IOT and Miscellaneous Instructions

SBS16
dsc IOT 50 disable channel nnnn
asc IOT 51 enable channel nnnn
isb IOT 52 initiate break on nnnn
cac IOT 53 disable all channels
esb IOT 54 enable SBS
lsb IOT 55 disable SBS
cbs IOT 56 clear all pending breaks

Type 23 Parallel Drum
dia IOT 61 drum initial address
dba IOT 2061 same but break on addr reached
     IO 0123456-17
        rfffffaaaaaaaaaaaa read enab, track, drum addr
dwc IOT 62 drum word count numwords 0 = 4096
     IO 0123456-17
        wfffffnnnnnnnnnnnn write enab, track, numwords
dra IOT 2062 drum read address
     On return:
     IO 0123456-17
        epixxxaaaaaaaaaaaa current drum address, epi not used
dcl IOT 63 drum core location
     IO 0123456-17
        xxbbbbaaaaaaaaaaaa memory bank, memory address
dss IOT 2063 drum set sbs, nonstandard, dynamic IOT only
     IO 12, 13, 14-17
        xxxxxxxxxxxescccc enable sbs16, set channel, channel

BBN Timesharing Clock
rlk IOT 32 read 1ms clock
     On return, IO contains current 1ms counter, 0-59999
cls IOT 2032 set clock parameters
     AC 0123456789 10-13 14-17
        xxxxxxxeIiMMMMmmmm enable clock, enable 1 min interrupt,
          enable 32 ms interrupt, 1 min channel, 32ms channel
cct IOT 2132 set countdown timer
     AC 0 1234 5-17
        icccctttttttttttt enable interrupts, channel, count
          1ms per count, 1-8191, 017777, count of 0 to reset
          honors i and c, cks bit 3 set when count reaches 0

Misc PDP-1D extensions
lai skip group bit 12, 620040 load AC from IO
lia skip group bit 13, 620020 load IO from AC
lsw skip group bit 5, 630000 swap AC and IO

DCS2
See UsingDCS2.md for detailed information

rch IOT 22 read character from current channel
    IOT 2022 clear IO then rch
     6 low bits if flexo, else 8 low bits
rcr IOT 1022 rch then rsc
    IOT 3022 clear IO then rch, rsc
tcb IOT 4022 send a character to current send channel
tcc IOT 5022 tcb then release current send channel
     6 low bits if flexo, else 8 low bits
rrc IOT 0122 get current receive channel
     On return, IO has current receive channel or
     Bit 0 set, 12-17 010 octal, no current channel
rsc IOT 1122 release current receive channel
ssb IOT 4122 set send channel
     IO bits 12-17 have channel number

Extended DCS2 commands
* means on call, IO bits 12-17 are the channel number to use
scb 4222 set/clear/rebind channel
     See the documentation for the details.
rle 4322 get last error
     IO returns the last error seen
rpc 4422 receive pending count*
     IO returns the count of characters waiting to be read
Rci 4522 clear interrupt status*
ric 4622 get interrupting channel
     IO returns channel number that interrupted or 0100 for none
rcs 4722 get channel status*
     IO returns the status bits for the channel
rwe i 735122 wait for event
     Blocks until any event such as connect, char ready, etc.
roc 5222 override current channel*
     The channel becomes the current channel which is locked
res 5322 enable/disable sbs16
     IO register bit 17 set to 1 enables sbs16, else disables
rxl 5422 convert to/from asci and flexo/concise
     IO bit 8 set to 1 means flexo to ascii, else ascii to flex
     IO bit 9 set to 1 for flexo->ascii means the character is upper-shifted
     Bits 10-17 have the character to convert
     On return, bit 8 set to 1 for ascii->flex means upper-shifted
     Bits 10-17 have the converted character

Note - the various command mnemonics and status codes are defined in include files in the MacroIncludes directory.