

S-device user interface

This interface will be used for devices such as tape drivers, printers, card readers, card punches and the console display. For each devices the interface consists of one file and two event channels. The 2 event channels are called req and rsp.

An individual request on a device will be a call for a certain action to be taken on one or more buffers within the file. The buffers will be specified by giving the address within the file of the first word of the first buffer, the size of the buffers (all must be the same size), and the number of buffers. Also associated with each request will be an error recovery bit which must match the value of an error recovery flag associated with the device. Each time an error occurs on the device, the error recovery flag will be changed in value. Thus more than one request may be sent at one time, and if an error occurs on an early one, then the rest will be ignored. Finally, the request will contain an index to allow the user to associate responses with requests.

A response will contain a bit to signal the presence or absence of an error. An indication will also be given if the request was ignored, either for bad error recovery bit, or bad action. If the request was not ignored, a count will be returned to indicate how many buffers were acted upon. If an error occurred, it occurred on the last buffer acted upon. The response will contain the index of the associated request. Finally, the response will contain 2-12 bit bytes of status information, which for devices on the 6681 will be the 6681 status and the device status.

The actual request is made by sending the following event on the event channel req.

1	11	12	12	12	12
6	5	4	3	2	1

Field Size
Field number

Field Contents

1. action code, request will be ignored if equals 0
2. file address of 1st word of 1st buffer
3. buffer size
4. count (number of buffers to be acted on)
5. user index
6. error recovery bit, request will be ignored if does not match error recovery flag associated with the device.

The actual response will be the following event on the event channel rsp.

12	12	12	12	12
5	4	3	2	1

Field size
Field number

Field Contents

1. user index in request
2. 1st status byte (for 6681 devices, 6681 status)
3. 2nd status byte (for 6681 devices, device status)
4. count of buffers acted on
5. 3777B if request is ignored [fields 2,3 and 4 will equal 0]
4000B if an error occurred
0000B if no error occurred