

# PRODUCT ANNOUNCEMENT

**FLUKE**®

**Calibration**

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Date: July 29, 2012

Asset #: 9010582

## **NEW** 5502A Multiproduct Calibrator



**New Fluke Calibration 5502A Multi-Product Calibrator provides a robust, transportable solution for calibrating in the lab or the field**

## **What is NEW –**

### **Improved functional performance throughout the instrument.....**

The 5502A combines the best of its predecessors, the 5500A (accuracy) and 9100 (20 A current) calibrators, plus adds improvements found in the superior 5522A (wider ranges of resistance and capacitance, protection and transportability). The result is the best in class performance for a MPC aimed at the Tier 3 calibrator user (workload of the 3.5 – 4.5 dmm class of instrument). The 5502A is the best Multiproduct Calibrator compared to any other calibrator on the market for this class of workload.

### **Output terminal electrical overload protection .....**

The 5502A provides reverse power protection up to a minimum of 300 volts, with immediate output disconnection when overloads are applied. Plus it is protected from over current damage by fuses on the current output terminals. There is robust overload safety for all functions.

## Improved Ergonomic Design .....

The 5502A has a new look and feel pioneered with the 5522A. The 5502A has larger, ergonomic handles for easier access to connection terminals and are more comfortable to use when carrying the instrument.

## Easily Transportable and Ready to Work .....

The 5502A is compatible with the 5522A's carrying case with wheels and built in handle, making the move process very easy. The new carrying case has detachable front and rear covers so it is immediately ready to work without being removed from the case!

## **5502A MPC at a glance**

Fluke Calibration introduces the 5502A Multi-Product Calibrator, a full-functioned calibrator that covers a wide range of common workload. The 5502A has the best full range of functions and accuracy in its class.

The Fluke Calibration 5502A features:

- 11 full functions, including calibrating 3.5 and 4.5 digits digital multimeters
- 50 ppm dc V accuracy
- 20A of dc and ac current for calibrating current clamps and current meters
- Wider ranges of resistance (to 1100 M ohms) and capacitance (to 110 mF)
- Oscilloscope calibration to 300 or 600 MHz (models 5502A/3 and 5502A/6)
- Reverse power protection, check before connect, immediate output disconnection, and fuse protection on the output terminals for "mistake proof" protection against common user errors
- Paired with the 52120A the 5502A can supply up to 120A directly and usable with 25 & 50 turn coils.
- Easy transportation with an optional rugged carrying case featuring built-in handles and wheels, and removable front/rear access doors for in-situ calibration in almost any environment

In summary, the 5502A sources direct voltage and current, alternating voltage and current with multiple waveforms and harmonics, two simultaneous voltage outputs or voltage and current to simulate dc and ac power with phase control, resistance, capacitance, thermocouples and resistance temperature detectors.

The 5502A can be fully automated with [MET/CAL<sup>®</sup> Plus Calibration Management Software](#) to improve throughput, consistency and productivity. MET/CAL *Plus* helps meet the requirements for documented processes, procedures and reports mandated by most quality standards.

## Features and Benefits

| Features   | Benefits   |
|--|--|
| Calibration performance over 11 different standard functions | Addresses a wide range of workload, with accurate, complete and fully capable functions (wide ranges with professional capabilities that cover the needs of this workload). Workloads include up to 4.5-digit DMMs, as well as temperature instruments, data loggers, strip chart recorders, and other core T&M instruments. |
| Optional Scope Calibration to 600 MHz                        | Optional scope calibration with full functions including leveled sine wave covering bandwidths to a max of either 300 MHz or 600 MHz, fast edge for rise time, time marker, wave generator, varying amplitude settings, pulse, various trigger testing, and input impedance measurement.                                     |
| 20A dc and ac with high compliance and long "on" time        | A max current of 20.5A that can drive a compliance voltage of 4 volts dc, 3V rms ac, with an on time of at least 20 minutes in a typical lab condition. Other competing calibrators limit max current to 30 seconds of operation or less with compliance current at 1/10 of this capability.                                 |
| Fully Variable Resistance from 0 to 1100 M Ohms              | The 5502A provides an accurate, calibrated resistance at the exact value the UUT needs. Competing calibrators offer only limited number of fixed resistors and optional variable resistance with a poor spec and only over a limited range of values.  |
| Fully variable capacitance from 220 pF to 110 mF             | The 550wA provides an accurate, calibrated capacitance at the exact value the UUT needs. Competing calibrators offer only a few fixed capacitance values and optional variable capacitance with a poor spec and only over a very limited range of values.  |
| Protection circuitry   | Protects the calibrator from being damaged due to an unfamiliar UUT or out of lab conditions, or operator error. Cost of ownership is reduced due to robustness and increased uptime   |
| Power calibration  | Conveniently calibrates digital watt meters, and power quality instruments.  |
| Compatible with Fluke 5500/Coil and 9100-200 Dual Coil       | For users who need to calibrate instruments that measure up to 1000 Amps.  |
| Versatile software solutions                                 | Customers can select from several software solutions based on their needs and budget.  |

## 5502A Summary Specifications

| Technical Specifications                                  |   |
|---|---|
| <b>Voltage DC</b>   | Range: 0 to $\pm 1020V$<br>Best 1 Year Specification: $\pm 0.005\%$ of setting  |
| <b>Current DC</b>   | Range: 0 to $\pm 20.5A$<br>Best 1 Year Specification: $\pm 0.01\%$ of setting   |
| <b>Resistance</b>   | Range: 0 to 1100 M $\Omega$ , continuously variable<br>Best 1 Year Specification: $\pm 0.009\%$ of setting  |
| <b>Voltage AC</b>   | Range: 1 mV to 1020V<br>10 Hz to 500 kHz, Sine<br>Best 1 Year Specification: $\pm 0.03\%$ of setting  |
| <b>Current AC</b>   | Range: 29 mA to 20.5A<br>45 Hz to 30 kHz, Sine<br>Best 1 Year Specification: $\pm 0.04\%$ of setting  |
| <b>Capacitance</b>  | Range: 220 pF to 110 mF, continuously variable<br>Best 1 Year Specification: $\pm 0.25\%$ of setting  |
| <b>Thermocouple Simulation &amp; Thermocouple Measure</b> | 11 Thermocouple types plus voltage at either 10uV or 1 mV per degree Celsius<br>Best 1 Year Specification: $\pm 0.14^{\circ}C$  |
| <b>RTD Simulation</b>                                     | 8 RTD types<br>Best 1 Year Specification: $\pm 0.03^{\circ}C$   |
| <b>DC Power</b>   | Range: 10.9 mW to 20.9 kW<br>Best 1 Year Specification: $\pm 0.33\%$ of watts   |
| <b>AC Power</b>   | Range: 10.9 mW to 20.9 kW<br>10 Hz – 30 kHz, PF= variable 0 to 1, lead or lag<br>Best 1 Year Specification: $\pm 0.08\%$ of watts   |
| <b>Phase</b>  | Range: 0 to $\pm 179.99^{\circ}$<br>10 Hz to 30 kHz<br>Best 1 Year Specification: $\pm 0.15^{\circ}$ of setting   |
| <b>Frequency</b>  | Range: 0.01 Hz to 2 MHz<br>Best 1 Year Specification: $\pm 2.5$ ppm of setting  |
| <b>Additional Functions</b>                               | Harmonics, 2 <sup>nd</sup> to 50 <sup>th</sup><br>AC Voltage, non Sine Waves: Triangle, Truncated Sine, Square<br>AC Voltage with DC Offset<br>AC Current, non Sine Waves: Triangle, Truncated Sine, Square |

## Target Market:

Third party calibration labs and in-house calibration labs need a calibrator which can support for a wide range of electrical T&M workload. The 5502A can also be used for production testing for manufacturers of Test and Measurement instruments or other items needed a multifunction precision source.

There are thousands of existing owners of older 5500A and 9100 calibrators who are candidates to have them replaced with a new, improved model – the 5502A.

## Phase-in / Phase-out Requirements

The 5502A MPC replaces the older Fluke models 5500A and 9100 calibrators. These will be phased out sometime following the 5502A introduction. The 9100 will initially be phased out first due to part limitation issues, followed later by the 5500A

## Customer Model Ordering Information:

| Item Number | Model          | Description                                  |
|-------------|----------------|--|
| 4184093     | 5502A 100      | MULTI-PRODUCT CALIBRATOR                     |
| 4184101     | 5502A 120      |  |
| 4184112     | 5502A 240      |  |
| 4188428     | 5502A/3 100    | MULTI-PRODUCT CALIBRATOR + 300MHZ SCOPE OPT  |
| 4188629     | 5502A/3 120    |  |
| 4188760     | 5502A/3 240    |  |
| 4188916     | 5502A/6 100    | MULTI-PRODUCT CALIBRATOR + 600 MHZ SCOPE OPT |
| 4189037     | 5502A/6 120    |  |
| 4189134     | 5502A/6 240    |  |
| 4189456     | 5502A/DEMO 100 | DEMO KIT/W 5502A/6 & DMM & CASE              |
| 4189560     | 5502A/DEMO 120 |  |
| 4189666     | 5502A/DEMO 240 |  |

## Accessories:

| Item Number | Model           | Description                                       |
|-------------|-----------------|---|
| 3621734     | 55XX/CASE       | Transit Case                                      |
| 3987582     | 5522A/CARRYCASE | 5522A Carry Case With Removable Front/Back Panels |
|             |                 |   |
| 109949      | 5500A/LEADS     | Comprehensive Test Lead Kit for 5500A and 5520A   |
|             |                 |   |
| 200664      | 5500A/COIL      | 50 Turn Current Coil                              |
| 1583963     | 9100-200        | 10 and 50 turn Current Coils                      |
|             |                 |   |
| 104460      | Y5537           | Rack Mount Kit 7" for 5500A                       |
| 109931      | 5500A/HNDL      | Side Handle                                       |
|             |                 |   |
| 661758      | 5800A-7002K     | 2 Output Cable Set                                |
| 661774      | 5800A-7004K     | 5800A Calibrator BNC Connector Kit                |

## Pricing

The 5502A is priced similar, but just above the 5500A. In most areas the basic 5502A is priced at about 3% higher than the basic 5500A. Other options are priced similarly between both instruments. Details of the specific 5502A pricing will be available through sales management for the various sales markets worldwide upon final release.

## Introduction Schedule:

- |                             |                          |
|-----------------------------|--------------------------|
| • NCSLI Public Announcement | July 29 - August 1, 2012 |
| • Select demos available    | August 1, 2011           |
| • Public embargo-lift       | September 1, 2012        |
| • Customer shipments        | September 1, 2012        |

## Points of differentiation with 5500A:

| 5502A                                 | 5500A                                 |
|---------------------------------------|---------------------------------------|
| Max 20.5 A of dc and ac current       | Max 11 A of dc and ac current         |
| 1100 M ohms max variable resistance   | 330 M ohms max variable resistance    |
| 220 pF to 110 mF variable capacitance | 330 pF to 1.1 mF variable capacitance |
| Input Terminal Protection to 300V     |                                       |
| Improved Chassis Design               |                                       |
| Ergonomic Handles                     |                                       |

## Points of differentiation with 9100:

| 5502A   | 9100  |
|---|---|
| Basic dcV accuracy of 50 ppm / year                                   | Basic dcV accuracy of 60 ppm / year                       |
| 1100 M ohms max variable resistance                                   | 400 M ohms max variable resistance                        |
| ACV to 500 kHz  | ACV to 100 kHz  |
| 220 pF to 110 mF variable capacitance                                 | 500 pF to 40 mF variable capacitance                      |
| .01 Hz to 2 MHz Frequency   | 0.5 Hz to 10 MHz Frequency                                |
| Not required, no benefit to the user                                  | Lead connection mat                                       |
| No such function available (recommend a 5320A or optional with 5080A) | 9100-135: Insulation/Continuity Tester Calibration Module |
| Obsolete and not available (use MET/CAL or computer automation)       | PCMCIA Storage Modules                                    |

## Points of differentiation with Transmille 3041:

| 5502A   | Transmille 3041   |
|---|---|
| All functions of the 5502A have full operating ranges, without compromises, can drive full loads or perform over wide conditions. | The Transmille specs have good or adequate performance over a very limited set of conditions, cannot operate over a range of loads or testing times. Refer to the detailed comparison material of Fluke for more information. |
| 20A current with strong compliance and long operating time  | Specs to 30A, but usable only to 20A, poor compliance, short operating time   |
| Fully variable resistance to 1100 M ohm   | Fixed resistors with adequate specs, optional poor and limited variable resistance  |
| Fully variable capacitance to 110 mF  | Limited set of 7 fixed capacitors and optional poor variable capacitance over just a few ranges.  |
| The scope option has a full set of testing functions that can be fully adjusted over the necessary needs of an oscilloscope       | The scope option has few scope calibration functions with severe limitations on its key functions, with poor accuracy which makes scope calibration impractical   |

## Points of differentiation with Transmille 3050:

| 5502A   | Transmille 3050  |
|---|--|
| All functions of the 5502A have full operating ranges, without compromises, can drive full loads or perform over wide conditions. | The Transmille specs are inferior versus the 5502A with adequate performance over a very limited set of conditions, cannot operate over a range of loads or testing time. Refer to the detailed comparison material of Fluke for more information. |
| 20A current with strong compliance and long operating time  | 22A max current with weak specs, poor compliance, short operating time   |
| Fully variable resistance to 1100 M ohm   | Just a 8 fixed resistors over a small range of decades values and no variable resistance   |
| Fully variable capacitance from 220 pf to 110 mF  | Limited set of 5 fixed capacitors, and no variable capacitance.  |
| Fully capable thermocouple and RTD temperature calibration functions  | No temperature calibration option  |
| The scope option has a full set of testing functions that can be fully adjusted over the necessary needs of an oscilloscope       | The scope option has few scope calibration functions with severe limitations on its key functions, with poor accuracy which makes scope calibration impractical  |

## Sales Material and Tools

| Item                              | Description   |
|-----------------------------------|---|
| Product brochure                  | Primary sales collateral describing the features and benefits of the 5502A and related products, options, accessories |
| Extended Specification Data Sheet | Full and official specifications as documented in the manual  |
| Product web site, public          | Fluke Cal Web site information on the 5502A   |
| Product launch page, internal     | Online access to both customer and channel marcom material  |
| Advertising                       | Full and Fractional page ad; web banners  |
| Quick Screen                      | Portable, vertical trade-show banner  |
| Email list HTML program           | Fluke and Rep emails  |
| FCAL Catalog                      | Not available at this time; in 2013 update  |
| Various Application Notes         | Various 5500 Series Application notes and demo guides are being updated to include the 5502A                          |
| Product Announcement              | Word doc for local detailing and translation.   |
| Press Release                     | Available and sent to key calibration/T&M / EDN publications  |
| Customer Seminar Material         | Customer-focused presentation   |
| Sales Training Presentation       | Sales-focused presentation  |
| Value Selling / VPR sheet         | Available   |

## Translated/Localized Items:

- Ads                       Spec sheet                       Brochure                       Local power cord  
 Product interface                       Getting Started                       Service manual                       Univ. power supply

Other: \_\_\_\_\_

## Introduction Schedule

The 5502A calibrator will be open to accept orders on September 1, 2012 (Embargo Date)

Initial delivery time: 8 weeks ARO; Standard delivery targeted to be 4-6 weeks

## Demonstration Kits

The 5502A demonstration kit is available for subsidiary and distributor order.

The demo kit includes the 5502A calibrator, Fluke 1587 dmm and insulation tester, and transit case (55XX/CASE).

A 1587 dmm/insulation tester is used to show that the 5522A can sense and turn off when high voltages are applied to it terminals without any problem. The 1587 can supply voltages at varying levels from 50 volts to over 1000 volts. Yet, because of its current limiting design, it is very safe to use in a demonstration environment.

## Demo Kit Ordering Information:

| Item Number | Model          | Description                     |
|-------------|----------------|---------------------------------|
| 4189456     | 5502A/DEMO 100 | DEMO KIT/W 5502A/6 & DMM & CASE |
| 4189560     | 5502A/DEMO 120 |                                 |
| 4189666     | 5502A/DEMO 240 |                                 |

## Training Requirements & Plans:

A kickoff web meeting will be broadcast from Everett. Notifications will be sent to the field via the partner portal. Additionally, each entity introduction manager will schedule web meetings to train their selected members of the sales force on the 5502A.

## Service Requirements & Plans:

The 5502A is serviced and calibrated in all major Fluke service centers that are able to service 5500 series and 9100 series calibrators.

## Frequently Asked Questions:

- 1. What comes standard in a 5502A?** The 5502A calibrator comes standard with all its various electrical calibration functions. Scope calibration capability is optional. Included is a full report of calibration with data. An accredited report of calibration is optional.
- 2. What options can be installed in the 5502A?** The two scope calibration options (300 MHz and 600 MHz) are the only options for this calibrator. These are available at time or purchase or installed by a service center at a future date as an upgrade.
- 3. Is there a trade in program for 5500As or 9100s for a 5502A?** No trade in program is in place at this time.
- 4. Is MET/CAL compatible with the 5502A?** Yes MET/CAL Release Version 8.1 is able to fully control the 5502A (Due out in Q3 2012).
- 5. How will existing MET/CAL users get this version of MET/CAL?** Upgrades are available through the Gold support program, or as a purchased upgrade.



6. **Will existing MET/CAL 5500 or 9100 procedures work with the 5502A?** No, because the calibrator's output terminal configuration is different – and the resulting operator safety issues – a different FSC must be used to operate the 5502A with MET/CAL (rather than use the existing 5500A or 9100 FSCs).
7. **Will the 5502A FSC use the old 5500A style syntax, or the newer 5522A style syntax?** The 5502A will use the new Name Value Instrument syntax (NVI) – giving the user better flexibility in use, editing, and future calibrator upgrade compatibility.
  - The 5500A used the old FSC syntax style MET/CAL implemented the 5502A with the new structure of FSC, similar to the 5522A FSC. As a result any 5500A procedures will need to be converted to the new FSC syntax. This can be done by the MET/CAL user, or by a translator process. More information on the translation process will soon to be furnished by the MET/CAL team.
  - Similarly any existing 9100 procedures will need to be translated to the new 5502A MET/CAL FSC syntax.
8. **Does the 5502A use same the commands of other Fluke 55XX calibrators?** Yes the 5502A uses the same remote control commands as the earlier 5500A, 5520A and 5522A series calibrators. The only difference is that it answers the remote ID command with a response of being a 5502A.
9. **Does the 5502A emulate the commands of Fluke/Wavetek 9100 calibrators?** No the 5502A does not emulate the Fluke/Wavetek 9100 calibrator remote control commands.
10. **What is the future availability of the 5500A calibrator?** The 5500A will be phased out approximately 6 months after the 5502A introduction.
11. **What is the future availability of the 9100 calibrator?** The 9100 will go on limited availability with a last time buy period soon.
12. **Is 5500A upgradable to 5502A?** No a 5500A is not upgradeable to a 5502A.
13. **Is 5502A upgradable to 5522A?** No a 5502A is not upgradeable to a 5522A.
14. **Will the user/operator manual be available together with 5502A at the same time?** Yes, a full user's manual will be available with the 5502A, in English language, supplied on a CD/DVD with the instrument. The getting started manual will translated in several languages, printed and supplied with the instrument.
15. **Is the calibration procedure to calibrate the 5502A will be the same as 5500A?** The performance verification procedure for the 5502A is similar, but not identical to the 5500A procedure. There are some range and specification differences between the two instruments.
16. **Is a service manual available for the 5502A?** The specific test points required in a verification procedure of a 5502A are included in the user's manual. A detailed service manual will be available at approximately one year after introduction.

### ***Further questions?***

***Check back for new FAQs at the 5502A Launch Page***

**<http://us.flukecal.com/5502A-Launch>**