

MILLER GRAPHIC EPROMS

This NEW PROM SET enhances the usefulness of the Corcomp Double Density Disk Controller Card. The Following NEW features have now been added and can be accessed from TI Basic, Extended Basic and a Gram Kracker™ MSAVED Basic program. This will allow you to build a menu of all your favorite software and load it with a single key press. The new CALLs added to the card are:

1. CALL ILR - Loads the standard E/A utilities into Low Memory.
2. CALL LR("device.filename") - Loads a DIS/FIX 80, compressed or uncompressed, auto start or non-auto start Assembly language Program, from floppy diskettes. (This is the same as CALL LOAD from TI-Basic with the E/A module plugged in, including the automatic loading of the E/A utilities)
3. CALL LLR("startname") - This starts a non-auto start program. This is the same as option 4 - Run, on the E/A menu.
4. CALL RUN("device.filename") - This loads Assembly PROGRAM IMAGE files from floppy diskette like option 5 - Run Program, on the E/A menu. This CALL also automatically sets up the E/A environment in VDF Memory. (i.e. Characters, colors, registers etc.)
5. CALL RUN - This CALL without brackets or a filename automatically loads the floppy file DSK1.UTIL1.
6. DELETE "XILR" - Sets up the E/A utilities into low memory from a running Extended Basic Program. It also sets up the Link names for the above CALLS and the other Tool Shed Utilities so they can be accessed from a running program!

SOME OF THE OTHER ENHANCEMENTS INCLUDE:

1. Removed 9900 DISK CONTROLLER Title Screen !! - which eliminates the problems with some of the modules like the lock up problem with E/A, TEII and Plato.
2. Improved Error Handling on ALL utilities.
3. Decrease Error Time Out - i.e. Disk Not Initialized now comes up faster.
4. The Disk Manager will now auto load if you hold down the space bar on power up or reset.
5. For the advanced user we have also added a DIRECT TO/FROM CPU RAM SECTOR I/O ROUTINE for faster loading of your programs!
6. For Gram Kracker™ Owners we have modified all of the Tool Shed Utilities to allow them to be used in a running MSAVED program! (i.e. MOVEM, VPEEK, etc.)

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ENHANCEMENTS

- Revised 9900 DISK CONTROLLER Title screen !! - which eliminates the problems with some of the modules like the lock up problem with E/A, TEII and Plato.
- * Improved Error Handling on ALL utilities. They will no longer cause your system to lock up if an improper syntax is used.
- * Decrease Error Time Out - i.e. Disk Not Initialized now comes up faster.
- * The Disk Manger will now auto load if you hold down the space bar on power up or reset and you can still use CALL MGR from Basic or X-Basic.
- * For Gram Kracker™ Owners we have modified the old Tool Shed Utilities and the new CALLS to allow them to be used in a running NSAVED program. Now you can build a menu of your most commonly used Assembly software and have it displayed and loaded from the NSAVED program.
- * For the Assembly language Programmer we have also added the ability to perform DIRECT TO/FROM CPU RAM SECTOR I/O - for faster Reading and Writing of Sectors. To use this new feature set up your parameters for the Sector I/O subprogram (>10) as follows, with the most significant bit of the drive number set.

TO/FROM VDP RAM

PAB - >0110

>834A - Sector Number
>834C - Drive # (>01 - >04)
>834D - 0=Write Not 0=Read
>834E - VDP Buffer address
>8356 - Sector Number
Error Code placed here
if error occurs

Set up your PAB in VDP Ram
Set up >8356 to point to PAB
Then use BLWP @DSRLNK
DATA >A

TO/FROM CPU RAM

PAB - >0110

>834A - Sector Number
>834C - Drive # (>01 - >04)
>834D - 0=Write Not 0=Read
>834E - CPU Buffer address
>8350 - Sector Number
Error Code placed here
if error occurs

Set up your PAB in VDP Ram
Set up >8356 to point to PAB
Then use BLWP @DSRLNK
DATA >A

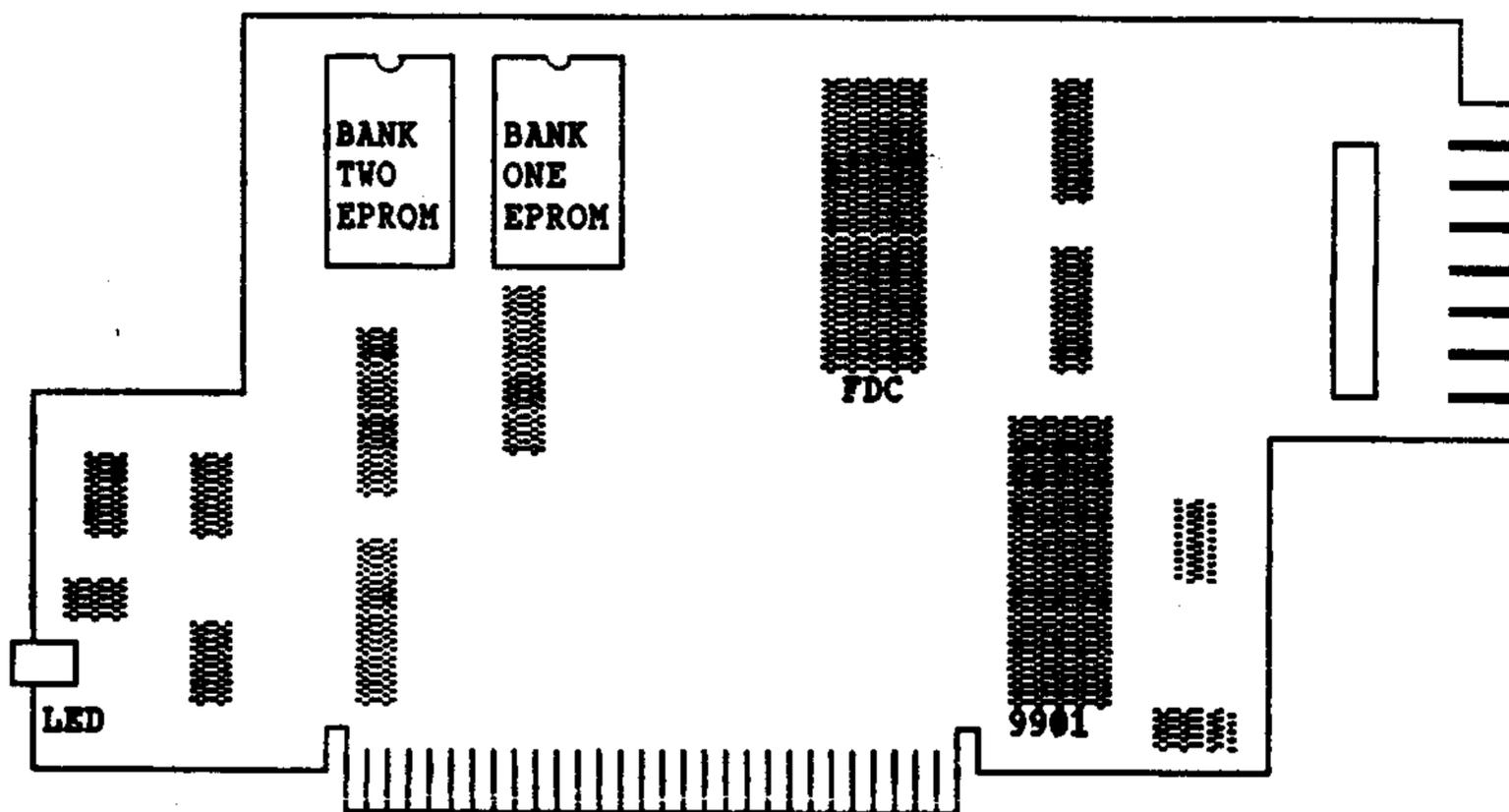
SYNTAX INFORMATION FOR THE NEW CALLS

The following information applies to both the New CALLS and the old Tool Shed Utilities:

1. You can use either direct strings (i.e. "DSK1.DIAGS") or string variables such as AS or FILES where AS or FILES equals "DSK1.DIAGS". You can also use single dimension arrays such as AS(3). Multidimensional arrays such as AS(1,2) are not allowed.
2. String expressions, such as AS&BS or SEGS(AS,3,8) are not allowed.

NEW EPROM INSTALLATION

Install the two new Eproms into your Disk Controller as per the diagram shown below:



NOTES ABOUT INSTALLATION

On 1985 REV A cards the Bank 1 & Bank 2 Proms are swapped. Bank 1 goes into the socket labeled U1 and the Bank 2 Prom goes into the socket labeled U2. The 1985 REV A cards use a Western Digital 1773 Floppy Disk Controller chip that is mounted directly to the main circuit board instead of being on another circuit board that is plugged into the main board.

If you are not sure what type card you have, just put the new EPROMS in the same location (Banks 1 & 2) as the old PROMS.

If the EPROMS are put in with the Banks swapped the Disk Controller WILL NOT be recognized by any software, but the computer will appear to power up correctly.

With the EPROMS installed properly you will see *DOS (c) 1986 MILLERS GRAPHICS* at the top of your TI Title Screen.

THE NEW CALLS

1. **CALL ILR** - Loads the standard E/A utilities into Low Memory. This will clear out Low Memory Expansion and set it up for loading Compressed or Uncompressed DIS/FIX 80 Assembly files. (This is done automatically by CALL LR)

Examples:

Basic or X-Basic Command Mode:
CALL ILR

Running X-Basic Program:
CALL LINK("ILR")

2. **CALL LR("device.filename")** - Loads a DIS/FIX 80, compressed or uncompressed, auto start or non-auto start Assembly language Program. (This is exactly the same as option 3 - Load and Run, on the E/A menu, including the automatic loading of the E/A utilities (CALL ILR) if they have not been previously loaded or if an error occurred during the previous load.

Examples:

Basic or X-Basic Command Mode:
CALL LR("DSK1.DIAGS")

Running X-Basic Program:
CALL LINK("LR")("DSK1.DIAGS")
or
CALL LINK("LR")(A\$) - where A\$="DSK1.DIAGS"

3. **CALL LLR("startname")** - This starts a non-auto start program. This is the same as option 4 - Run, on the E/A menu.

Examples:

Basic or X-Basic Command Mode:
CALL LLR("START")

Running X-Basic Program:
CALL LINK("LLR")("START")
or
CALL LINK("LLR")(A\$) - where A\$="START"

4. **CALL RUN("device.filename")** - This loads Assembly PROGRAM IMAGE files like option 5 - Run Program, on the E/A menu. This CALL also automatically sets up the E/A environment in VDP Memory. (i.e. Characters, colors, registers etc.)

Examples:

Basic or X-Basic Command Mode:
CALL RUN("DSK2.PROGFILE")

Running X-Basic Program:
CALL LINK("RUN")("DSK2.PROGFILE")
or
CALL LINK("RUN")(A\$) - where A\$="DSK1.PROGFILE"

(PROGFILE must be a Program Image Assembly File that can be loaded and executed from option 5 - Run Program File, on the E/A menu.)

THE NEW CALLS Cont.

6. CALL RUN - This CALL without brackets or a filename automatically loads DSK1.UTIL1.

Examples:

Basic or X-Basic Command Mode:
CALL RUN

Running X-Basic Program:
CALL LINK("RUN")

7. DELETE "XILR" - Sets up the E/A utilities into low memory from a running Extended Basic Program. It also sets up the Link names for the above CALLS and the other Tool Shed Utilities so they can be accessed from a running program!

NOTE: THIS MUST BE EXECUTED BEFORE THE ABOVE CALL LINK EXAMPLES CAN BE EXECUTED FROM A RUNNING X-BASIC PROGRAM!

ADVANCED DIAGNOSTICS PATCH FOR CALL LR

The Following Patch for the DIAGS file will allow Advanced Diags to be loaded with CALL LR. After the patch is made, you will still be to load it with option 3 on the E/A menu (Load And Run). Use Advanced Diags to patch itself as follows:

Diags Command

Comments and Changes

FIND FILE DIAGS (should be at sectors 178 thur 187)

EDIT SECTOR 180

Move cursor to Byte # 167 and change (in hex)

F81A to BB08

Press FCTN 9 and

WRITE SECTOR 180

EDIT SECTOR 186

Move cursor to Byte # 229 and change (in hex)

4620202020202020 to 42020142012346

Press FCTN 9 and

WRITE SECTOR 186

EDIT SECTOR 187

Place cursor at Byte # 0 and change (in hex)

46202020202020202020202020202020 to 39BB0C42C80142834242046042F8
2020 1A46

Press FCTN 9 and

WRITE SECTOR 187

Advanced Diags can now be loaded with the CALL LR("DSK1.DIAGS") command or from a running XB program (after DELETE "XILR") CALL LINK("LR")("DSK1.DIAGS").