

Fax Modem

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VOCAL Technologies, Ltd. fax modem software libraries include a complete range of ETSI / ITU / IEEE compliant modulations, optimized for execution on ANSI C and leading DSP architectures (ADI, AMD-Alchemy, 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.

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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 offers a direct binary and HDLC interface.

As an option, this modulation can be combined with other relevant Group 3 facsimile modulations (V34 Fax Modem, V.17, V.29, V.27 *ter* and V.21 channel 2). All of the facsimile modulations 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 V34 Fax Modem:

- Fully compliant Group 3 Facsimile Support
- Full and half duplex modes
- Primary data channel supports 14 data rates in the range of 2400 bps to 33600 bps, in increments of 2400 bps
- Fax Modem control channel rates are 1200 and 2400 bps
- 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 u-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 modem system can be combined with other Group 3 facsimile modulations (V.17/V.29/V.27ter/V.21 channel 2).
- Data/Facsimile/Voice Distinction upon startup available. Complete data modem systems and speech coders systems available.
- Multiple modulation ports can be executed on a single DSP

Example Resource Requirements (ADSP-2181) V34 Fax Modem:

- 16k words program memory, 16k words data memory using overlays between phase 1 and 2, also between 2 and phase 3.
- Estimated 26 MIPS for 33,600 bps at the highest symbol rate using 8 kHz sampling rate.
- Lower MIPS possible with less frequent adaptive coefficient updates.

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