|  |  |  |  |
| --- | --- | --- | --- |
| Current State | Event | | Next State |
| INIT | --- | | STANDBY |
| STANDBY | status == 0 and rxdata(1) == 0x16 | rxdata(2) == 0x55 | SET\_PARAM |
| rxdata(2) == 0x22 | ECHO\_PARAM |
| rxdata(2) == 0x47 | ECHO\_EGRAM |
| NOT(rxdata(2) == 0x55 or 0x22 or 0x47) | --- |
| NOT(status == 0 and rxdata(1) == 0x16) | | --- |
| SET\_PARAM | --- | | STANDBY |
| ECHO\_PARAM | --- | | STANDBY |
| ECHO\_EGRAM | status == 0 and rxdata(1) == 0x16 and rxdata(2) == 0x62 | | STANDBY |
| NOT(status == 0 and rxdata(1) == 0x16 and rxdata(2) == 0x62) | After(k\_sampleRate) | ECHO\_EGRAM |
| NOT(After(k\_sampleRate)) | --- |

# INIT

## ENTRY:

%Setting default values for the programmable parameters

p\_programmableParams = {default programmable params};

k\_sampleRate = 100;

# STANDBY

## ENTRY:

%Waiting for COM packet

# SET\_PARAM

## ENTRY:

p\_programmableParams = {rxdata};

# ECHO\_PARAM

## ENTRY:

%Transmit the current parameters

k\_echoData = rxdata(2);

send\_data();

# ECHO\_EGRAM

## ENTRY:

%Transmit the electrogram data

k\_echoData = rxdata(2);

send\_data();

status {uint8 – 0, 32} – 0 if serial has received data, 32 otherwise

rxdata {[uint8]} – contains array of serially received data

k\_sampleRate {uint8} – the rate at which the egram data is sampled

p\_pacingMode {uint8} – 0 AOO, 1 VOO, 2 AAI, 3 VVI, 4 DOO

p\_lowerRateLimit {uint8} – the BPM rate

p\_upperRateLimit {uint8} – upper rate limit achievable through rate modulation

p\_atrPulseAmplitude {uint16} – amplitude of an atrial pulse

p\_ventPulseAmplitude {uint16} – amplitude of a ventricular pulse

p\_atrPulseWidth {uint8} – width of an atrial pulse

p\_ventPulseWidth {uint8} – width of a ventricular pulse

p\_atrThreshold {uint16} – sensing threshold for AAI mode

p\_ventThreshold {uint16} – sensing threshold for VVI mode

p\_arpDelay {uint16} – delay after which we begin to check for atrial sensed paces

p\_vrpDelay {uint16} – delay after which we begin to check for ventricular sensed paces

p\_fixedAVDelay {uint16} – delay between an atrial and ventricular pace in DOO mode

p\_rateModulation {e\_off, e\_on} – is rate modulation enabled or disabled

p\_modulationSensitivity {uint8} – the amount by which the BPM rate is altered per event