

Aculab DSP65 firmware module

Fax and modem tone detection

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1 Introduction

The purpose of this firmware is to discern the presence of a speaker from a fax / modem device. The DSP detects the presence of a fax (CNG tone generated at 1100 Hz) or the presence a modem (calling tone generated at 1300 Hz.) and alerts the Host if any of these tones are present for a particular length of time.

2 The Fax Tone Detection Firmware Module Structure

The DSP firmware module provides the facility to detect:

1. the presence of a fax. CNG tone detection at 1300 Hz
2. the presence of a modem. Calling tone detected at 1100 Hz +/- 25 Hz

The two lower bits, Bits 0:1 of each output timeslot byte gives an indication of whether a speaker is present, or a fax / modem device is being monitored on the corresponding incoming timeslot.

Bits 1:0	Description
00	speaker
01	CNG: 1075 ~ 1125 Hz
10	Calling tone: 1300 Hz

3 External interfaces

3.1 User Interface

The procedure for download utilises the program, fwdspldr.exe. It's used in the following manner:

```
Fwdspldr -t65 <dsp_pos> <dsp_firmware.b65> <port_no> <pm4_filename>
```

dsp_pos = dspa or dspb

dsp_firmware = any firmware title with the extension .b65.

For fax / modem tone detection: faxdeta.b65 for A-law

For fax / modem tone detection: faxdetu.b65for mu-law

port_no = 0, 1, 2... .n. As many ports as supported with DSP65s

pm4_filename = any pm4 filename with ZAP loader

3.2 Program types Available

There are two types of program available:

faxdeta.b65 (for A-law)

faxdetu.b65 (for u-law)

For fax / modem tone detection

4 Configuration

Timeslot	Output
0	Fax / modem tone detected
1	Fax / modem tone detected
2	Fax / modem tone detected
3	Fax / modem tone detected
4	Fax / modem tone detected
5	Fax / modem tone detected
6	Fax / modem tone detected
7	Fax / modem tone detected
8	Fax / modem tone detected
9	Fax / modem tone detected
10	Fax / modem tone detected
11	Fax / modem tone detected
12	Fax / modem tone detected
13	Fax / modem tone detected
14	Fax / modem tone detected
15	Fax / modem tone detected
16	Fax / modem tone detected
17	Fax / modem tone detected
18	Fax / modem tone detected
19	Fax / modem tone detected
20	Fax / modem tone detected
21	Fax / modem tone detected
22	Fax / modem tone detected
23	Fax / modem tone detected
24	Fax / modem tone detected
25	Fax / modem tone detected
26	Fax / modem tone detected
27	Fax / modem tone detected
28	Fax / modem tone detected
29	Fax / modem tone detected
30	Fax / modem tone detected
31	Fax / modem tone detected