

Close Talk Loader

Software and Adapter Manual

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Closetalk on the web: www.closetalk.se

Revision 1.01

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About this manual

This manual contains information about using Close Talk Loader to update computer firmware in the Central Unit and Delegate Unit, both part of the *Close Talk Conference System* product range.

The instructions in this manual are of technical nature and assumes skills in both installing and operating a personal computer. Refer updating to qualified personnel.

Questions, suggestions and support issues should be directed to your local supplier.

Introduction

A *Close Talk Conference System* installation consist of a Central Unit and an optional number of Delegate Units.

Both the Central Unit and the Delegate Unit contains a computer used to control it's functionality and like personal computers they need software to operate.

A personal computer stores the software on a hard drive which can easily be updated using modern media such as diskette's and Compact Disc's.

The Central and Delegate units however do not have any hard or CD drives, they store their software, or firmware as it is better called, in something called a 'non-volatile memory', or EEPROM which essentially is a silicon memory chip that retains it's contents when power is turned off.

The Central and Delegate unit firmware needs to be installed just like a PC software. *Close Talk Conference System* uses a method called 'in-circuit programming' which means that the EEPROM memory is programmed after the memory chip is soldered to the board. This makes it possible to update the firmware without having to disassemble the unit.

The Central Unit contains two firmware's, it's own and a copy of the Delegate Unit firmware. It continuously transmits it's delegate firmware version number on the optical data link so a Delegate Unit with an old firmware version will see and indicate that it needs an update.

A Delegate Unit will normally only need a direct (with electrical connection) firmware update once which is done at the factory. After that, all updating is done via the optical data link.



Delegate Unit



Central Unit

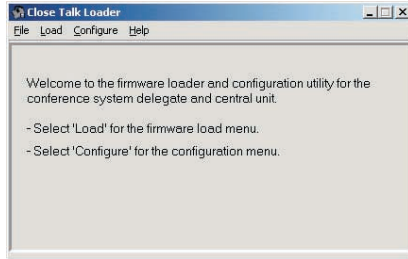


Loader Adapter

Requirements

The following is or may be required to make a firmware update:

- CT Loader Windows Software - Required



May be included in system delivery or else can be downloaded at www.closetalk.se.

- Close Talk Loader Adapter - Required



Supplied with conference system installation.

- Central Unit Power Supply - Required



Supplied with conference system installation.

- PC running Windows 9x/Millennium/NT4/2000/XP - Required

NT 4 requires Service Pack 3 or higher.

- Firmware update image files - Required

Contains the firmware for the Central and Delegate units. Download latest versions at www.closetalk.se.

- 9->25 pin serial port adapter - Optional



If the computer is only equipped with a 9 pin serial port, an adapter is required. Can be purchased from any good computer retailer.

Loading procedure

Install CTLoader



CTLoader may have been included at system delivery. If you don't have this software, contact your local dealer or download the latest version at www.closetalk.se.

After installation is complete, CTLoader can be found on the Windows Start menu.

Find a free serial port

CTLoader communicates with the Loader Adapter via the computers serial port. A serial port comes in two variants, 9 pin and 25 pin.



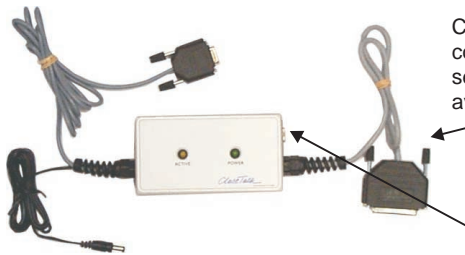
9 pin serial port top and a printer port below



Game port top and 25 pin serial port below

Serial ports can easily be identified by its gender, they are so called male connectors with clearly visible pins, often gold coloured. After locating a serial port you need to know its name. Serial ports in Windows are called 'COMx' where x is a number from 1 to 8. This name is used in CTLoader to select the correct port. If you don't know the name of the port you have chosen, CTLoader will give an error message. See loading instructions later for further information.

Connect the Loader Adapter to the computer



Connect the Loader Adapter 25 pin connector to the selected computer serial port. If only a 9 pin serial port is available, use a 9->25 pin adapter.

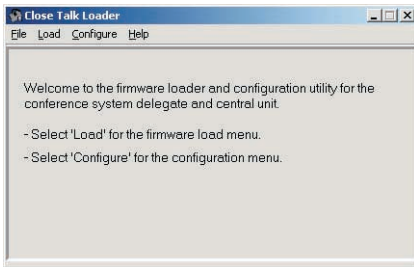
Connect the power supply

Connect the Central Unit power supply to the Loader Adapter as shown and the power supply to the mains using the supplied power cord.



The POWER lamp on the Loader Adapter turns on.

Start the computer and CTLoader

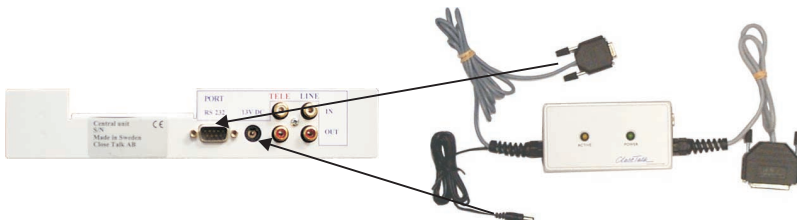


Start the computer and Windows if it wasn't already started. Start CTLoader using the Windows Start menu. IMPORTANT! Do not connect the Central Unit to the Loader Adapter before starting CTLoader.

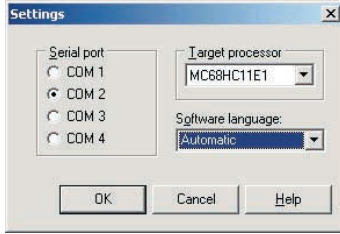
When CTLoader has started it should look something like to the left.

Connect the Central Unit

Connect the Loader Adapter to the Central Unit as shown.



Selecting the serial port in CTLoader



The 'Settings' dialogue

We have now made all required connections. Now, CTLoader needs to know which serial port to use. Click 'File', 'Settings...'. Click the selected serial port in the 'Serial port' group. If you don't know the name of the serial port you selected, leave the setting as it is.

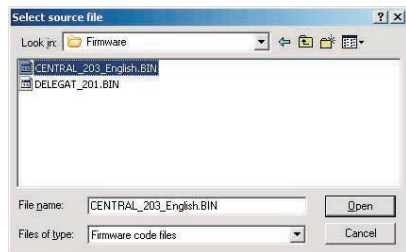
Click OK. If the serial port you selected exists you will return to the main CTLoader display. If you selected a non-existing or busy port, an error message will be shown. If so, try another.

If no port works they may be busy by another program such as a Fax driver. Close down all unnecessary programs and re-start CTLoader.

Selecting the firmware image file

Before starting an update, you need to choose a 'firmware image' file which contains a raw copy of the actual firmware to be sent.

Click 'File', 'Source file...'. A file selection dialogue is shown. Find the folder where you store the image files. The are called 'Central_xxx.bin' and 'Delegat_xxx.bin' where xxx is the version number, e.g. 'Central_112.bin' is the firmware image file version 1.12 for the Central Unit.

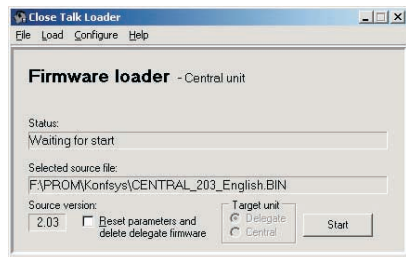


File selection dialogue

Select the required image file and click 'Open'. If the file is loaded correctly you will return to the CTLoader main menu again.

Starting the loading

You are now ready to start loading. Click 'Load' in the main menu and the loader dialogue will show. It shows that we are about to load firmware, to which target type, loading progress status, the selected firmware image file, actual firmware image file version and a choice to reset all unit parameters after the load is done. Double check the version number to make sure you have the correct version! The version shown here is read directly from the image file and may not match the file name.



Ready to start loading

Click the 'Start' button. An audible 'click' should be heard and the 'ACTIVE' lamp on the

Loader Adapter should turn on. The status line reads 'Sending the boot loader...' for about 10 seconds.

If the status line now shows 'Loading failed or was interrupted!'

If the 'ACTIVE' lamp on the Loader Adapter did not turn on, CTLoader is not using the correct serial port. Try another port as described under 'Selecting the serial port in CTLoader'. Also check the power supply. Try again.

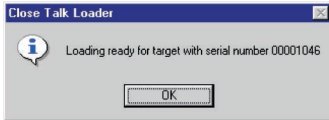
If the 'ACTIVE' lamp does turn on but 'Loading failed or was interrupted!' is shown anyway, the correct serial port has been selected but something else is wrong.

- Make sure that the 'Target processor' selection in 'File', 'Settings' is set to 'MC68HC11E1'
- Check that the Loader Adapter 25 pin connector is seated properly in the computer serial port
- Check that the Loader Adapter 9 pin connector is seated properly in the Central Unit serial port
- Check that the Loader Adapter power connector is seated properly in the Central Unit power connector.

Try again. If nothing helps, contact you local dealer for assistance.

If the status line shows 'x% done'

Good, this means that all connections are correct and the firmware is being loaded.



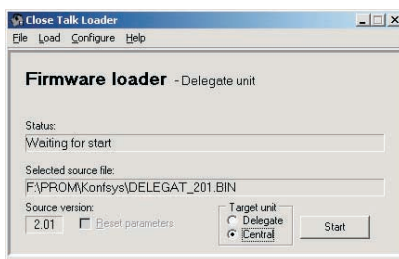
Wait until it reaches 100%, then the 'ACTIVE' lamp will go off for a few seconds and then turn on again. CTLoader is now verifying that the load was successful.

If all went OK, a loading ready prompt will be shown. Click OK.

If any error message is shown, check all connections and try again. If nothing helps, contact you local dealer for assistance.

Loading a Delegate Unit firmware image

Loading a Delegate Unit firmware image is slightly different from loading a Central Unit. After selecting a Delegate firmware image file and clicking 'Load', make sure that 'Central' is selected in the 'Target unit' group as shown to the right. This tells CTLoader that it is the Delegate Unit firmware image in a central unit that should be loaded. Otherwise CTLoader will try to make a direct firmware load to a delegate unit which will fail.



Delegate Unit loading

Press start and the loading will progress as described under 'If the status line shows 'x% done''. After loading is complete, a 'Loading done' dialogue will be shown.

At this point, the Delegate Unit firmware has only been transferred to the Central Unit. In order to update the actual delegate units, turn them on, disconnect the Loader Adapter from the central unit and restore its power. When the central unit has started, send the firmware using the central unit front panel (see Central Unit manual).

IMPORTANT! A Delegate Unit firmware can only be loaded into a functional central unit. If the central unit is not working, the load will fail with the 'Loading failed or was interrupted!' message.

Other useful information

- If a Central Unit firmware image load fails or is interrupted, the central unit will not work until a successful load has been done
- If a Delegate Unit firmware image load fails or is interrupted, the central unit will work correctly but delegate unit firmware updating via the central unit panel will not work until a successful load has been done
- If an older firmware version is being loaded over a newer, a dialog will be shown warning about a version conflict. If the load is intentional, click 'OK' otherwise click 'Cancel' which will stop the load without any changes
- Always use the latest firmware image files available. A new version may add new functionality and correct problems. Check with www.close-talk.se at regular intervals for updated files

Other CTLoader functionality

Selecting 'Reset parameters' at a Central Unit firmware image load will reset *all* parameters such as sound level settings in the central unit. Be careful!

The 'Configure' function shows the serial number of the central unit.

If the central unit menu PIN code is lost, the 'Unlock' button in the Configuration function can be used to unlock the central unit.

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