

Products: CMU

CMUCopy

Transferring CMU / CBT Hardcopies to a PC via the IEEE Bus or the Serial Interface

Application Note

This Application Note describes a program for transferring screencopies from a CMU Radiocommunication Tester / CBT Bluetooth Tester to a PC, connected via the IEEE bus or the serial interface.



Contents

1	Overview	2
2	Software Features.....	2
3	Hardware and Software Requirements	3
	Hardware Requirements	3
	Software Requirements	3
4	Preparing the CMU.....	3
	Modify the configuration file on the CMU	3
	Solving possible problems	4
	Important notes	4
5	Connecting the Computer and the Instrument	5
	5.1 Connecting the instruments	5
	5.2 CMU interface setup	5
6	Installing the Software	6
	Instrument Parameters	6
7	Operating the Software	6
	Saving screenshots on the CMU.....	6
	First software start	6
	Transferring Hardcopies to the PC.....	7
8	Additional Information	8

1 Overview

With this program you can copy hardcopies saved on a CMU to your PC using the IEEE bus or the serial interface.

The program can also delete stored hardcopies files from the CMU.

Note: *This software supports only the CMU Radiocommunication Tester / CBT Bluetooth Tester. If you want to make screenshots from other R&S instruments, please refer to Application Note 1MA25 (GPIBShot).*

The following chapters describe operation for CMU and CBT, so all statements for CMU are also applicable for CBT.

2 Software Features

- Display all available hardcopies from the CMU connected via the IEEE bus or the serial interface at your PC.
- Copy selected / all hardcopies to your PC.
- Delete selected / all hardcopies from the CMU.

3 Hardware and Software Requirements

Hardware Requirements

	Minimum	Recommended
CPU	Pentium 133 MHz	Pentium II 450 MHz or higher
RAM	32 MByte	128 MByte
Harddisc	10 MByte free space	50 MByte free harddisc space (to store measurement reports)
Monitor	VGA monitor (640x480)	XGA color monitor (resolution 1024x768) or better
IEEE Bus	(if using IEEE bus instruments) National Instruments or Agilent IEEE bus interface	National Instruments IEEE bus interface
COM Interface	(if using COM connection)	---

Software Requirements

	Minimum	Recommended
OS	Windows 95 / 98 / NT 4.0 / 2000 / Me / XP	Windows 98 / 2000 / XP
OS add-ons	---	Microsoft Internet Explorer 5.0 or above
IEEE Bus Driver	Version 1.70 (or above)	---
VISA	NI VISA Version 2.7 or higher	NI VISA Version 3.01 or higher or Agilent VISA Version M.01.01 or higher

4 Preparing the CMU

If you are using a CMU with firmware version 3.10 or higher, please proceed to Section 5.

Otherwise, you need to modify the configuration file (BASE.INI) on the.

This is only necessary for firmware versions below 3.10.

Modify the configuration file on the CMU

(only for firmware version < 3.10):

1. Connect a keyboard to the CMU and switch via <Alt>+<F4> to DOS (you might have to reboot in order to activate the keyboard).
2. Select the directory C:\CMU.

- For each installed firmware, there is a directory.
Change to the directory containing the firmware for which you want to make the hardcopy function via the IEEE bus available (e.g. BIN_V2.15).
- Change directory to \BASE\BSW\EXE.
- Enter "EDIT BASE.INI" to open the INI-file in edit mode.
- Go to the bottom of the file.
- Within the tag [FILER] there are 3-5 entries which have to be changed (depending on the firmware version of your CMU):
 - @CONSTDIRECTORYINTERNALPRINT=<> ► change <> to "\"
 - @INTERNALDRIVE=<> ► change <> to "C"
 - @EXTERNALDRIVE=<> ► change <> to "D"
 - @CONSTDIRECTORYINTERNAL=<> ► change <> to ""
 - @DEFDIRECTORYINTERNAL=<> ► change <> to "\"
- Save the file and restart the instrument.

Solving possible problems

For standard CMU's, only the BASE.INI file which is stored in the currently used firmware directory must be changed.

If your CMU is very often updated with new firmware version, there may be some problems locating the currently used BASE.INI file. In this case, please change all BASE.INI files on your machine:

- Change to directory C:\CMU.
- Search for all BASE.INI files by using the DOS command "DIR BASE.INI /S". All BASE.INI files will be listed.
- Write down all the directories listed.
- Change every BASE.INI file.

After the change in the BASE.INI file, all hardcopies will be stored in the base directory of C ("C:\").

The directory operations which are performed by the DATA button on the frontpanel will also have "C:\" as root drive.

Important notes

- Only hardcopies which are stored AFTER changing the BASE.INI file can be copied to the PC using CMUCopy.

Hardcopies which were stored BEFORE changing BASE.INI will not be visible for CMUCopy and need to be transferred manually (see CMU operating manual for details.)

- If you have already changed the BASE.INI file for firmware versions >= 3.10, please change is back to the original setting:
 - @CONSTDIRECTORYINTERNALPRINT=<>
 ► change <> to "\\INTERNAL\USERDATA\PRINT"
 - @INTERNALDRIVE=<>
 ► change <> to "C"
 - @EXTERNALDRIVE=<>
 ► not used any more
 - @CONSTDIRECTORYINTERNAL=<>
 ► change <> to "\\INTERNAL"
 - @DEFDIRECTORYINTERNAL=<>
 ► change <> to "USERDATA\SAVE"

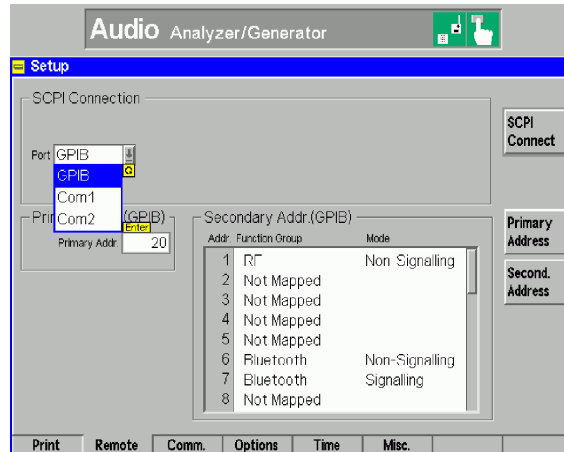
5 Connecting the Computer and the Instrument

5.1 Connecting the instruments

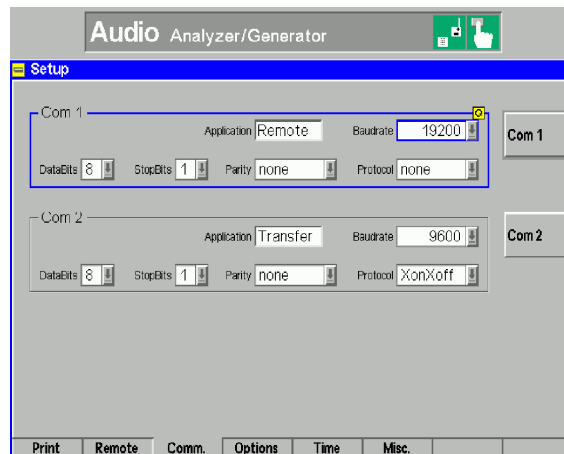
Connect the CMU and the PC via an IEEE bus or serial cable.

5.2 CMU interface setup

Select **GPIB** (IEEE bus) or **COM1/2** (serial interface) on the CMU:



If you want to use the serial interface, please set up the CMU as shown below:



The minimum cable configuration to get contact to the instrument is a basic X-modem cable (for 9-pin serial connector):

- Pin 5 to Pin 5 (Ground)
- Crossing Pin 2 and Pin 3 (Receive and Transmit)

6 Installing the Software

The software has to be installed on the PC. To do this, run CMUCopy_<Version Number>.exe and follow the instructions on the screen. All necessary settings (installation path, program folder location, ...) can be set during the installation.

The software will install

- the software itself including a release history and an uninstall routine
- Microsoft Visual Basic 6.0 Service Pack 6 Runtime Redistribution Pack
- additional runtime support files for Visual Basic programs
- Windows Script Version 5.6

During installation, the program files are copied to the directory of your choice and an **CMUCopy** folder is installed in your Start – Program menu folder.

After the installation is completed, a new entry CMUCopy can be found in the Start – Program folder of your PC. Click "CMUCopy" to run the software.

Instrument Parameters

The program does not modify any parameters on the CMU. Use any settings you require to create the screenshot.

7 Operating the Software

Saving screenshots on the CMU

The program can only transfer hardcopies which are already saved on the CMU.

To store hardcopies on the CMU, select "**Internal WMF**" as "**DESTINATION**" before pressing the PRINT key and saving the screenshots.

First software start

If you are using GPIBShot for the first time, the following window will appear:

Welcome to CMUCopy, version 1.5 Rohde & Schwarz GmbH & Co. KG

You are using an unregistered version of CMUCopy. This version has full functionality and no expiration date. As we are continuously improving the program, we depend on your comments and experience with CMUCopy. Therefore, we kindly ask you to register CMUCopy. Registration is free of charge and does not obligate you or your company.

To register:

1. Fill out the registration form below.
2. Click "Copy Registration Form to Clipboard".
3. Open your mail client and paste the clipboard into the email message field with 'Ctrl-V'.
4. Send the registration form to TM-Applications@red.rohde-schwarz.com.

You will receive an email from Rohde & Schwarz with your registration key.

Name *

* The registration key is derived from your name. Please fill out Email and country as well. All other fields may be filled out optionally. Please help us by also providing these few details.

Company Dep.
Street City
Telephone Country *

Email *
Comments

Copy Registration Form to Clipboard

Once you received your registration key

1. Enter your User Name and Registration Key.
2. Click "Continue".

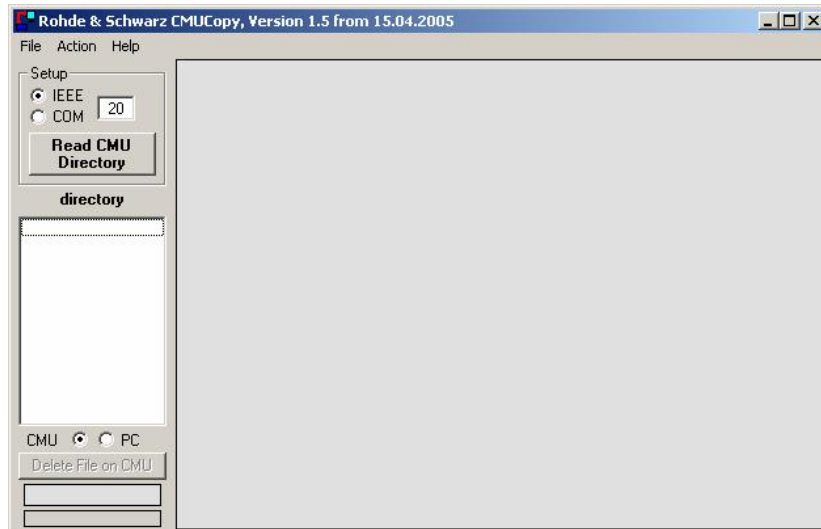
CMUCopy will start immediately. This registration form will no longer appear at program start.

User Name **Continue**
Key Code

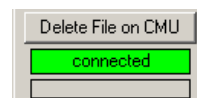
Please follow the instructions on the screen. After clicking **"Continue"** or entering **User Name** and **Key Code**, the user interface will appear.

Transferring Hardcopies to the PC

To transfer the hardcopies to the PC, start the program:



1. Select IEEE or COM (serial) connection.
2. Optionally, select **"File ► Set PC File Path"** from the menu to select the path for saving the images on your PC. The default path is the path CMUCopy is running from.
3. Enter the IEEE bus address of the CMU or the number of the serial PC interface you want to use.
4. Press **"Read CMU directory"**. A status indicator will appear at the bottom of the window when the CMU is found on the IEEE / serial bus:



CMU hardcopy transfer via IEEE bus

All hardcopy files (WMF-format) are listed in the list box.
Please note that only files with extension "WMF" are listed!

- By clicking on a file in the list, this file is
 - transferred
 - displayed on the PC
 - copied to the folder you selected via "File Path on PC" and
 - copied to the clipboard.
(You can paste the image via <CTRL>+<V> to any application).
- Selecting a file and pressing on your keyboard deletes the selected file. The file will also be deleted when you press the button **"Delete File on CMU"**.
- Selecting **"Actions ► Copy all files from CMU to PC"** from the menu copies all files from the CMU to the PC folder the program is running in.
- Selecting **" Actions ► Delete all files on CMU"** from the menu deletes all hardcopy files stored on the CMU.
- Use the radio buttons **"CMU"** and **"PC"** to switch between the hardcopy directory of the CMU and the directory in the PC, in order to display stored CMU hardcopy files on the PC.
Note that the files on the PC can only be displayed, not deleted.

Note: *Due to the size of the hardcopy files, the serial transfer takes about 2 minutes for each file. A progress bar beneath the status indicator will show the progress of the transfer.*

8 Additional Information

This application note and the associated program GDE are updated from time to time. Please visit the website

[1MA45 \(http://www.rohde-schwarz.com/appnote/1MA45\)](http://www.rohde-schwarz.com/appnote/1MA45)

in order to download new versions. After installation, the latest program information can be found in the file *Changes.txt* in the installation directory. You can access this file also from link *CMUCopy/Changes* from your *Start - Programs* folder.

Please contact **TM-Applications@rsd.rohde-schwarz.com** for comments and further suggestions.



ROHDE & SCHWARZ GmbH & Co. KG · Mühldorfstraße 15 · D-81671 München · P.O.B 80 14 69 · D-81614 München ·
Telephone +49 89 4129 -0 · Fax +49 89 4129 - 13777 · Internet: <http://www.rohde-schwarz.com>

This application note and the supplied programs may only be used subject to the conditions of use set forth in the download area of the Rohde & Schwarz website.