

MAYAH communications

Application Note 8

Dual Mode

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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 Centauri) if RS232 control is used or all necessary LAN cabling between Centauri and PC
- Centauri remote control with version 1.1.0.31

Note:

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

2 Dual Mode

Using Dual Mode the MAYAH codec is able to split an S_0 and use different codecs for sending/receiving audio to/from two different remote devices. Thus the number of B-channels belonging to an ISDN interface can be arranged in different ways depending on the requirements of the different audio signals. For example it is possible to assign the B-channels 1 and 2 to the first codec while B-channel 3 to 8 are assigned to the second codec. Running the Dual Mode the MAYAH codec demands a sample rate of 8 to 32 kHz in steps of 8.

Note: If different sample rates are used for the two codecs, these should be multiples, e.g. 16 and 32 or 8 and 16 kHz. Otherwise the audio quality can be reduced.

3 Available Algorithms

The following algorithms are available for Dual Mode:

G.711, G.722, Mpeg Layer 2, Mpeg Layer 3 (only 64000 B/s), AAC (only 64000 B/s), Standard apt-X, Enhanced apt-X (only fast CPUs)

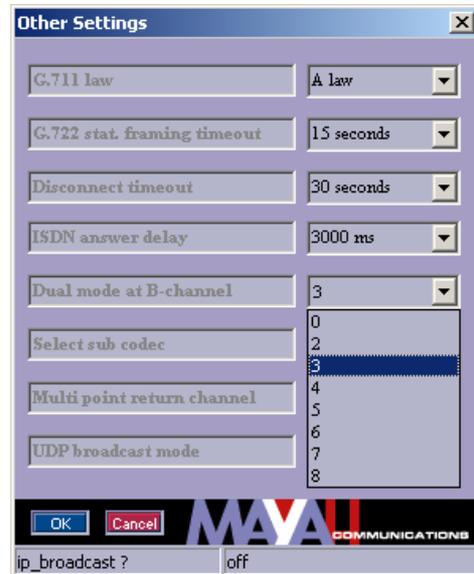
4 Settings with the Centauri Remote Software

For handling the Dual Mode with the Centauri Remote Software, you have to choose *<Settings/Others/Dual Mode at B-channel>*. The select box which will be then opened, will contain a number of values, depending on the type of ISDN card installed. If the Centauri has e. g. an 4xS₀ ISDN interface, the select box will contain the values **0, 2-8**. For executing the example mentioned above, you have to select 3 because the third B-channel is the first one used by the second codec. For disabling the Dual Mode, you have to select **0**.

- **Exception :**

A special problem occurred when one 1xS₀ ISDN interface was installed and the value 2 was chosen for *Dualmode at B-channel*. While in this constellation, removing the second established connection before the first works without any problems, but removing the first established connection tends to cause an audio drop out on the second one.

Solving this problem is only possible if a second 1xS₀ ISDN interface is installed. In this case the second channel of each 1xS₀ ISDN interface is deactivated. So corresponding to the example above, we no longer have channels 1-4 but just channels 1 and 3. Channel 1 belongs to Subcodec 1 and Channel 3 belongs to Subcodec 2. Both subcodecs now have only one ISDN channel each and can carry a bit rate of only 64 kBit/s. With these modifications the different connections now work properly without any failures.

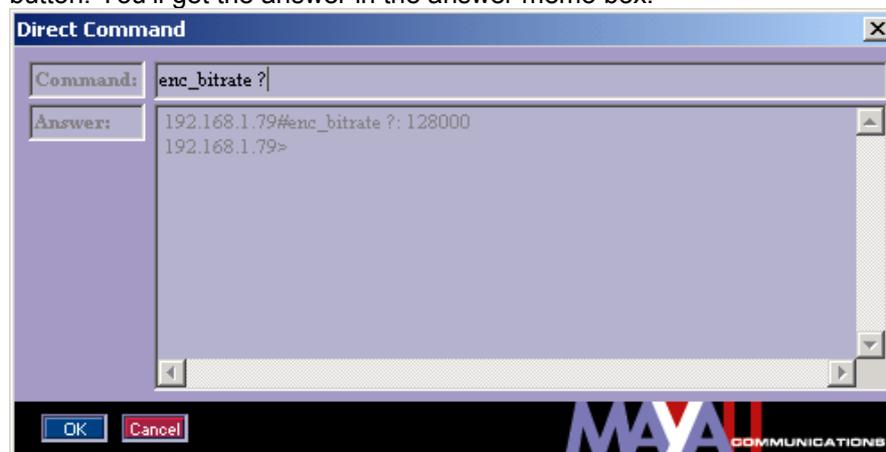


5 Centauri Remote Software Direct Command

You can type in all the necessary commands with help of the Centauri remote control software. Just step to remote item *<Expert/Direct Command>*.

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.



6 Settings with Direct Command

Using the Centauri Remote Software Direct Command, the settings of the Dual Mode are to be configured with the command **com_dualmode** <*B-channel*> (see *Communication Reference Manual*). As described in chapter 3, the valid parameters depend on the type of installed ISDN interface.

Example:

- 1) Enable Dual Mode and use B-channel 3 to 8 by the second codec
`com_dualmode 3`
- 2) Disable Dual Mode
`com_dualmode 0`

7 Settings with the Centauri Front Panel

Of course it is also possible to adjust the Dual Mode settings via the front panel display of the Centauri. For this you have to choose <*Setup/Misc/Dualmode*>. Like the select box of the Centauri Remote Software, the display will provide values subject to the installed ISDN interface. These values can be adjusted by pushing the navigation buttons to count them up or down .

If Dual Mode is activated the **status** of the two different subcodecs can be observed by pressing the keypad-button **1./** for the first subcodec and **2abc** for the second. The selected subcodec is displayed as S1 or S2.