# ADD IX, rr

Add IX with register pair rr.

*Function:*  IX ← IX + rr

*Format:*

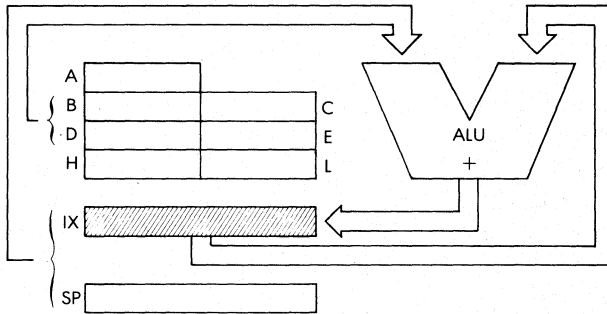| 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | byte 1: DD

| 0 | 0 | r | r | 1 | 0 | 0 | 1 | byte 2
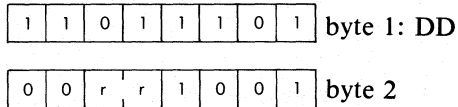
*Description:* The contents of the IX register are added to the contents of the specified register pair and the result is stored back in IX. rr may be anyone of:

| | |
|---|---|
| BC − 00 | IX − 10 |
| DE − 01 | SP − 11 |

*Data Flow:*



*Timing:* 4 M cycles; 15 T states: 7.5 usec @ 2 MHz

*Addressing Mode:* Implicit.

*Byte Codes:*  rr:

| | BC | DE | IX | SP |
|---|----|----|----|----|
| DD− | 09 | 19 | 29 | 39 |

*Flags:*

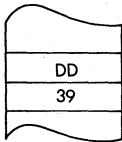| S | Z | | H | P/V | N | C |
|---|---|---|---|-----|---|---|
| | | | ? | | ○ | ● |
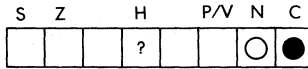
H is set by carry out of bit 11.
C is set by carry from bit 15.

*Example:*     ADD   IX, SP

Before:                After:

DD
39

OBJECT
CODE

IX [ 0000 ]          IX [ 3021 ]

SP [ 3021 ]          SP [ 3021 ]