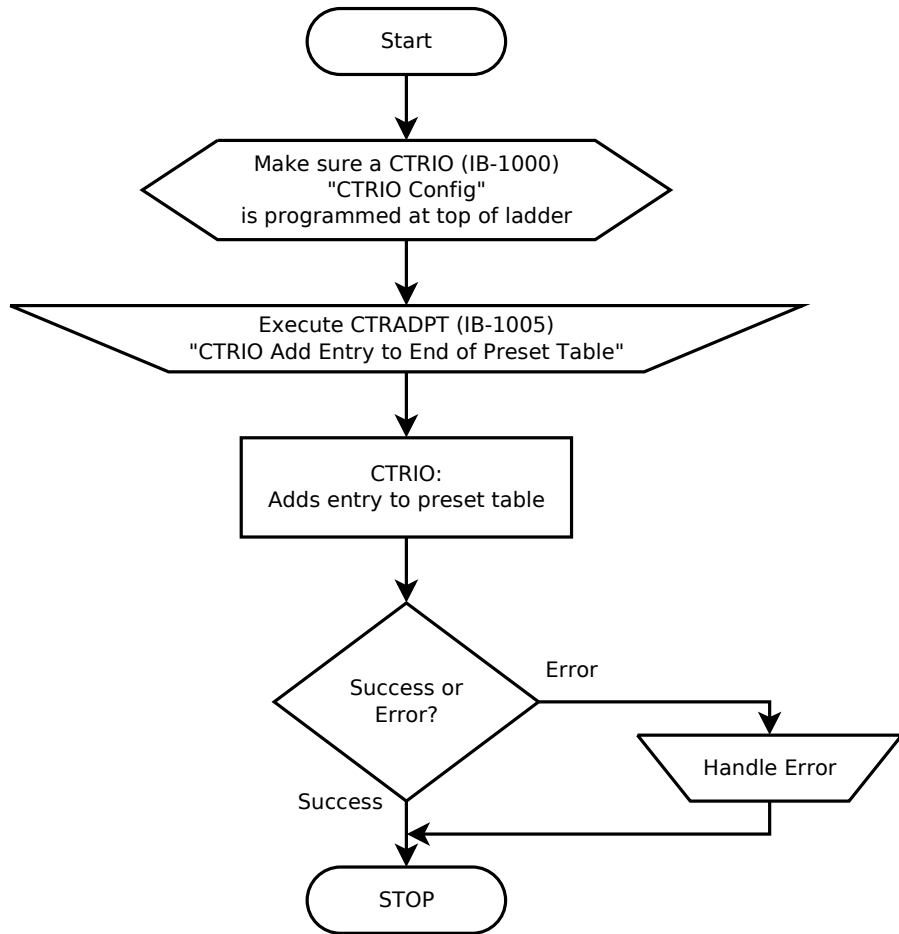


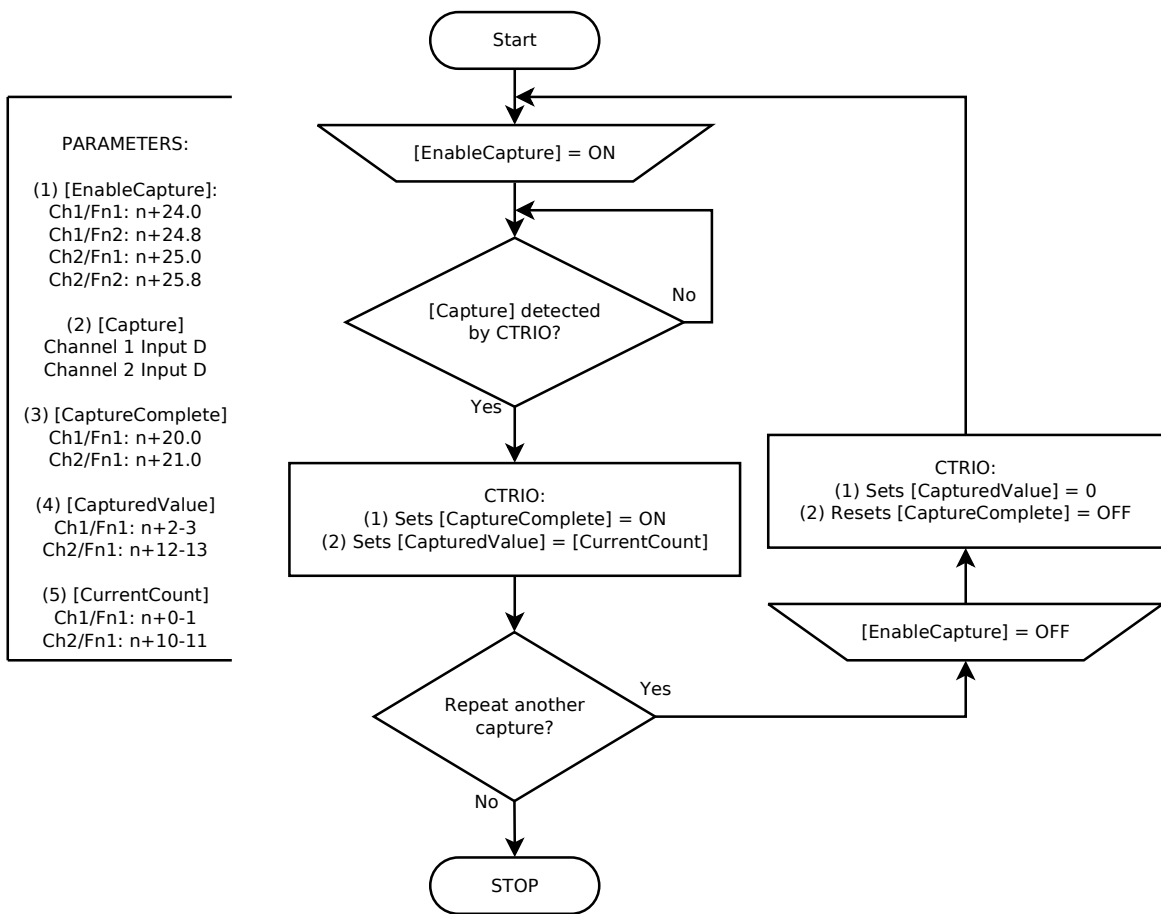
# CTRIO2 FLOW CHARTS for IBoxes

# Add Entry to Preset Table (IBoxes)

PARAMETERS:  
None

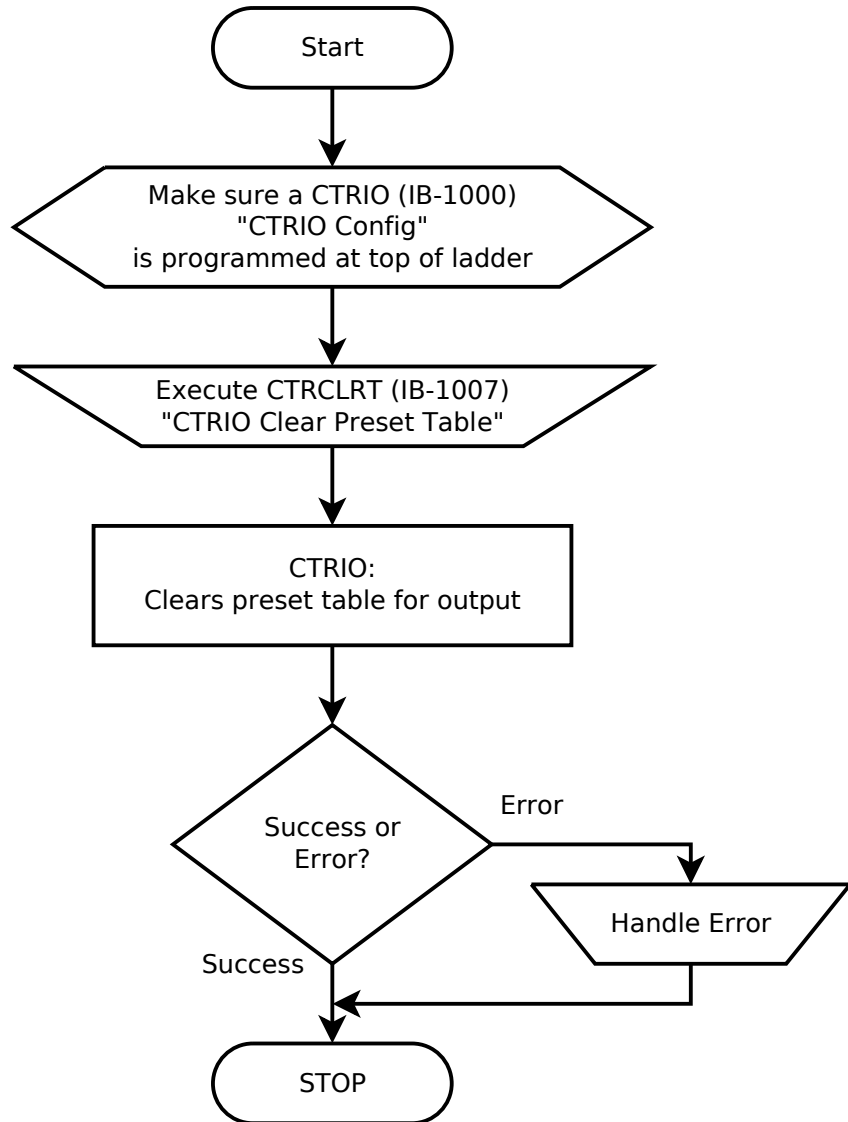


## Capture Count Function (IBoxes)



# Clear Preset Table (IBoxes)

PARAMETERS:  
None



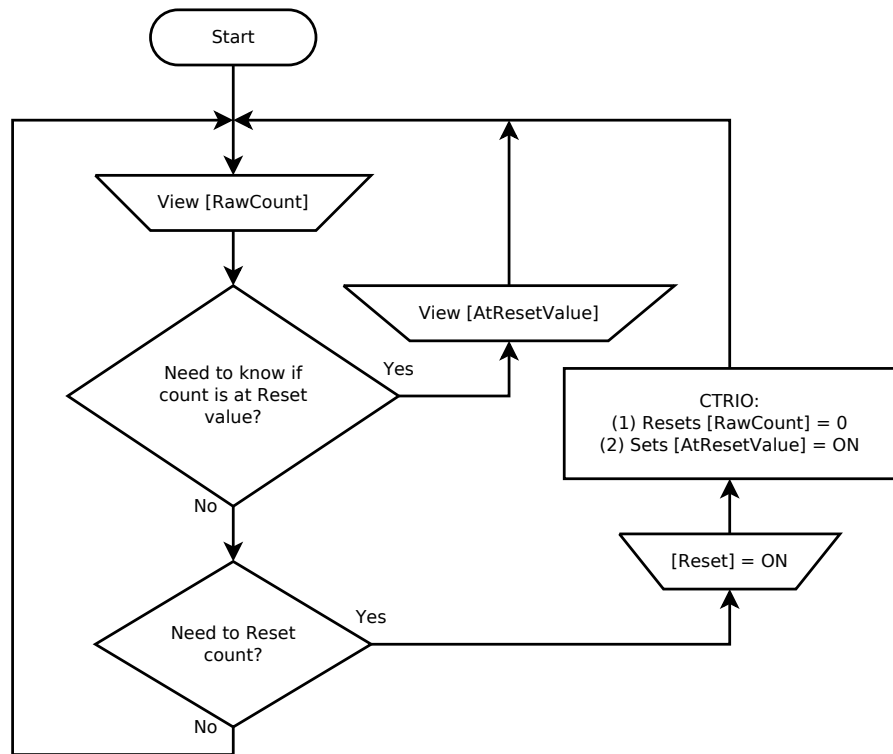
## Counter Function (IBoxes)

PARAMETERS:

(1) [RawCount]:  
 Ch1/Fn1: n+0-1  
 Ch1/Fn2: n+4-5  
 Ch2/Fn1: n+10-11  
 Ch2/Fn2: n+14-15

(2) [AtResetValue]  
 Ch1/Fn1: n+20.1  
 Ch1/Fn2: n+20.9  
 Ch2/Fn1: n+21.1  
 Ch2/Fn2: n+21.9

(3) [Reset]  
 Ch1/Fn1: n+24.1  
 Ch1/Fn2: n+24.9  
 Ch2/Fn1: n+25.1  
 Ch2/Fn2: n+25.9



## Counter Function (Scaled) (IBoxes)

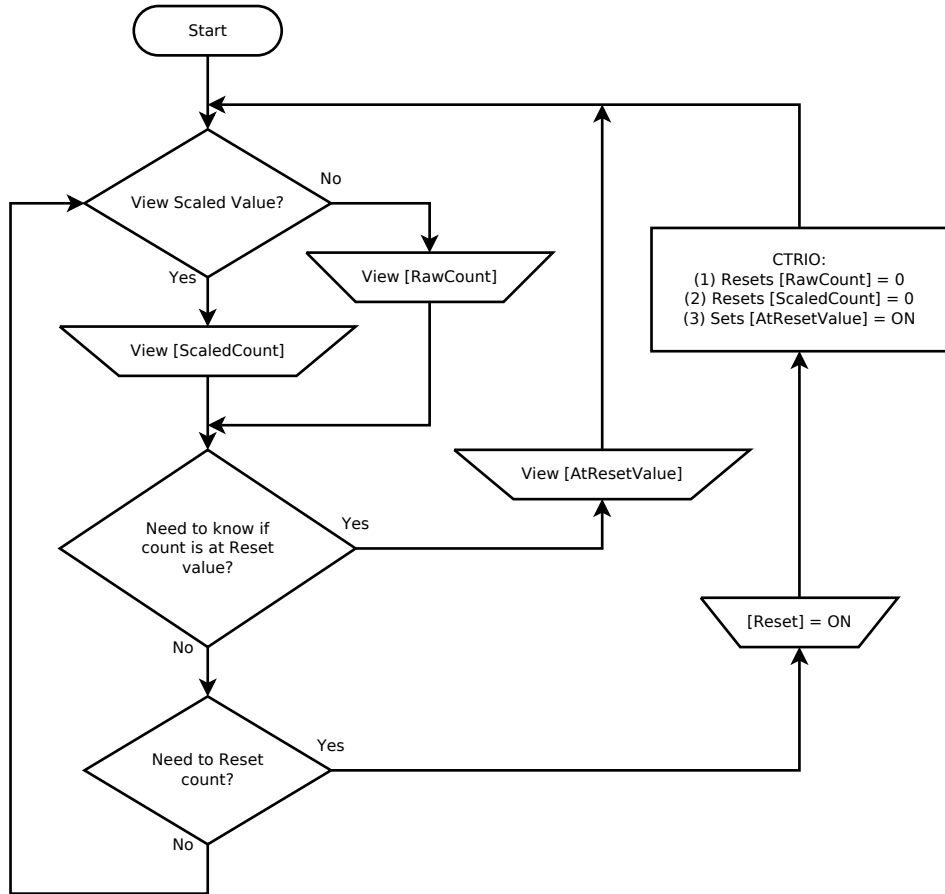
**PARAMETERS:**

(1) [ScaledCount]:  
Ch1/Fn1: n+0-1  
Ch1/Fn2: n+4-5  
Ch2/Fn1: n+10-11  
Ch2/Fn2: n+14-15

(2) [RawCount]  
Ch1/Fn1: n+2-3  
Ch1/Fn2: n+6-7  
Ch2/Fn1: n+12-13  
Ch2/Fn2: n+16-17

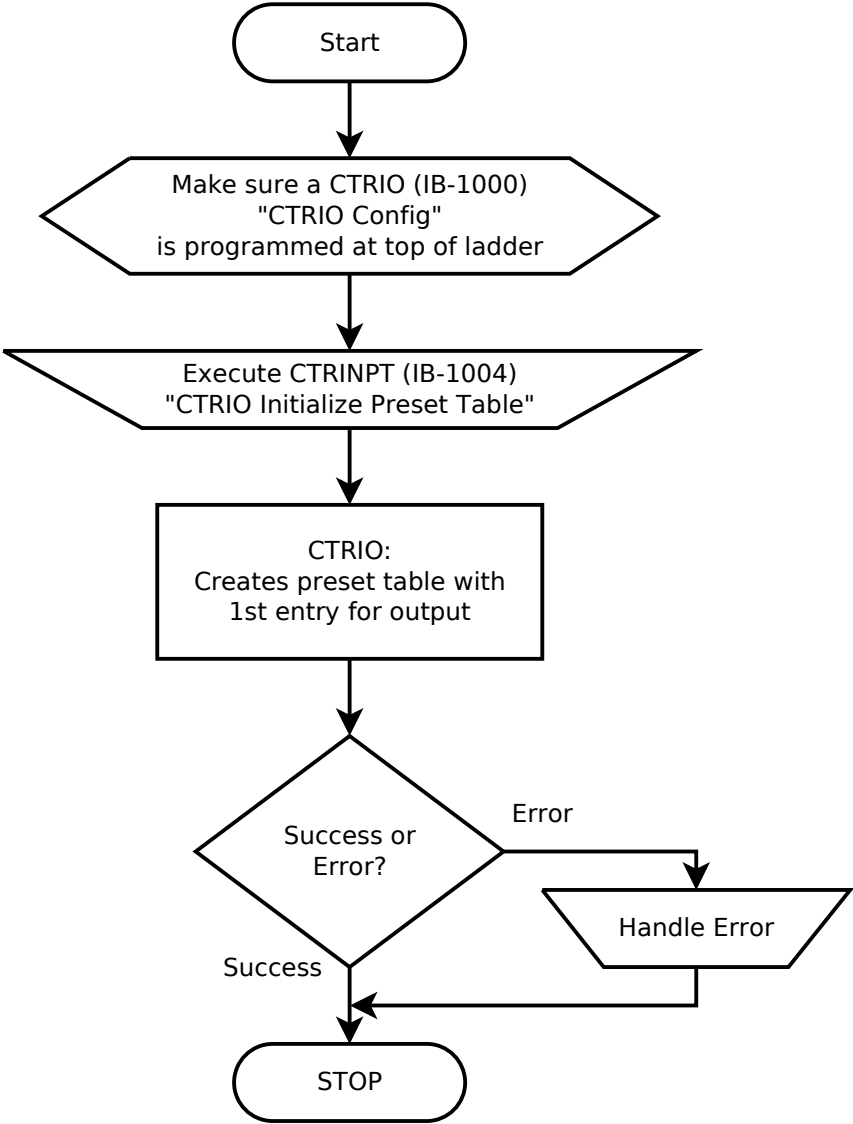
(3) [AtResetValue]  
Ch1/Fn1: n+20.1  
Ch1/Fn2: n+20.9  
Ch2/Fn1: n+21.1  
Ch2/Fn2: n+21.9

(4) [Reset]  
Ch1/Fn1: n+24.1  
Ch1/Fn2: n+24.9  
Ch2/Fn1: n+25.1  
Ch2/Fn2: n+25.9



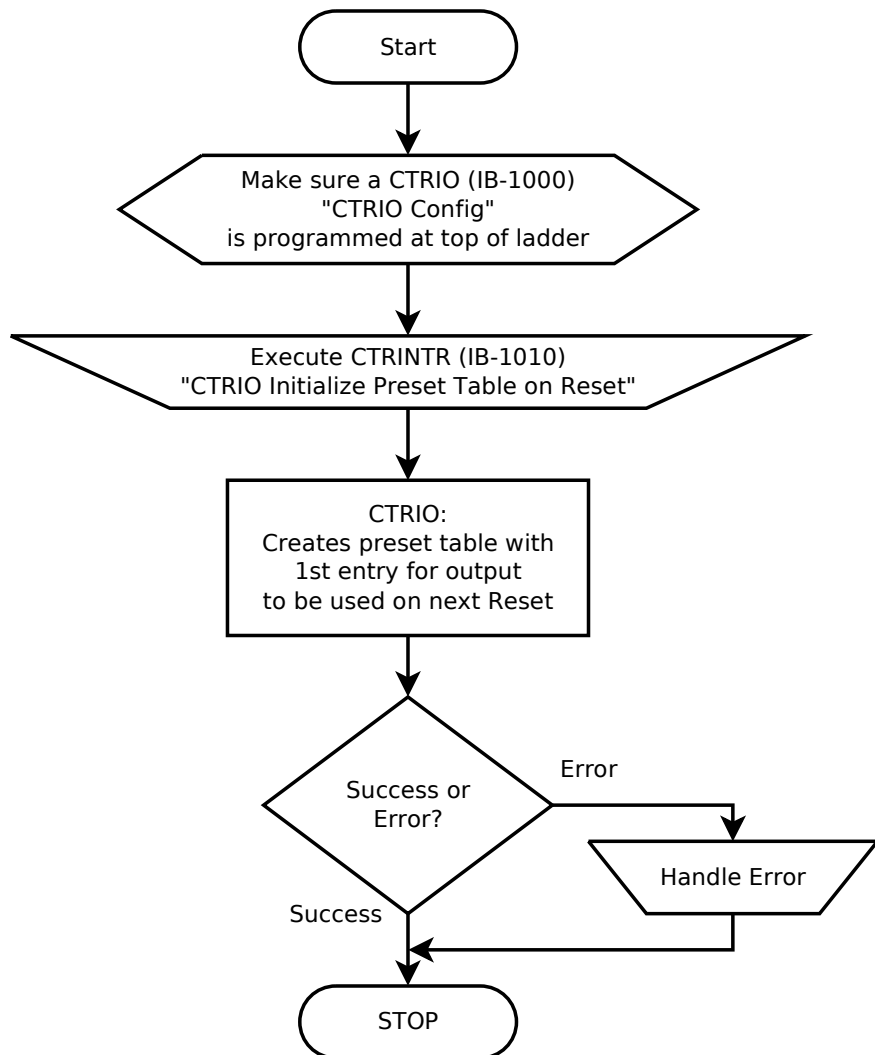
# Create Preset Table (IBoxes)

PARAMETERS:  
None



# Create Preset Table on Reset (IBoxes)

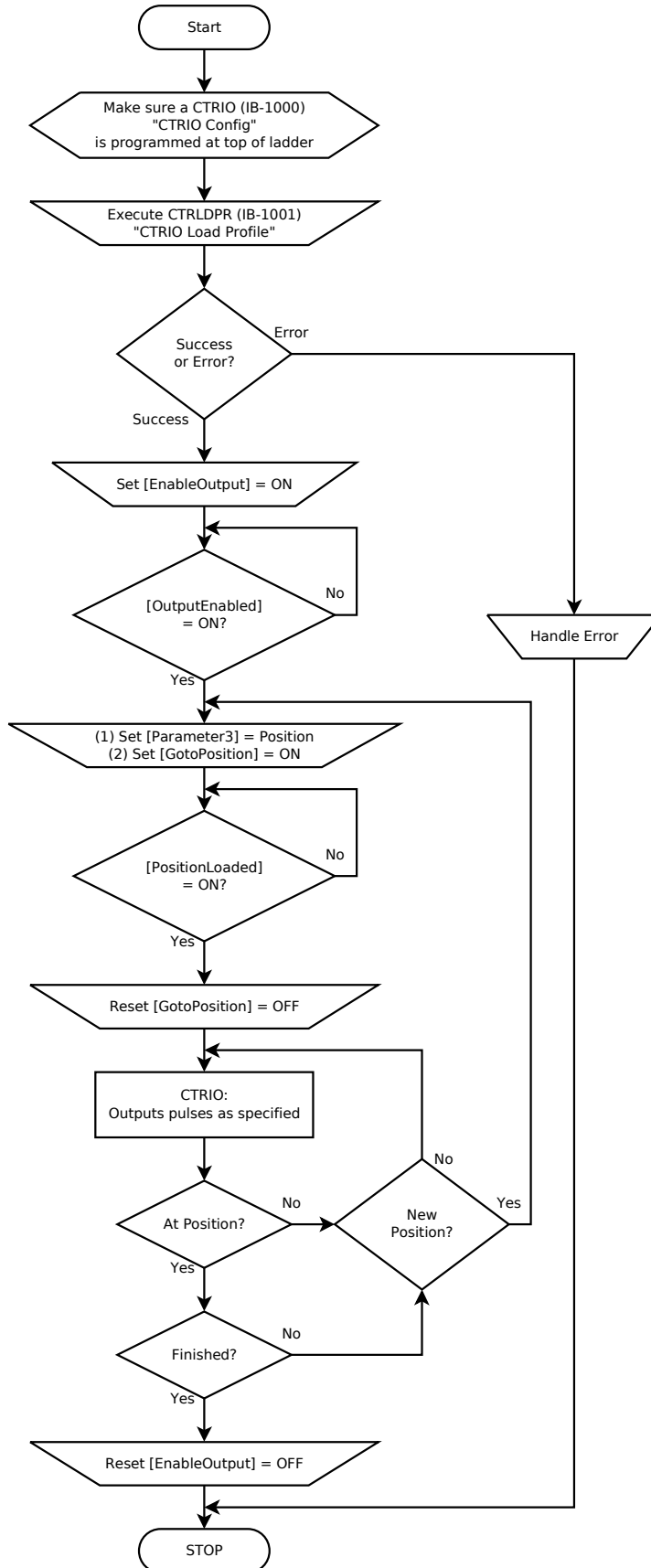
PARAMETERS:  
None





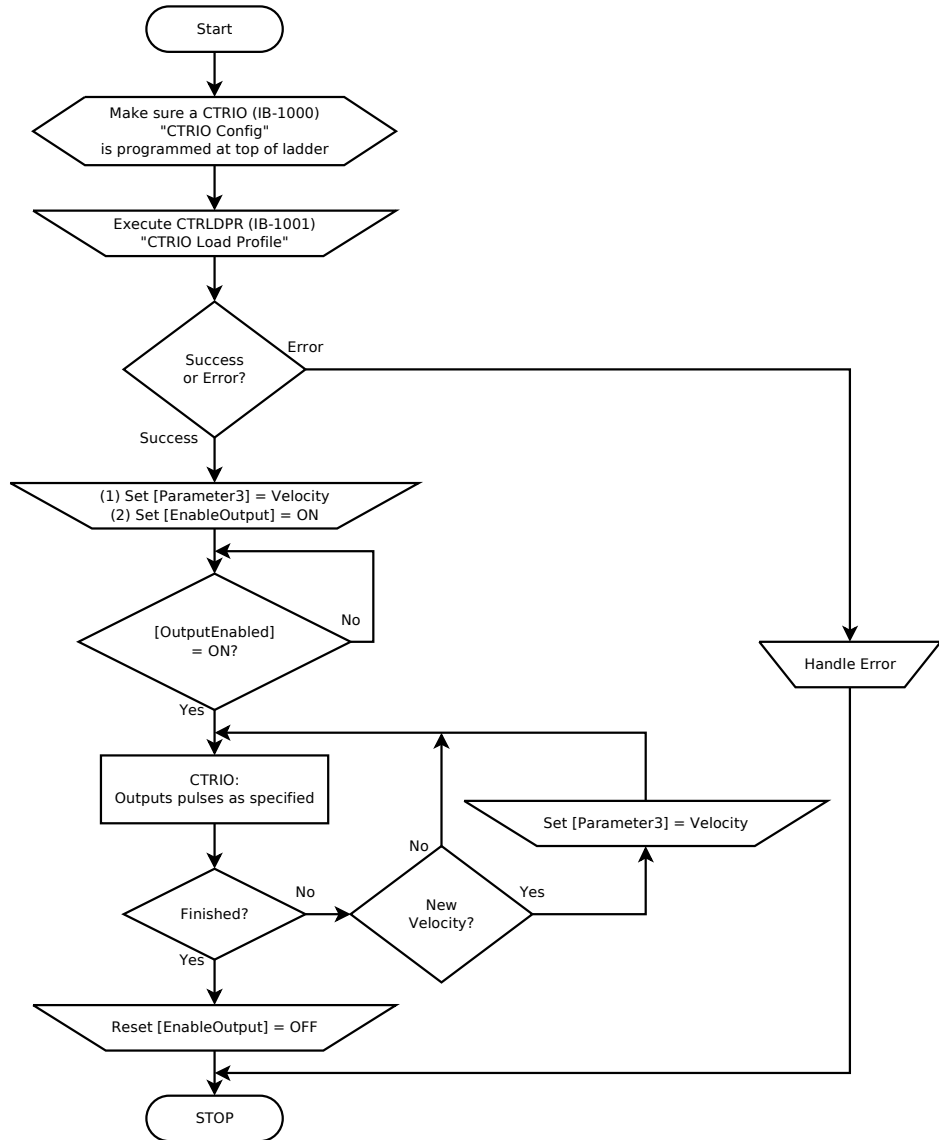
## Dynamic Position or Dynamic Position PLUS (IBoxes)

- PARAMETERS:**
- (1) [EnableOutput]  
Out0-1: n+26.0  
Out2-3: n+27.0
  - (2) [OutputEnabled]  
Out0-1: n+22.0  
Out2-3: n+23.0
  - (3) [Parameter3]  
Out0-1: n+0-1  
Out2-3: n+4-5
  - (4) [GotoPosition]  
Out0-1: n+26.1  
Out2-3: n+27.1
  - (5) [PositionLoaded]  
Out0-1: n+22.1  
Out2-3: n+23.1

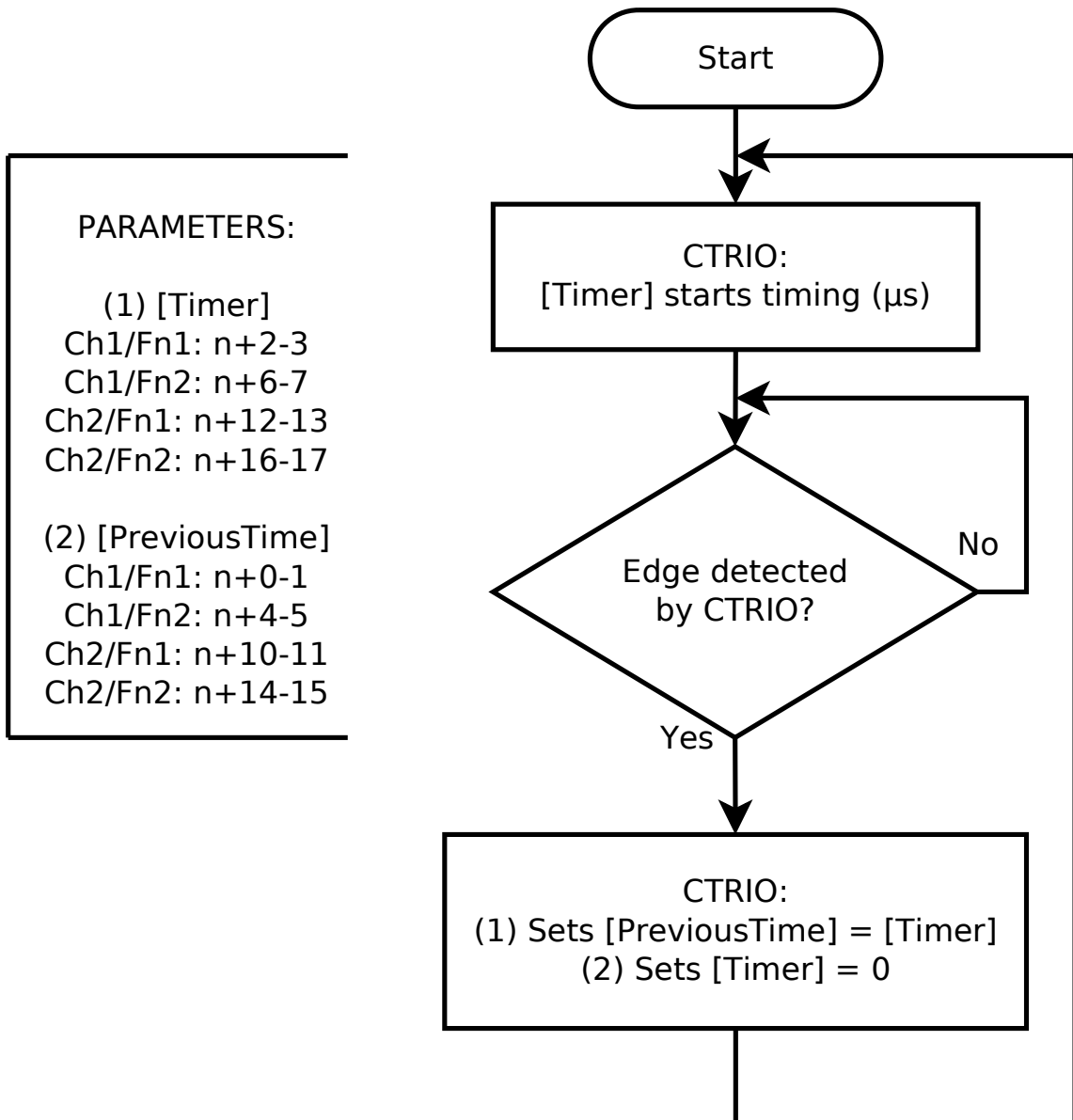


## Dynamic Velocity (IBoxes)

PARAMETERS:  
 (1) [Parameter3]  
 Out0-1: n+0-1  
 Out2-3: n+4-5  
 (2) [EnableOutput]  
 Out0-1: n+26.0  
 Out2-3: n+27.0  
 (3) [OutputEnabled]  
 Out0-1: n+22.0  
 Out2-3: n+23.0



# Edge Timer Function (Free Run, No Timeout) (DL-PLC)



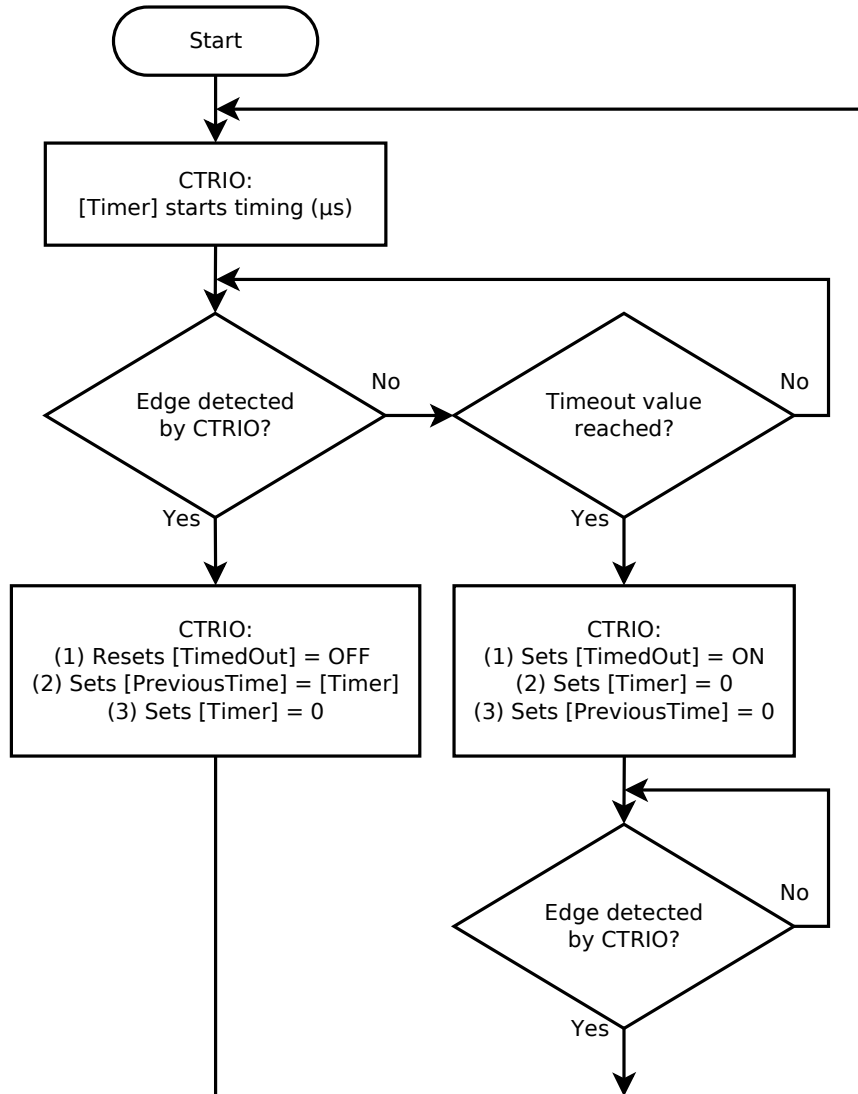
## Edge Timer Function (Free Run, Timeout) (IBoxes)

PARAMETERS:

(1) [Timer]  
Ch1/Fn1: n+2-3  
Ch1/Fn2: n+6-7  
Ch2/Fn1: n+12-13  
Ch2/Fn2: n+16-17

(2) [PreviousTime]  
Ch1/Fn1: n+0-1  
Ch1/Fn2: n+4-5  
Ch2/Fn1: n+10-11  
Ch2/Fn2: n+14-15

(3) [TimedOut]  
Ch1/Fn1: n+20.2  
Ch1/Fn2: n+20.10  
Ch2/Fn1: n+21.2  
Ch2/Fn2: n+21.10



## Edge Timer Function (Manual, No Timeout) (IBoxes)

**PARAMETERS:**

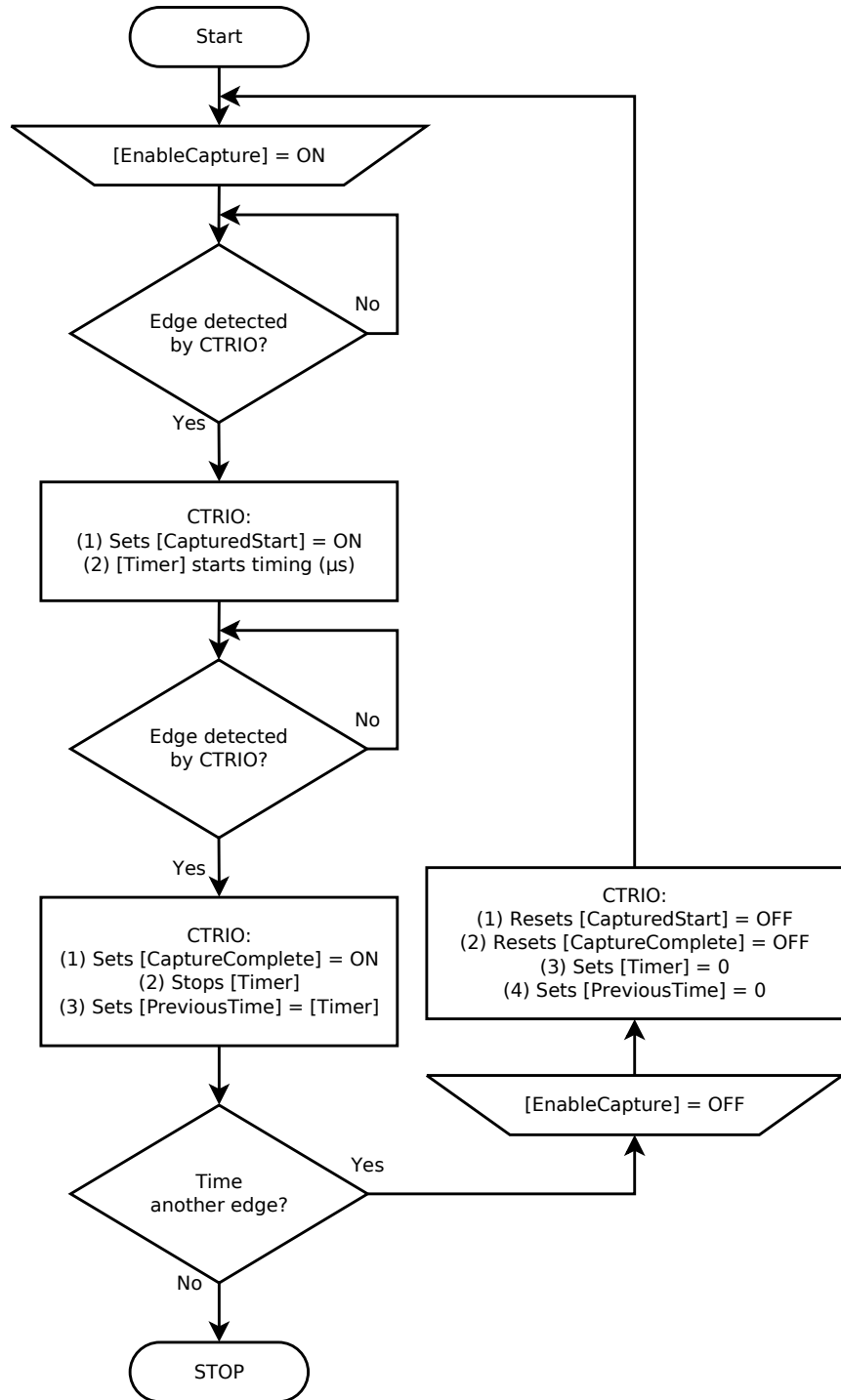
(1) [EnableCapture]:  
Ch1/Fn1: n+24.0  
Ch1/Fn2: n+24.8  
Ch2/Fn1: n+25.0  
Ch2/Fn2: n+25.8

(2) [CapturedStart]  
Ch1/Fn1: n+20.0  
Ch1/Fn2: n+20.8  
Ch2/Fn1: n+21.0  
Ch2/Fn2: n+21.8

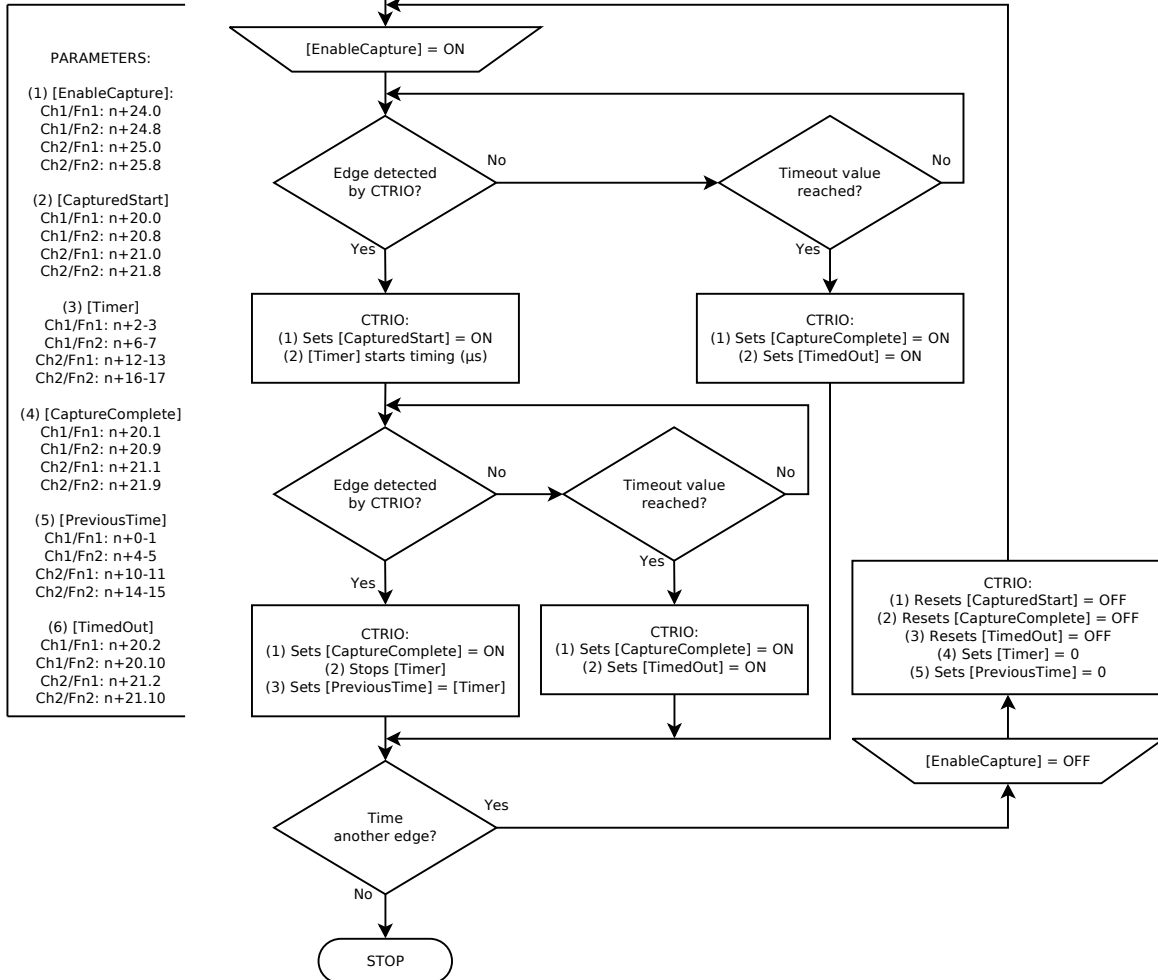
(3) [Timer]  
Ch1/Fn1: n+2-3  
Ch1/Fn2: n+6-7  
Ch2/Fn1: n+12-13  
Ch2/Fn2: n+16-17

(4) [CaptureComplete]  
Ch1/Fn1: n+20.1  
Ch1/Fn2: n+20.9  
Ch2/Fn1: n+21.1  
Ch2/Fn2: n+21.9

(5) [PreviousTime]  
Ch1/Fn1: n+0-1  
Ch1/Fn2: n+4-5  
Ch2/Fn1: n+10-11  
Ch2/Fn2: n+14-15

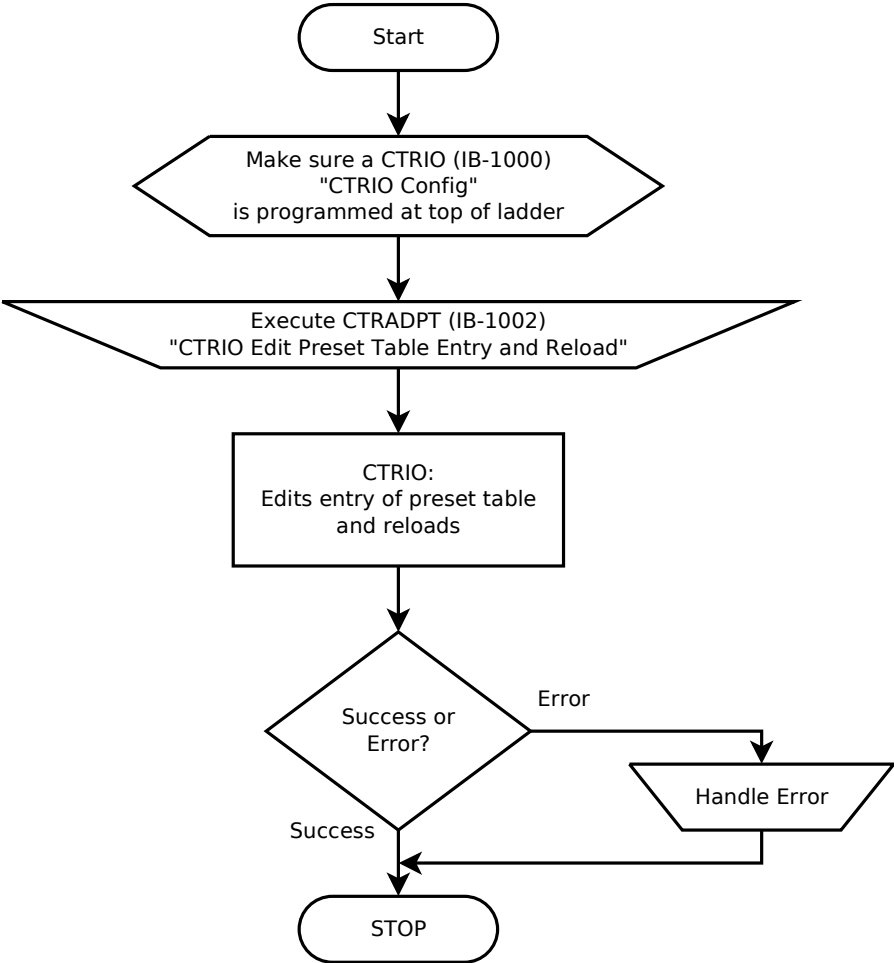


## Edge Timer Function (Manual, Timeout) (IBoxes)



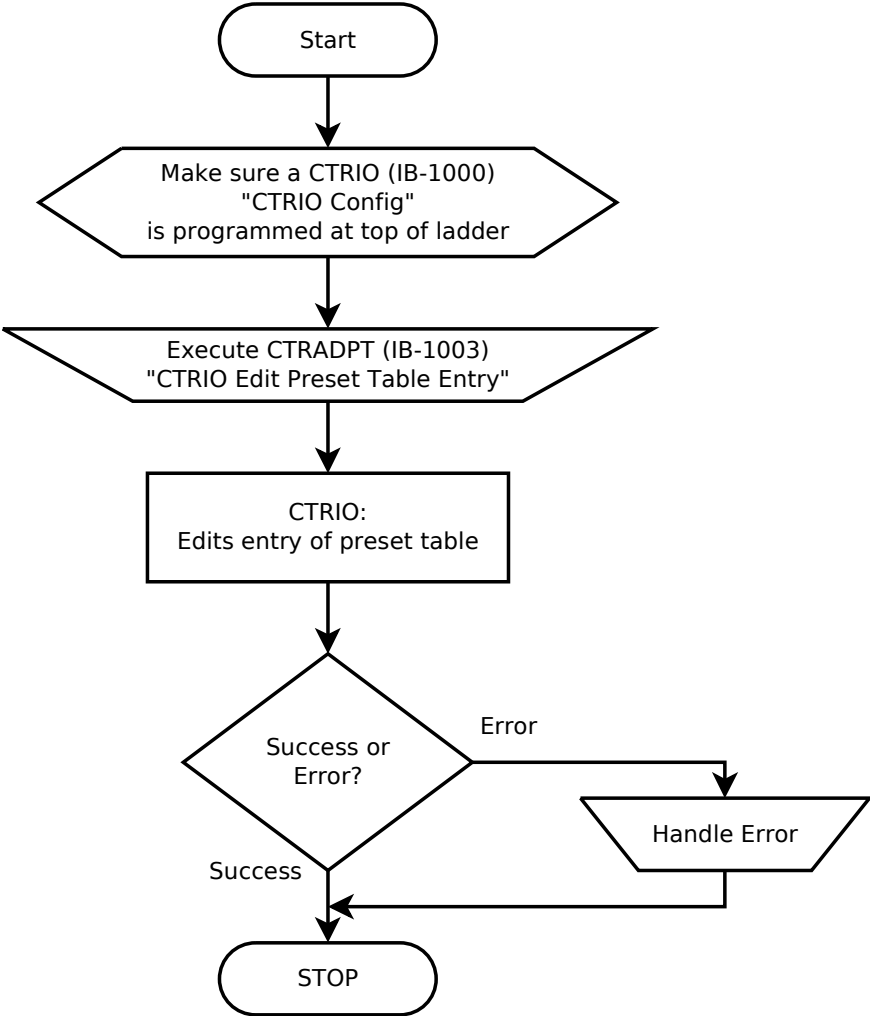
# Edit Preset Table Entry & Reload (IBoxes)

PARAMETERS:  
None



# Edit Preset Table Entry (IBoxes)

PARAMETERS:  
None



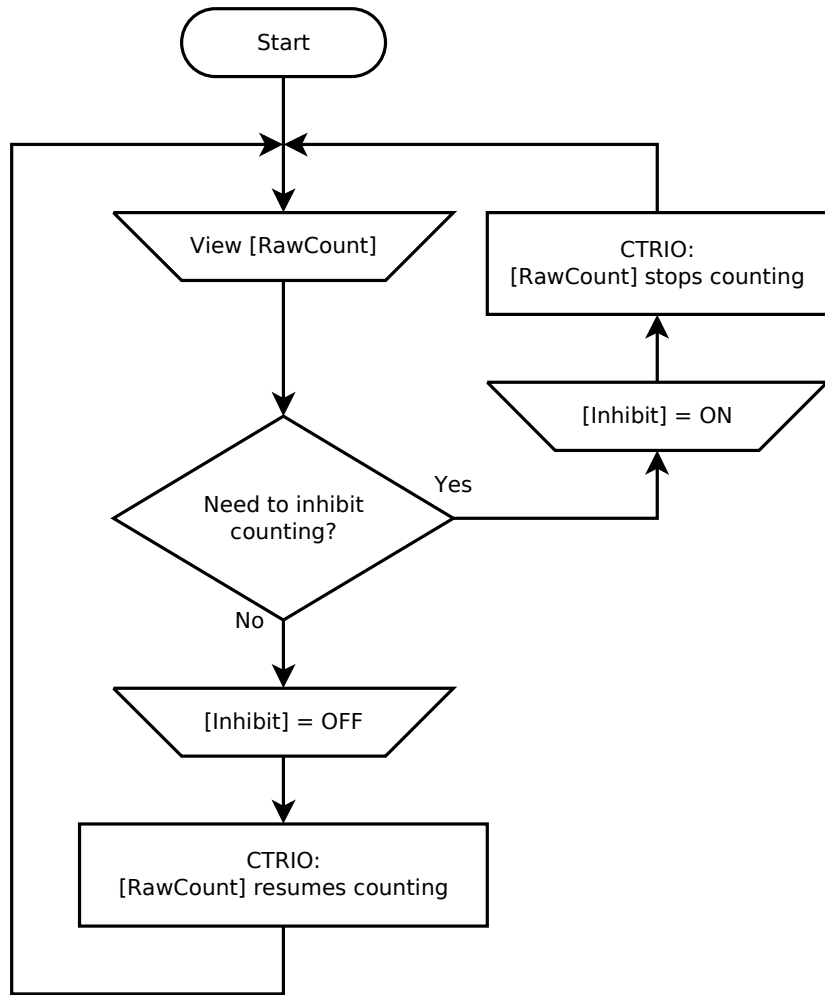


# Inhibit Function (IBoxes)

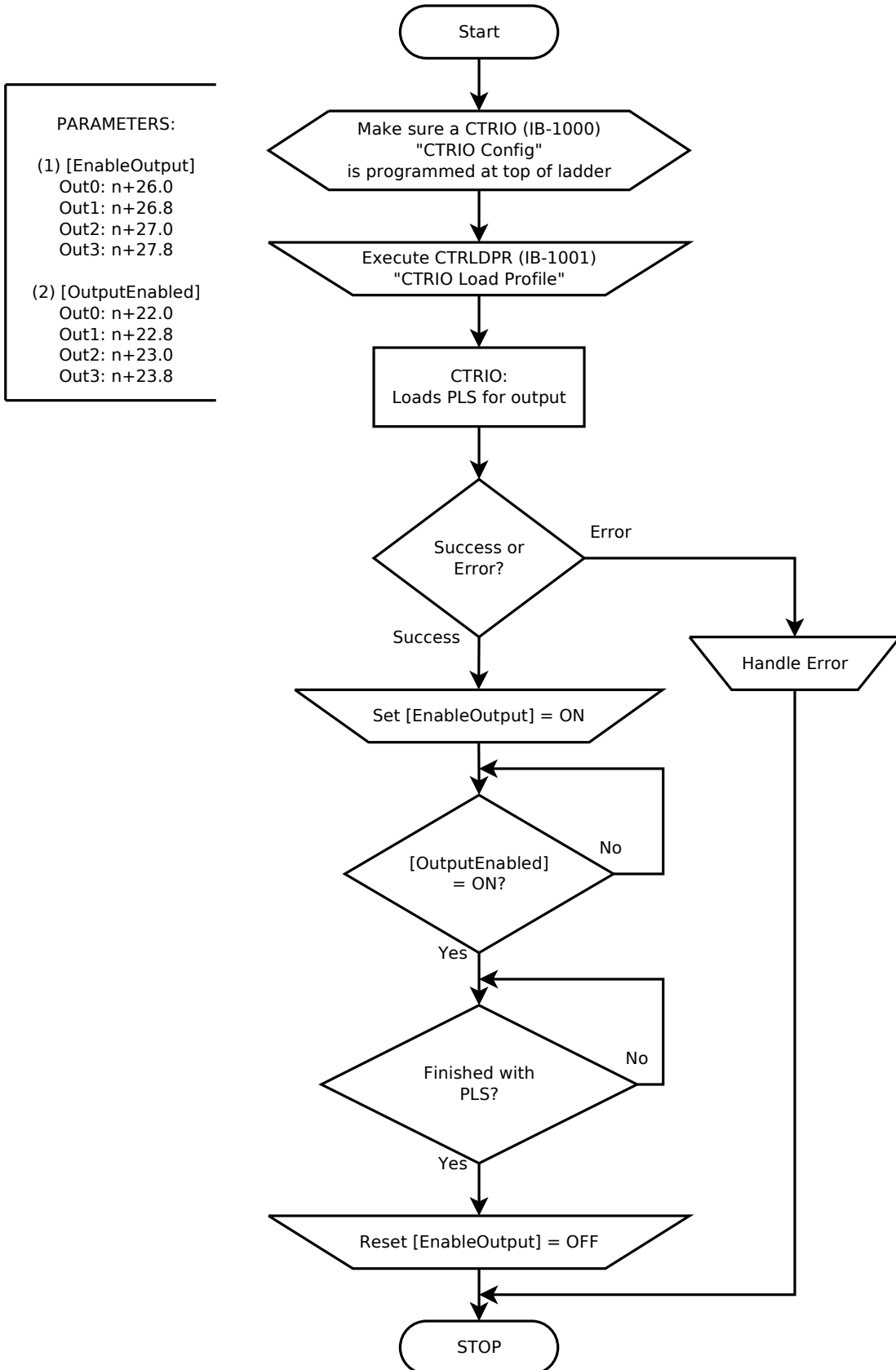
PARAMETERS:

(1) [RawCount]:  
Ch1/Fn1: n+0-1  
Ch1/Fn2: n+4-5  
Ch2/Fn1: n+10-11  
Ch2/Fn2: n+14-15

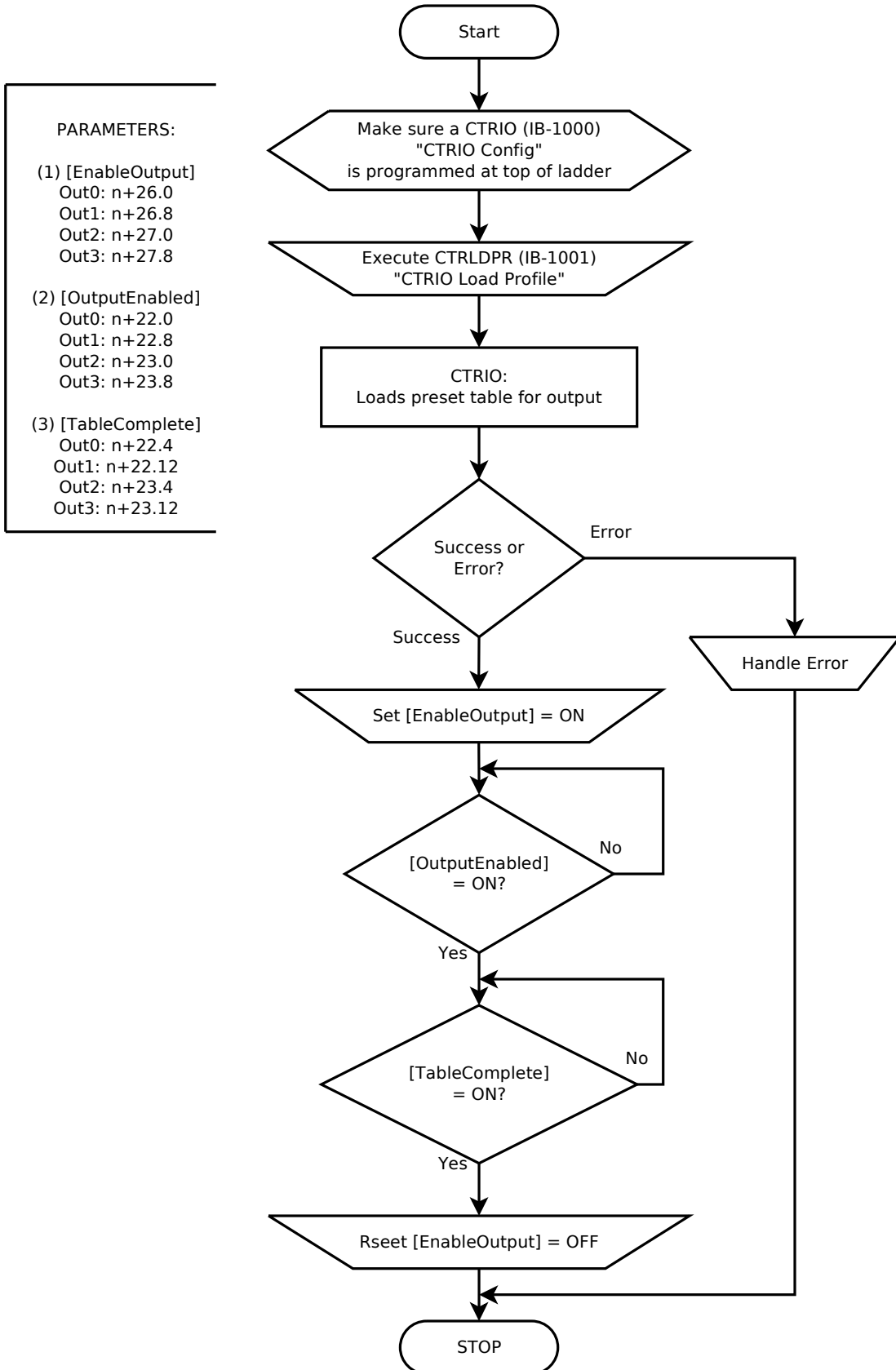
(2) [Inhibit]  
Ch1 Input D  
Ch2 Input D



# Load PLS & Run (IBoxes)



## Load Preset Table & Run (IBoxes)



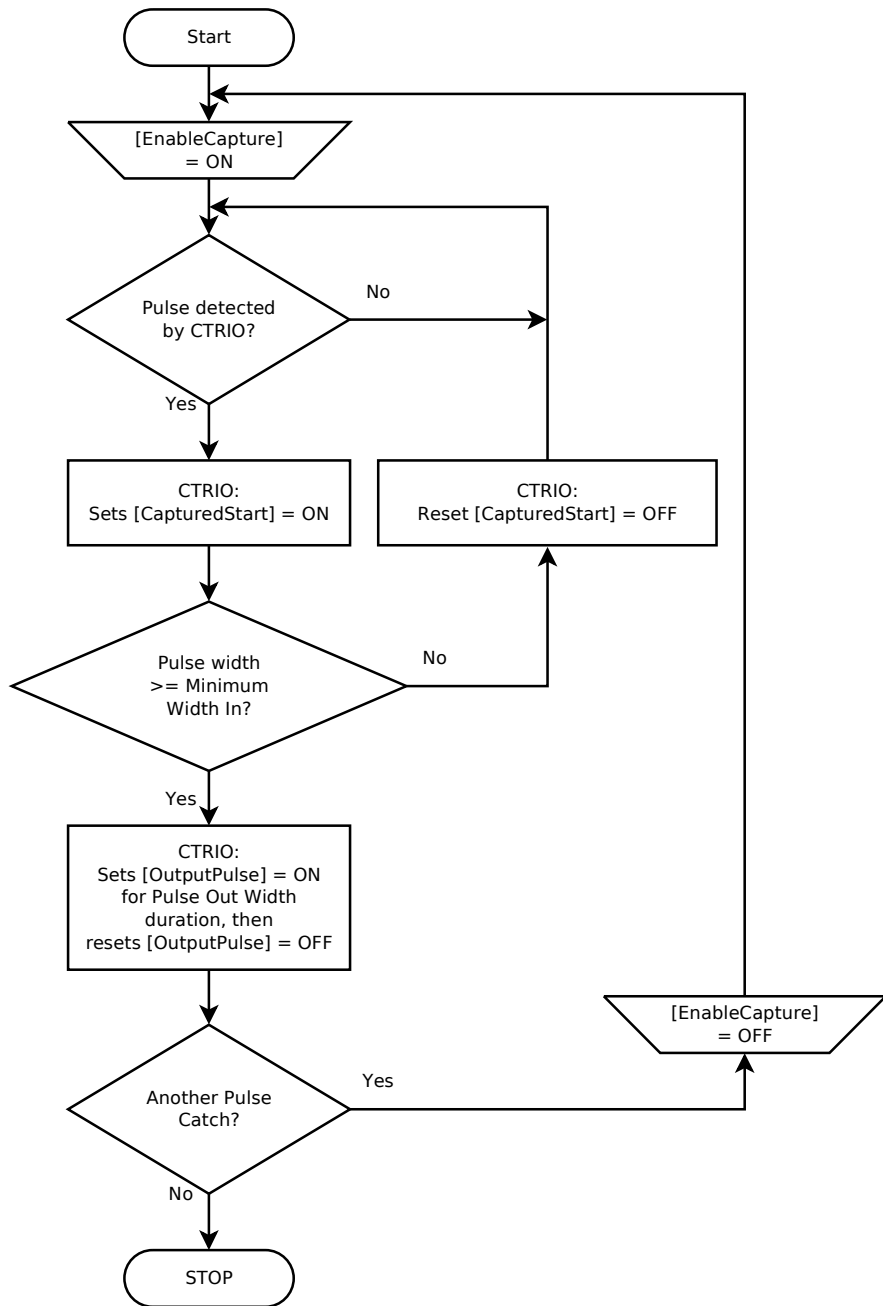
## Pulse Catch Function (IBoxes)

**PARAMETERS:**

(1) [EnableCapture]:  
 Ch1/Fn1: n+24.0  
 Ch1/Fn2: n+24.8  
 Ch2/Fn1: n+25.0  
 Ch2/Fn2: n+25.8

(2) [CapturedStart]:  
 Ch1/Fn1: n+20.1  
 Ch1/Fn2: n+20.9  
 Ch2/Fn1: n+21.1  
 Ch2/Fn2: n+21.9

(3) [OutputPulse]:  
 Ch1/Fn1: n+20.0  
 Ch1/Fn2: n+20.8  
 Ch2/Fn1: n+21.0  
 Ch2/Fn2: n+21.8



# Raw Output (IBoxes)

PARAMETERS:

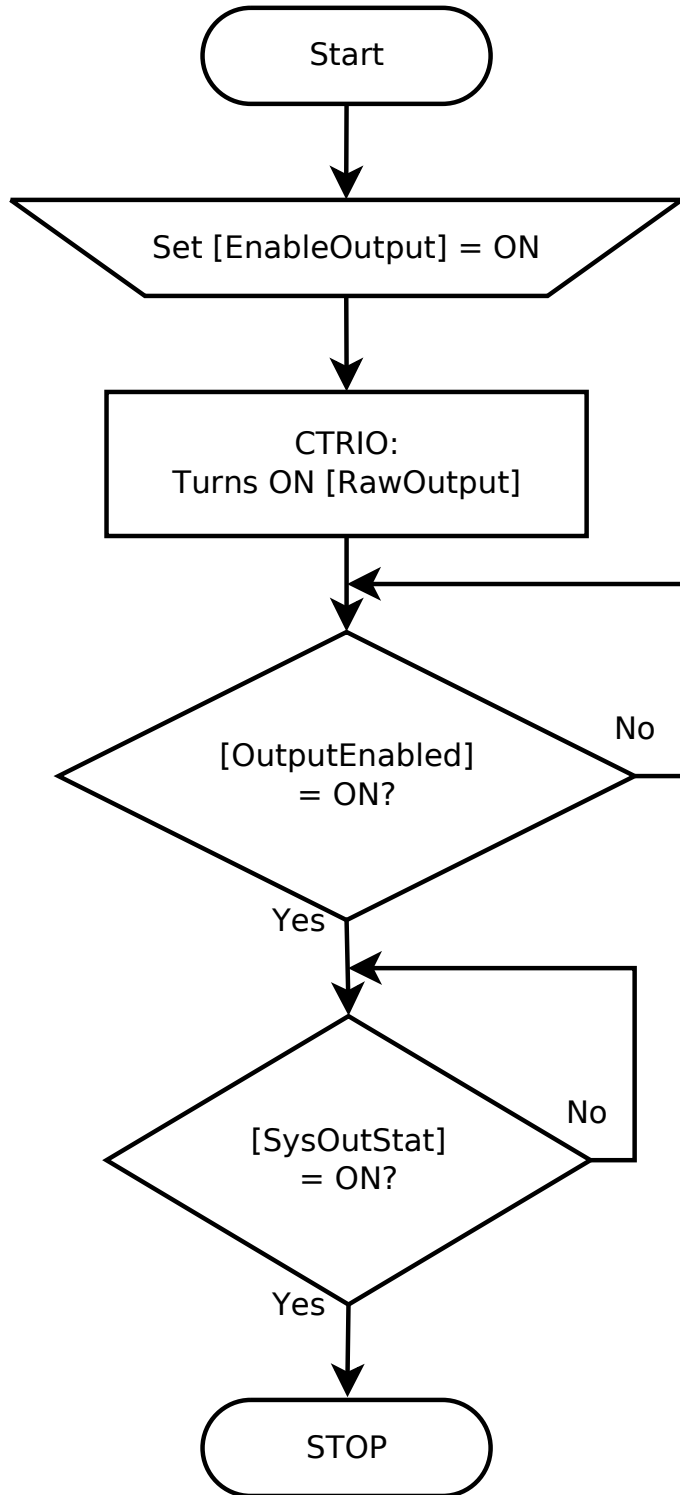
(1) [EnableOutput]  
Out0: n+26.0  
Out1: n+26.8  
Out2: n+27.0  
Out3: n+27.8

(2) [RawOutput]  
Output 0  
Output 1  
Output 2  
Output 3

(3) [OutputEnabled]  
Out0: n+22.0  
Out1: n+22.8  
Out2: n+23.0  
Out3: n+23.8

\*(4) [SysOutStat]  
Out0: n+25.8  
Out1: n+25.10  
Out2: n+25.12  
Out3: n+25.14

\*Optional way of monitoring output



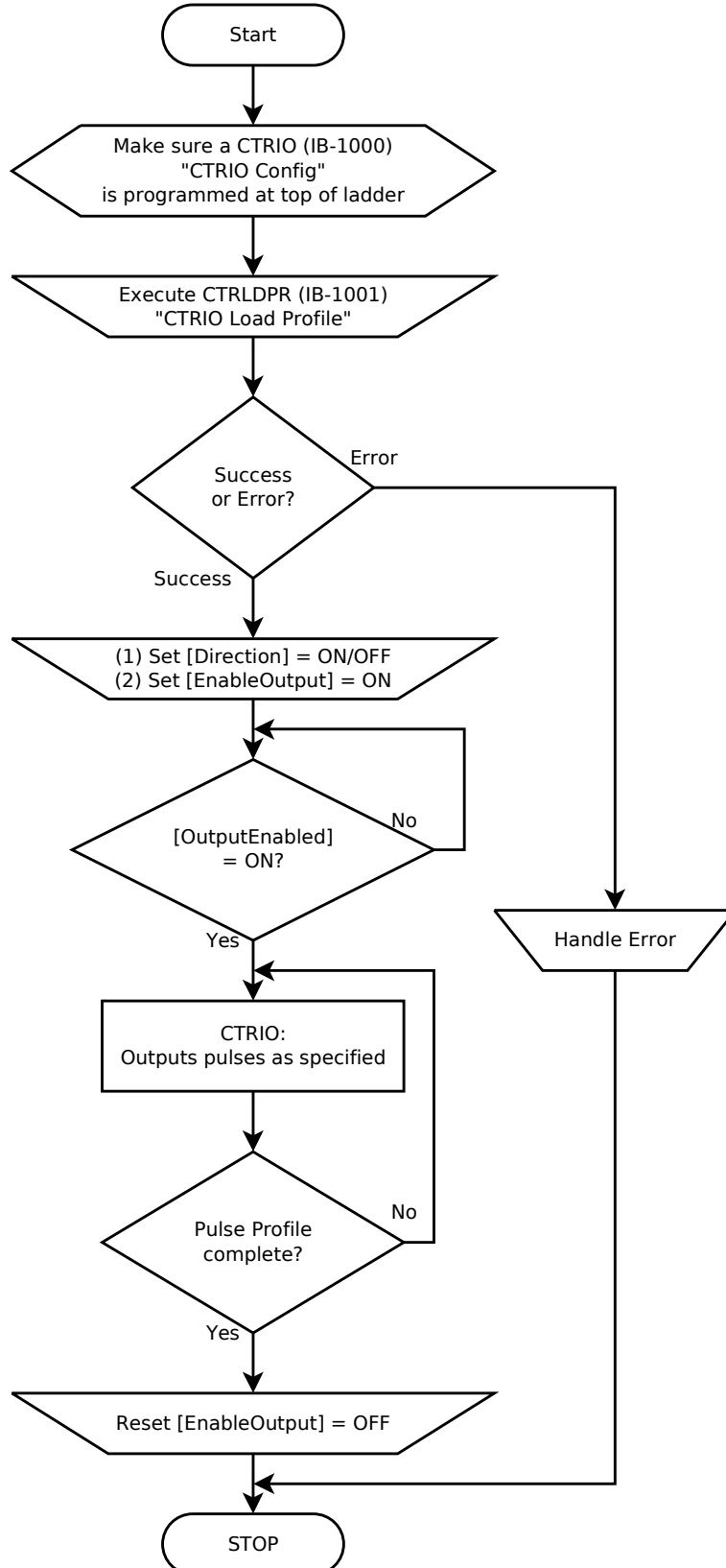
# Run Pulse Profile (Trapezoid, S-Curve, Symmetrical S-Curve, Home Search, Free Form) (IBoxes)

PARAMETERS:

(1) [Direction]  
Out0-1: n+26.4  
Out2-3: n+27.4

(2) [EnableOutput]  
Out0-1: n+26.0  
Out2-3: n+27.0

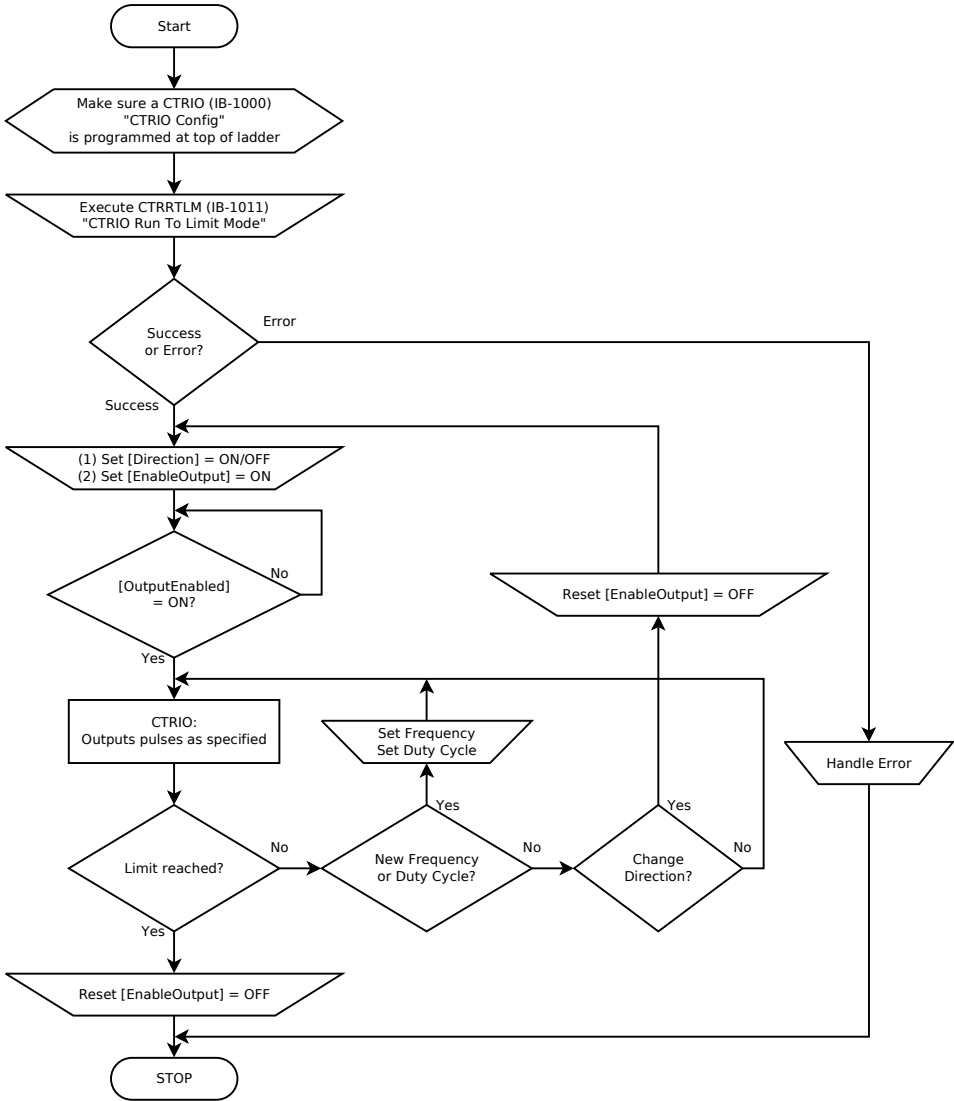
(3) [OutputEnabled]  
Out0-1: n+22.0  
Out2-3: n+23.0



# Run To Limit Mode (IBoxes)

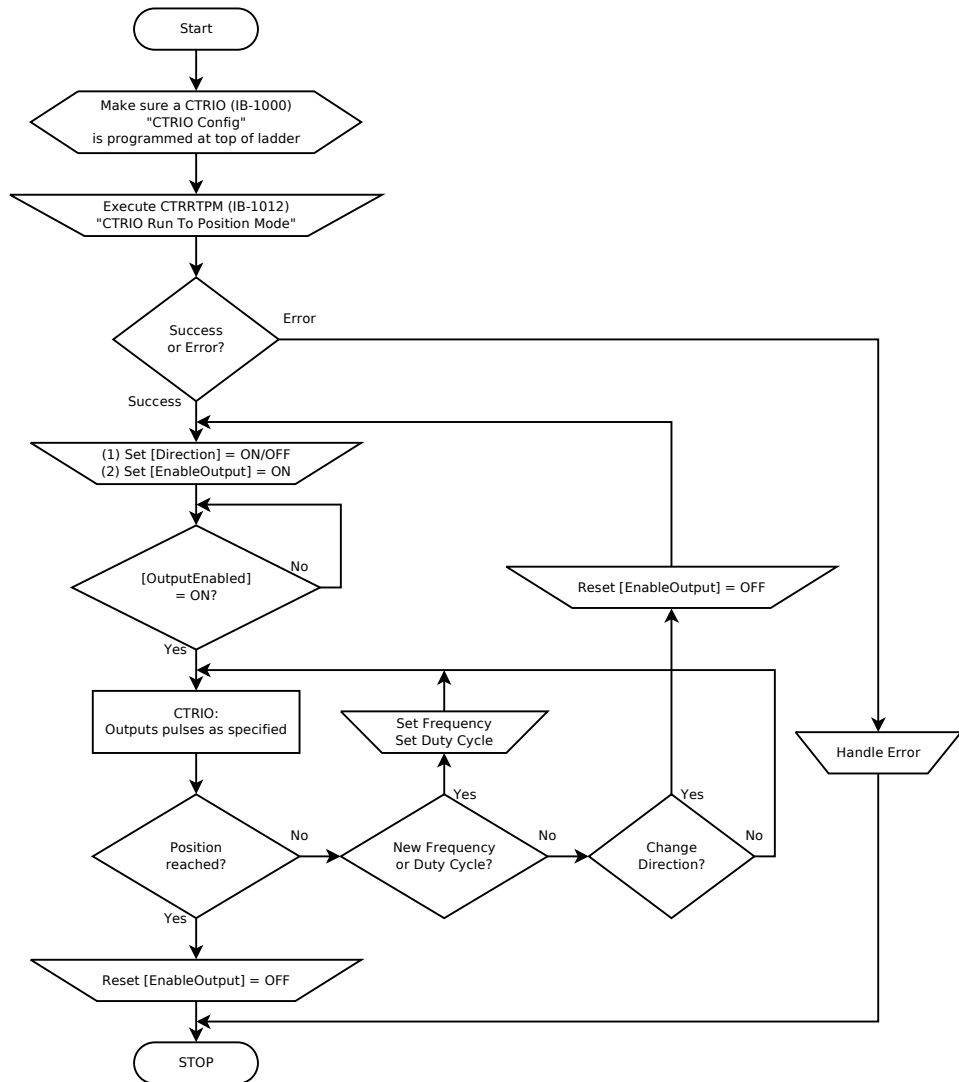
PARAMETERS:

- (1) [Direction]  
Out0-1: n+26.4  
Out2-3: n+27.4
- (2) [EnableOutput]  
Out0-1: n+26.0  
Out2-3: n+27.0
- (3) [OutputEnabled]  
Out0-1: n+22.0  
Out2-3: n+23.0



## Run To Position Mode (IBoxes)

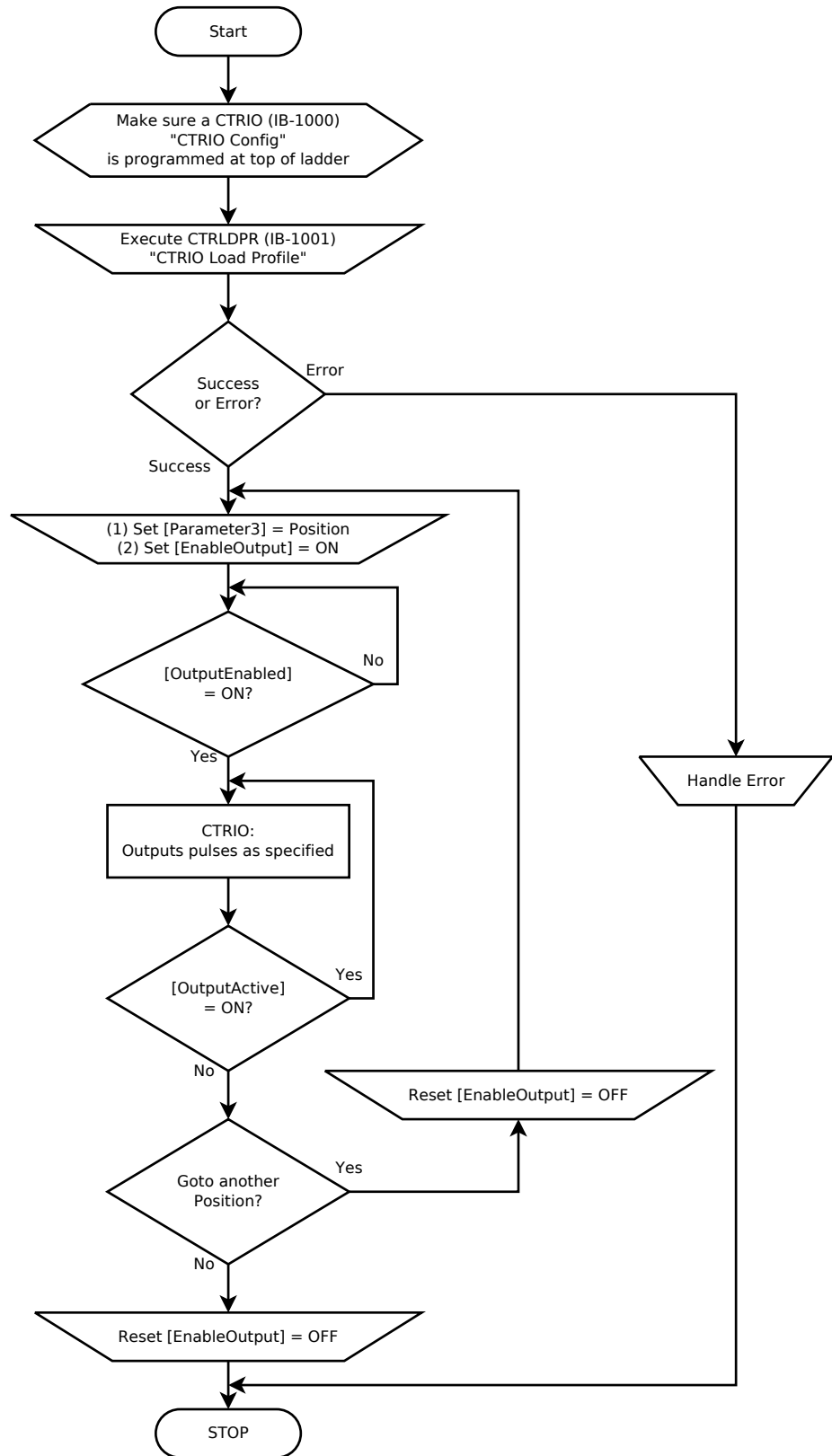
PARAMETERS:  
 (1) [Direction]  
 Out0-1: n+26.4  
 Out2-3: n+27.4  
 (2) [EnableOutput]  
 Out0-1: n+26.0  
 Out2-3: n+27.0  
 (3) [OutputEnabled]  
 Out0-1: n+22.0  
 Out2-3: n+23.0





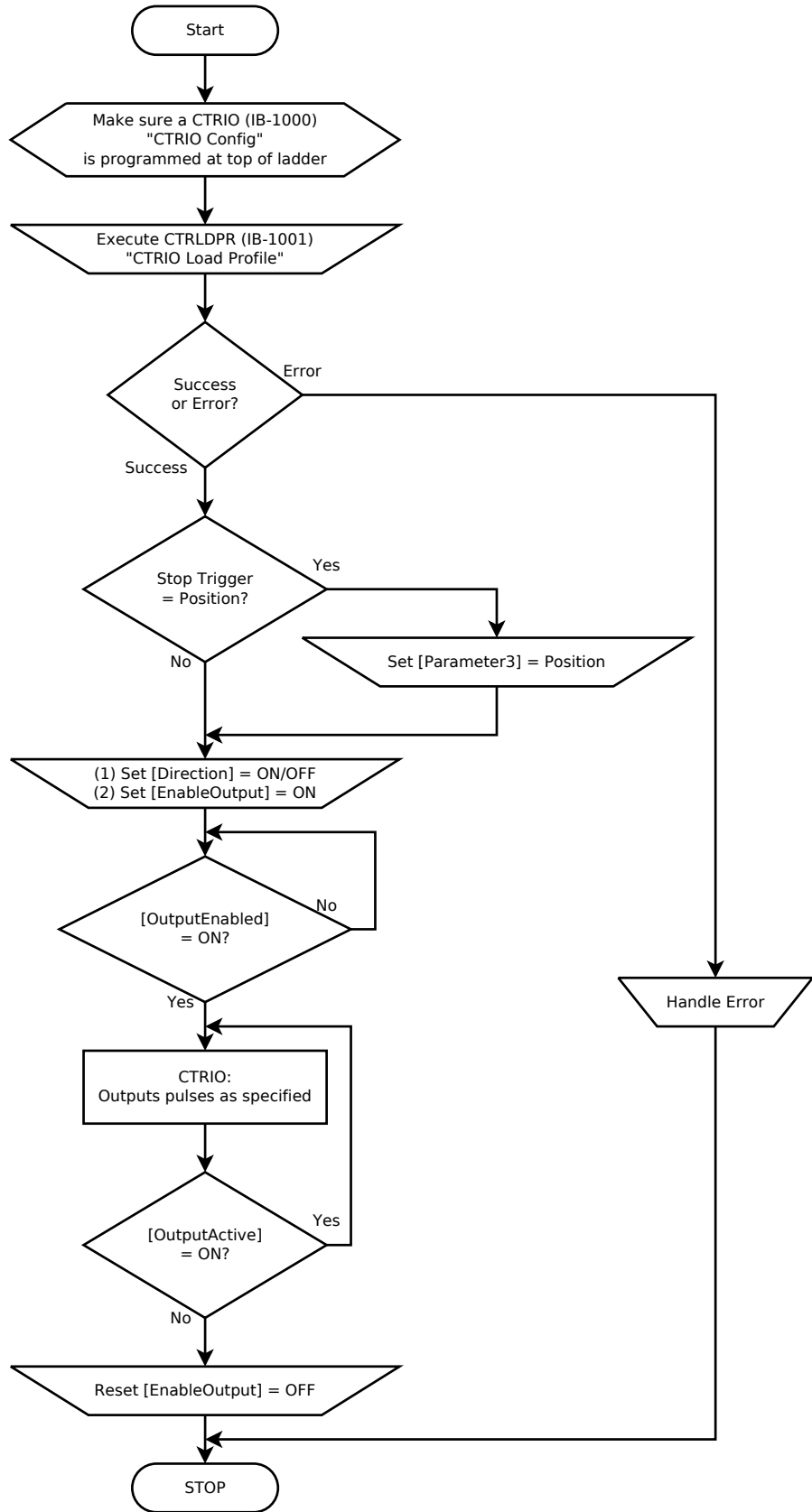
# Run Trapezoid PLUS (IBoxes)

PARAMETERS:  
 (1) [Parameter3]  
 Out0-1: n+0-1  
 Out2-3: n+4-5  
 (2) [EnableOutput]  
 Out0-1: n+26.0  
 Out2-3: n+27.0  
 (3) [OutputEnabled]  
 Out0-1: n+22.0  
 Out2-3: n+23.0  
 (4) [OutputActive]  
 Out0-1: n+22.4  
 Out2-3: n+23.4



## Run Trapezoid With Limits (IBoxes)

- PARAMETERS:**
- (1) [Parameter3]  
Out0-1: n+0-1  
Out2-3: n+4-5
  - (2) [Direction]  
Out0-1: n+26.4  
Out2-3: n+27.4
  - (3) [EnableOutput]  
Out0-1: n+26.0  
Out2-3: n+27.0
  - (4) [OutputEnabled]  
Out0-1: n+22.0  
Out2-3: n+23.0
  - (5) [OutputActive]  
Out0-1: n+22.4  
Out2-3: n+23.4



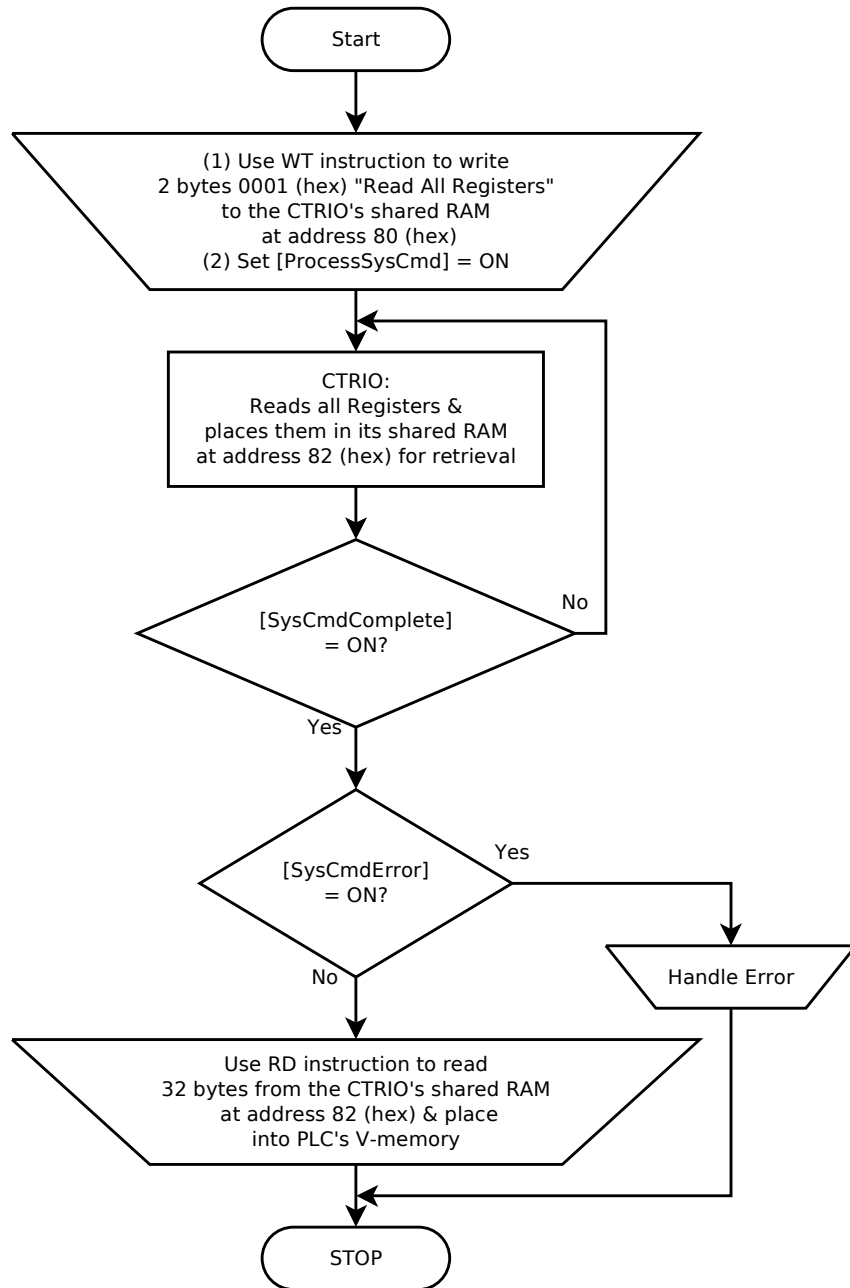
## System Function (Read All Registers) (IBoxes)

**PARAMETERS:**

- (1) [ProcessSysCmd] n+30.7
- (2) [SysCmdComplete] n+24.7
- (3) [SysCmdError] n+24.6

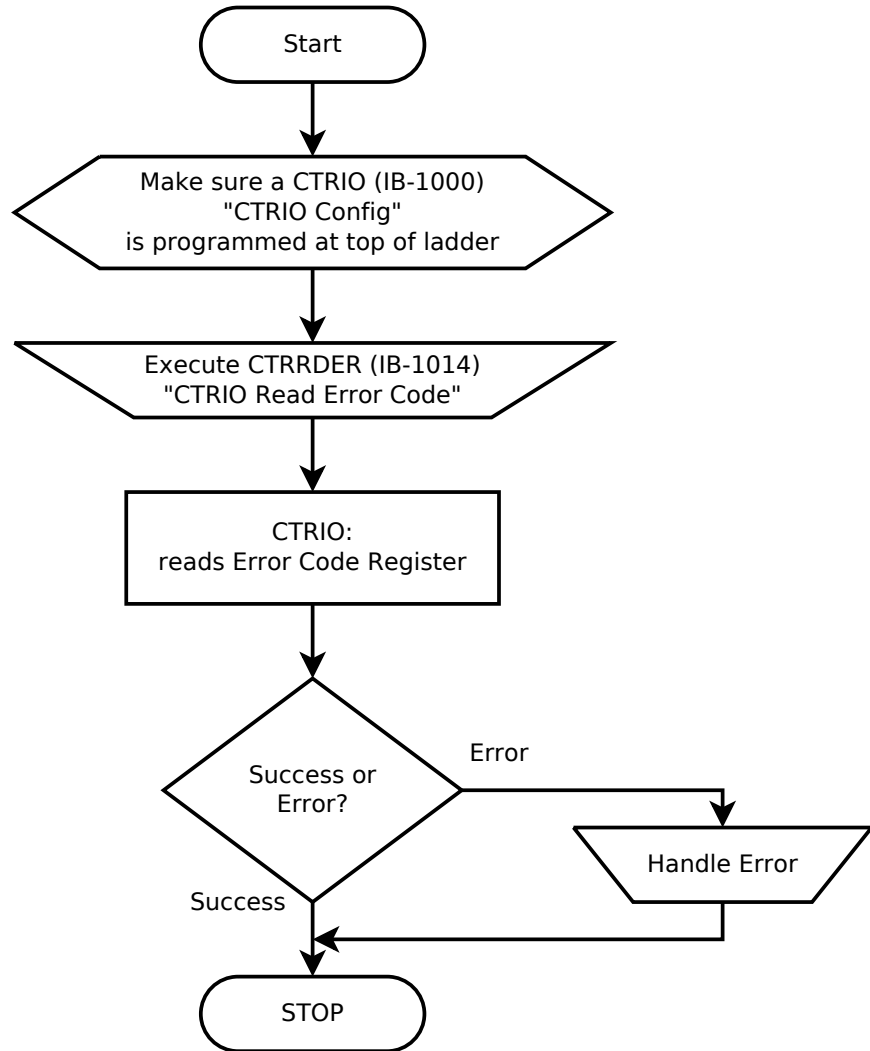
**DATA:**

- Bytes 0-3: Ch1/Fn1
- Bytes 4-7: Ch1/Fn2
- Bytes 10-13: Ch2/Fn1
- Bytes 14-17: Ch2/Fn2
- Bytes 20-23: Output0
- Bytes 24-27: Output1
- Bytes 30-33: Output2
- Bytes 34-37: Output3

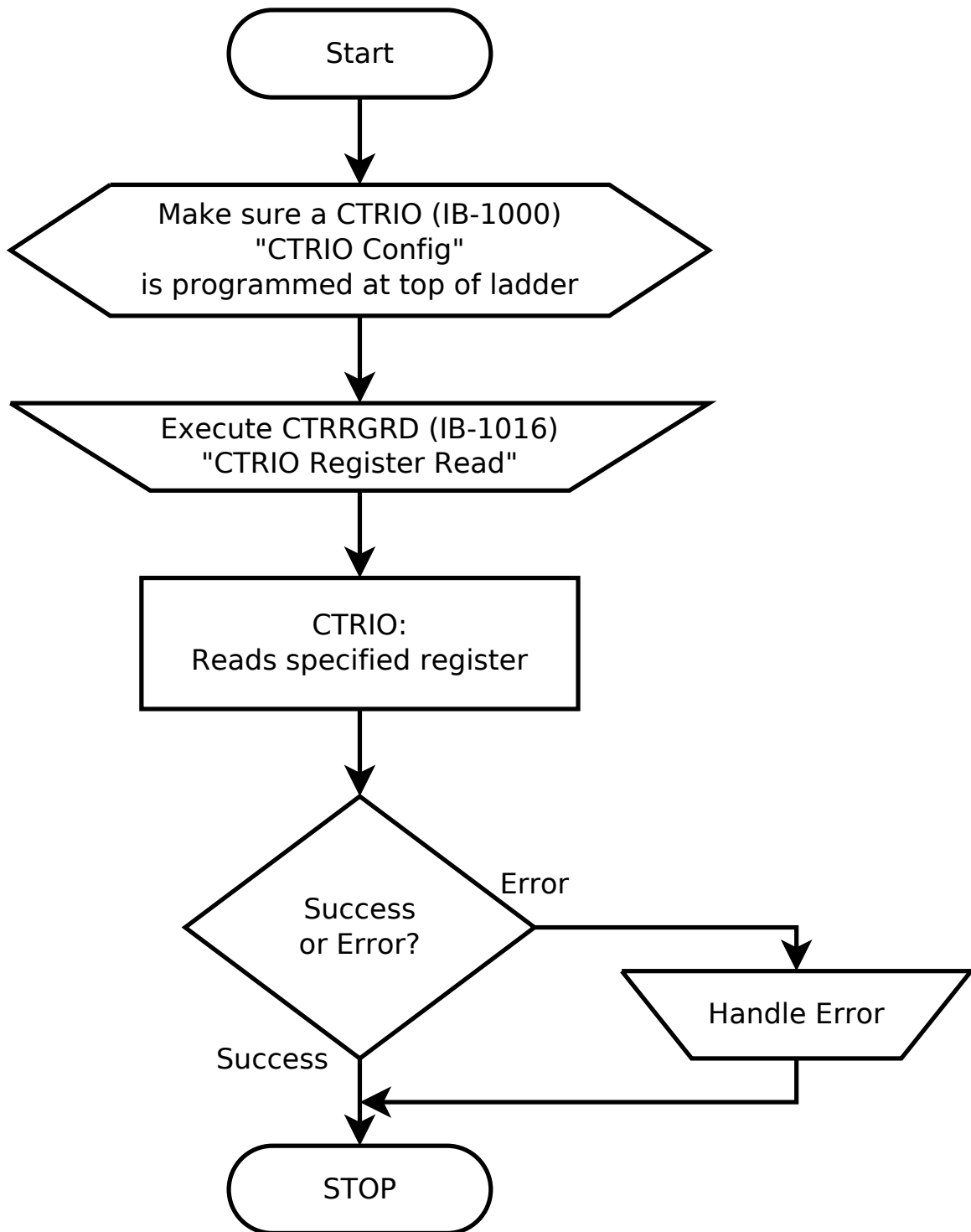


# System Function (Read Error Code) (IBoxes)

PARAMETERS:  
None



# System Function (Read One Register) (IBoxes)



# System Function (Write All Registers) (IBoxes)

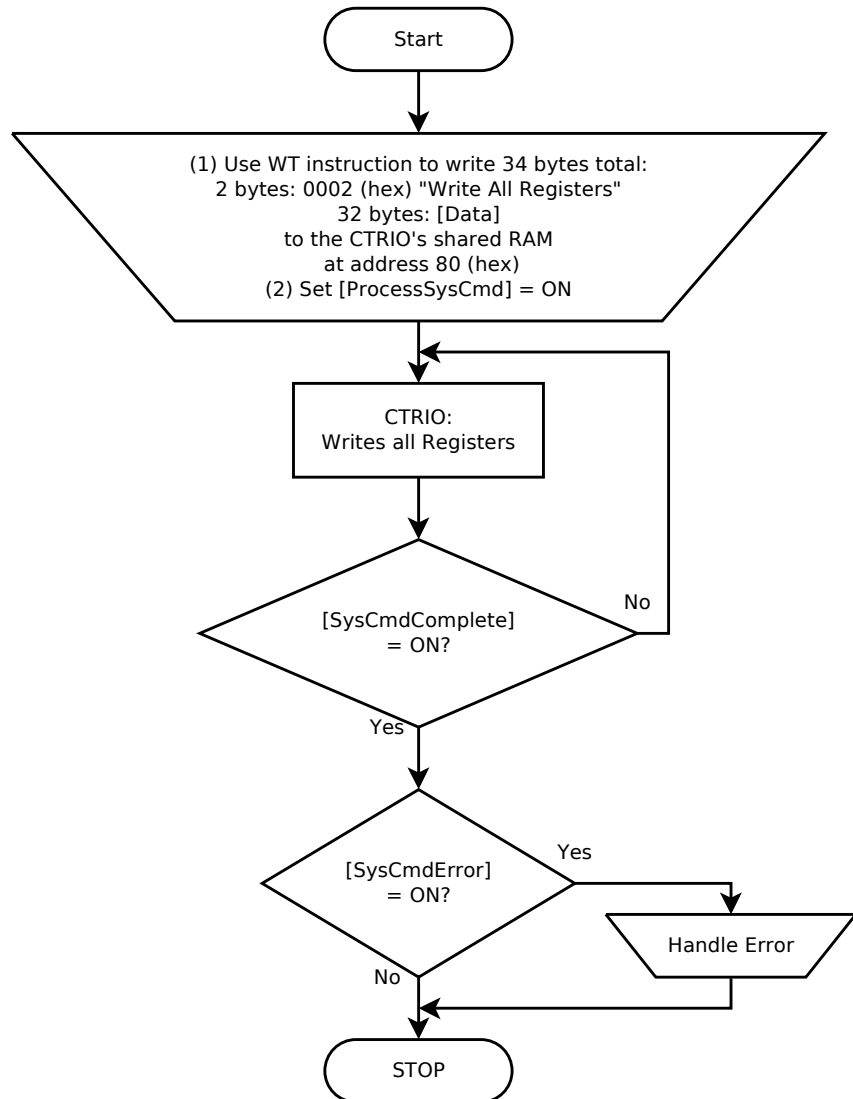
PARAMETERS:

- (1) [ProcessSysCmd]  
n+30.7
- (2) [SysCmdComplete]  
n+24.7
- (3) [SysCmdError]  
n+24.6

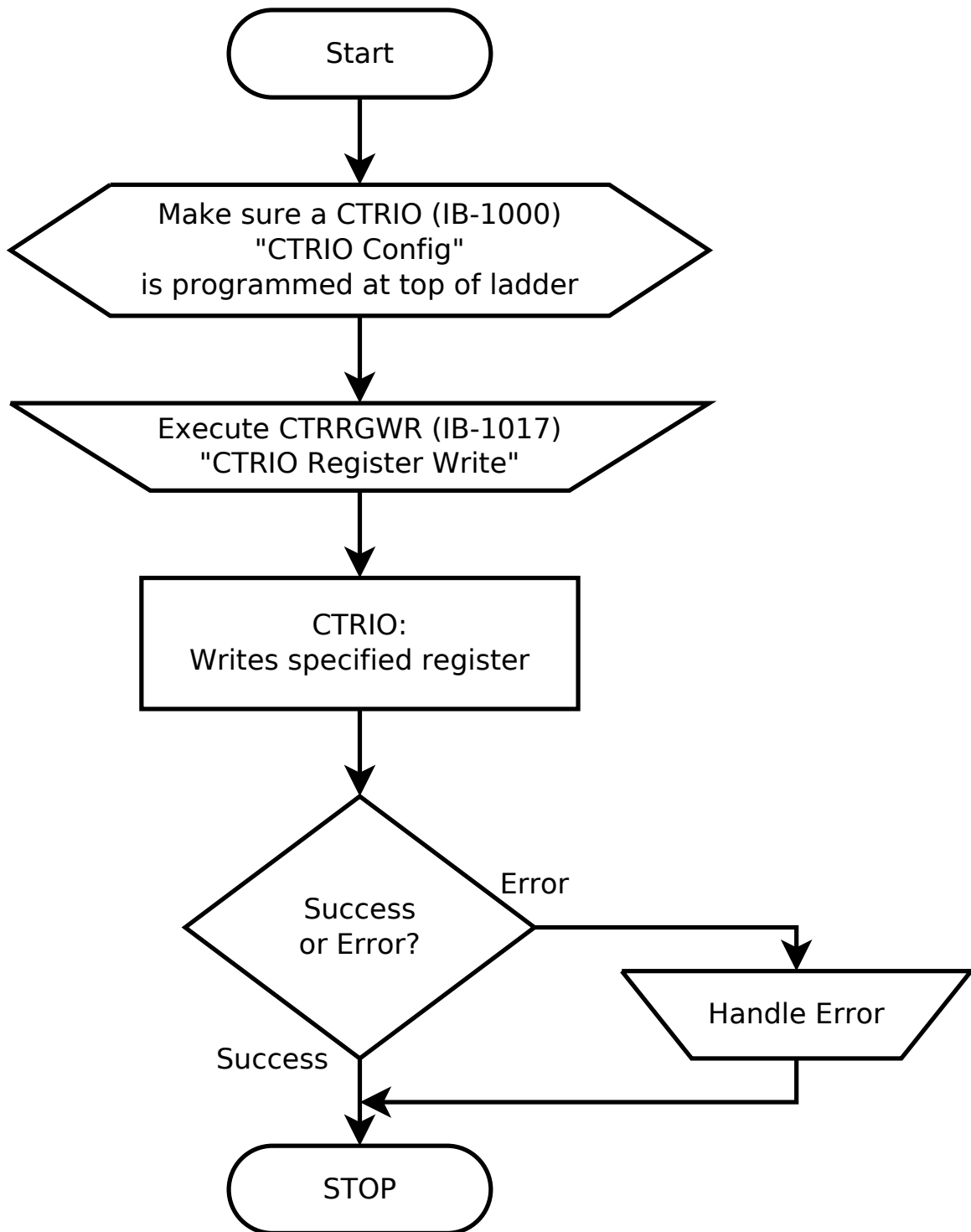
KEY:

[Data]:

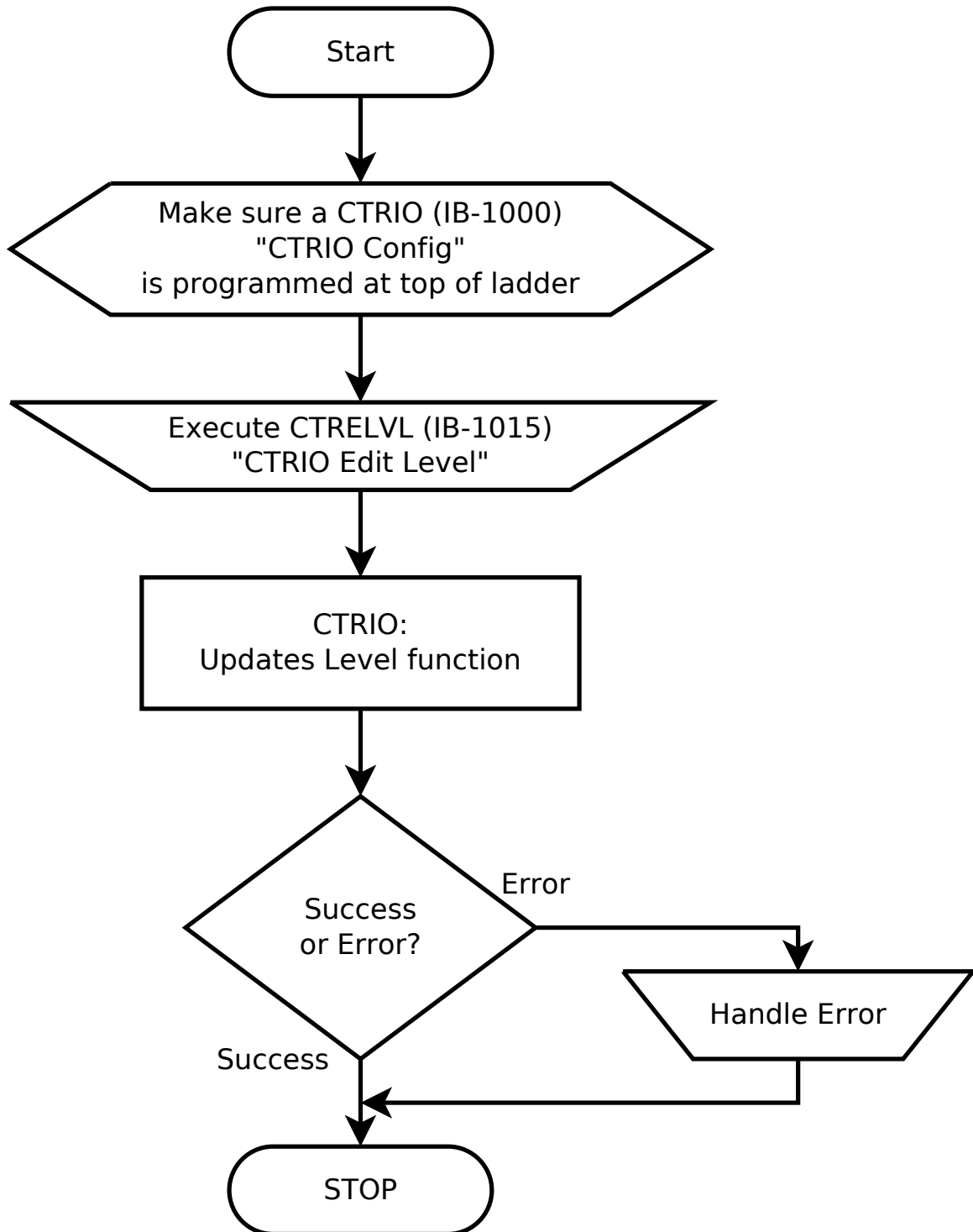
- Bytes 1-4: Ch1/Fn1
- Bytes 5-8: Ch1/Fn2
- Bytes 9-12: Ch2/Fn1
- Bytes 13-16: Ch2/Fn2
- Bytes 17-20: Output0
- Bytes 21-24: Output1
- Bytes 25-28: Output2
- Bytes 29-32: Output3



# System Function (Write One Register) (IBoxes)



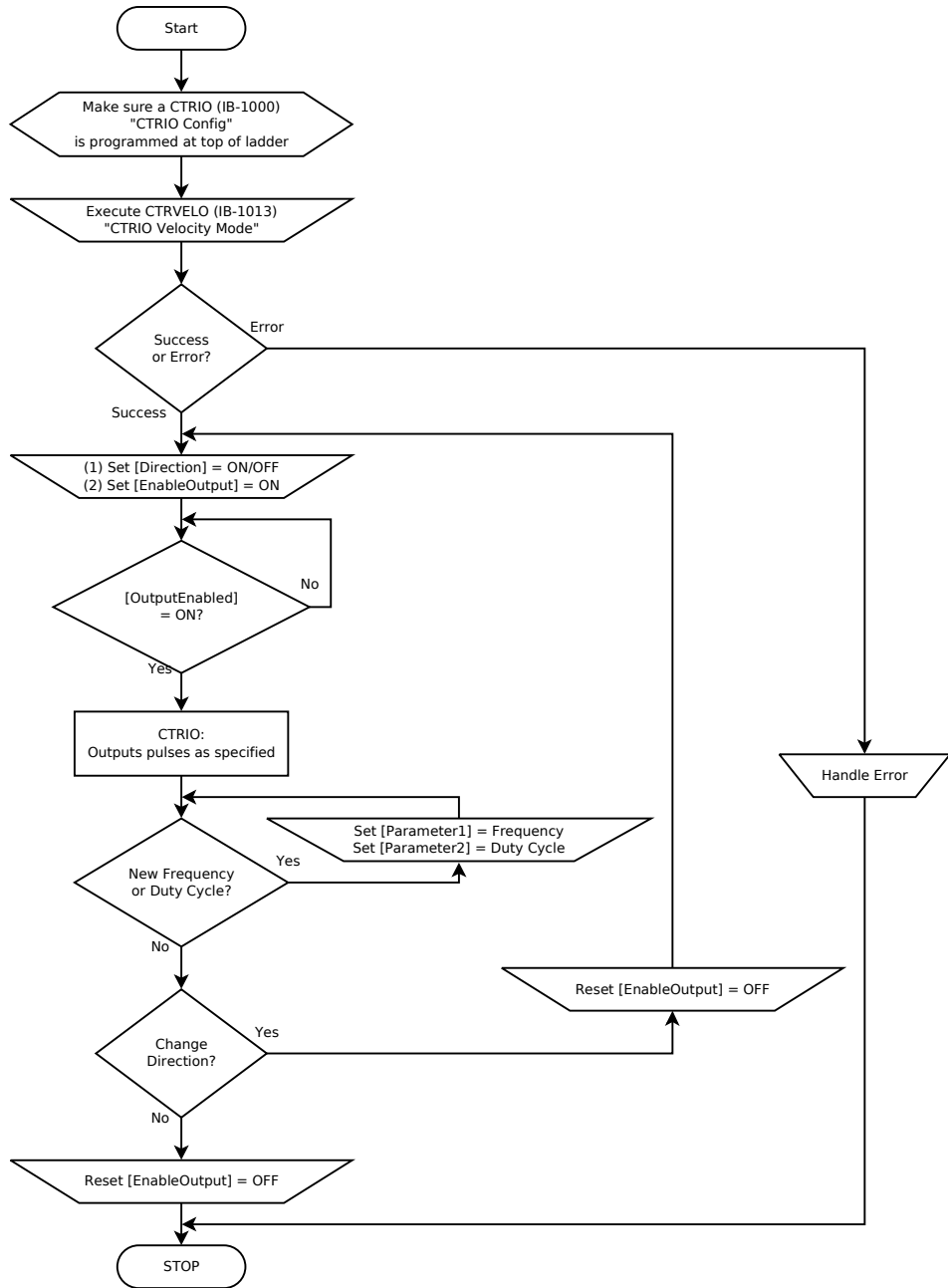
# Update Level (IBoxes)





## Velocity Mode (IBoxes)

- PARAMETERS:**
- (1) [Direction]  
Out0-1: n+26.4  
Out2-3: n+27.4
  - (2) [EnableOutput]  
Out0-1: n+26.0  
Out2-3: n+27.0
  - (3) [OutputEnabled]  
Out0-1: n+22.0  
Out2-3: n+23.0
  - (4) [Parameter1]  
Out0-1: n+11  
Out2-3: n+17
  - (5) [Parameter2]  
Out0-1: n+12  
Out2-3: n+20



# Write File to ROM (IBoxes)

