE

The overall operation of ACOM 2020S is extremely simplified: the touch screen menus on the RCU are intuitive and easy to follow, and no special skill is required from the operator when changing frequency bands.

### USER-FRIENDLY AUTOMATIC CONTROL

When connected to a transceiver with CAT capability, the amplifier will track the operating frequency and will change bands accordingly.

Even if not CAT connected, the amplifier monitors the input signal frequency through the built-in frequency counter and automatically switches bands.



### HIGH-RESOLUTION COLOR TOUCH SCREEN

Amplifier status indications are explained via detailed text displayed on the RCU 7" high-resolution color touch display (155x90 mm, 1024x600 pixels, and 24-bit color)

All indicators and controls (except the primary mains switch and power indicator) are accessible via the RCU's touch screen, as well as, all command input to the RCU is menu-driven.

### TRANSCEIVER-INDEPENDENT

Compatible with all transceiver models - does not need any special signals: "ground on transmit" and RF drive power is sufficient.

### TWO POWER MODULES

Employs two powerful modules in the power splitting/combining technique.

### LDMOS TRANSISTOR TECHNOLOGY

The two final PA stages use a rugged LDMOS transistor - MRFX1K80HR5 or equivalent.

### BROADBAND INPUT CIRCUIT

Broadband input circuit, providing a perfect transceiver load with SWR below 1.2 (typically 1.1), without retuning throughout the whole frequency range from 1.8 to 54 MHz.

### INTELLIGENCE

Takes care of itself during operation via continuously working protection circuits in all modes.

The operator can monitor 11 (eleven) parameters of the amplifier in operation.

### EASY MAINTENANCE

Detailed data (55 parameters) about each of the last 28 hard-fault protection trips is stored in the amplifier's memory.

### REMOTE CONTROL CAPABILITIES

Remotely controlled via the Internet through integrated Web interface and built-in Ethernet RJ45 port and Wi-Fi adapter.

### COMPACT CONSTRUCTION

Extremely compact construction with built-in switching-mode power supply (SMPS) that operates with an extended mains voltage range of 200-240 VAC,  $\pm 10\%$  (180-264 VAC limiting values), with no internal switch over. The consumed current is purely sinusoidal, Power Factor Corrected (PFC) and inrush current limited. This makes the operation of unstable mains and generators easy and trouble free. operation of unstable mains and generators easy and trouble free.

### ELECTROMAGNETIC COMPATIBILITY

Complies with the CE electromagnetic compatibility (EMC) requirements and FCC regulations. Perfect compatibility with both highly sensitive devices and the powerful devices in the radio station (receivers, computers, other amplifiers) due to the used PFC and built-in radio-frequency filters.

## SPECIFICATIONS

### FREQUENCY COVERAGE

All amateur bands in the 1.8-54 MHz frequency range

### RATED POWER OUTPUT

1500 W, PEP or continuous carrier, no mode limit

### INTERMODULATION DISTORTION (IMD<sub>3</sub>)

Better than 30 dB below rated PEP

### HARMONIC AND PARASITIC EMISSIONS OUTPUT SUPPRESSION

- 1.8-29.7 MHz - better than 60 dB below rated output
- 50-54 MHz - better than 70 dB below rated output

### INPUT AND OUTPUT IMPEDANCES

- Nominal value: 50 Ohm unbalanced, UHF (SO-239A) type connectors
- Input: Broadband, SWR below 1.2 (1.1 typically), 1.8-54 MHz continuous range without retuning or switching
- RF bypass: SWR - below 1.1, 1.8-54 MHz
- Output: Antenna SWR below 1.5 is recommended; up to SWR 3 is allowable with proportional power reduction

### RF POWER GAIN

14 dB ±1 dB (typically 60 W drive for 1500 W output)

### MAINS POWER SUPPLY VOLTAGE

200-240 VAC, ±10%, 50-60 Hz, Single phase

### MAINS POWER CONSUMPTION AT RATED OUTPUT POWER

- Up to 3300 VA
- Power factor of 0.95 or higher (PFC-corrected current)

### MAINS POWER CONSUMPTION IN LOW ENERGY (WAITING) MODE

Less than 1 VA

### RECEIVE / TRANSMIT CONTROL

- KEY-IN - Phono RCA connector
  - Voltage applied to the transceiver keying output - up to +12 V
  - Closed-circuit current flow to the transceiver keying output - up to 6 mA
- KEY-OUT - open-drain Phono RCA connector
  - Output resistance: not more than 120 Ohm
  - The maximum allowable open-circuit voltage coming from external devices connection: +50 V
  - Maximum allowable closed-circuit current flow by external devices: 20 mA
- Minimum required time of sequencing between sending a request for transmitting (KEY-IN "ground on transmit" signal) and applying RF drive power at RF INPUT connector for safely switching receive to transmit: 10 ms

### SAFETY AND ELECTROMAGNETIC COMPATIBILITY

Complies with CE safety and electromagnetic compatibility requirements, as well as with the US Federal Communications Commission (FCC) regulations

### SIZE & WEIGHT

(Operating, excluding connected cables)

- Amplifier, WxDxH: 428x425x190 mm, 21.9 kg (16.9x16.8x7.5 inches, 48.3 lbs.)
- Remote Control Unit, WxDxH: 204x144x92 mm, 0.9 kg (8.1x5.7x3.7 inches, 2.0 lbs.)





Dealer/Partner's address:

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ACOM 2020S Brochure | First Edition, Revision 03 | October 2023.

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