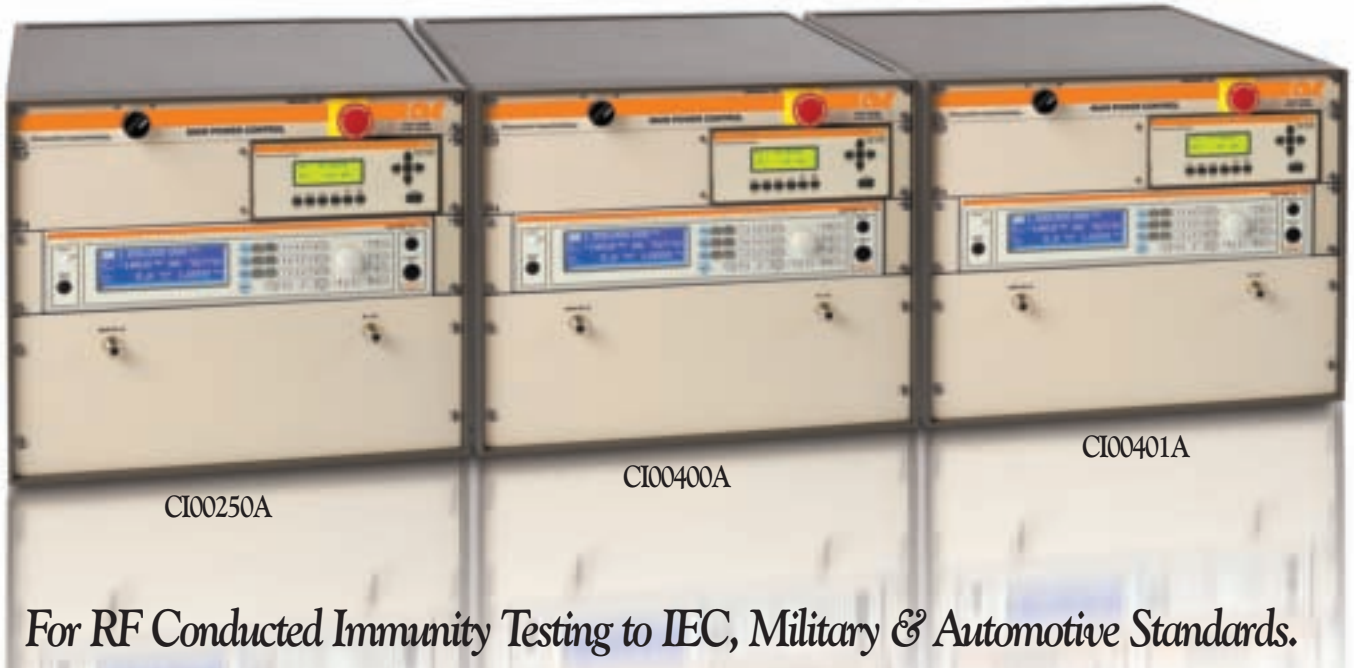
RF Conducted Immunity System

As Easy As 1,2,3.



For RF Conducted Immunity Testing to IEC, Military & Automotive Standards.

AR's original Conducted Immunity Test Systems made a complicated process easier and more accurate. They simplified everything – calibrating, testing, DUT troubleshooting, and reporting. The CI System has the built-in flexibility to conduct customized tests and software control which includes, standards selection, calibration, test execution and generation of reports directly into Microsoft® Word or Excel.

These remarkable systems also have a wider sensitivity range, excellent speed, and the ability to do accurate margin testing.

No other product ever came close. Until now.

Because now there is a new CI System from AR, the CI00401. With three Conducted Immunity Test Systems to choose from, you should never again have to perform laborious manual CI test procedures or worry about the accuracy of the results.

You can't beat the AR Systems:

1. Model CI00250A (75 Watt amplifier, 10 kHz – 250 MHz) – complete testing solutions to the following standards: EN/IEC 61000-4-6, IEC 60601-1-2, EN 50130-4, EN 61000-6-1/2, and EN 55024.

2. Model CI00400A (100 Watt amplifier, 10 kHz – 400 MHz) – complete testing solutions to the following standards: MIL-STD-461D & E CS114, DO160D & E BCI Testing, EN/IEC 61000-4-6, IEC 60601-1-2, EN 50130-4, EN 61000-6-1/2, EN 55024.

3. Model CI00401A (150 Watt amplifier, 100 kHz – 400 MHz) – complete testing solutions to the following standards: ISO 11452-4, GMW 3097, ES-XW7T-1A278-AC, DC-11224, BMW GS95002, and other automotive standards.

CI00250A

75 Watts, 10 kHz–250 MHz

Complete Testing Solutions to the following standards: EN/IEC 61000-4-6, IEC 60601-1-2, EN 50130-4, EN 61000-6-1/2, EN 55024

Internal Test Specifications*

IEC/EN 60601-1-2, IEC/EN 50130-4,
IEC/EN 61326, IEC/EN 61000-6-1,
IEC/EN 61000-6-2, CISPR 24/EN 55024
IEC 61000-4-6 procedure and levels

Signal Generator Specifications

Frequency range	9 kHz to 1.2 GHz
resolution	1Hz
Power range	-140 to +13 dBm
resolution	0.1dB
Modulation	AM, FSK. Pulse, FM, Phase, External Pulse

Power Meter Specifications

Channels	3
Power heads	1
Type	diode
Frequency	10kHz to 8GHz
Range	-60 to +20 dBm

RF Amplifier Specifications

Frequency range	10 kHz to 250 MHz
Power rating	75 Watts minimum
1dB compression	50 Watts minimum
Harmonic Distortion	-20dBc at 50 Watts
Mismatch tolerance	

100% of rated power without fold back. Will operate without damage or oscillation with any magnitude of source and load impedance.

Gain	49dB minimum

Connections

RF Out	Type N Male (front)
Monitor Port In	Type N Male (front)
Signal Generator Out	Type N Male (rear)
Amplifier In	Type N Male (rear)
Pulse In	BNC Male (rear)
Communication	GPIB (IEEE 488) (rear)
Monitor Port Out/In	Type SMA (rear)
Power Meter Calibration	Type SMA (rear)

General

Power	115/230 VAC 50/60 Hz, single phase 16A
Breaker	2 pole, 20A
Cooling	active cooling, air ventilation
Environmental conditions	10°C - 40°C
Dimensions,	50.3 x 42.2 x 52.1 cm 19.8 x 16.6 x 21.7 in
Weight	20.5 kg (45 lb)

PC Requirements

Computer	Pentium IV, 1 GHz Recommended
Operating system	Windows XP, Vista & 7
RAM	1 GB Minimum
Screen Resolution	1024 x 768
Ports	2 available USB ports

CI00400A

100 Watts, 10 kHz–400 MHz

Complete Testing Solutions to the following standards: MIL-STD-461D & E CS114, DO160D & E, EN/IEC 61000-4-6, IEC 60601-1-2, EN 50130-4, EN 61000-6-1/2, EN 55024

Internal Test Specifications*

MIL-STD-461D, CS114, MIL-STD-461E, CS114, DO160D Section 20 BCI testing, DO160E, Section 20 BCI testing
IEC/EN 60601-1-2, IEC 61000-4-6 procedure and levels
IEC/EN 50130-4, IEC/EN 61326, IEC/EN 61000-6-1
IEC/EN 61000-6-2, CISPR 24/EN 55024

Signal Generator Specifications

Frequency range	9 kHz to 1.2 GHz
resolution	1Hz
Power range	-140 to +13 dBm
resolution	0.1dB
Modulation	AM, FSK. Pulse, FM, Phase, External Pulse

Power Meter Specifications**

Channels	3
Power heads	2
Type	diode
Frequency	10kHz to 8GHz
Range	-60 to +20 dBm

RF Amplifier Specifications

Frequency range	10 kHz to 400 MHz
Power rating	100 Watts nominal
1dB compression	75 Watts nominal
Harmonic distortion	-20dBc at 50 Watts
Mismatch tolerance	

100% of rated power without fold back. Will operate without damage or oscillation with any magnitude of source and load impedance.

Gain	51dB minimum

Connections

RF Out	Type N Male (front)
Monitor Port In	Type N Male (front)
Signal Generator Out	Type N Male (rear)
Amplifier In/Out	Type N Male (rear)
Pulse In	BNC Male (rear)
Communication	GPIB (IEEE 488) (rear)
Directional Coupler Fwd Out/In	Type SMA (rear)
Monitor Port Out/In	Type SMA (rear)
Power Meter Calibration	Type SMA (rear)

General

Power	115/230 VAC 50/60 Hz, single phase 16A
Breaker	2 pole, 20A
Cooling	active cooling, air ventilation
Environmental conditions	10°C - 40°C
Dimensions,	50.3 x 42.2 x 52.1 cm 19.8 x 16.6 x 21.7 in
Weight	22.7 kg (50 lb)

PC Requirements

Computer	Pentium IV, 1 GHz Recommended
Operating system	Windows XP, Vista & 7
RAM	1 GB Minimum
Screen resolution	1024 x 768
Ports	2 available USB ports
GPIB adaptor	USB to GPIB adaptor included (NI GPIB-USB-HS)

CI00401A

150 Watts, 100 kHz–400 MHz

Complete Testing Solutions to the following standards: ISO 11452-4, GMW 3097, ES-XW7T-1A278-AC, DC-11224, BMW GS95002, and other automotive standards.

Internal Test Specifications*

ISO 11452-4, GMW 3097, ES-XW7T-1A278-AC, DC-11224, BMW GS95002, Peugeot B217110, Renault 36-00-8081-G,
IEC 61000-4-6, Other automotive standards

Signal Generator Specifications

Frequency range	9 kHz to 1.2 GHz
resolution	1Hz
Power range	-140 to +13 dBm
resolution	0.1dB
Modulation	AM, FSK. Pulse, FM, Phase, External Pulse

Power Meter Specifications**

Channels	3
Power heads	2
Type	diode
Frequency	10kHz to 8GHz
Range	-60 to +20 dBm

RF Amplifier Specifications

Frequency range	100 kHz to 400 MHz
Power rating	150 Watts nominal
1dB compression	120 Watts nominal
Harmonic distortion	-20dBc at 120 Watts
Mismatch tolerance	

100% of rated power without fold back. Will operate without damage or oscillation with any magnitude of source and load impedance.

Gain	52dB minimum

Connections

RF Out	Type N Male (front)
Monitor Port In	Type N Male (front)
Signal Generator Out	Type N Male (rear)
Amplifier In/Out	Type N Male (rear)
Pulse In	BNC Male (rear)
Communication	GPIB (IEEE 488) (rear)
Directional Coupler Fwd Out/In	Type SMA (rear)
Directional Coupler Rev Out/In	Type SMA (rear)
Monitor Port Out/In	Type SMA (rear)
Power Meter Calibration	Type SMA (rear)

General

Power	115/230 VAC 50/60 Hz, single phase 16A
Breaker	2 pole, 20A
Cooling	active cooling, air ventilation
Environmental conditions	10°C - 40°C
Dimensions,	50.3 x 42.2 x 52.1 cm 19.8 x 16.6 x 21.7 in
Weight	22.7 kg (50 lb)

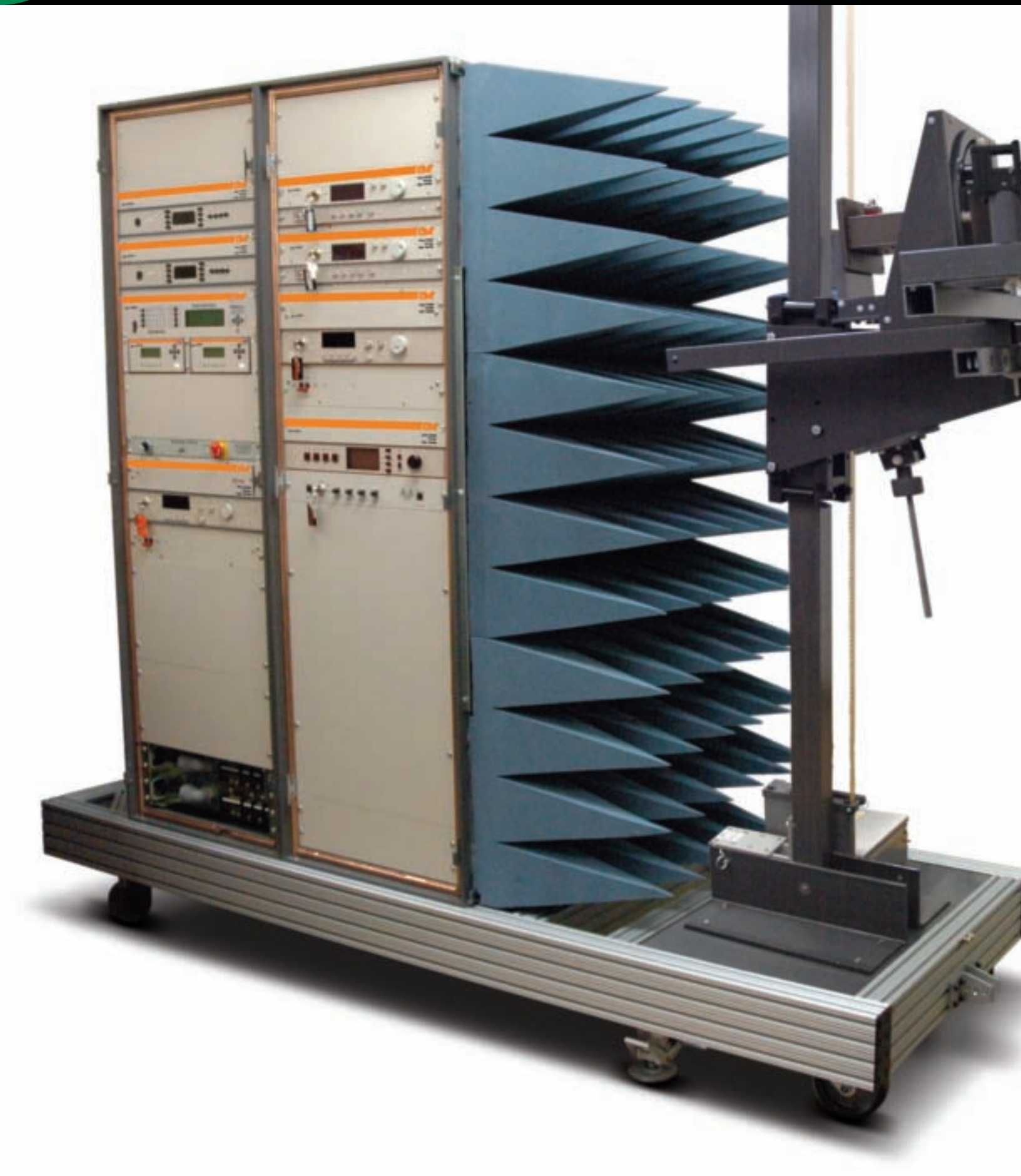
PC Requirements

Computer	Pentium IV, 1 GHz Recommended
Operating system	Windows XP, Vista & 7
RAM	1 GB Minimum
Screen resolution	1024 x 768
Ports	2 available USB ports
GPIB adaptor	USB to GPIB adaptor included (NI GPIB-USB-HS)

* Specifications can be met using AR-specified external accessories (injection probes, monitor probes, cal fixtures, CDN's, attenuators, etc.).
Option are available on all systems. See specification sheet for detailed information.

**The use of a spectrum analyzer may be necessary on some of the low level bulk current injection tests. This is especially true on power and I/O lines with a great amount of ambient noise.

For Speed, Accuracy And Efficiency, You Can't Beat the AR Systems



We create customer-specific systems for a variety of applications; and we can design something for your applications.

Everything you need is in one self-contained unit - amplifiers, antennas, couplers, signal generators, system controllers, receivers, and more, along with the software to monitor and control it all. Set-up is no longer a problem. With an AR system, it's fairly simple to perform even the most complex tests … with more efficiency and accuracy than ever before.

Peace of Mind is Built Into Every AR System.
Every product in your AR test system is designed and built to the highest quality standards, and backed by the most comprehensive warranty in the business and a global support network that's second to none. When you have a question about any part of the system, you know exactly who to call.

Custom Radiated Immunity Test Systems
Your System, Your Way.
Give us your requirements, we'll give you a state-of-the-art test system. We've got the power - up to 16,000 Watts - and the frequency you need - 10 kHz to 45 GHz. Whether you simply need a few amplifiers housed in a single rack or a complex combination of amplifiers, field probes, field monitors, power meters, signal generators, antennas, we'll meet the challenge.

Application-Specific Systems Already Developed and Ready to Go.
We've already built several systems for customers' specific applications including:

Current application-specific systems include:

- **Model AS01006** *- Designed for automotive vehicle radiated immunity testing up to 200 V/m at 3 meter test distance from 100 MHz - 1 GHz.*
- **Model AS01007** *- Designed for automotive whole vehicle radiated immunity testing up to 200 V/m at 3 meter test distance from 30 MHz - 1 GHz.*
- **Model AS01008** *- Designed for MIL STD radiated immunity testing up to 200 V/m at 1 meter distance from 10 kHz - 1 GHz.*

Model AS40000 Radiated Immunity Test System
(800 MHz - 40 GHz / 200 V/m)
This customized system is designed to grow with your needs. Add up to five amplifiers (with a dedicated, frequency matched antenna for each amplifier), a field monitor, two power meters, two signal generators, and a 20-foot antenna mast with five antennas.

The All-in-One, Ready-to-Go
RF Radiated Immunity System
Model RI06000 *(250 kHz - 6 GHz) contains everything needed to perform radiated immunity testing for IEC 61000-4-3 specification except the required amplifiers and directional couplers.*

Model RI06000 has the versatility needed for every test lab and equipment manufacturer. It contains a signal generator, 2-channel power meter, two power heads, RF field probe / monitor, RF switch matrix, and automated radiated immunity test software. Several of the components can be used independently of the system. Up to four amplifiers and directional couplers can be controlled and monitored. The system is also available with an optional desktop or laptop PC.

To see a list of the systems we've built on request for customers, visit our website at www.ar-worldwide.com