

--from Robert A. Leskovec, Electronic Services, February, 2004

HP 33120A Function Generator Default Programming Guide:

Problem:

HP33120A Function Generator appears to boot up with random settings, and when power is off, the resistance across the output BNC reads in excess of 100 Ohms when measured with an external Ohmmeter.

1. Press Power ON
2. Press SHIFT. Press ENTER.
3. Press > repeatedly (actually should be 3 times) until "D: SYS MENU" is displayed.
4. Press the down-arrow one time to display "COMMAND" then "1: OUT TERM"
5. Press > one time to display: "2: Power On"
6. Press the down arrow one time to display: DEFAULT or LAST STATE
7. If "LAST STATE", then press > one time to display: DEFAULT
8. Press ENTER. Unit should then display "ENTERED"
9. Press power OFF
10. Press power ON to reboot.
11. Press power OFF.
12. Measure Output BNC with external Ohmmeter, should read close to 50 Ohms.
13. Connect cable to Oscilloscope, and check waveform.
14. Report any problem via e-mail to help@eeecs.cwru.edu Be sure to describe the problem, the unit, and the table number. Put a sign on the unit to warn others. Do NOT use tape.
15. Service Note: If the generator passes all tests, but has no output, the fuse inside is probably blown. This requires that the table be pulled out, the unit released from the cabling system and taken to the bench for repair. Open the units and locate the pico fuse. Previously, the repair consisted of soldering a new fuse across the old one, to minimize soldering to the board pads. This has to be done by someone with the needed skills and who really understands the need to preserve the circuit board integrity. These are quite tiny and the board will get damaged. Other means were investigated. A fusible BNC is available, but will not fit. Using a separate box and eternal cable requires a lot of construction, and student may circumvent it. Besides, extensive re-routing of the signal path can cause the output signal to have artifacts, such as ringing on the squarewave, etc. Presently, the latest idea is to replace the fuse with a 0.5A pico fuse in series with a 0.250A Polyswitch RXE025 from Digi-Key. This type of fuse resets itself. However we do not know if it is fast enough to blow before the pico fuse we are putting in series with it for backup. We will see. ---RAL