MAYAH Communications

Application Note 5

## Point to Multipoint for MAYAH codec

1   Prerequisites

- MAYAH codec with system software 1.1.0.44 or later
- PC with:
  - min. Pentium 166 MHz
  - RAM 32 MB
  - Operating system Windows '95, '98, ME, NT or 2000
  - free serial port (remote control by RS232) or Ethernet card (remote control by IP)
- Zero modem cable (included in MAYAH codec) if RS232 control is used or all necessary LAN cabling between MAYAH codec and PC
- MAYAH codec remote control with version 1.1.0.31

Note:

You can download the current MAYAH codec system software and the latest remote software from the download section of the Mayah homepage at www.mayah.com.

2   Point-to-Multipoint

The Point-to-Multipoint-mode enables the MAYAH codec 300x and 3500 to receive/send data from/to several different remote MAYAH codec-devices. When processing the data transfer one can choose which input is to be heard (for detailed description see *MAYAH codec Communication Reference Manual, chapter 4.2.10*). For handling Point to
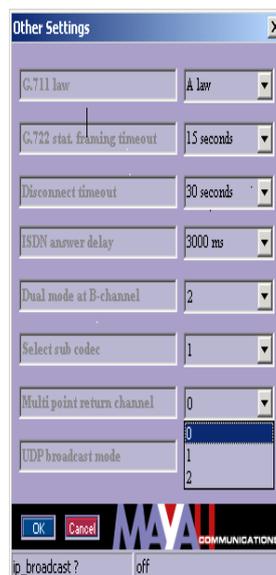
Multipoint with the MAYAH codec Remote Software, you have to choose *<Settings/Others/Multipoint return channel>* .

3   MAYAH codec Remote Software

You can type in all the necessary commands with help of the MAYAH codec remote control software. Just step to remote item <Expert/Direct Command>.
You may be asked for a Superuser Password . This Superuser Password is determined by the first use of MAYAH codec remote on your PC. If the Superuser gets lost you can recover it very easily.
It is saved in the registry at:
HKEY_CURRENT_USER\Software\Mayah Communications\Centauri Remote\SuperUserPassword.

How to use the direct command dialog:

Just type in the MAYAH codec command in the command edit field and confirm by pressing the 'OK' button. You'll get the answer in the answer memo box.
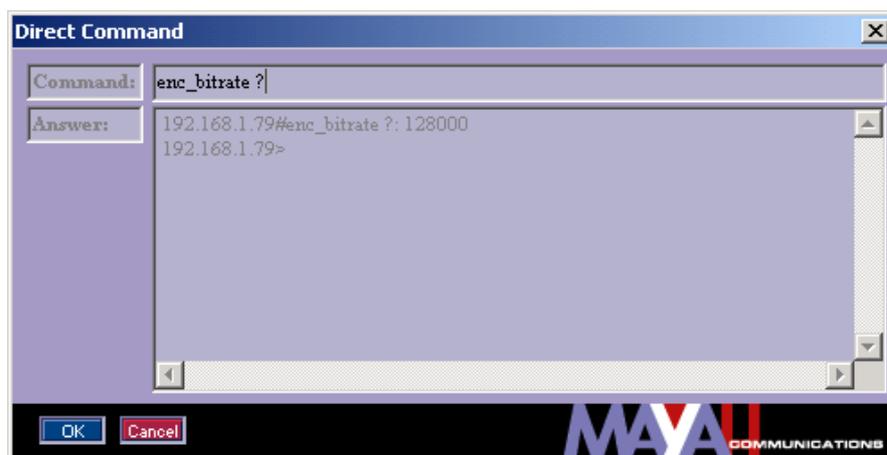
4   Settings with Direct Command

For using the Point to Multipoint, special settings have to be established.
Example:

1) Set format to automatic
   enc_format auto   *<Settings/Codec/Encoder Imux>*
2) Choose the mode that is to be used:
   enc_mode mono   *<Settings/Codec/Encoder Mode>*
3) Choose the bitrate.
   enc_bitrate 128000   *<Settings/Codec/Encoder Bit Rate>*

There are currently only two different bitrates available :

> For 1-channel-connection you have to choose 64.000 bit/sec.
> For 2-channel-connection you have to choose 128.000 bit/sec.

The remote devices must have the same settings as the multipoint-server. These settings can be made locally on the multipoint server or on the remote devices. In this case the server acts as a slave and synchronizes itself with the remote settings.

5 Start

The command `com_receive [0,1]` controls the activity of the multiplexer. The parameter `[1]` enables the Point-to-Multipoint-mode, whereas `[0]` disables it.
Example:

`com_receive 1`   enables Point-to-Multipoint

`com_receive 0`   disables Point-to-Multipoint

6 Adressing

If the Point-to-Multipoint-mode is enabled, the same command as above, but with a different parameter, is responsible for addressing the B-channels that are to be used for data-transfer: `com_receive[1..n]`, where n is the max multiplexer-index. This multiplexer-index can be derived from following formula :

n = max ISDN B-channels*64000 / Encoderbitrate

This means, for 1-channel-connections n is the number of B-channels that are available, whereas for 2-channel-connections n is the half of it .

For 2-channel-connections the channels of the multipoint-server can only be chosen in neighbouring pairs : (1,2), (3,4), (5,6), (7,8)
Example:

`com_receive 2`   For the settings made above (bit rate 128000) this would mean B-channels 3 and 4 are selected for hearing.

Generally the addressing of the B-channels only works in one direction. This means the multiplexer can only receive data with all its channels or send data with all its channels. The possibility to receive on one channel while transmitting on another is planned, but not currently available.

7 Observation on Frontpanel

During Point-to-Multipoint is enabled, the status of each connection can be observed on the frontpanel. For changing from one connection to another, the keypad can be used. Which keypad-button is to be pressed, depends on the adjusted bitrate. If a bit rate of 64000 b/sec is chosen, pressing the buttons *1./* to *8tuv* will show the status of the specific connection. With a bit rate of 128000 b/sec, this means, two channels are used for each connection, the buttons *1./* to *4ghi* will show the specific status. The selected connection is displayed as M1, M2 etc.

Note: If a button is pressed, that doesn't represent a connection, the framing-LED will be disabled.