

PPU 7600 COMPASS INSTRUCTIONS



| | | | | |
|------|-----|-----|---|-------|
| 01dm | LJM | m,d | Long jump to m+(d) | 10-25 |
| 02dm | RJM | m,d | Return jump to m+(d) | 15-30 |
| 03d | UJN | r | Unconditional jump to p+r | 7, 10 |
| 04d | ZJN | r | Zero jump to p+r | 5-10 |
| 05d | NJN | r | Nonzero jump to p+r | 5-10 |
| 06d | PJN | r | Plus jump to p+r | 5-10 |
| 07d | MJN | r | Minus jump to p+r | 5-10 |
| 10d | SHN | r | Shift (A) by + (left) or - (right) r bits | 6-34 |
| 11d | LMN | d | Logical difference (A) - d | 5 |
| 12d | LPN | d | Logical product (A)*d | 5 |
| 13d | SCN | d | Selective clear (A) | 5 |
| 14d | LDN | d | Load d→A | 5 |
| 15d | LCN | d | Load complement d→A | 5 |
| 16d | ADN | d | Add d+(A)→A | 5 |
| 17d | SBN | d | Subtract (A) - d→A | 5 |
| 20dm | LDC | c | Load c→A | 10 |
| 21dm | ADC | c | Add (A)+c→A | 10 |
| 22dm | LPC | c | Logical product (A)*c→A | 10 |
| 23dm | LMC | c | Logical difference (A)-c→A | 10 |
| 2400 | PSN | | Pass | 5 |

| | | | | |
|-----|-----|---|--------------------------------|----|
| 30d | LDD | d | Load (d)→A | 15 |
| 31d | ADD | d | Add (d)+(A)→A | 15 |
| 32d | SBD | d | Subtract (A)-(d)→A | 15 |
| 33d | LMD | d | Logical difference (A)-(d)→A | 15 |
| 34d | STD | d | Store (A)→d | 15 |
| 35d | RAD | d | Replace add (d)+(A)→d | 25 |
| 36d | AOD | d | Replace add one (d)+1→d | 25 |
| 37d | SOD | d | Replace subtract one (d) - 1→d | 25 |

| | | | | |
|-----|-----|---|------------------------------------|-------|
| 40d | LDI | d | Load ((d))→A | 15,25 |
| 41d | ADI | d | Add ((d))+(A)→A | 15,25 |
| 42d | SBI | d | Subtract (A) - ((d))→A | 15,25 |
| 43d | LMI | d | Logical difference (A) - ((d))→A | 15,25 |
| 44d | STI | d | Store (A)→(d) | 15,25 |
| 45d | RAI | d | Replace add (A)+((d))→(d) | 25,35 |
| 46d | AOI | d | Replace add one ((d))+1→(d) | 25,35 |
| 47d | SOI | d | Replace subtract one ((d)) - 1→(d) | 25,35 |

| | | | | |
|------|-----|-----|--|-------|
| 50dm | LDM | m,d | Load (m+(d))→A | 20,30 |
| 51dm | ADM | m,d | Add (m+(d))+(A)→A | 20,30 |
| 52dm | SBM | m,d | Subtract (A) - (m+(d))→A | 20,30 |
| 53dm | LMM | m,d | Logical difference (A) - (m+(d))→A | 20,30 |
| 54dm | STM | m,d | Store (A)→m+(d) | 20,30 |
| 55dm | RAM | m,d | Replace add (A)+(m+(d))→m+(d) | 30,40 |
| 56dm | AOM | m,d | Replace add one (m+(d))+1→m+(d) | 30,40 |
| 57dm | SOM | m,d | Replace subtract one (m+(d)) - 1→m+(d) | 30,40 |

| | | | | |
|-------|-----|-------|---|---------------------|
| 60dm† | FIM | m,d†† | Jump to m; input word flag on channel d | 10-15 |
| 61dm† | EIM | m,d†† | Jump to m; no input word flag on channel d | 10-15 |
| 62dm† | IRM | m,d†† | Jump to m; input record flag on channel d | 10-15 |
| 63dm† | NIM | m,d†† | Jump to m; no input record flag on channel d | 10-15 |
| 64dm† | FOM | m,d†† | Jump to m; output word flag on channel d | 10-15* |
| 65dm† | EOM | m,d†† | Jump to m; no output word flag on channel d | 10-15 |
| 66dm† | ORM | m,d†† | Jump to m; output record flag on channel d | 10-15 |
| 67dm† | NOM | m,d†† | Jump to m; no output record flag on channel d | 10-15 |
| 70d | IAN | d | Input to A from channel d | 9+ device dependent |
| 71dm | IAM | m,d | Input (A) words to m from channel d | 9+ device dependent |
| 72d | OAN | d | Output from A on channel d | 9+ device dependent |
| 73dm | OAM | m,d | Output (A) words from m on channel d | 9+ device dependent |
| 74d† | RFN | d | Send record flag on channel d | 5 |
| 7700† | ESN | d | Error stop | 5 |

6000 SERIES INSTRUCTIONS

| | | | |
|------|-----|-------|--|
| 260d | EXN | d | Exchange jump to CPU d |
| 261d | MXN | d | Monitor exchange jump CPU d |
| 270d | RPN | d | Read Program address of CPU d |
| 60d | CRD | d | Central read from (A) to d |
| 61dm | CRM | m,d†† | Central read (d) CM words beginning at CM (A)→PPU m |
| 62d | CWD | d | Central write from d to (A) |
| 63dm | CWM | m,d†† | Central write (d) CM words beginning at PPU m→CM (A) |
| 64dm | AJM | m,d†† | Jump to m if channel d active |
| 65dm | IJM | m,d†† | Jump to m if channel d inactive |
| 66dm | FJM | m,d†† | Jump to m if channel d full |
| 67dm | EJM | m,d†† | Jump to m if channel d empty |
| 74d | ACN | d | Activate channel d |
| 75d | DCN | d | Disconnect channel d |
| 76d | FAN | d | Function (A) on channel d |
| 77dm | FNC | c,d†† | Function c on channel d |

6416 INSTRUCTIONS

| | | | |
|------|-----|---|----------------------|
| 260d | ETN | d | Extended transfer |
| 270d | ERN | d | Extended read status |

CHARACTER SETS

| Char. | Display | Hollerith | BCD | | ANSII Subst | | |
|-------|---------|-----------|------|------|-------------|------------|--------|
| | | | Ext. | Int. | Char. | Code Punch | |
| 5 | 40 | 5 | 05 | 05 | 5 | 25 | 5 |
| 6 | 41 | 6 | 06 | 06 | 6 | 26 | 6 |
| 7 | 42 | 7 | 07 | 07 | 7 | 27 | 7 |
| 8 | 43 | 8 | 10 | 10 | 8 | 30 | 8 |
| 9 | 44 | 9 | 11 | 11 | 9 | 31 | 9 |
| + | 45 | 12 | 60 | 20 | + | 13 | 12-8-6 |
| - | 46 | 11 | 40 | 40 | - | 15 | 11 |
| * | 47 | 11-8-4 | 54 | 54 | * | 12 | 11-8-4 |
| / | 50 | 0-1 | 21 | 61 | / | 17 | 0-1 |
| (| 51 | 0-8-4 | 34 | 74 | (| 10 | 12-8-5 |
|) | 52 | 12-8-4 | 74 | 34 |) | 11 | 11-8-5 |
| \$ | 53 | 11-8-3 | 53 | 53 | \$ | 04 | 11-8-3 |
| = | 54 | 8-3 | 13 | 13 | = | 35 | 8-6 |
| space | 55 | space | 20 | 60 | space | 00 | space |
| , | 56 | 0-8-3 | 33 | 73 | , | 14 | 0-8-3 |
| . | 57 | 12-8-3 | 73 | 33 | . | 16 | 12-8-3 |
| ≡ | 60 | 0-8-6 | 36 | 76 | ≡ | 03 | 8-3 |
| [| 61 | 8-7 | 17 | 17 | [| 07 | 8-5 |
|] | 62 | 0-8-2 | 32 | 72 |] | 01 | 12-8-7 |
| % | 63 | 8-6 | 16 | 16 | % | 05 | 0-8-4 |
| ≠ | 64 | 8-4 | 14 | 14 | ≠ | 02 | 8-7 |
| → | 65 | 0-8-5 | 35 | 75 | → | 77 | 0-8-5 |
| √ | 66 | 11-0† | 52 | 52 | √ | 75 | 11-0† |
| ∧ | 67 | 0-8-7 | 37 | 77 | ∧ | 06 | 12 |
| ↑ | 70 | 11-8-5 | 55 | 55 | ↑ | 40 | 8-4 |
| ↓ | 71 | 11-8-6 | 56 | 56 | ↓ | 37 | 0-8-7 |
| < | 72 | 12-0†† | 72 | 32 | < | 73 | 12-0†† |
| > | 73 | 11-8-7 | 57 | 57 | > | 36 | 0-8-6 |
| ∨ | 74 | 8-5 | 15 | 15 | ∨ | 34 | 12-8-4 |
| ∩ | 75 | 12-8-5 | 75 | 35 | ∩ | 74 | 0-8-2 |
| ∪ | 76 | 12-8-6 | 76 | 36 | ∪ | 76 | 11-8-7 |
| ∩ | 77 | 12-8-7 | 77 | 37 | ∩ | 33 | 11-8-6 |

| Char. | Display | Hollerith | BCD | | ANSII Subst | | |
|-------|---------|-----------|------|------|-------------|------------|------|
| | | | Ext. | Int. | Char. | Code Punch | |
| : | 00 | 8-2 | 00 | 12 | : | 32 | 8-2 |
| A | 01 | 12-1 | 61 | 21 | A | 41 | 12-1 |
| B | 02 | 12-2 | 62 | 22 | B | 42 | 12-2 |
| C | 03 | 12-3 | 63 | 23 | C | 43 | 12-3 |
| D | 04 | 12-4 | 64 | 24 | D | 44 | 12-4 |
| E | 05 | 12-5 | 65 | 25 | E | 45 | 12-5 |
| F | 06 | 12-6 | 66 | 26 | F | 46 | 12-6 |
| G | 07 | 12-7 | 67 | 27 | G | 47 | 12-7 |
| H | 10 | 12-8 | 70 | 30 | H | 50 | 12-8 |
| I | 11 | 12-9 | 71 | 31 | I | 51 | 12-9 |
| J | 12 | 11-1 | 41 | 41 | J | 52 | 11-1 |
| K | 13 | 11-2 | 42 | 42 | K | 53 | 11-2 |
| L | 14 | 11-3 | 43 | 43 | L | 54 | 11-3 |
| M | 15 | 11-4 | 44 | 44 | M | 55 | 11-4 |
| N | 16 | 11-5 | 45 | 45 | N | 56 | 11-5 |
| O | 17 | 11-6 | 46 | 46 | O | 57 | 11-6 |
| P | 20 | 11-7 | 47 | 47 | P | 60 | 11-7 |
| Q | 21 | 11-8 | 50 | 50 | Q | 61 | 11-8 |
| R | 22 | 11-9 | 51 | 51 | R | 62 | 11-9 |
| S | 23 | 0-2 | 22 | 62 | S | 63 | 0-2 |
| T | 24 | 0-3 | 23 | 63 | T | 64 | 0-3 |
| U | 25 | 0-4 | 24 | 64 | U | 65 | 0-4 |
| V | 26 | 0-5 | 25 | 65 | V | 66 | 0-5 |
| W | 27 | 0-6 | 26 | 66 | W | 67 | 0-6 |
| X | 30 | 0-7 | 27 | 67 | X | 70 | 0-7 |
| Y | 31 | 0-8 | 30 | 70 | Y | 71 | 0-8 |
| Z | 32 | 0-9 | 31 | 71 | Z | 72 | 0-9 |
| 0 | 33 | 0 | 12 | 00 | 0 | 20 | 0 |
| 1 | 34 | 1 | 01 | 01 | 1 | 21 | 1 |
| 2 | 35 | 2 | 02 | 02 | 2 | 22 | 2 |
| 3 | 36 | 3 | 03 | 03 | 3 | 23 | 3 |
| 4 | 37 | 4 | 04 | 04 | 4 | 24 | 4 |

† 11-0 and 11-8-2 are equivalent
 †† 12-0 and 12-8-2 are equivalent