
Storing and Loading Complete Test Receiver Data Records via IEC/IEEE-Bus

Application Note 1EPAN20E

Subject to change

24 April 1996, Matthias Keller

Products:

ESS

ESHS 10/20/30, ESVS 10/20/30

ESPC

ESVD/ESVB

ESN, SVN20/30/40



Problem

Especially with test receivers not comprising a built-in disk drive (ESHS10, ESVS10, ESVD, ESVB and ESPC) it is necessary to store instrument settings before a firmware update or before changing the battery of the static memory to be able to restore the settings later on.

Frequently it is desirable to exchange settings or comprehensive data like transducer sets between receivers, or receivers have to be set up to suit different applications.

Solution

All Rohde&Schwarz test receivers of the ESxS, ESxN and ESPC series are equipped with a remote-control interface to IEC 625-2(IEEE) for high-speed data transmission. The program DATADUMP.EXE for MS-DOS® reads the data from the receiver via this interface and stores them in a file. Conversely, data from the file may be used for programming the receiver.

Hardware and software requirements

The program runs on PCs. The controller must be equipped with an IEC/IEEE-bus interface (R&S PS-B4 or National Instruments PCI/A or GPIB-AT).

The MS-DOS operating system must be installed on the controller and the IEC/IEEE-bus driver GPIB.COM be loaded.

The compiled program DATADUMP.EXE can be started by entering program name and command-line parameters and confirming with the Enter key.

With the aid of the QuickBASIC development environment the source text DATADUMP.BAS can be modified, newly converted or started.

To do so an IEC/IEEE-bus driver software is required which is available from Rohde & Schwarz under the designation PS-K2.

Type Designation	Order No.
PS-B4 Second IEC-Bus Interface (IEC 488-2) incl. SW for WINDOWS and DOS	1006.6297.04
PS-K2 IEC/IEEE-Bus Driver	1007.1750.31

Command line parameters

- /? outputs a help text for the various command line parameters.
- /ad n n defines the IEC/IEEE-bus address of the receiver. The standard address is 17.
- /df <file> file is the name of the file - with path indication, if any - from which settings are read or into which they are written. With /df <file> not specified, the DUMP.DAT file is used.
- /sa selects the save mode from the default state.
- /lo selects the loading of the file. /sa and /lo cannot be specified simultaneously.
- /rs reduces the data to be saved to receiver settings.
- /ll stores limit-line data.
- /tr stores transducer factors.
- /rs /ll and /tr may be combined. If none of these parameters is specified, all data are saved. The parameters do not affect the loading of data records.

Examples:

> datadump

The complete settings are read from a receiver with the IEC/IIEEE-bus address 17 and saved in the DUMP.DAT file.

> datadump /ad 22 /sa /df limits.dat /l1
Limit-line data are read from a receiver with the IEC/IIEEE-bus address 22 and saved in the LIMITS.DAT file.

> datadump /ad 19 /df ess.dat /lo
Data in the ESS.DAT file are used for programming a receiver with the IEC-IIEEE-bus address 19.

The following points have to be observed however:

Receiver settings are not compatible and cannot be exchanged between different receiver models whereas limit-line and transducer-factor records have the same format and can be exchanged.

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