Products: CMU

CMUCopy
Transfering CMU Hardcopies to a PC via the IEEE Bus or the Serial Interface

Application Note

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

ROHDE & SCHWARZ

Contents

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. If you want to make screenshots from other R&S instruments, please refer to Application Note 1MA25 (GPIBShot).*

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

The software runs on a PC with the following features:

- CPU: Pentium 133 MHz or better

- RAM: 64 Mbyte or more

- Monitor: VGA colour monitor

- (IEEE bus: IEC/IEEE-bus interface Rohde & Schwarz IEEE 488.2 bus interface PS-B4, 1006.6207.04 or National Instruments AT-GPIB/TNT)

Software Requirements

- 32 bit operating system
  (Windows 95/98, Windows NT 4.0, Windows 2000, Windows ME)

- GPIB (IEEE-bus) driver installed if the IEEE bus is used

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.

3. 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 (z.B. BIN_V2.15).

4. Change directory to \BASE\BSW\EXE.

5. Enter "EDIT BASE.INI" to open the INI-file in edit mode.

6. Go to the bottom of the file.

7. 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 "\"

8. 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:

1. Change to directory C:\CMU.

2. Search for all BASE.INI files by using the DOS command "DIR BASE.INI /S". All BASE.INI files will be listed.

3. Write down all the directories listed.

4. 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.
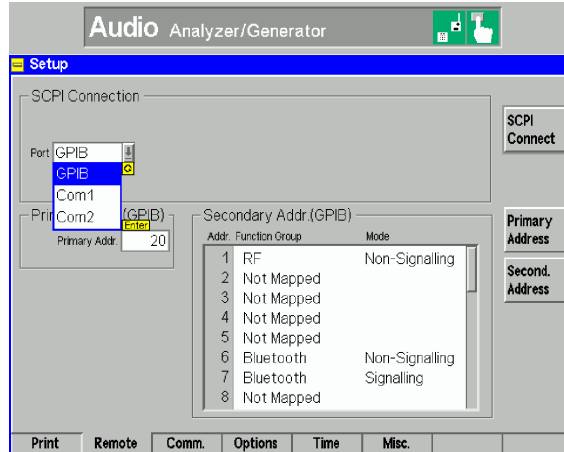
Important notes

1. 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 transfered manually
   (see CMU operating manual for details.)

2. 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

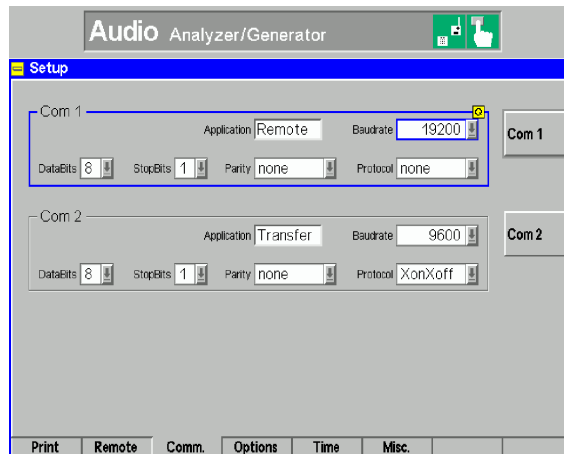## I. Connecting the instruments

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

II. 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

Presettings and Installation

The Microsoft Installer is used to install the CMU hardcopy utility.

Under Windows 2000 and Windows XP, or if you have already installed software with the Microsoft Installer, then the Microsoft Installer is already installed. You can start SETUP.MSI directly.

To Install MS Installer:

- under Windows 95: run InstMSIA. EXE

- under Windows 98 and Windows NT 4.0: run InstMSIW.EXE

Then start SETUP.MSI to install the program.

During installation, program files are copied to a directory of your choice. An icon is created on your computer's desktop for running the utility.

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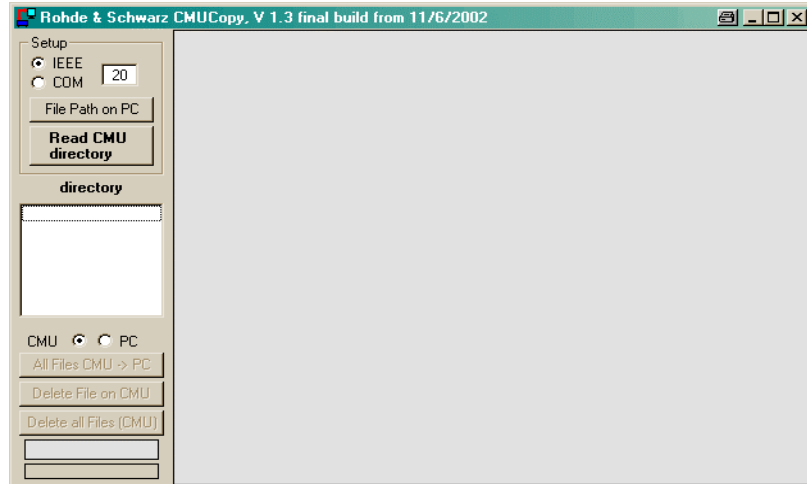
Please follow the instructions on the screen. After clicking **"Continue"** or entering **User Name** and **Key Code**, the user interface will appear.

Transfering Hardcopies to the PC

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

1. Select IEEE or COM (serial) connection.

2. Optionally, press **"File Path on PC"** 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:

   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
  - transfered
  - displayed on the PC
  - copied to the folder you selected via "File Path on PC" and
  - copied to the clipboard.
    (You can easily paste the image via <CTRL>+<V> to any application).

- Selecting a file and pressing <DEL> deletes the selected file. The file will also be deleted when you press the button **"Delete File on CMU"**.

- **"All Files CMU -> PC"** copies all files from the CMU to the PC folder the program is running in.

- **"Delete all Files (CMU)"** 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

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

ROHDE & SCHWARZ