Comments:
1   If the Node becomes Inhibited then we must not access the NMRANet bus within 100ms or so. Need to make sure we jump out of what we are doing quickly from the rest of the state machine.
2   This is done in the UART RX Statemachine
3   There is no escape from Bus failure. Though NMRANet is based on a reliable bus a way to break out is needed here.

DiscoverDevices

NodeInhibited

XpressnetLoopStarts/ DiscoverDevices := TRUE, iActiveDevice := 0

DiscoverNextDevice
Inc(iActiveDevice)

iActiveDevice <= Max_Device

SendDeviceInquiry
TransmitInquiry
WindowOpenTimer := 0
SetXpressnetBusToRX

XpressnetDeviceResponds

WaitForDeviceMessage

RS232_MessageCompletes

ReceiveDeviceMessage
CalculateMessageErrorCode

DeviceError = False

HandleMessage
SetDeviceOnLine
HandleXpressnetMessage

DeviceError = True

SendDeviceError
TransmitTransferErrors
TransmitRequestAck
SetXpressnetBusToRX

CommandStationInfoRequired

CommandStationInfoNotRequired

QueryDatabase
SendNMRANetMessage

NMRANetMessageNotReceived

NMRANetMessageReceived

XpressnetReplyBranch

XpressnetReplyNeeded

XpressnetReplyNotNeeded

SendDeviceReply
SetXpressnetBusToTX
TransmitReply

ReplyTransmitted

WindowOpenTimerExpired/ SetDeviceOffline

RS232_StateMachineHung

XpressnetDeviceResponds

WaitForAckMessage

RS232_MessageCompletes

WindowOpenTimerExpired/ SetDeviceOffline

RS232_StateMachineHung

DeviceAckResponse
CalculateMessageErrorCode

DeviceError = False

DeviceError = True/ SetDeviceOffline

iActiveDevice > Max_Device/ DiscoverDevices := FALSE, iActiveDevice := FirstActive

EnumerateActiveDevices
iActiveDevice := NextActive

iActiveDevice = None

iActiveDevice > None

DiscoveryTimerExpired

NodeInhibited

NodeInhibited

NodeInhibited

NodeInhibited

NodeInhibited

DiscoverDevices = False

DiscoverDevices = True

TestForDiscoveryMode