

Reduce your test footprint Simplify your field test operation Reduce field test cost



The PMA-2100 Portable Maintenance Aid can greatly reduce your test system footprint.

With the PMA-2100 Portable Maintenance Aid you can substantially shrink your field test footprint, reducing your test costs.

Shrinking budgets create a huge challenge to maintaining field test systems

With your budgets being slashed, maintaining your O-Level and I-Level test systems is more difficult than ever.

The size of the systems, the number of spares required to maintain the systems, and the nightmare logistics tax an already insufficient budget.

The solution is to substantially reduce your test system footprint, so you can reduce your acquisitions, maintenance/repair, and logistics costs.

Introducing the PMA-2100

A revolutionary portable test system, the PMA-2100 provides a unique solution to reduce your test footprint.

The PMA-2100 is designed to be a broad, flexible maintenance and logistics tool that provides a single rugged platform for your field maintainers.

It utilizes the latest technologies to provide broad test and measurement capabilities; extensive computing power; and compact, rugged environmental packaging.

Specifically, the PMA-2100...

- Is easily portable
- Offers a very small footprint
- Provides exceptional flexibility and expandability
- Is easy to use
- Provides accurate, efficient testing
- Can stand alone or be easily integrated into a larger test system
- Is cost effective
- Is rugged, durable, and weatherproof

Applications include:

- Radio Test Sets
- General Purpose Electronic Test Equipment (GPETE)
- Specific Purpose Electronic Test Equipment (SPETE)
- Motor Pool
- Weapon Systems
- Radar
- Navigation
- Fiber Optics
- And many more

An exceptionally small footprint

The key technology that makes the PMA-2100 so valuable is "synthetic instruments" technology

Sometimes called "virtual instruments," synthetic instruments are the test and measurement equivalent of the Software-Defined Radio (SDR) or the Field Programmable Gate Array (FPGA).

Synthetic instruments provide testing functionality through software instead of hardware. This allows one device to perform many different test functions, thereby eliminating the need for these functions' equivalent hardware.

In fact, the internal synthetic instrumentation is capable of performing almost any measurement or stimulation required between DC and 3 GHz.

However, the power of synthetic instruments is not just in replicating traditional instruments; it is in being able to transform this capability into application-specific unique instruments.

As a result, the PMA-2100 can reduce the need for the corresponding hardware, thereby reducing the cost and trouble of acquiring, implementing, maintaining, and transporting it.

Key Benefits

- The PMA-2100's synthetic-instruments platform, much smaller test footprint, flexibility, and expandability can reduce your equipment size, weight, power, and inventory count.
- The PMA-2100's small footprint can simplify your logistics.
- The PMA-2100 is highly portable and easier to use than standard GPETE test equipment.
- The PMA-2100 fits into your current test system by meeting NATO and US deployment requirements and through its compatibility with standard network test systems.
- The PMA-2100 is based on the Microsoft Windows® operating system, so it's easy to learn and easy to use.
- Reducing your test footprint and simplifying your logistics can reduce your acquisitions and operating costs.

Reducing your reliance on a large inventory of physical instruments

Through its synthetic-instruments platform, the PMA-2100 can replace the following instruments:

- Digital Multi-Meter (DMM)
- RF spectrum analyzer
- RF source
- Time domain reflectometer
- Frequency domain reflectometer
- Counter/timer

- RF power meter
- Arbitrary Waveform Generator (AWG)
- Vector signal analyzer
- Audio Analyzer
- Oscilloscope
- Modulation analyzer
- Function generator
- Vector network analyzer
- Programmable test set

A highly-portable package

Because the PMA-2100 is so small, it can easily be carried by one person.

Contrast this with standard test equipment that's stationary and can't easily be moved.

With the PMA-2100, maintenance personnel can take the test system to the equipment that needs testing, unlike the standard test systems that require the maintenance personnel to bring that equipment to the stationary test system.

This capability alone can increase your ability to achieve your readiness objectives.

Extensive flexibility and expandability

In addition to the flexibility provided by synthetic instrumentation, the PMA-2100 offers three additional ways to provide customization and scalability.

First, the "Pod" is a flexible, field-removable external hardware extension that contains the signals interface and signal conditioning hardware. It provides additional signal conditioning (power, frequency) or device interfaces.

The Pod allows the PMA-2100 to support applications that extend beyond its basic capabilities.

Pods can be provided for application-specific requirements that may include extending the frequency coverage beyond the 3 GHz maximum of the base PMA-2100 or providing higher power-handling or power-stimulus capabilities, like the radio test set application.

Pods are field-interchangeable and are based on an open hardware interface specification, allowing third parties to develop compatible pods for the tester.

Second, the PMA-2100 can be customized through an embedded 3U cPCIe/PXIe expansion card slot.

The expansion card slot allows application-specific instrumentation, bus communications, or other electronics to be added internally to the PMA-2100, providing expansion beyond the core computer and synthetic instrument capabilities.

Finally, the PMA-2100 utilizes software based on the Microsoft Windows® operating system, which provides a powerful, flexible, and expandable environment for hosting both the instrument user interface and any logistics software desired.

Combined with the synthetic instruments, the additional ways of customizing a test system make it possible for you to customize a highly portable, rugged test system that meets unique and exacting requirements not only for today, but also for tomorrow.

Much easier to use than standard test equipment

Several key features contribute to making the PMA-2100 far easier to use than standard test equipment.

Obviously, it's easier to use one device than several. It's easier to use a portable device than a stationary one. It's easier to pop off a Pod and pop on a different one to change functionality than it is to change a device on a standard tester. It's easier to plug in an expansion card than it is to hook up a new device to a standard tester. Finally, the PMA-2100's Windows®-based software is easier to use than most proprietary test software.

In addition to these features, the PMA-2100 provides the following advantages that make it even easier to use:

- The user interface utilizes a high-sunlight-readable screen that can also be dimmed to "night" mode.
- All controls are designed for operation by a bare hand, stylus, or gloved hand.
- Because it utilizes the Windows® operating system, it provides extensions for both voice and handwriting recognition.
- It employs modular, standards-based computing architectures, standard open-systems operating software and applications programming environments, and open-systems hardware interfaces.
- Optionally, it can be configured to be compatible with night vision devices.

Efficient, reliable, accurate testing

Without quality testing, all other advantages are meaningless.

The PMA-2100 provides the necessary quality testing through key test features, including the following:

- The instrumented motherboard, through the use of synthetic instrument technology, provides the capability to emulate various test instrument assets for a wide variety of uses.
- The synthetic-instrument foundation can significantly reduce other testing devices, thereby also significantly reducing the risk of tester device failure.
- The internal instrumentation is capable of performing almost any measurement or stimulation required between DC and 3 GHz.
- The PMA-2100 can generate, capture and analyze a wide variety of electronic signals up to and including broad bandwidth RF modulated waveforms in both a bench and field environment
- It contains two response channels and a single stimulus channel; and all channels are coherent with respect to each other.
- Both stimulus and response channels are capable of fast frequency hopping across the band.
- The stimulus channel is capable of generating any arbitrary waveform with a 400 MHz bandwidth up to 400 MHz and a 25 MHz bandwidth between 400 MHz and 3 GHz.
- In addition, the timing and triggering circuitry for both stimulus and response is highly integrated so that measurement or stimulus waveforms can be generated or triggered from events generated by the other channels.
- The reduction of external devices also reduces external cabling, increasing the speed of test.
- Finally, because of the PMA-2100's extensive flexibility, virtually any required test can be accurately and reliably performed.

Combining all of its advantages, the PMA-2100 can offer greater efficiency than standard testers, which can reduce your costs and increase maintainer productivity.

Call us today to learn more: **800.722.2528**.