

Fax Server

<http://www.vocal.com>

VOCAL Technologies, Ltd. fax server software libraries include a complete range of ETSI / ITU / IEEE compliant modulations, optimized for execution on ANSI C and leading DSP architectures (ADI, ARM, DSP Group, LSI Logic ZSP, MIPS and TI). This software is modular and can be executed as a single task under a variety of operating systems or it can execute standalone with its own kernel.

The line interface may be an analog front end (codec and DAA) or a digital interface such as T1/E1, Switched 56, and ISDN. The upper end of this software can provide a direct binary and HDLC interface.

As an option, fax server can be combined with VOCAL's V.34fax to provide image transfer rates of up to 33600 bps. The V.21 channel 2 and V.27ter are the minimum requirements for Group 3 Fax. For non-V.34fax, V.21 channel 2 is used to transfer T.30 control frames. The "high speed" modulations V.27ter, V.29 and V.17 are used for the "compressed image" transfer. The term "compressed image" is used loosely here, as the high speed data may in actuality be other data, such as in the case of binary file transfer (BFT).

All of the fax server and data streams can be controlled with VOCAL's T.30 function or with VOCAL's facsimile service class 1 command sets (EIA-578 and T.31). The T.30 function could in turn be controlled with VOCAL's facsimile service class 2 command sets such as T.32 (known as fax class 2.1), EIA-592 (known as fax class 2.0) and industry standard (known as fax class 2).

Features:

- Fully compliant with ITU recommendations
- Modular software suite available with controller code
- Optimized for high performance on leading edge DSP architectures
- Multi-tasking environment compatible

Configurations:

- DAA interface using linear codec at 7.2 kHz, 8.0 kHz or 16.0 kHz sample rate
- Direct interface to 8.0 kHz PCM data stream (A-law or μ -law)
- North American and International Dialing/Telephony dialing functions available
- Facsimile protocol layer (T.30 with ECM/BFT) available
- Facsimile service class 1 command sets (T.31 and EIA-578) available
- Facsimile service class 2 command sets (T.32, EIA-592 and industry standard fax class 2) available.
- Fax server can be combined with V.34fax facsimile modulations and startup procedures (V.8 and V.8bis).
- Data/Facsimile/Voice Distinction upon startup available. Complete data modem systems and speech coder systems available.
- Multiple modulation ports can be executed on a single DSP

Example Resource Requirements (ADSP-21xx):

- Basic Fax server (V.29/V.27ter/V.21 channel 2) using a 7.2 kHz codec on an ADSP-2105 requires 5.2 MIPS
- Basic Fax requires 703 internal + 5202 external words of program memory
- Basic Fax requires 201 internal + 898 external words of data memory
- V.17 Fax (V.17/V.29/V.27ter/V.21 ch 2) using a 7.2 kHz codec on an ADSP-2105 requires 5.2 MIPS
- V.17 Fax (V.17/V.29/V.27ter/V.21 ch 2) requires 1084 internal + 6744 external words of program memory
- V.17 Fax server (V.17/V.29/V.27ter/V.21 ch 2) requires 226 internal + 1865 external words of data memory
- An 8.0 kHz sample rate interface requires an additional 0.5 MIPS

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