

Boonton Model 4500B Instrument Security Procedures

Product Name: Boonton Electronics 4500B RF Peak Power Analyzer

Volatile Memory:

Main CPU board: 256MB Main Memory (SDRAM), 32MB Video RAM, 512KB CPU Cache
Motherboard: None
Input board(s): 16MB Main Memory (SDRAM), 2MB Acquis. Memory (SRAM), 256KB Cache
GPIB board: None
Calibrator: 64 bytes CPU memory (on-chip SRAM)
Keyboard: 512 bytes CPU memory (on-chip SRAM)
Display: None
Hard Disk Drive: 2MB Read/Write Buffer (DRAM)
Peak Power Sensors: None

Nonvolatile Memory:

Main CPU board: 128 bytes “CMOS SETUP” memory (battery backed up SRAM)
Motherboard: 16KB Factory Configuration Memory (EEPROM)
Input board(s): 16KB Factory Configuration Memory (EEPROM)
GPIB board: None
Calibrator: 2KB Factory Cal Memory (EEPROM), 2KB Program Memory (on-chip EPROM)
Keyboard: 16KB Program Memory (on-chip FLASH)
Hard Disk Drive: 40GB OS, Data and Program Memory (Magnetic Media)
-or-
Flash Disk Drive: 4GB OS, Data and Program Memory (Removable Compact Flash Media)
Peak Power Sensors: 2KB Factory Calibration Memory (EEPROM)

Security Summary:

The Boonton Model 4500B may save operating parameters and measurement information in various volatile memory locations, and one non-volatile location. All volatile memory is lost within one minute of removing instrument AC power. The only non-volatile location that is able to save user data is the hard disk drive. All other non-volatile locations are programmed at the factory or during instrument calibration, and do not save any user information. The following types of user information may be present on the hard disk drive: most recent operating configuration (“instrument setup”), user saved operating configurations, user saved waveforms, saved “memory channels”, user saved screen images, user saved measurement arrays. The hard disk drive also may contain the following calibration data from field calibration processes performed by the user: “autocal” sensor linearity data, sensor zero, trigger channel calibration data, timebase skew calibration data.

Security Procedures:

To declassify the Boonton Model 4500B, instrument power should be removed for a minimum of one minute, and the hard disk drive removed and replaced with a separate, programmed drive. This will result in the loss of any user “autocal” data for sensors and trigger channels, and timebase “skew” adjustments, but no factory calibration data will be lost.

A new hard disk drive service kit may be ordered from the Boonton Service Department as part number 96411401A. See document 83919800A “Boonton 4500B Hard Drive Replacement Procedure” for instructions (included with kit). The old drive may be destroyed, securely wiped, or left intact and re-used later if the instrument is returned to the classified area. If the drive is wiped, it will be necessary to return it to the factory to replace the operating system and 4500B application files. However, since the drive and cable connectors are not meant for repeated mating cycles, it is recommended that the drive be replaced no more than five times.

4500B Option 15 (Removable Flash Drive):

If the 4500B is equipped with Option 15 (Removable Flash Drive), the instrument’s internal hard disk drive is replaced by a removable Compact Flash card which emulates a hard disk. The flash drive is installed in a user-accessible slot on the instrument’s rear panel. In this case, the sanitization procedures above still apply, but the flash drive can be easily swapped without disassembling the instrument. A spare removable flash drive with pre-installed instrument operating software may be ordered from the Boonton Service Department as part number 97103101A.

Option 15 is available as a retrofit for existing instruments currently equipped with a hard drive. The retrofit kit is Boonton part number 97103001A, and must be installed by an authorized Boonton service center.

To remove the Removable Flash Drive, turn off instrument power and eject the card by pressing the small button immediately next to the compact flash slot on the instrument’s rear panel.

To install a Removable Flash Drive, make sure instrument power is off, then carefully align and insert the flash card fully into the compact flash slot on the instrument’s rear panel. When properly inserted, the eject button should extend slightly.