

CUSTOMER APPLICATION NOTE

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The combined (LASER) operation of the Kontron Logic analyzer (LA) with the KSE Emulator may be accomplished using more than one configuration. LASER mode is the operation of the analyzer and emulator from one host computer. The host computer may be a KDS-980, KDS-908, KPDS, LA-xxx, or an IBM-PC/XT/AT (or clone) with a Kontron KPI card. The actual use of the instruments is approximately the same in all configurations.

The software requirements are Emulator software Ver. 3.0 or higher, and Logic Analyzer Vx.25C or higher. (The "x" is either a 3 or 2, depending on the hardware -- Series II or Series III -- in your logic analyzer. If you are not sure which type you have, you can check the part number on any of the boards. The hardware version is indicated by a 3 or 2 as the first number after the letters in the part number. For instance, DMB 2.1----- is a series 2 analyzer and DMB 3.1----- is a series 3 analyzer. Be sure that you have the proper software; the instrument will not run in either standalone or LASER mode if it is not correct.)

The placement of software diskettes for LASER operation is not critical, but the following are suggested operational setups. Of course, alternatives may be more suitable if there is other software that you want to use with the equipment.

1. KDS-908 and Logic Analyzer HOSTS.
If the host is a logic analyzer it must have a keyboard, and must be running CP/M. For these either of these hosts, insert the CP/M system disk in drive "A", and the logic analyzer software in drive "B". The disk in drive "A" should also have the emulator software on it. If you have a hard disk installed, then the hard disk may be used as described below for the KDS-980.

2. KDS-980 and KPDS HOSTS.
For these hosts, we suggest that both the emulator software and the logic analyzer software are placed on one logical drive of the hard disk, that is "D" or "E". This will make operation easier. Floppy disk drive(s) may also be used as with the logic analyzer host, but this will provide much slower operation.

3. IBM (or clone) HOST

If the host is an IBM (or clone) equipped with a Kontron KPI card, it is mandatory that a hard disk is used. This is the case because the logic analyzer uses a large amount of disk space, more than can be stored on a 360K disk. Here also the emulator and logic analyzer software must be placed on the same logical drive, and they **MUST** be in the same directory.

OPERATION

After all equipment is connected, turn on power and boot up the host computer. Call up the Emulator debugger software first. This is the **ONLY** way to begin LASER operation. If the software is on different drives, use the syntax "SE A=X" where "X" is the drive that contains the logic analyzer software. After the emulator software has been loaded and the Executive Menu is shown with a halted state, press the **FUNC SEL** key on the Kontron keyboard, or "K" on the IBM type host. (One may use "K" on the KDS-type keyboard also, but must still press **FUNC SEL** also in order for the keyboard to function as marked.)

Next, you should set up the logic analyzer as desired, following instructions in the logic analyzer manual. Do not arm the analyzer at this time. Once you have set up the analyzer return to the emulator by pressing **F3** on the keyboard. You will be returned to the Executive Menu of the emulator. Now you may set up the emulator. Operation of the emulator is as described in your Debugger manual.

To return to the logic analyzer environment, press the **FUNC SEL** key on the KDS keyboard, or "K". Again, if you are using the KDS type keyboard, you must press **FUNC SEL** to make the function key labels valid.

Now, you may start using either or both of the instruments. There is one usage limitation which **must** not be violated. When you switch to the LA environment you should either halt the emulator, or make sure that there are no breakpoints set and operating. If there is a break point set, the system will not return reliably to the emulator debugger environment from the logic analyzer environment. More times than not, an attempt to return under these circumstances will hang the system, and you will need to reboot and start from the beginning.

You may leave the emulator running with no breakpoints and do whatever is desired on the logic analyzer. If you leave the emulator halted, you may set and arm the analyzer and then return to the emulator. The analyzer will trigger when the specified conditions are met.

To toggle between the two instruments, press the **FUNC SEL** key or **K** to go to the analyzer. Press the **F3** key to return to the emulator.