

**OFF-LINE COMMUNICATIONS WITH CINCINNATI EQUIPMENT**

**Pg. 1 of 5**

| <b>MACHINE TYPE</b>                | <b>BACKGROUND CAPABILITIES</b> | <b>SOFTWARE NEEDED*</b>                             | <b>C. I. SOFTWARE AVAILABLE</b>             |
|------------------------------------|--------------------------------|---|---|
| Autoform - VMEI                    | NO                             | Kermit  | - Off-Line Programming<br>- 2-D Programming |
| Autoform - VMEII                   | YES                            | Kermit  | - Same as above<br>- 3 D Programming        |
| FMII - VMEI                        | NO                             | Kermit  | - Off-Line Programming                      |
| FMII - VMEII                       | YES                            | Kermit  | - Off-Line Programming                      |
| CBII                               | YES                            | Kermit  | None  |
| OBS New Style - June 1990 or later | YES                            | Kermit  | Off- Line Programming                       |
| OBS Prior to June 1990             | NO                             | Customer Created Basic Program<br>- Refer to EM-314 | None  |
| FSUIII and CNC Shears              | NO                             | Customer Created Basic Program<br>- Refer to EM-304 | None  |
| DGC and MAGC Shears                | YES                            | Kermit  | None  |

\* If C. I. Software is purchased, Kermit Software is included.

Since 1987 Kermit became the main communications protocol used for all flatroll equipment. Kermit is installed in all controls that were developed after that time. Kermit is a file transfer protocol in itself developed and maintained by Columbia University.

Since this type is being used, it requires a version of the software to be installed in the computer to properly communicate with the other end. If a file server is all that is needed (saving files to a computer), then the Kermit software is all that will be required.

This program can be obtained by either downloading from the following address;

<http://www.columbia.edu/kermit/mskermit.html>

or by contacting Columbia University direct at;

Kermit Distribution  
Columbia University  
612 W. 115th Street  
New York, NY 10025

Since our controls are based on "DOS" type programs, the dos version Kermit3.15 works well with windows95 and windowsNT systems.

## OFF-LINE COMMUNICATIONS WITH CINCINNATI EQUIPMENT

### Page 2 of 5

The following files are needed to set the parameters that Kermit will work with. They should be stored in the same directory that Kermit is in. Add these commands to the end of the .INI file noted.

#### **FILE FOR MSKERMIT 3.15 MSCUSTOM.INI**

comment -- MSCUSTOM.INI kermit init file

```
set port 1
set baud 9600
set warning off
set send timeout 8
set receive timeout 8
set retry 10
cwd (Type in directory that files will be stored to. (ex. c:/download))
CLS
server (only use this line if the computer is going to be used as a server. i.e. all communications will be initiated from the control.)
```

#### **FILE FOR KERMIT 95 K95CUSTOM.INI**

; FILE K95CUSTOM.INI -- Kermit 95 Customizations

```
set line com2
set speed 9600
set retry 10
set send timeout 4
set receive timeout 4
set flow-control none
set server display on
cd (Type in directory that files will be stored to. (ex. c:/download))
CLS
set printer {PRN}
server (only use this line if the computer is going to be used as a server. i.e. all communications will be initiated from the control.)
```

Kermit 3.14 or 3.15

Note that the Columbia web site has downloads for both 3.14 and 3.15. You must first download and install 3.14. The 3.15 version listed on the site is an upgrade so it does not contain all the files. To upgrade download and copy the 3.15 files into your 3.14 directory.

Be sure baud rates of both computer and control are the same. Typically they should be at 9600. To check the computer using kermit 3.15, at the kermit prompt type show status . This will show all the settings related to Kermit.

Other commands are available and can be viewed by typing ? at the prompt. A few commands that may be helpful are as follows;

MS-Kermit> (see below)

- set debug on - This will display the packets being transferred in progress.
- log packets - This will create a file that can be viewed after the transfer has failed or completed.
- set ????? - A different baud rate
- get ??????? - A file from the control to the computer
- send ?????? - A file from the computer to the control
- remote directory - Retrieves the "active" directory in the control
  - To change the directory in the control, type remote cwd ?????? (ex. utool)
- server - Sets the computer to server mode. Communications/File transfers can only be initiated from the control.
- exit - Exits from the Kermit program

## Page 3 of 5

### Kermit 95

The newest version of Kermit which runs under Windows 95 and NT is called Kermit 95. They have enhanced this version to make it a Windows Console Application. It has a lot of new features for dialing up online services and accessing internet sites. Most of these features we do not need. This version is also no longer free. There is a minimal charge and it must be obtained directly from Columbia University. (<http://www.columbia.edu/kermit>)

Note that the older MSKermit will still run under NT and 95.

### Starting the Application

There are two ways to start up the application. The easiest way is to run the K95.EXE file. This will start the application and execute any commands the user has typed in the K95CUSTOM.INI file.

Note the "set line" command should be changed to use the desired communication port, either com1 or com2 in most cases.

If you get an error stating that No Carrier is detected when starting Kermit, add the following line to your .INI file

#### **set carrier OFF**

If you want to go directly into the SERVER mode automatically, then make "server" the last command in this file. Otherwise you can type the command "server" on the command line after the application starts. If you are not using it in server mode, commands such as SEND, RECEIVE, REM DIR and REM DEL can be used to transfer files to and from the machine control.

The other way to start up the Kermit 95 application is to run the K95dial.EXE. This gives a more Windows like user interface to the configuration. Use the ADD button to enter a new configuration and set the Access Info type to Direct Serial under the General menu. Under the File Transfer menu set the Protocol to Kermit Robust, File transfer mode to Binary, File Collision Mode to Overwrite. Under the Communications menu, set the Line to the desired Comm Port and the Speed to the desired baud rate (9600). Set Flow control to NONE, Parity to None and Carrier Detection to Off. To start Kermit, then use the CONNECT button. Pressing ALT-X will bring up the command window where kermit commands may be typed.

### Long File Names

Using Kermit 95 allows support for long filenames. It is now possible to store 16 character filenames directly to the PC. Before this was only possible when using our Autoform Offline Programming software as a file server.

To make it easier to startup the Kermit application, you can create a shortcut icon to the K95.EXE application and add it to your Start menu or place it on your desktop. You can also add it to your Startup Items so the Kermit is started whenever the PC is powered up.

### Directories for storing files:

By default K95 will store all files in the same directory the program is installed in, usually \K95. When using it with an Autoform, the user should enable the Remote Directory Change option on the Communications Setup Screen on the Autoform Control. They should also set up the names of the directories for the Remote Volume in the File Preferences screen. This way any file transfers will automatically change the directory to the correct one for a given file type such as PROGRAM or Upper Tool or Lower Tool etc. If you only want to store all files in one directory, you can add a CWD (Change Working Directory) command to the K95CUSTOM.INI file which sets the default directory.

## Page 4 of 5

### Troubleshooting:

To troubleshoot your cable connection, use the Terminal Mode on the Autoform machine control. Type CONNECT at the Kermit command line. Any characters you type on the control should be displayed on the PC and vice versa. If you have communication in only one direction, then it is likely that you have the transmit and receive wires are reversed.

In the case of the CBII which has no terminal mode, use the Communication diagnostic to send out the string of characters to the PORT 2 which is the Kermit port. This string should be displayed on the PC in CONNECT mode. This diagnostic can also be used to test your cable by jumping the transmit and receive signals together.

If you cannot get the PC to send any characters, then make sure that you have the Communication Ports enabled properly. This can be checked in the Ports Control Panel under NT and System/Devices Control Panel under 95/98. Most PC's now do not physically assign a comm port to a specific connector on the back of the PC. Make sure that the comm port you are connected to matches the comm Port which is assigned in the Ports Control Panel. Sometimes, newer PC's will have comm ports enabled or assigned using the BIOS. You can usually get into the BIOS configuration while powering up with the F1 function key held down.

Once common source of conflict is an INTERNAL MODEM configured to use the same comm. port. Check the Modems control panel and see which comm. port it is using. It may be using com1 internally and thus the com1 connector on the back of the PC cannot be used simultaneously. In this case either remove the internal modem or configure it to use another available com address such as com2. The modems control panel should be changed to specify a direct Serial connection on the specific comm. port being used.

There can also be conflicts with other applications trying to use the same comm. Port. For example, in one case the Hotsync application which allowed a Palm Pilot to upload/download data automatically was constantly monitoring the comm. Port and this interfered with Kermit trying to use it. The solution in this case was to configure the Hotsync application for manual instead of automatic operation.

I recently found a difference between Kermit 95 and MSKermit. If you wire your cable on the PC side without the hardware handshake pins jumpered together, MSKermit doesn't care. However, Kermit 95 defaults to Hardware Handshaking and will refuse to send anything out unless you add a "SET flow-control NONE" command to the initialization file.

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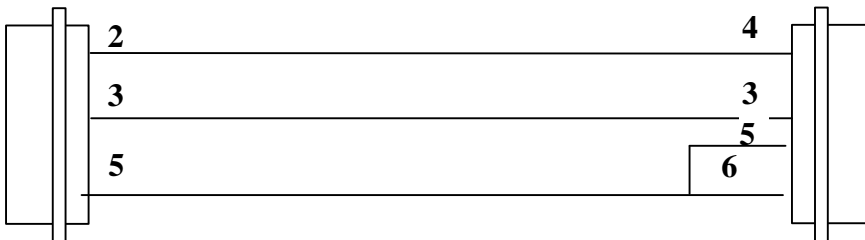
### Page 5 of 5

RS232 Communications Manuals are available upon request from Cincinnati Incorporated for most machine types.

A typical 9 pin to 9 pin connection is as follows. Depending on your system, if this set-up doesn't work, try swapping pins 2 and 3 on the computer end.

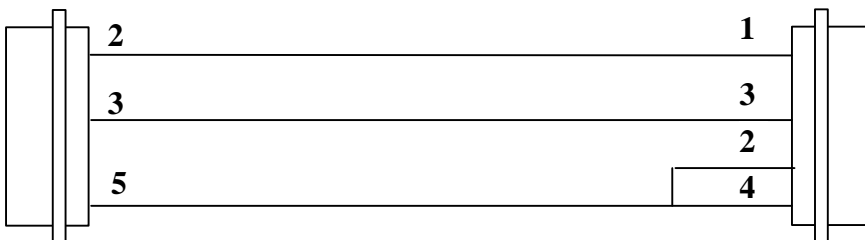
**To Computer**

**To AF, PM  
S2 Port**



**To Computer**

**To DGC & CBII  
J9 Port**



**To Computer**

**To VMEII Gages  
Monitor Port &  
FMII S2 Port**

