



**Firmware Change Log**  
**Controllers EC2, EC3, IPB**  
V7.54.1



Workforce Management Solutions  
Securing your time and resources

This document is a listing of the changes made to the new multithread firmware. Please take careful notice of the items highlighted in yellow.

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**IMPORTANT:**

Only Config Tool V2.18.03.0 is to be used as of 2018-04-01

Only Data Compare Tool V2.18.02.0 is to be used from 2018-02-28

**VERY IMPORTANT:**

Only Controller Interface V2.17.10.0 and later will be supported from 2018-04-01.

Only firmware versions V7.47 or later will be supported from 2018-04-01.

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## V7.54.1 (Release 2018-10)

- Add optional random search ignore for ENGEN

### V7.54.0

- Remove limitations on AG, TRG, CERT, CPEQUIPS and REASONS

### V7.53.3

- Increase MAX\_AG and MAX\_TRG to 600

### V7.53.2

- Increase MAX\_AG and MAX\_TRG to 300

### V7.53.1

- Add sagem 3rdparty reader management

### V7.53.0

- Add furnace control

### V7.52.6

- Improve db data handling
- Fix minor bugs in Sagem display device and queue sagem msg
- Increase MAX clocks to 100000 for EC3 and only clear drained clocks for ECII to save space

### V7.52.5

- Add printer attached parameter to terminal
- Check if print success before updating meal
- Don't set alcohol flag on timeout

### V7.52.4

- Fix veh mstsq clear for tag and finger scan. caused no veh present error

### V7.52.3

- Log clock reasons for remote clock if not set for clock point
- Add allow override in/out event for visitors

### V7.52.2

- Add in ignore route for second route build up
- Caused route incomplete error

### V7.52.1

Fix meal portion quota bug. Didn't update count on first clock

### V7.52.0

Add additional equipment test event types. Fix input events display action

### V7.51.6

- Add additional equipment test event types
- Fix input events display action

### V7.51.5

- Set Sagem config from controller

### V7.51.4

- Fix Sagem ip address range
- Add debug to ticket printing

### V7.51.3 (V2.18.07.0)

- Change Sagem buffer to use 24 bit tag number
- Check visitor hosting for host allow offsite
- Fix reason codes
- Cleanup fifo buffers once a day

### V7.51.2 (V2.18.06.0)

- Remove meal start and end time on ticket printing
- Also default Canteen name to XTime if none set

### V7.51.1

- Add breathalyser block
- Fix meal ticket printing when tag and finger

### V7.51.0

- Add relaxed APB
- Add tag type select per terminal

### V7.50.2

- Add Canteen name to meal ticket printing and remove meal type

### V7.50.1

- Add Lamp validation direction check
- Add shift and leave validation for Canteen

### V7.50.0

- Add SEDNA interface

### V7.49.0

- Add Sagem proxy mode

### V7.48.7

- Add adhoc vehicle for visitors

### V7.48.6

- Fix tag and finger truck tag log

### V7.48.5

- Add partial driver bio validation

### V7.48.4

- Clear vehicle buffers on ET\_DENIED\_VEH\_MAKEUP\_ERROR

### V7.48.3

- Change TxSeq and RxSeq check on ixptcp and ixp485
- Change weighbridge vehicle validation

### V7.48.2

- Fix valid truck tags logging

## V7.48.1 (2018-04)

- Fix setting MSTMEAL for ticket print

### V7.48.0

- Add ticket printer

### V7.47.9

- Add viewer on port 32126

### V7.47.8

- Skip step 1 on vehicle makeup error

### V7.47.7

- Change truck validation to check only for multiple mains and scan for correct vehicle makeup
- Log all truck tags on vehicle makeup events and only correct makeup on all other events
- Fix check for unknown tags in vehicle validation

### V7.47.6

- Fix equipment test MstSq

### V7.47.5

- Fix morpho face with meal validation

### V7.47.4

- Increase updates timeout to 60 seconds
- Send clocktran when updreq timeout as well as 2 clocks per buffer
- Clear lamp override flag when lamp connection active
- Connect inputs for equipment issue to relay term setting
- Log truck tag read event

### V7.47.3

- Fix IOCLUSTER. Added to 485 list

### V7.47.2

- Link issue readers via display term

### V7.47.1

- Fix some coding errors

## V7.47.0 – (2.18.01.0)

- Add visitor hosting

### V7.46.9 (Weighbridge)

- Skip vehicle validation on route step

### V7.46.8 (Weighbridge)

- Fix override for vehicle access
- Log reason code for truck override
- Set override type for remote and tag
- Change data backup copy function parameters to overwrite existing data
- Linked to certificate issue experienced at alloys

### V7.46.7 (Weighbridge)

- Remove backup truck info. Not needed
- Clear vehicle buffer with timeout in vehicle validation
- Debug Log vehicle tag and MstSq

### V7.46.6 (Weighbridge)

- Clear buffer only on successful transaction
- Fix vehicle present flag.
- Add no vehicle present flag.

### V7.46.5

- Change insert, update and delete to only change terminal record of terminals belonging to controller.

### V7.46.4

- Remove flash save for IPB rev6.

### V7.46.3 – (2.17.10.4)

- Split vehicle and driver scan time.

### V7.46.2

- Force file overwrite when doing backups and data copy to flash or usb.

### V7.46.1 – (2.17.10.0)

- Fix vehicle access check for weighbridge
- Fix remote override clock for weighbridge

## **V7.46.0 – (2.17.07.3)**

- Change MA\_SIGMA to MA\_LEGACY and unit type to 101
- Add MA200/300 for third party validation

### **V7.45.8**

- Fix sagem config: send to only check when down

### **V7.45.7 – Test Version**

- Fix Update and Delete functions (Key mismatch fix)

### **V7.45.6 – Test Version**

- Check for deleted keys when finding 1st key (Key mismatch fix)

### **V7.45.5 – Test Version**

- Weighbridge: Check truck main expiry

### **V7.45.4 – Test Version**

- Weighbridge: Check access for main only
- Weighbridge: Add remote clock
- Weighbridge: Add truck access and APB check

### **V7.45.3 – Test Version**

- Change fread and fwrite parameters again
- Fix update bug (Clear key record) (Key mismatch fix)

### **V7.45.2 – Test Version**

- Fix hwclock set for IPBR7

### **V7.45.1 – Test Version**

- Change fread and fwrite parameters
- Use disable pin parameter to do tag and password only
- Add in tag type select

### **V7.45.0 – Test Version**

- Weighbridge: Fix vehicle tag finger request
- Fix fingerprint FIFO buffer over run error

## **V7.44**

- Weighbridge integration phase3

## **V7.43**

- Add weighbridge integration

## **V7.42 – with Reader IPB V2.27 Only (2.17.07.0)**

- Add tag type select per site
- Increase assigned memory to 32k
- Read UPD pointer file before saving new data to UPD pointer file

## V7.41

- Store IPB7 data in RAM and backup to flash. **Fix to avoid running out of memory, which causes OS freeze**
- Add LMS new parameter to use new third party equipment event types
- Change canteen closed event from denied shift to canteen closed
- Add contacts enable with issue reader to do equipment testing

## V7.40 – Test version

- Add required equipment validation and visitor equipment validation

## V7.39 – Test version

- Add Sagem reader for third party validation
- Change MDTA display to use icons. Added new thread to update icons
- Add Morpho face reader functionality

## V7.38

### Use Controller Interface V2.16.10.6 and above for this version of firmware

- Fix mutex unlock in dbwritefifo function. This was causing a deadlock and increasing CPU usage which caused the units to “freeze” due to lack of CPU processing space.

## V7.37

### Use Controller Interface V2.16.10.6 and above for this version of firmware

- Fix lxptcpwritefifo function, caused an endless while loop
- Remove “if function” in TCP server send
- Fix flexitime display
- Check Fingerprint type in delete function

## V7.36

### Use Controller Interface V2.16.6.5 and above for this version of firmware

- Fix event display on events and actions
- Optimize ixptcp comms
- Fix LED colour display for events
- Clear tag buffer when logging clocks. This fixes unknown fingers reporting the previous tag scanned

## V7.35

### Use Controller Interface V2.16.6.5 and above for this version of firmware

- Fix wrong Mst\_Sq select in pin validation.
- Fix reason codes
- Fix gang for inherited access – did not request fingerprint in tag and finger mode

## V7.34

### Use Controller Interface V2.16.10.0 for the parade message expansion

- Add in parade message

## V7.33

- Add in a delay during updates processed by server thread
- Fix finger request for pin and finger on denied event

## V7.32

- Recompiled to eliminate confusion with V7.31T

## V7.31

- Improve file handling. Decrease CPU usage
- Display all denied event types in tag and finger mode if no finger detected.
  - **(This was only showing Denied Pin and no other denied events like Denied Location)**
- Fix pin request on MDTA if user has finger
  - A person was unable to use an MDTA reader if there was a finger on the record. Now a person can use tag and finger on bio readers and tag and password on non-biometric readers if the reader is in Pin Validation mode

## V7.30

- Add in MSG\_DONTWAIT for socket receive
  - **(Possible fix for freeze issues)**
- Add in checks to avoid application getting stuck on full upload when network dips occur
  - **(Possible fix for freeze issues)**
- Fix wrong tag number report when getting denied finger response

## V7.29

- Add in FD\_ISSET checks
  - **This fixes the ECII crash in V7.28**
- Fix wrong TCP reader IP sent in status display of dashboard.
  - This would cause the IP address to show the word terminal or an incorrect IP address
- Fix pin MDTA setting direction in
  - 9 is used by Impro to select the out direction. When an employee using a PIN pressed the 9 key, the direction was changed and each sub-sequent clock would be on the out direction

## V7.28

### **Use Controller Interface V2.16.06.5 for the Schauenburg Interface expansion**

- Schauenburg Interface expansion

## V7.27

### **USE DATA COMPARE TOOL V2.16.06.2 for troubleshooting**

### **Use Controller Interface V2.16.06.4 for the shift cycle up to 365 days.**

- Extend cycle shift to 2 bytes(short)
  - This is to cater for cycles of 365 days long
- Fix MDTA PIN function
  - If multiple PINs were received from different readers on the same controller, the buffer got mixed up and the PIN numbers were read incorrectly.
- Add in standby to override leave
  - If a person is on standby and leave, the standby will override the leave and the person will be allowed onsite where shift validation is active

## V7.26

### **USE DATA COMPARE TOOL V2.16.06.0 for troubleshooting**

- Add enhanced equipment test functionality
  - There is a new parameter on the clockpoint equipment tab. When adding equipment that is to be tested, the test valid duration can be set. The equipment can also be set to expire if the employee clocks in or out of the clockpoint once the equipment is tested.

## V7.25

### **USE DATA COMPARE TOOL V2.16.06.0 for troubleshooting**



- Increase cycle shift to 255
- Clear clock equipment list when building list (fix unknown equipment validation)
- Set no response to terminal if equipment validate
- Check term function for tag type 5 NEDAP (added tag type 5 validate and test routines)

## V7.24

### USE DATA COMPARE TOOL V2.16.06.0 for troubleshooting

- Fix buffer length for MstSq for image display
- Change TCP poll request to allow time for reader to respond
- Remove log parade clear from update tagholder function

## V7.23

### USE DATA COMPARE TOOL V2.16.06.0 for troubleshooting

- Add in MstSq in ixptcp display message for image display
- Improve network recovery and set CI time when NTP time updates (2 hour time difference issue)
- Fix time request timeout bug
- Report correct tag type
- Re-Enable DisplayEc3

## V7.22

### USE DATA COMPARE TOOL V2.16.06.0 for troubleshooting

- Fix bug in update request to set length -2 instead of -1

## V7.21

### USE DATA COMPARE TOOL V2.16.06.0 for troubleshooting

- Add stop and disable ec3Config app on ec3 controller
- Moved heap memory back to stack

## V7.20

### USE DATA COMPARE TOOL V2.16.06.0 for troubleshooting

- Clear buffer for send and receive in ixptcp, tcpconf and tcpserver functions
- Move some buffers from stack to heap
- Add force network recovery
- Make sure update date and sequence != 0 when setting it
- Add password validation for MDTA
- Add sysparam pin validation for employee and visitor
- Lock terminal when in emergency state

### DEVELOPMENT ONLY

### USE DATA COMPARE TOOL V2.16.06.0 for troubleshooting

## V7.19

- Add in checkpoint validation for Tharisa Dev
- Add in Ignore leave parameter as well as ignore leave by work location for Newmont Dev

## V7.18

### USE DATA COMPARE TOOL V1.15.10.0 for troubleshooting

- Ignore tag type 0x0E(13.56MHz) in tag read for ixp485 and ixptcp
- Optimisation of routines and functions:
  - Improve some memcopy calls. Set MustReset flag instead of calling ShutDown function
  - Exit main loop instead of calling exit(0)
  - Change fwrite function calls

- Change fopen to do binary read/write
- Change recover tcp to restart threads
- Check timezone and time to not set again if already set

## V7.17

### USE DATA COMPARE TOOL V1.15.10.0 for troubleshooting

- Fix relay, beep, led and get employee name display and relay terminal
- Add in HID bit mask from system parameters

## V7.16

### USE DATA COMPARE TOOL V1.15.10.0 for troubleshooting

- Add visitor pin and finger validation
- Only update APB zone on allowed events

## V7.15

### USE DATA COMPARE TOOL V1.15.10.0 for troubleshooting

- Ignore APB / Ignore Shift / Ignore Level for all contractors / employees by work location
- Fix bug in parade by work location (use wrkloccodeid and MstSq as key)

## V7.14

### USE DATA COMPARE TOOL V1.15.10.0 for troubleshooting

- Fix input actions for breathalyser pass and fail on events and actions

## V7.13

### USE DATA COMPARE TOOL V1.15.10.0 for troubleshooting

- Fix bug in setequiplights function

## V7.12

### USE DATA COMPARE TOOL V1.15.10.0 for troubleshooting

- Change Equipment lights from validate to access terminal
- Equipment memory list fix

## V7.11

### USE DATA COMPARE TOOL V1.15.10.0 for troubleshooting

- Write sysinfo to a file
- Fix Display event for events and actions
- Clear the entire buffer when building lists

## V7.10

### USE DATA COMPARE TOOL V1.15.10.0 for troubleshooting

- Add in check for tag type to distinguish between Slim and HID tag only for key boxes
- Add IP addresses dynamically and increase TX buffer size to 2K
- Backup the database before a full upload for IPB and EC3
- Store a new file with all the table lengths
- Add in equipment override tag function
- Add in parade by work location. New table added 63
- Decrease the number of status reports

## V7.09

### USE DATA COMPARE TOOL V1.15.10.0 for troubleshooting

- Add in reader IP address and debug status to status

## V7.08

### USE DATA COMPARE TOOL V1.15.10.0 for troubleshooting

- Check if the send and receive sequence used in protocol match for ixp485 and ixptcp
- Increase ixptcp rx timeout to 2 seconds
- Fix clock event for finger mismatch from denied unknown tag to denied pin

## V7.07

### USE DATA COMPARE TOOL V1.15.10.0 for troubleshooting

- Add in debug to check when a controller set an id on TCP and to which MAC

## V7.06

### USE DATA COMPARE TOOL V1.15.10.0 for troubleshooting

- Check for duplicate ID's from readers as well as 99 ID's and set the correct terminal ID
- Fix strncpy for ContrSLAId. This caused a memory violation
- Change ContrSLAId array from 4 to 5
- Fix sysparams update

## V7.05

### USE DATA COMPARE TOOL V1.15.10.0 for troubleshooting

- Remove IPB reader stop command as it runs independent now
- Fix GSM for config request and remove Create GPRS for EC3
- Log rest and full upload commands with IP address and timestamp
- Make sure memory is freed when rebuilding delete keys
- Show montre model with version number

## V7.04

### USE DATA COMPARE TOOL V1.15.10.0 for troubleshooting

- Add Wi-Fi and GPRS for EC3
- Change thread sleep to 1ms for input, clock, config and server threads
- Fix breathalyser request timeout value
- Add set ID message to TCP readers instead of set id to 99 if mismatch
- Fix certificate display message for Events and Actions
- Check red light present to determine push button display on EABR and IPB7 readers

## V7.03

### USE DATA COMPARE TOOL V1.15.10.0 for troubleshooting

- Fix GPRS for IPB in config
- Remove checkheartbeat2
- Fix IxpTcpRecvReply function
- Change the send time delay to 100
- Add subnet to network file for ECII
- Only do time request once full upload done

## V7.02

### USE DATA COMPARE TOOL V1.15.10.0 for troubleshooting

- Fix wrong EtCodeId and MstSq used in Equipment Issue function

## V7.01

### USE DATA COMPARE TOOL V1.15.10.0 for troubleshooting

- Add multiple equipment validation systems (XTime and LMS simultaneously)
- Add equipment lights
- Reapply reusable space

## V7.00

### USE DATA COMPARE TOOL V1.15.10.0 for troubleshooting

- MAJOR change - Increment major number
- Reset Application
- Add port to params config
- Log unknown tag numbers
- Add time request every 5 minutes
- Increase clock and equipment transaction maximums
- Add new update request and new structure for bigger reclen variable
- Add sagem fingers table
- Add in timezone set for Ec3