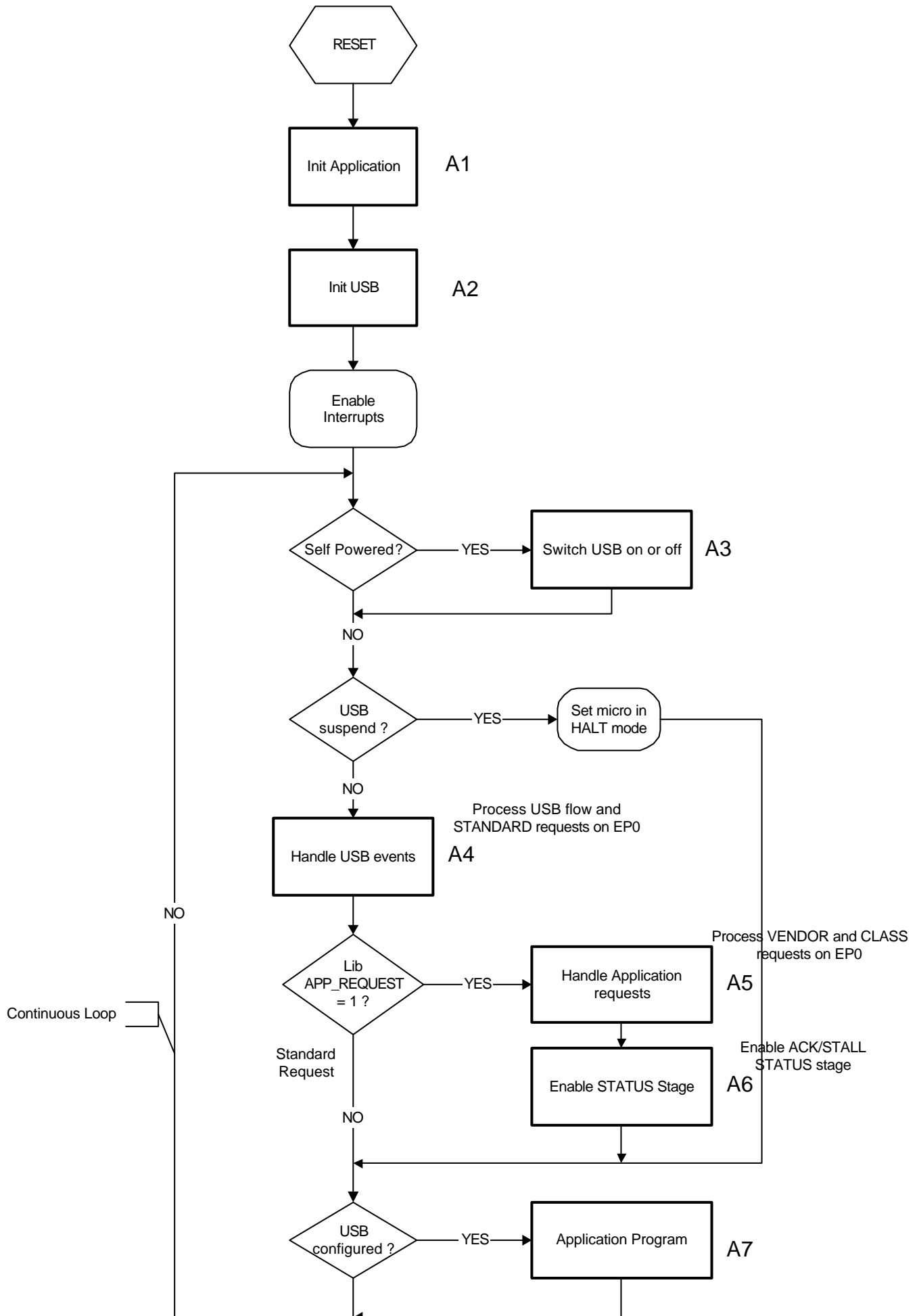
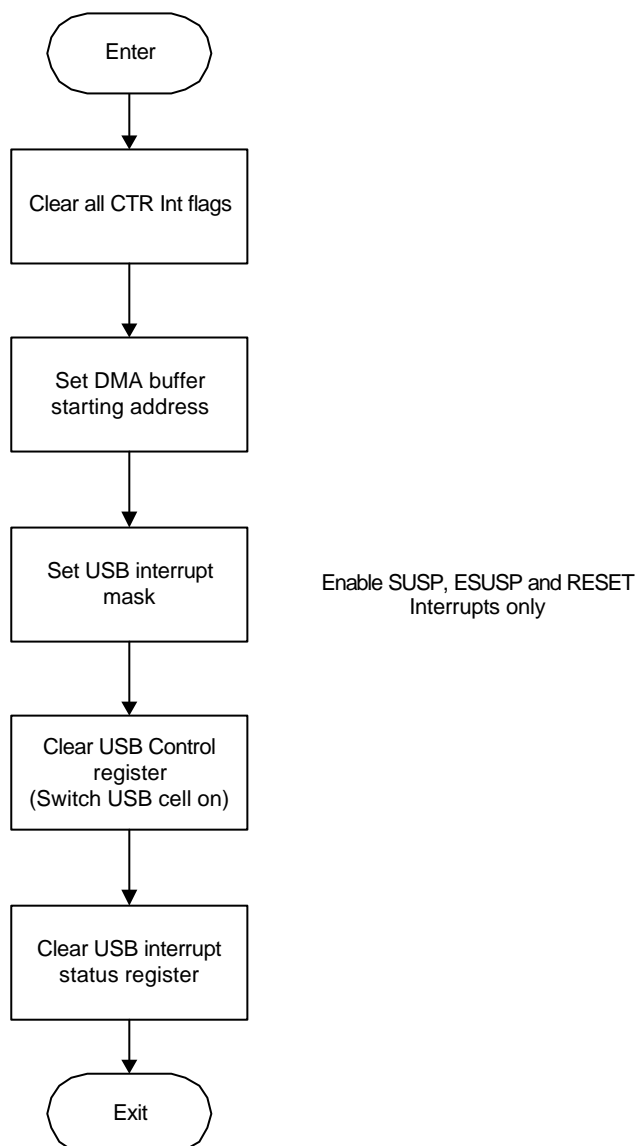


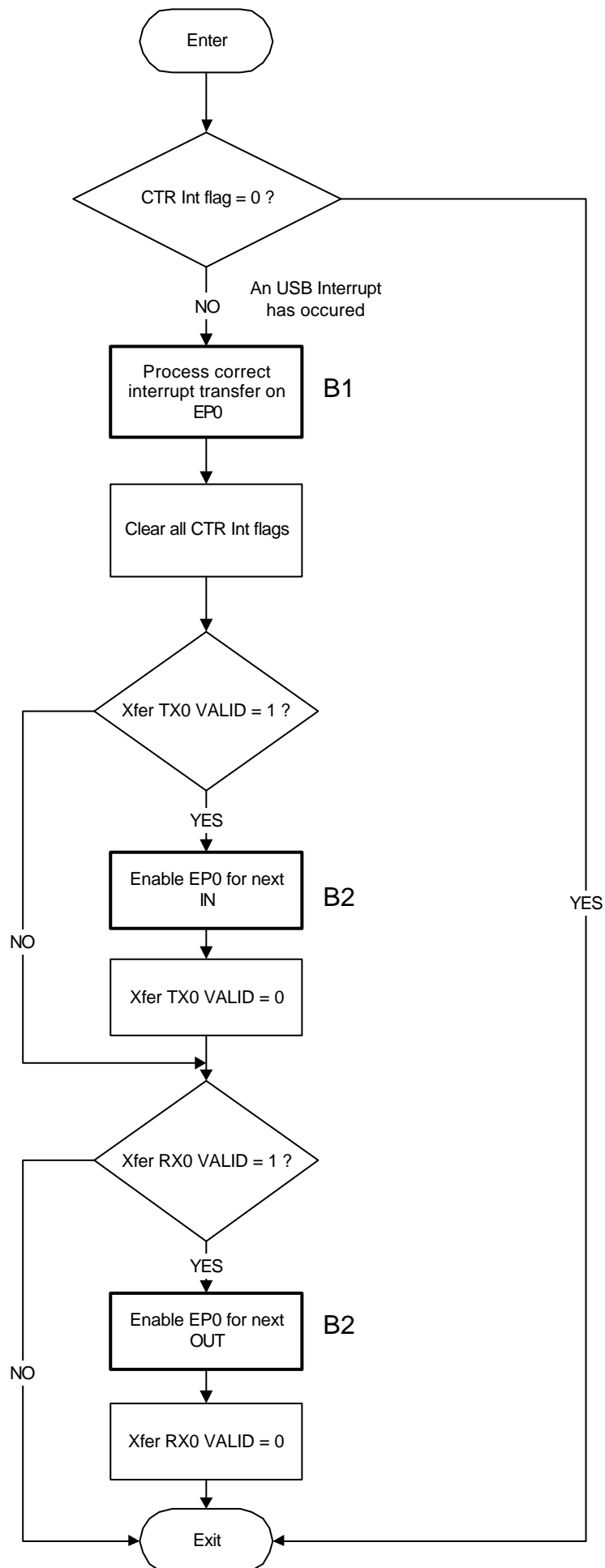
# **ST7 USB LOW SPEED FIRMWARE LIBRARY V4.x**

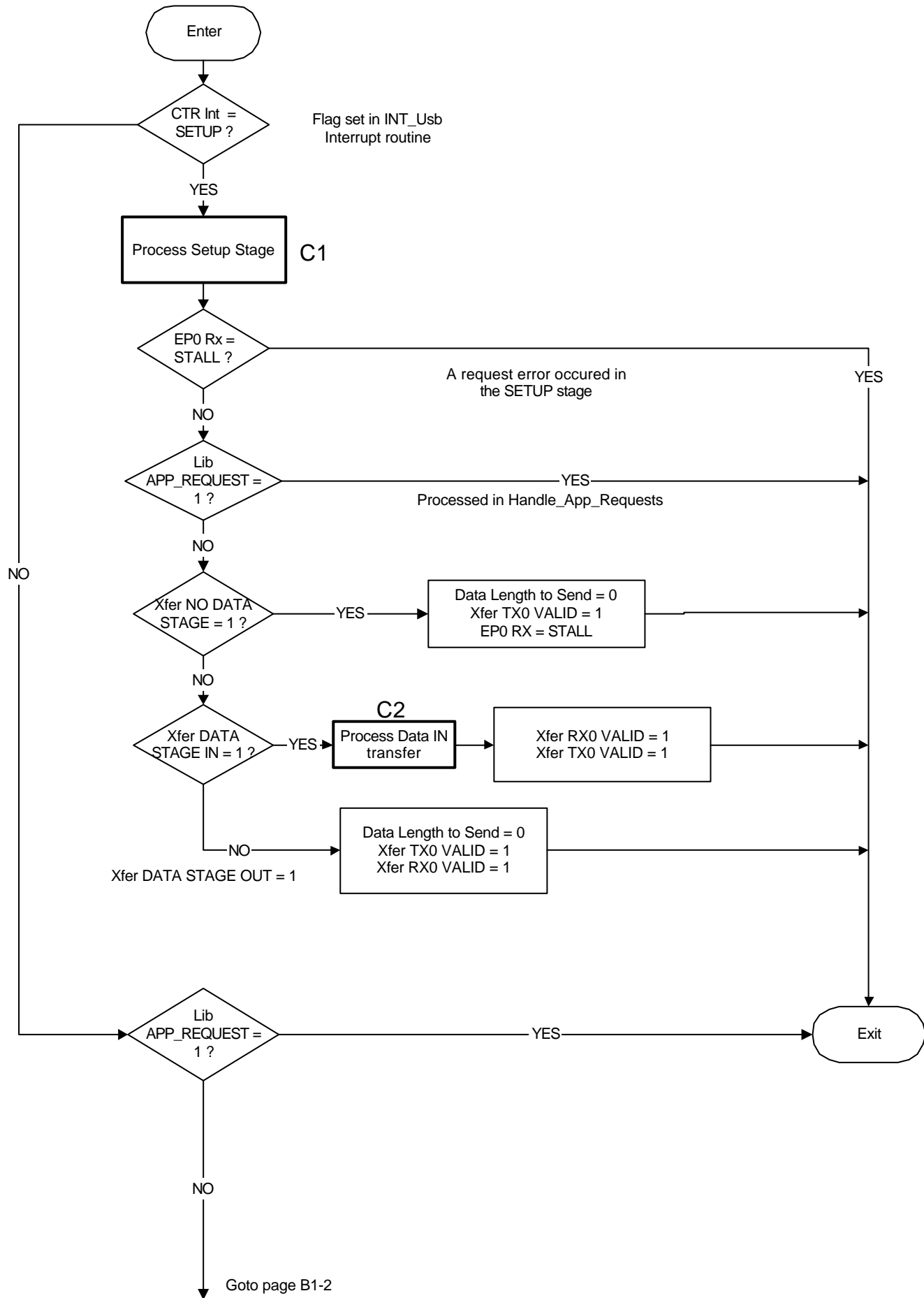
## **FLOW CHARTS**

Note : This document describes only the most important functions used in the Library.









```

graph TD
    Start(( )) --> CTR{CTR Int = IN ?}
    CTR -- YES --> DataLength{Data Length = 0 ?}
    CTR -- NO --> C3[Process Data OUT transfer]
    DataLength -- YES --> XferOneMore{Xfer ONE MORE = 1 ?}
    DataLength -- NO --> C2[Process Data IN transfer]
    XferOneMore -- YES --> EmptyPacket[Data Length to Send = 0  
Xfer TX0 VALID = 1  
Xfer RX0 VALID = 1  
Xfer ONE MORE = 0]
    XferOneMore -- NO --> Stall[EP0 TX = STALL  
Xfer RX0 VALID = 1]
    C2 --> RX_TX_VALID[Xfer RX0 VALID = 1  
Xfer TX0 VALID = 1]
    C3 --> Exit((Exit))
    RX_TX_VALID --> Exit
    Stall --> Exit
    EmptyPacket --> Exit
  
```

The flowchart illustrates the logic for processing USB data transfers. It begins with a decision diamond labeled "CTR Int = IN ?". If the answer is "YES", it proceeds to another decision diamond "Data Length = 0 ?". If "Data Length = 0 ?" is "YES", it leads to a decision diamond "Xfer ONE MORE = 1 ?". If "Xfer ONE MORE = 1 ?" is "YES", it leads to a process box: "Data Length to Send = 0", "Xfer TX0 VALID = 1", "Xfer RX0 VALID = 1", and "Xfer ONE MORE = 0". If "Xfer ONE MORE = 1 ?" is "NO", it leads to a process box: "EP0 TX = STALL" and "Xfer RX0 VALID = 1". If "Data Length = 0 ?" is "NO", it leads to a process box labeled "C2": "Process Data IN transfer". This box leads to another process box: "Xfer RX0 VALID = 1" and "Xfer TX0 VALID = 1". If "CTR Int = IN ?" is "NO", it leads to a process box labeled "C3": "Process Data OUT transfer". All four process boxes lead to an "Exit" terminal.

