TECHNICAL NOTE V006

T-120 Data Sharing

Introduction

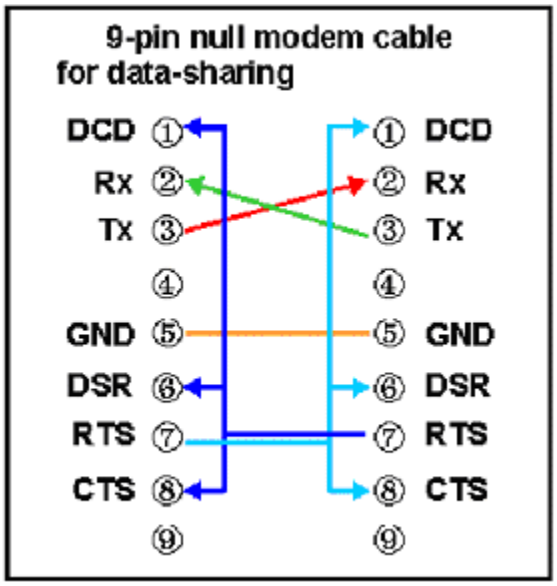
Data-sharing support on your Motion Media product is T.120-compliant. This means that you can share files and applications with any other T.120-compliant product.
In order to do so you will need:
• Microsoft® Windows® 95, 98, NT, 2000 or XP.
• Version 2.1 or 2.11 of Microsoft®'s NetMeeting application. This software is no longer from Microsoft's web site -- see Installing Microsoft NetMeeting below.
• GUI version 1.11 or later on your videophone.

Note: For brevity, the term 'videophone' is used throughout these instructions to refer to the videophone or videoconferencing system.

To set up your videophone for data sharing, you need to do the following
1. Check your GUI version
2. Connecting your videophone to your PC
3. COM port settings
4. Removing earlier versions of Motion Media data sharing
5. Installing Microsoft NetMeeting
6. Running Microsoft NetMeeting for the first time
7. Data-sharing between T.120 compliant products

1. Check your GUI version
If you have to contact your supplier or customer service for help, you may be asked for the following information about your product:
Product name: mm120, mm220 or mm225
Serial number: This is printed on the label fixed to the back (mm120) or base (mm220 / mm225) of the product.
GUI (Graphical User Interface) version:
To find out the GUI
1. Use the **Configuration** or **CONFIG** button to bring up the Configuration menu.
2. Select the **Miscellaneous** section, and press **OK**.
3. Among the information displayed is the **Version**.

2. Connecting your videophone to your PC
You will need a null modem cable (see diagram overleaf).
1. Plug one end into the DATA (mm220 / mm225) or Data COM 1 (mm120) connector on your videophone, and the other end in to a spare serial port on your PC.



3. COM port settings

• Both the PC and the videophone must use the same COM port settings.
• The PC's COM port settings are set in NetMeeting (see instructions below).
• The videophone's COM port settings are set in the Data PC configuration section.
See Chapters 6 and 7 of your mm225 User Guide for more information.
In both cases, use the following settings:

Baud rate:	19200*
Data bits:	8
Parity:	None
Stop bits:	1
Flow control:	None
Protocol:	T.120

• If you experience reliability problems, try a baud rate of 9600, however this will make data sharing slower.

4. Removing earlier versions of data sharing

Earlier versions of the GUI required you to install special videophone COM port drivers to support data sharing. These are no longer required, and should therefore be removed from your PC.
Use the Device Manager to remove the **MM SA T.120 Communications Port** and **MM Communications Port**. If there are corresponding .inf files left in the Windows inf folder, you can delete these these too.

5. Installing Microsoft NetMeeting

1. **If you do not already have version 2.1 or 2.11 of Microsoft® NetMeeting, visit the Microsoft web site, where you can find out more about it and download a copy**.
2. Follow the instructions provided to install NetMeeting. Please observe any licensing and registration requirements.
3. Re-boot the PC

6. Running Microsoft NetMeeting for the first time

Provided the automatic NetMeeting installation was successful, NetMeeting will have been added to the **Programs** list on the **Start** menu.

1. Start NetMeeting [Start->Programs->Microsoft NetMeeting].
• A wizard will guide you through the initial set-up. There are a few things to note during this process: You do not need to connect to a Directory server unless you already use NetMeeting in this way.
• When asked to specify the speed of your connection to the network, select **'14400 bps modem'**
• You can ignore the Audio Tuning wizard. [Only the Application Sharing function of NetMeeting is used - Audio and Video communication is supplied by your videophone]
2. From the Tools menu, select Options... and make the following checks and changes:
• **General tab**:
If you want incoming calls to be answered automatically, tick the box marked **Automatically accept incoming calls**.
• **Calling tab**:
Make sure all the checkboxes are empty in the top section marked Directory (unless you are using the Directory Server facility).
• **Protocols tab**:
a. Ensure that the **Null modem** protocol is checked, and un-check all other protocols.
b. Select **Null modem**, then press the Properties button.
c. In the Port field, select the COM port your null modem cable is attached to, then press the **Com Port Properties** button.
d. Fill in the **COM port settings** shown in the table above, then press the **OK** button on each Properties dialog to save the changes.
• Press OK on the Options dialog to save all changes.

Note: NetMeeting does not generally retain these settings: you may find that you need to repeat this step after re-booting your PC, or even, in some circumstances, after restarting NetMeeting.
3. If you have not used NetMeeting before it is a good idea at this point to spend a little time familiarizing yourself with NetMeeting and its functions, before attempting the first call.

7. Data-sharing between T.120-compliant products
How data sharing works
You must have:
• A PC running Windows 95 or Windows 98, with NetMeeting 2.1 or 2.11 installed and set up as described above
• A null modem cable connecting your videophone to the PC as described above.
The remote party must have:
• Any T.120-compliant data-sharing product.
After establishing a normal video call between the videophones, one party starts a T.120 data-sharing call from his PC, using the COM port which is connected to the videophone. (In NetMeeting terms, this party 'hosts' the Meeting and the other 'receives' it.)
When data sharing is started by the Hosting videophone -- on mm series products this is done by pressing the Data or DATA button (see your User Guide for more information if necessary) – the videophones negotiate and establish a data channel within the video call. The two T.120 data-sharing sessions then communicate transparently down this data channel.

Starting data sharing
Perform the following steps in order:
1. *Both parties*: Start the data-sharing application on the PC.
For NetMeeting, see Running Microsoft NetMeeting for the first time above.
2. *One of the parties*: Make a 2B video call to the other party.
Wait for both channels to connect.
3. *Both parties:* Make a T.120 data-sharing call.
For NetMeeting:
a. Press the Call button on the Tool bar to get the Call dialog:
• Set Address to COMn, where COMn is the serial port to which the null modem is connected.
• Set Call Using to Null Modem
b. Press the Call button on the Call dialog to make the call.
The NetMeeting status bar should change to say 'Finding COMn...'.
4. *One party only* (the NetMeeting Host): Start data-sharing on the videophone:
Press the Data button.
The NetMeeting status bar on the Host machine still says 'Finding COMn...'.
On the other machine it changes to say 'Not in a call'.
Be patient: after a few seconds the NetMeeting call will be established between the two PCs.

During the NetMeeting call
Read the NetMeeting help file for full instructions on using NetMeeting. In brief,
To share an application that is running on your PC:
• Press the Share tool-button.
• Select an application from the list that is displayed.
• Both users should select Collaborate so that they can both interact with the document.
To transfer a file:
• From the Tools menu, select File Transfer -> Send File, or drag and drop the file onto the person's name.
To use the Whiteboard:
• From the Tools menu, select Whiteboard. The Whiteboard will automatically open at the far end.

When you have finished data-sharing:
1. Press 'Hang-up' in NetMeeting
2. If you have finished your video call simply end the call as usual.
3. If you wish to continue it is best stop data sharing in order to reclaim the bandwidth used by the data channel:
4. Wait until the Meeting has finished cleanly, then one party only: press the Data button a second time.

Getting the best results
The data transfer rate achieved in data-sharing is dependent on many factors. The following tips will help you to maximize it:
• The faster the videophone Data PC Baud Rate, the faster T.120 application sharing may be (this is dependent somewhat on the videophone used by the other party in the call). The default Data PC Baud rate is 19200 - if you experience any problems you should try 9600. If you do not experience any problems you may wish to try 38400.

• If you experience problems when using Low (QCIF) video resolution, either lower the Data PC baud rate as just described, or change to High (CIF) resolution.
• Don't attempt to change the videophone's COM port settings (e.g. the Baud rate) during a call.
• While data sharing, try to minimize any interaction with the videophone. In particular, don't edit/store Phonebook entries, or use camera control. Doing this can add a delay to the T.120 data transfer which fools NetMeeting into believing that the T.120 session has been cancelled.