HVR 2000CS

High-Voltage Ripple Test System

System Features:

- Easy-to-use software reduces user training time
- Multi-layer current protection
- Greater system uptime
- Customizable test modifications
- No recurring license fees
- Small in-lab footprint

Key Performance Capabilities:

AC Ripple

- From 10 Hz to 200 kHz
- Up to 50 Vp, 60 Ap
- Adjustable ripple current limit

DC

- Up to 2000V output
- Up to 60 kW, 80A DC
- Adjustable DC current limit
- Bi-directional DC capability

STANDARDS TESTING LIST

Comprehensive Solution for:

MBN LV123	VW 80300
ISO 21498-2	VW 80303
MAN CVS 43:2021-01	Stellantis CS.00245

High-voltage ripple testing is a rapidly growing automotive and aviation test requirement. With the **HVR 2000CS**, AE Techron introduces a complete high-voltage test system. This powerful new test system is designed for high-voltage ripple testing, providing unparalleled accuracy and efficiency in assessing EV component immunity to ripple voltages.

Focused on standards compliance, this system offers ease of use, rugged construction, and comprehensive system protections and limits. The HVR 2000CS is designed to be forgiving of accidental misuse while being safe for the user and for the equipment being tested.

When compared to other options, this system features reduced user training time, greater system up time, customizable test modifications, no recurring license fees (future updates to standards are included in the initial purchase price), and a small in-lab footprint.

Specifications

PERFORMANCE

Voltage Output Range,
- **DC:** 0 – 2000V
- **AC:** 0 – 50Vp

Output Current Range,
- **DC:** 0 – 80A
- **AC:** 0 – 50Ap, 60Ap

Ripple Bandwidth: 10 Hz to 200 kHz

DC Source Impedance: 1.7 - 2700Ω*

Operation,
- **AC:** 4-quadrant, bi-polar operation
- **DC:** 2-quadrant, bi-directional operation

Output Rise Time, DC Supply: 10 ms from 10% to 90% of full scale voltage

INPUT AND OUTPUT CONNECTORS

System,
- **Output, DUT Supply +/-:** High-voltage barrier block connectors, accepts up to 6 AWG
- **Voltage Monitor:** Unbalanced BNC connector; 20V/V
- **Current Monitor:** Unbalanced BNC connector; 20A/V
- **Keyboard:** USB connector on cabinet back
- **Mouse:** USB connector on cabinet back
- **USB Drive:** USB connector on cabinet back
- **Video Output:** HDMI connector on cabinet back
- **LAN:** RJ-45 connector on cabinet back

Signal Generator,
- **Signal Input:** Unbalanced BNC used for factory diagnostics
- **Signal Output:** Unbalanced BNC (analog – 10Vp)

DC Supply: USB port for factory configuration

STATUS DISPLAYS

Signal Generator: LEDs for Power, System Fault, Signal-In Enabled

Amplifier: LEDs for Run/Standby status, Signal presence/ Overload condition, Power Supply Fault, Overtemp/ Over Current

DC Supply: LEDs for Power, Remote control, Error, CC operation, DC output On, DC output Off

** For high-voltage ripple testing, this impedance value will change.*

CONTROLS

Software,
- **Trigger:** User, GPIO or LAN
- **Loop:** Fixed, variable, scripted variable
- **Template:** Creation and playback
- **Remote Output:** GPIO or LAN

Signal Generator: Front-panel on/off power switch

Amplifier: Front-panel Run/Standby switch

DC Supply: Front-panel push button for factory configuration

PROTECTION

Amplifier,
- **Over/Under Voltage:** ±10% from specified supply voltage amplifier is forced to Standby
- **Over Current:** Breaker protection on both main power and low-voltage supplies
- **Over Temperature:** Separate output transistor, heat sink, and transformer temperature monitoring and protection

DC Supply,
- **Over Voltage:** Adjustable 0 – 110% $U_{Nominal}$
- **Over Current:** Adjustable 0 – 110% $I_{Nominal}$
- **Over Power:** Adjustable 0 – 110% $P_{Nominal}$
- **Over Temperature:** DC output shuts down in case of insufficient cooling

PHYSICAL CHARACTERISTICS

AC Supply Requirements: 3-phase 400V-480V AC ±10%, 30A, 50/60 Hz

Operating Environment,
- **Temperature:** 10°C to 50°C (50°F to 122°F), Maximum output power de-rated above 30°C (86°F).
- **Humidity:** 70% or less, non-condensing
- **Atmospheric Pressure:** 86 kPa (860 mbar) to 106 kPa (1,060 mbar)

Cooling: Forced-air fans

Dimensions (HxWxD): 49.64 x 22.22 x 39.58 inches (126.09 x 56.44 x 100.53 cm)

Weight: Approximately 300 lbs. (136 kg)

HVR 2000RG: High-Voltage Ripple Generator System

- **We offer the HVR 2000RG as a ripple generator system, minus the DC supply included with the HVR 2000CS.**
- **The HVR 2000RG can be coupled with many DC supplies. A customer's DC supply analog connection may be controlled with the HVR software, included in the HVR 2000RG.**
- **Ripple Generator Bandwidth: 200 Hz – 200 kHz (customer may use their own DC supply for extended low frequencies).**
- **Maximum series current is 100A DC.**