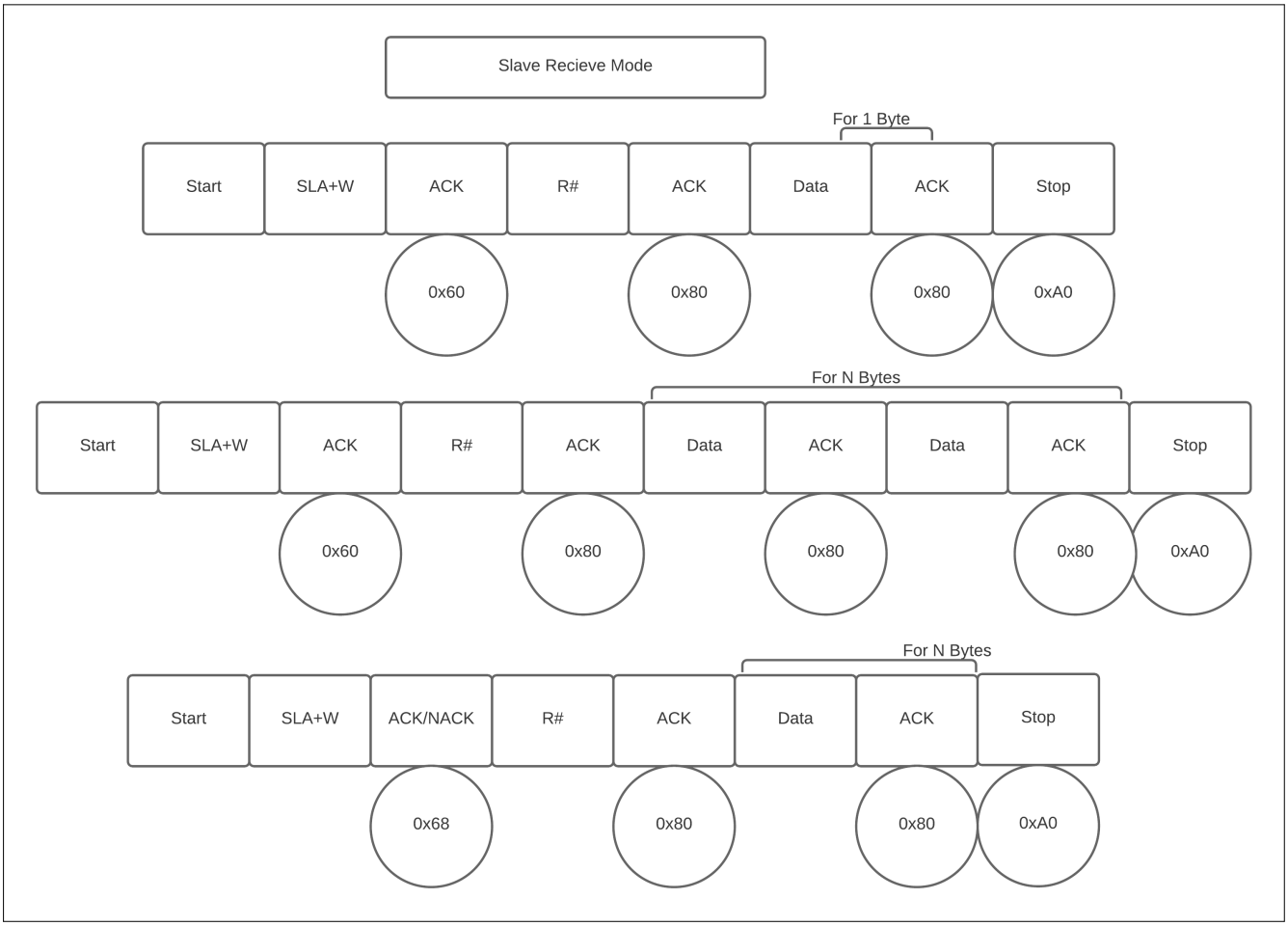
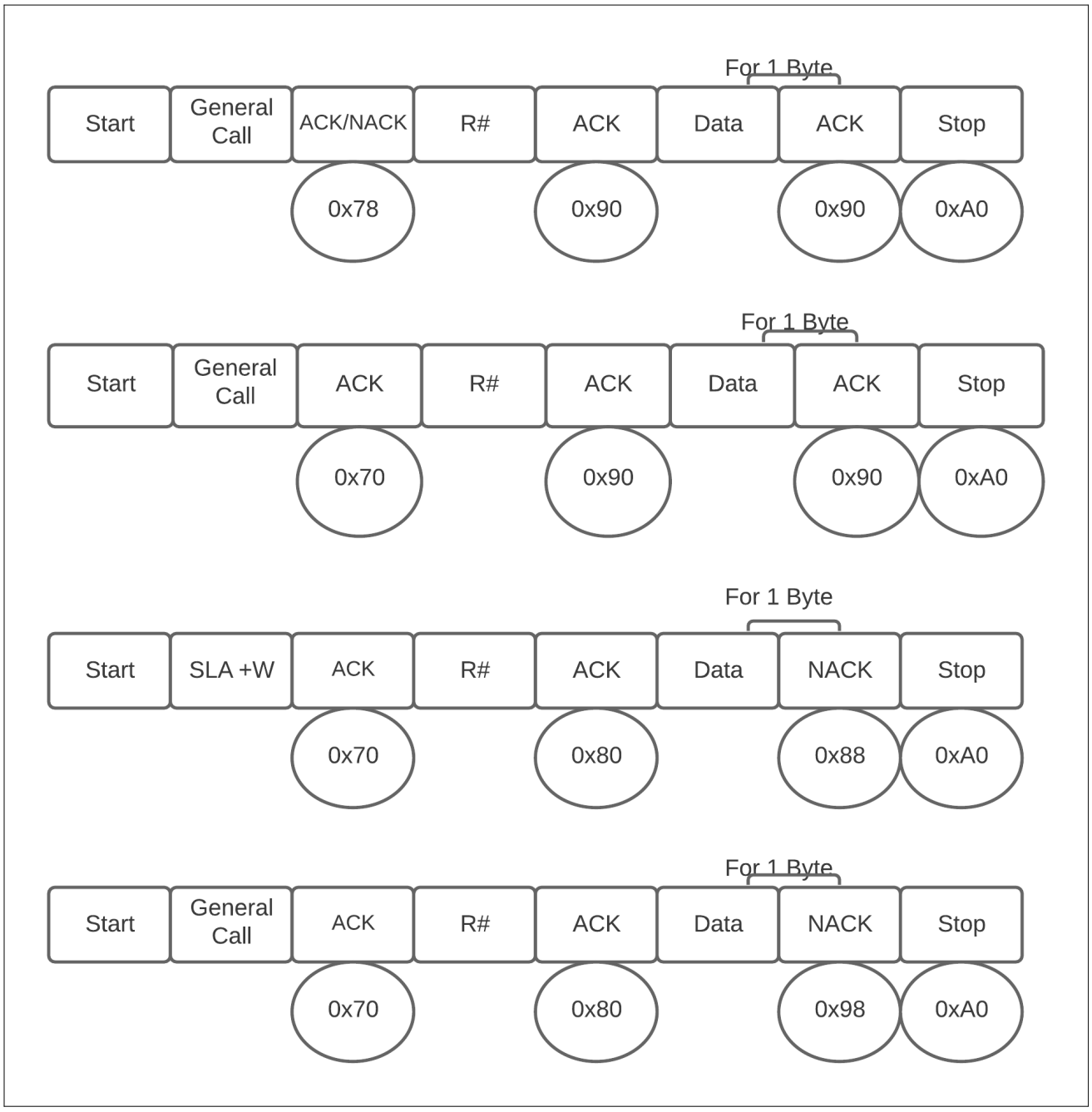
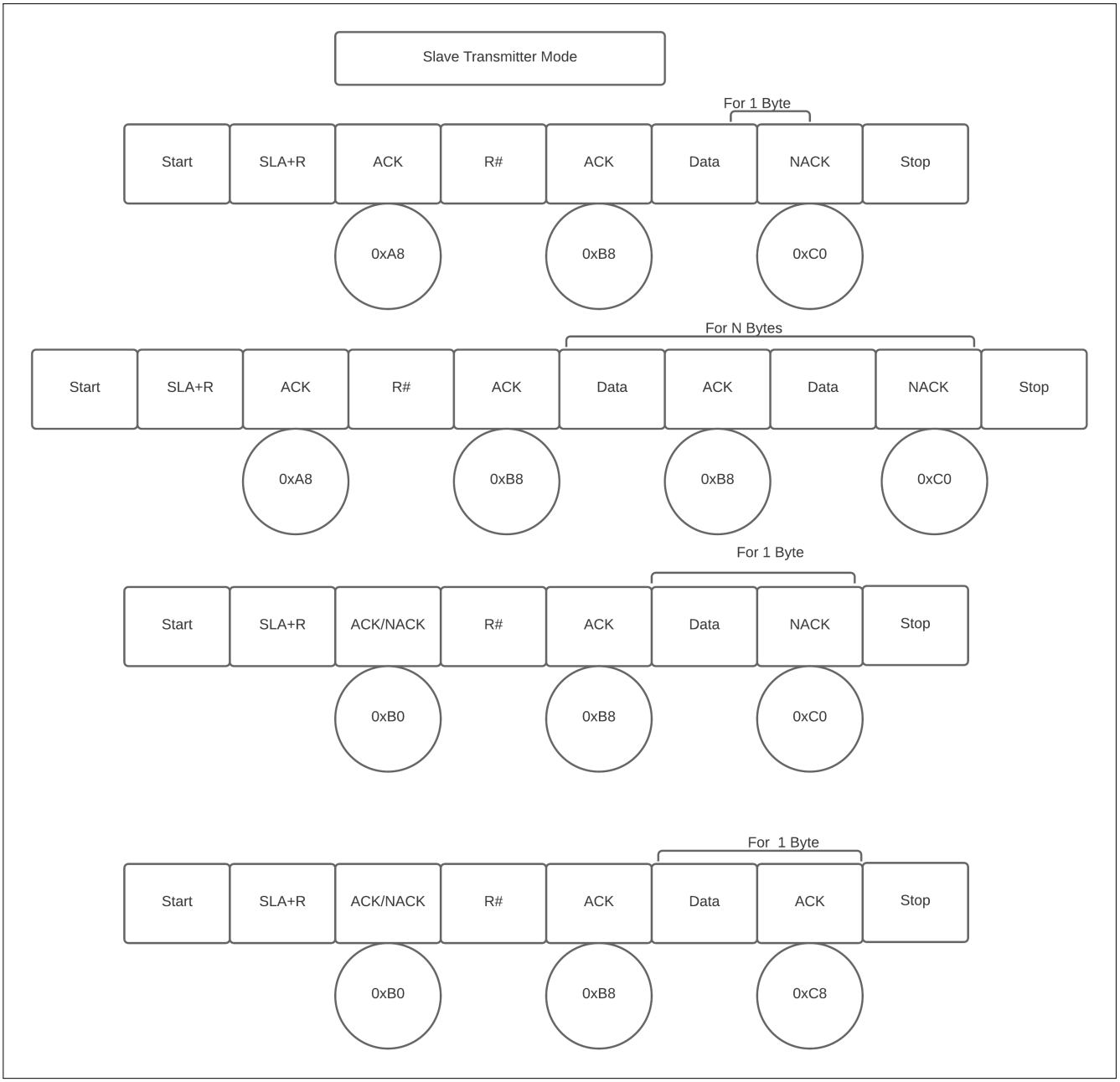
Slave in Receiver Mode :



Slave in Receiver Mode :



Slave in Transmitter mode :



I2C Receiver mode state table :

HW state	Why you got here?	Action to take
0x60	SLAVE address + Write command has been transmitted by Master	AA = 0 ; Data byte is received and NACK should be sent
		AA = 1 ; Data byte is received and ACK should be sent
		Clear SI flag
0x68	Arbitration lost in SLA+R/W as Master. Switched back to slave receiver mode. Received its own SLAVE address and Write command from Master	AA = 0 ; Data byte is received and NACK should be sent
		AA = 1 ; Data byte is received and ACK should be sent
		Clear SI flag
0x70	General call request received from Master	AA = 0 ; Data byte is received and NACK should be sent
		AA = 1 ; Data byte is received and ACK should be sent
		Clear SI flag
0x78	Arbitration lost in SLA+R/W as Master. Switched back to slave receiver mode. Received the General call address from Master	AA = 0 ; Data byte is received and NACK should be sent
		AA = 1 ; Data byte is received and ACK should be sent
		Clear SI flag
0x80	Previously addressed as the correct SLAVE, DATA byte (Device Register)has been received from the Master. ACK returned by the Slave	AA = 0 ; Data byte is received and NACK should be sent
		AA = 1 ; Data byte is received and ACK should be sent
		Clear SI flag
0x88	Previously addressed with its own Slave address. DATA byte has been received; NOT ACK returned.	AA =0 & STA =0 Switched to not addressed SLV mode; Own address is not recognized
		AA =1 & STA =0 Switched to not addressed SLV mode; Own address is recognized
		AA =0 & STA =1 Switched to not addressed SLV mode; Own address is not recognized. Start Condition will be transmitted as STA=1 when the bus becomes free
		AA =1 & STA =1 Switched to not addressed SLV mode; Own address is recognized. Start Condition will be transmitted as STA=1 when the bus becomes free
		Clear SI flag
0x90	Previously addressed with General Call address from the Master. DATA byte has been received from the Master; ACK has been returned.	AA = 0 ; Data byte is received and NACK should be sent
		AA = 1 ; Data byte is received and ACK should be sent
		Clear SI flag
0x98	Previously addressed with General Call from the Master. DATA byte has been received; NOT ACK has been returned.	AA =0 & STA =0 Switched to not addressed SLV mode; General Call is not recognized
		AA =1 & STA =0 Switched to not addressed SLV mode; General Call is recognized
		AA =0 & STA =1 Switched to not addressed SLV mode; General Call is not recognized . Start Condition will be transmitted as STA=1 when bus becomes free

		AA =1 & STA =1 Switched to not addressed SLV mode; General Call is recognized . Start Condition will be transmitted as STA=1 when the bus becomes free
		Clear SI flag
0xA0	A STOP condition or repeat START received. Device is in Slave mode	AA =0 & STA =0 Switched to not addressed SLV mode; General Call and own SLA is not recognized
		AA =1 & STA =0 Switched to not addressed SLV mode; General Call and own SLA is recognized
		AA =0 & STA =1 Switched to not addressed SLV mode; General Call and own SLAis not recognized . Start Condition will be transmitted as STA=1 when bus becomes free
		AA =1 & STA =1 Switched to not addressed SLV mode; General Call and own SLA is recognized . Start Condition will be transmitted as STA=1 when the bus becomes free
		Clear SI flag

I2C Transmitter mode state table :

HW state	Why you got here?	Action to take
0xA8	SLAVE address + Read command has been transmitted by Master	AA = 0 ;Last data byte will be transmitted.
		AA = 1 ; Data byte will be transmitted;
		Clear SI flag
0xB0	Arbitration lost in SLA+R/W as Master. SLAVE address + Read command has been transmitted by Master	AA = 0 ;Last data byte will be transmitted.
		AA = 1 ; Data byte will be transmitted;
		Clear SI flag
0xB8	Data was transmitted and ACK has been received	AA = 0 ;Last data byte will be transmitted.
		AA = 1 ; Data byte will be transmitted;
		Clear SI flag
0xC0	Data was transmitted and NACK has been received	AA =0 & STA =0 & GC=0 Switched to not addressed SLV mode; General Call and own SLA is not recognized
		AA =1 & STA =0 & GC=1 Switched to not addressed SLV mode; General Call and own SLA is recognized
		AA =0 & STA =1 & GC=0 Switched to not addressed SLV mode; General Call and own SLA is not recognized . Start Condition will be transmitted as STA=1 when bus becomes free
		AA =1 & STA =1 & GC=1 Switched to not addressed SLV mode; General Call and own SLA is recognized . Start Condition will be transmitted as STA=1 when the bus becomes free
		Clear SI flag
0xC8	Last data byte was transmitted and ACK has been received. The AA was values was reset in last transmission.	AA =0 & STA =0 & GC=0 Switched to not addressed SLV mode; General Call and own SLA is not recognized. All 1s will be transmitted.
		AA =1 & STA =0 & GC = 0 Switched to not addressed SLV mode; General Call and own SLA is recognized. All 1s will be transmitted.
		AA =0 & STA =1 & GC=0 Switched to not addressed SLV mode; General Call and own SLA is not recognized . Start Condition will be transmitted as STA=1 when bus becomes free. All 1s will be transmitted.
		AA =1 & STA =1 GC=1 Switched to not addressed SLV mode; General Call and own SLA is recognized . Start Condition will be transmitted as STA=1 when the bus becomes free. All 1s will be transmitted.
		Clear SI flag