

NoteTaker

A Portable Computing System
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For Xerox Internal Use Only

DRAFT - PLEASE COMMENT - DRAFT

Subject: NoteTaker I/O Connections

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filed on [IVY]<Fairbairn>nt>ntiocon.memo

The NoteTaker system will have to make the following I/O connections to devices outside of the package:

Floppy Disk

Number of signals: 13
Number of signal pins: 17 Number of ground pins: 17
Standard connector: 34 pin PC board edge connector
3M part #: 3463-0001 or AMP #: 583717-5
Type of person requiring access: All users

Comments:

The most natural way to access these signals is through a matching PC edge connector on the I/O backplane. A slightly better solution from the users point of view (I think) is to mount a 37 pin Cannon right-angle connector to the end of the I/O backplane. This way the user does not have to deal with edge connectors (is that bad?). The power for the external floppy disks will *not* come from the NoteTaker power supply.

Video

Number of signals: 4 (Video, comp video, H. sync, V. sync)
Number of signal pins: 4 Number of grounds: 4
Type of person requiring access: All users

Comments:

The video which is going to the internal monitor should also be brought out for use externally. Again I think the natural place to bring it out is on the I/O backplane, where it could terminate on a small edge connector or on a Cannon 9 pin connector which might be a right-angle style connector mounted in the backplane.

Communications:

Number of signals:
 Modem: 4 Grounds required: 4
 EIA: 2 Grounds required: 2
 Ethernet: 5 Grounds required: 5
Type of person requiring access: All users

Comments:

These are the three potential communications ports existing within the NoteTaker. Because it is very unlikely that more than one will be required at any one time, it seems wise to group them in the same connector. I believe there will be enough signal pins on the I/O backplane to allow these signals to exist there. The alternatives for accessing the signals on the backplane are the same as for the previous alternatives.

Digital to Analog Converter:

Number of signals: 2
 Number of grounds: 2
 Type of person requiring access: All users

Comments:

These signals are probably best brought out from the back of the General Purpose I/O card to two phone jacks mounted at the rear someplace.

Analog to Digital Converter:

Number of signals: 16
 Number of grounds: ?
 Type of person requiring access: electrically competent

Comments:

This is a difficult one because some of the 16 signals are required inside the NoteTaker while others need to be brought out externally. Eight of the signals should probably be available on the I/O backplane and the second 8 should only be accessible via an edge card connector on the back of the GPIO card. This implies that there is some moderately clean way of getting flat cables or small round cable out of the package to the rear. The eight signals which terminated in the backplane would be run to various places inside the package such as the batteries and tablet(s).

General Purpose I/O Bus:

Number of signals: <36
 Number of grounds: 4
 Type of person requiring access: All users

Comments:

It would be ideal if this bus could be brought off the rear of the GP I/O card and terminate in an easy-to-get-at connector at the rear of the NoteTaker.

System Bus:

If possible it would be very helpful to bring the system bus on the Memory side to an edge connector at the rear of the Memory backplane. This would be a full 100 pin edge connector. This could be used for expanding the system or as a test port. Access to it would be via a cable and connector. It would probably only be used by sophisticated users.

Summary:

It looks like there might be just enough backplane pins to accommodate all the signals which should be there:

Floppy disk: 13

Video:	4
Communications:	11
A/D converter:	8
Total:	<u>36</u>

At the present time there are 63 pins on the I/O backplane used for bus communications. As we find a need for more (or less) for this purpose, we may have to pare off some of these I/O signals.