

## Extension Units

| Device |   | F <sub>1</sub> -10E*              | F <sub>1</sub> -20E*               | F <sub>2</sub> -8EY*              | F <sub>4</sub> 0E                                 | F <sub>1</sub> -60E                             |
|--------|---|-----------------------------------|------------------------------------|-----------------------------------|---|---|
| Inputs | X | $\frac{4}{\square 14-\square 17}$ | $\frac{12}{\square 14-\square 27}$ | —                                 | $\frac{24}{414-427}$<br>$\frac{514-527}{414-427}$ | $\frac{36}{14-27}$<br>$\frac{414-427}{514-527}$ |
|        |   | $\frac{6}{\square 40-\square 45}$ | $\frac{8}{\square 40-\square 47}$  | $\frac{8}{\square 40-\square 47}$ | $\frac{16}{440-447}$<br>$\frac{540-547}{440-447}$ | $\frac{24}{40-47}$<br>$\frac{440-447}{540-547}$ |

\*□—0, 4, 5 Depending On Base Unit Used

## Special Use Relays

|     |   |     |                            |
|-----|---|-----|----------------------------|
| 70  | Run Contact $\text{—}\overline{\text{—}}$               | 472 | Start Counting (C660, 661) |
| 71  | Run Contact Pulse $\text{—}\overline{\text{—}}\text{—}$ | 473 | C660, 661 Roll-Over Flag   |
| 72  | 100 ms Clock  | 570 | Error Flag                 |
| 73  | 10 ms Clock   | 571 | Carry Flag                 |
| 76  | Battery Low   | 572 | Zero Flag                  |
| 77  | Inhibit All Outputs                                     | 573 | Borrow Flag                |
| 470 | High Speed Counter (C660, 661)                          | 574 | Inhibit State Transfer     |
| 471 | Up/Down Mode (C660, 661)                                | 575 | Start State Transfer       |

## Special Functions

Function Number  
K000-K132

Function Parameters  
F670-F675

## Most Commonly Used Special Functions

| Function Key | Description                                   | Function Key | Description                      |
|--------------|---|--------------|----------------------------------|
| 100          | Input All-Point Refresh                       | 111          | Reset of C660                    |
| 101          | Partial Input Refresh                         | 112          | X400 Rising Edge Detect          |
| 102          | All-Point Output Refresh                      | 113          | X400 Rising Edge Detect          |
| 103          | Simultaneous Reset                            | 114          | X401 Rising Edge Detect          |
| 104          | Write M $\rightarrow$ C                       | 115          | X401 Rising Edge Detect          |
| 105          | Read C $\rightarrow$ M                        | 116          | External Reset Inhibit           |
| 106          | Zone Compare $K_1 \leq C \leq K_2$            | 117          | Set-up Auto-Reload               |
| 107          | Compare C $\rightarrow$ M                     | 118          | Execute Auto-Reload              |
| 108          | Zone Compare $K_1, K_2 \leq CC \leq K_3, K_4$ | 119          | Configure Immediate Output Table |
| 109          | Write $K_1, K_2 \rightarrow$ M                | 120          | Prohibit Immediate Output        |
| 110          | Reset M473                                    | 121          | Permit Immediate Output          |



# MITSUBISHI

## F<sub>1</sub> PC Quick Reference Guide

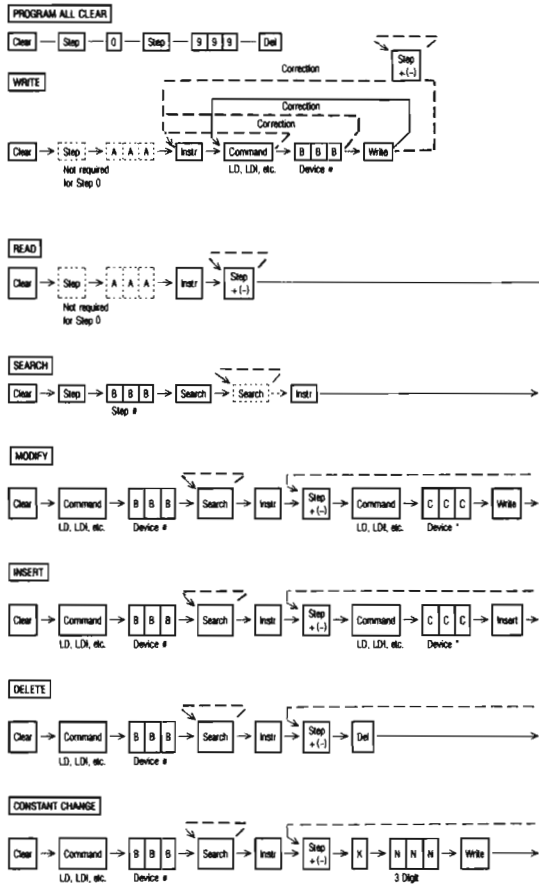
### Base Units

| Device             |   | F <sub>1</sub> -12M                                | F <sub>1</sub> -20M  | F <sub>1</sub> -30M                               | F <sub>1</sub> -40M                               | F <sub>1</sub> -60M                             |
|--------------------|---|--|----------------------|---|---|---|
| Inputs             | X | $\frac{6}{400-405}$                                | $\frac{12}{400-413}$ | $\frac{16}{400-413}$<br>$\frac{500-503}{400-413}$ | $\frac{24}{400-413}$<br>$\frac{500-513}{400-413}$ | $\frac{36}{0-13}$<br>$\frac{400-413}{500-513}$  |
|                    |   | $\frac{6}{430-435}$                                | $\frac{8}{430-437}$  | $\frac{14}{430-437}$<br>$\frac{530-535}{430-437}$ | $\frac{16}{430-437}$<br>$\frac{530-537}{430-437}$ | $\frac{24}{30-37}$<br>$\frac{430-437}{530-537}$ |
| Timers             | T | $\frac{24}{50-57}$<br>$\frac{450-457}{550-557}$    |                      |   |   |   |
|                    |   | $\frac{8}{650-657}$                                |                      |   |   |   |
| *Counters (0-999)  | C | $\frac{30}{60-67}$<br>$\frac{460-467}{560-567}$    |                      |   |   |   |
|                    |   | $\frac{1}{660-661}$ (Pair)                         |                      |   |   |   |
| Internal Relays    | M | $\frac{128}{100-177}$<br>$\frac{200-277}{100-177}$ |                      |   |   |   |
|                    |   | $\frac{64}{300-377}$                               |                      |   |   |   |
| Special Use Relays | M | $\frac{16}{70-77}$<br>$\frac{470-473}{570-575}$    |                      |   |   |   |
|                    |   | $\frac{40}{600-647}$                               |                      |   |   |   |
| Registers & Jump   | D | $\frac{6}{670-675}$                                |                      |   |   |   |
|                    |   | $\frac{64}{700-777}$                               |                      |   |   |   |

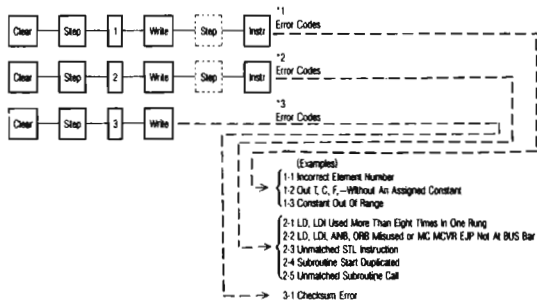
\*Battery Backed

## Program Operation

PC Mode ..... Stop  
 Mode ..... Program  
 Programmer ..... Selector F<sub>1</sub>/F<sub>2</sub>



## EEPROM Instruction



## Monitor Operation

PC Mode ..... Run or Stop  
 Mode ..... Monitor  
 Programmer ..... Selector F<sub>1</sub>/F<sub>2</sub>

