



Description

In telecommunication, evaluating speech quality as perceived by the user with instrumental methods is an important tool to quantify and compare the performance of terminal devices and single transmission paths up to whole networks. Manually processing large amounts of speech signal files quickly becomes time-consuming. To facilitate this task, HEAD acoustics developed the Batch Processor. This software tool allows automated processing of speech signal files with all supported methods.

The Batch Processor is available in two variants – standalone versions linked to specific calculation methods or a universally usable version to be used alongside the HEAD acoustics analysis software ACQUA. The standalone version is available for either 3QUEST, PESQ or POLQA. They are ideally suited for analysis of speech signal files by means of the linked method when an ACQUA system is not available. ACOPTS for additional calculation methods can be added as needed.

If an ACQUA system is available, the ACQUA-attached version as ACOPT 31 is recommended. It allows to use all supported methods which are already available on the ACQUA PC as an ACOPT:

- 3QUEST (ACOPT 21)
- 3QUEST SWB/FB (ACOPT 35)
- ABLE (ACOPT 37)
- EQUEST (ACOPT 29)
- PESQ (ACOPT 16)
- POLQA (ACOPT 30)
- SNRI & TNL (ACOPT 28)
- Speech-based Double Talk (ACOPT 32)
- TOSQA (ACOPT 10)

To automate tasks for the Batch Processor, the user writes a simply-structured INI or TXT file specifying filenames, paths and chronological order. This process also allows advanced automation by auto-generating the INI/TXT file with instructions based on previously obtained data.



DATA SHEET

Batch Processor

For standalone use:

- **3QUEST (Code 6977)**
- **PESQ (Code 6981)**
- **POLQA (Code 6982)**

As ACQUA option:

- **ACOPT 31 (Code 6858)**

Overview

The analysis software ACQUA supports numerous calculation methods for instrumental speech quality evaluation (see text). They can be added as needed via ACQUA options (ACOPTS).

To efficiently analyze large amounts of speech signal files with these methods, HEAD acoustics developed the Batch Processor. This software tool allows automated processing of speech signal files in batches when the corresponding ACOPT is accessible.

The Batch Processor is available in three standalone versions (with 3QUEST / PESQ / POLQA) or as ACOPT 31 for usage alongside ACQUA.

Key Features

- Convenient batch processing of speech signal files by the means of various calculation methods
- Can be extended with additional calculation methods at any time
- Simple command file structure (TXT or INI) for easy application and the option of advanced automation
- Accepts various file types (DAT, HDF, WAV, PCM, RAW)

Applications

Quality evaluation of telecommunication terminals, single transmission paths and whole networks by means of:

- 3QUEST (ETSI EG 202 396-3 & TS 103 106)
- 3QUEST SWB/FB (ETSI TS 103 281)
- ABLE (ETSI TS 103 558)
- EQUEST
- PESQ (ITU-T P.862)
- POLQA (ITU-T P.863)
- SNRI & TNL (ITU-T G.160, App. II, Amd. 2)
- Speech-based Double Talk (ITU-T P.501 / P.502 & TS 26 132)
- TOSQA

Overview of Batch Processor versions

		Standalone (3QUEST)	Standalone (PESQ)	Standalone (POLQA)	as ACOPT 31
Calculation method					
	ACOPT				
3QUEST	21	●	○	○	○
3QUEST SWB/FB	35	○	○	○	○
EQUEST	29	○	○	○	○
PESQ	16	○	●	○	○
POLQA	30	○	○	●	○
SNRI & TNLR	28	○	○	○	○
Speech-based Double Talk	32	○	○	○	○
TOSQA	10	○	○	○	○
ABLE	37	○	○	○	○

When the Batch Processor is used manually for few files, they can be added to the processing list by drag-and-drop or via the list's right-click menu. In the list, files can be arbitrarily resorted. Files are arranged in groups as needed for the selected calculation method, the column header changes accordingly. For audio files with multiple channels, the channel to be processed can be selected for each group. Multi-channel files can be added repeatedly to process different channels.

The software accepts various file types in HEAD acoustics-specific formats as well as commonly used formats:

- HEAD acoustics data files (*.dat)
- HEAD acoustics HDF files (*.hdf)
- WAV files (*.wav)
- RAW files (*.pcm or *.raw)

For WAV and RAW files, the import settings can be adjusted to specific needs. The same goes for the chosen calculation method algorithm. The time range to be analyzed can be set as well (full file, single time range, multiple time ranges).

Subsequently, the batch process is started. Calculation results can be saved to a text file, more detailed results can be exported to Excel or SQLite files.

Delivery Items

- **Setup DVD** Batch Processor
- **USB Dongle** with license file (or patch for existing ACQUA dongle)
- For **PESQ/POLQA**: 1 add. **dongle**

Note: Network options are not available for any of the variants.

- **For standalone versions: 1 year** software maintenance agreement (**SMA**) and update contract (optionally renewable on a yearly basis)

Note: For ACOPT 31 version (Code 6858), SMA is included in ACQUA SMA.

General Requirements

Software

- Microsoft Windows 8/8.1 Pro or Windows 10 Pro (English or German version, including all current service packs).

Hardware

- **PC** with multi-core processor, 1.6 GHz or faster, 4 GB RAM, 40 GB free disk space, at least 3 free USB Ports

Options

- **3QUEST (Code 6844)**, ACOPT 21, (included in Code 6977)

- **3QUEST SWB/FB (Code 6866)**, ACOPT 35
- **ABLE (Code 6896)**, ACOPT 37
- **EQUEST (Code 6856)**, ACOPT 29
- **PESQ (Code 6836)**, ACOPT 16, (included in Code 6981)
- **POLQA (Code 6857)**, ACOPT 30, (included in Code 6982)
- **SNRI & TNLR (Code 6855)** acc. to G.160 Appendix II, ACOPT 28
- **Speech-based Double Talk (Code 6859)**, ACOPT 32
- **TOSQA (Code 6820)**, ACOPT 10

```

BatchExample_MultipleFiles.TXT - Editor
Datei Bearbeiten Format Ansicht ?
### Example 2:
### Clean / Unprocessed / Processed composed from three different, single channel DAT files.
### Files are located in different folders
###
### For this case, there is only one possible channel selection (Channel 1), because all
### three files only have one channel. The Batch Processor only offers a certain channel
### selection, if all files which are currently in the file window have at least this number
### of channels.
###
### Channel Selection in BatchProcessor:
### Proc = 1
### Unproc = 1
### Clean = 1
MultipleFiles\3QUEST_Example_Clean.dat
MultipleFiles\3QUEST_Example_Unproc.dat
MultipleFiles\3QUEST_Example_Proc.dat
    
```

Exemplary TXT file with commands for the Batch Processor

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