



**Product Type:** *ASC/3 NEMA & RackMount*

**Reference:** AN2121

*New Features in Software Version 2.47.00*

**Date:** 17 December 2009

## Purpose

This document gives information about the new features that have been added to the software of the *ASC/3-2100*, *ASC/3-1000* and *ASC/3 RackMount* controllers with the Version 2.47.00 release.

## Introduction

The table that follows is a summary of the new features for the *ASC/3* Controller, Version 2.47.00. For descriptions of the new parameters on the screens, refer to the online Help of the controller. For more information about these new features, refer to the subsequent pages.

### Summary of New Features in *ASC/3* Version 2.47.00

Feature	Description
Consistency Check at Startup	At startup, the <i>ASC/3</i> does a consistency check on your software database. If it finds an inconsistency, the controller will go to flash and there will be a message on the screen.
Basic Main Status Display Mode	In addition to the usual detailed Main Status Display, there is now a simple Main Status Display that shows a summary of basic status information—similar to an <i>ASC/2</i> display.
IEEE 1570 Protocol Support on serial channel	In addition to other preemption inputs, you can now issue Railroad Preemption over serial via the IEEE 1570 Interface Between the Rail Subsystem and the Highway Subsystem at a Highway Rail Intersection (PREEMPT).
New High Priority Preemptor Fault Type	You can select FAULT TYPE (Hard or Soft) for Gate Down Failure and IEEE 1570 faults. With Hard, you clear the fault manually and, with Soft, the fault clears automatically.

For your information, Event Log Messages (that you enable in MM-1-6-1 and display, print and clear in MM-8-6) are described in a table at the end of this document.







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In the Preempt Plans screen, MM-4-1, you select the High Priority Preemptor Fault Type (FLT TYPE), as shown here

Select from a SOFT or HARD type fault as described in the table that follows.

```

PREEMPT PLAN [ 1]    ENABLE... NO
  VEH/PED 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6
  OVERLAP A B C D E F G H I J K L M N O P
TRKCLR V . . . . .
TRKCLR O . . . . .
ENA TRL . . . . .
DWEL VEH . . . . .
DWEL PED . . . . .
DWEL OLP . . . . .
CYC VEH . . . . .
CYC PED . . . . .
CYC OLP . . . . .
EXIT PH . . . . .
EXIT CAL . . . . .
SP FUNC . . . . . (1-8)

ENABLE... NO|PMT OVRIDE.X|INTERLOCK NO
DET LOCK.. X|DELAY.. 0|INHIBIT... 0
OVERRIDE FL. .|DURATION 0|CLR>GRN... NO
TERM OLP.ASAP|PC>YEL NO|TERM PH NO
PED DARK.. NO|TC RESRV. NO|DWELL FL LDSW
LINK PMT...0|X FLCOLR GRN|PMT> CRD. NO
X TMG PLN..0|RE-SERV.. 0|FLT TYPE HARD
FREE DUR PMT|R1 NO|R2 NO|R3 NO|R4 NO
--TIMING----WALK|PED CL|MN GR|YEL|RED
ENTRANCE TM. 0|255|5|4.0|1.0
-----MIN GR|EXT GR|MX GR|YEL|RED
TRACK CLEAR 0|255|5|4.0|1.0
-----MIN DL|PMTEXT|MX TM|YEL|RED
DWL/CYC-EXIT 0|0.0|0|4.0|1.0
PMT ACTIVE OUT.. ON PMT ACT DWELL... NO
OTHER - PRI PMT.OFF NON-PRI PMT.....OFF

```



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Parameter in MM-4-1	Definition	Range
FLT TYPE	<p><b>High Priority Preemptor Fault Type</b></p> <p>You can treat the Gate Down Fault and the IEEE 1570 related fault as an automatically recoverable fault or not.</p> <p><b>SOFT:</b> Fault is automatically recoverable when the fault condition ceases to exist:</p> <ul style="list-style-type: none"> <li>• Gate Down Fault – terminates when preemptor is deactivated.</li> <li>• When IEEE 1570 is enabled – these faults will be detected: <ul style="list-style-type: none"> <li>• Not receiving HRI RCOS</li> <li>• HRI RCOS SO is off</li> <li>• HRI RCOS RBHA is off</li> </ul> </li> </ul> <p><b>Note:</b> When set to SOFT, the controller will stay in flash for at least 60 seconds before exit if it is recovered from an IEEE 1570 fault. This prevents frequent alternation between flash and no flash states if the fault condition is transient.</p> <p><b>HARD:</b> User intervention is required to clear the fault. Controller will stay in Flash until you press <b>CLEAR</b><sup>1</sup> on the ASC/3 or <b>RESET</b> on the MMU.</p> <p>This setting is per Preempt for Gate Down fault, but general for all IEEE 1570 related faults.</p> <p>This setting is only applicable for high priority preempts (for train) in which both SOLID and PULSING columns in MM-4-2 are set to BYPASSED.</p>	HARD, SOFT

## Event Log Messages

Log Message	Description
3 CRITICAL RFES IN 24 HOURS	3 critical SDLC communication errors occurred in the last 24 hours
3 CRITICAL RFES IN 24 HOURS CLEARED	3 critical SDLC communication errors cleared
ACCESS GRANTED:USER #	User login from keyboard is successful and access is granted
ALARM ACTIVE	An alarm event happens
ALARM INACTIVE	An alarm event clears
AUTOMATIC FLASH ACTIVE	Controller is in automatic flash

<sup>1</sup> For an ATC 2070 with ASC/3-2070 software, press **C**.



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Log Message	Description
AUTOMATIC FLASH INACTIVE	Controller exits from automatic flash
BATTERY LOW	Battery voltage drops below normal level
CABINET DOOR CLOSED	Cabinet door has just been closed
CABINET DOOR OPEN	Cabinet door is open
COLOR MISMATCH FAULT FLASH	Controller SDLC output colors and MMU intersection colors have not matched for over 800 ms
COMPATIBILITY FAULT FLASH	The controller compatibility table does not match the MMU compatibility table
CONFLICT FAULT FLASH	MMU detected Conflict calls. Two or more conflicting colors are ON for over 500 ms.
COORDINATOR ACTIVE	Controller is running in Coordination mode
COORDINATOR DATA ERRORS (FREE)	Invalid settings are found in the commanded pattern data. Fall back to Free mode.
COORDINATOR FAILURE (FREE)	When a Coordinator Fault is in effect and a Cycle Fault occurs again within two cycles of the coordination retry. Fall back to Free mode.
COORDINATOR FAULT (FREE)	When a Cycle Fault is in effect and the serviceable call has been serviced within two cycles after the Cycle Fault. Fall back to Free mode.
COORDINATOR LOCAL FREE	Input commands the controller to go to FREE mode
COORDINATOR PROGRAM FREE	TBC commands the controller to go to FREE mode
CRC PROTECT FAIL - NEMA CRC CHECKING	CRC error was detected in the running database
CYCLE FAILURE FLASH	Cycling diagnostics indicate that a serviceable call exists that has not been serviced for two cycles during Coordination
CYCLE FAULT (FREE)	Cycling diagnostics indicate that a serviceable call exists that has not been serviced for two cycles during FREE
DATA CHANGE INITIATED (KEYBOARD)	Data change from keyboard detected since last data change timeout
DATA CHANGE TIME OUT (KEYBOARD)	No data change from keyboard in the last 20 minutes



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Log Message	Description
DET BIU # RFE	Detector BIU communication error
DET BIU # RFE CLEAR	Detector BIU communication error clears
DET BIU DISABLED #	Record which detector BIU is disabled
DET BIU ENABLED #	Record which detector BIU is enabled
ECPIP DATABASE DOWNLOAD	New database has been downloaded to the controller through the ECPIP protocols
EXIT ERROR FLASH	MMU flash error is cleared
FLASH TEST	Flash Test has failed (ASC/3 NEMA only)
HRI CROSSING# TO PMT NOT SET	HRI messages are being received but all the crossing numbers are not associated with a preempt
HRI PMT# IS NOT ENABLED	HRI messages are being received for a crossing but the preempt associated with the crossing is not enabled
HRI PMT# IS NOT HIGH PRIORITY	Preempt is linked to an HRI crossing but is low priority. It needs to be high priority.
HRI RBHA FAULT FLASH	The HRI message is not receiving messages from the controller
HRI RX FAULT FLASH	HRI messages are not being received by the controller
HRI SO FAULT FLASH	HRI messages indicate that the railroad equipment is offline
IDOT CRC FAULT FLASH	HRI CRC check has failed
IDOT DATABASE CRC CHECKING FAILED	IDOT database CRC does not match with the preset value
IDOT TRACK SWITCH FAIL	IDOT track switch fail input is active
IM DATABASE DOWNLOAD	Intersection Monitor – new database has been downloaded to the controller
IM PREEMPTOR MAX PRESENCE	Intersection Monitor – a preempt has been active longer than or equal to the programmed maximum presence time
IM PREEMPTOR NO ACTIVITY	Intersection Monitor – no preempt is active in the programmed NO ACTIVITY time
IM PREEMPTOR NORMAL	Intersection Monitor – a No Activity or Maximum Presence event clears
IM REP CALL DIAG	Intersection Monitor – failed to connect the phone call

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Log Message	Description
IM TRACK SWITCH FAIL CLEAR	IDOT track switch fail input clears
LOCAL FLASH ACTIVE	The CU has detected local flash going active
LOCAL FLASH INACTIVE	The CU has detected local flash being removed
MAX GREEN EVENT	Intersection Monitor – maximum green time on a phase is greater than or equal to the programmed maximum green time
MAX GREEN EVENT CLEAR	Intersection Monitor – a maximum green event has been logged and the phase later terminates with a total accumulated green time less than the programmed maximum green time
MMU DISABLED	MMU is disabled
MMU ENABLED	MMU is enabled
MMU FLASH: +24 VOLT MONITOR I	MMU is reporting that the 24 Volts is not within limits and placed the intersection in Flash
MMU FLASH: +24 VOLT MONITOR II	MMU is reporting that the 24 Volts II is not within limits and placed the intersection in Flash
MMU FLASH: CONFLICT	MMU is reporting that is has detected a conflict between two channels and placed the intersection in Flash
MMU FLASH: DIAGNOSTIC FAILURE	MMU is reporting that a diagnostic failure has occurred and placed the intersection in Flash
MMU FLASH: MINIMUM CLEARANCE FAILURE	MMU is reporting that yellow color has not been on long enough and placed the intersection in Flash
MMU FLASH: PORT I TIMEOUT FAILURE	MMU is not receiving valid communication from the controller and placed the intersection in Flash
MMU FLASH: RED FAILURE	MMU is reporting that one or more channels have no colors present
MMU FLASH: VOLTAGE MONITOR	MMU is reporting that the CVM is not active
MMU RFE	MMU communication error
MMU RFE CLEAR	MMU communication error clears
MMU STATUS FLASH (HARDWARE INPUTS)	This is a second message added to the log to indicate that the MMU has found an error
NETWORK DOWN: STARTUP MAC INCORRECT	Ethernet port fails to operate

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Log Message	Description
OFF LINE	The CU is not in normal operation (that is, in flash or preempt)
ON LINE	The CU is in normal operation
PMT GATEDOWN FAULT FLASH	The CU has detected a gatedown fault and put the intersection into flash
PMT INTERLOCK FAULT FLASH	The CU has detected a preempt interlock error and put the intersection into flash
PORT 3B CANNOT BE SET TO TERMINAL	Port 3B is set incorrectly for terminal, possibly via IM command
PORTS CANNOT BE SET TO SAME PROTOCOL	Same Protocol cannot be set on a different port, possibly via IM command
POWER FAILURE DETECTED	Power interruption is detected
POWER OFF	Power OFF Event
POWER ON	Power ON Event
POWER ON FLASH ACTIVE	The CU is powering up and keeping the intersection in flash
POWER ON FLASH INACTIVE	The CU is coming out of power ON flash
POWER RESTORE	Short power interruption happened and power is restored
PREEMPTOR ACTIVE	The controller is operating in preemption mode
PREEMPTOR INACTIVE	The preemption goes inactive
RESPONSE FRAME FAULT FLASH	The CU has detected an RFE error and put the intersection into flash
RF129 DUAL INDICATION FAULT FLASH	Enhanced MMU – one or more channels have multiple colors active. Refer to MM-7-7-3 for more information.
RF129 EXTERNAL WATCHDOG FAULT FLASH	Enhanced MMU – the external WDOG signal to the MMU has a failure
RF129 FIELD CHECK FAULT FLASH	Enhanced MMU Message. Refer to MMU Manufacturer’s manual for more information.
RF129 RP DETECTION STATUS	Enhanced MMU – one or more channels turning ON and OFF. For more details go to MM-7-7-5.
RF129 SPARE #1	MMU bit setting. Refer to MMU Manufacturer’s manual for more information.

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Log Message	Description
RF129 SPARE #2	MMU bit setting. Refer to MMU Manufacturer's manual for more information.
RF129 SPARE #3	MMU bit setting. Refer to MMU Manufacturer's manual for more information.
RF129 SPARE #3 FLASH	Enhanced MMU message. Refer to MMU Manufacturer's manual for more information.
RF129 SPARE #4	MMU bit setting. Refer to MMU Manufacturer's manual for more information.
RF129 SPARE #5	MMU bit setting. Refer to MMU Manufacturer's manual for more information.
RF129 SPARE #6	MMU bit setting. Refer to MMU Manufacturer's manual for more information.
RF129 SPARE #6 FLASH	Enhanced MMU. Refer to MMU Manufacturer's manual for more information.
RF129 YELLOW PLUS RED CLEARANCE FLASH	Enhanced MMU – Short or Skipped Yellow
RFE TEST	RFE 158 Test
RFE TEST CLEAR	Clear RFE 158 Test
STATIC RAM TEST	OS has failed a static RAM test (ASC/3 NEMA only)
TEST DISABLE	Disable RFE 158 Test
TEST ENABLE	Enable RFE 158 Test
TF # RFE	TF BIU # has RFE errors
TF # RFE CLEAR	TF BIU # RFE errors have been cleared
TF # DISABLED	TF BIU # has been disabled
TF # ENABLED	TF BIU # has been enabled
TSP CALL RECEIVED	A TSP call is detected
TSP CYCLE ACTIVATED	A TSP call is being serviced. TSP timings, omits and recalls are in effect.
TSP CYCLE TERMINATED	TSP operation has been terminated
TSP INHIBITED CALL RECEIVED	A TSP call is detected but cannot be serviced

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Log Message	Description
UPS POWER OFF	Intersection Monitor – Controller is running on UPS power
UPS POWER ON	Intersection Monitor – Controller is no longer running on UPS power
WSA ON BEFORE TRACK CLEARANCE	HRI – WSA occurred before the CU entered track clearance
YELLOW PLUS RED CLEARANCE FLASH	Enhanced MMU – short or missing Yellow